



# Clinical Insights

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# World Patient Safety Day

Welcome to the Winter edition of *Clinical Insights*, where we delve into patient safety in paramedicine



By **Kerry Laughton**, *Clinical Insights* Coordinator

With a respectful nod to [World Patient Safety Day](#), we have aligned this issue with the World Health Organisation's (WHO) 2024 theme of improving diagnosis for patient safety.

Within paramedicine, there is often a misconception that paramedics are not well placed to make diagnostic decisions. Paramedics can operate in high-stress, time-sensitive situations requiring rapid assessment. Compared to hospital settings, paramedics work with limited diagnostic tools and resources, relying primarily on physical examination, patient history (if available), and limited diagnostic equipment.

So what is the role of paramedics in improved diagnosis? James Oswald explores this question in our Winter feature article "Paramedics don't diagnose". Enjoy the read and, as always, we [invite your perspectives](#) on the evolving role of paramedics in patient care.

Accurate and timely diagnoses are crucial for ensuring patient safety throughout their healthcare journey. Conversely, diagnostic errors may cause delays in definitive care, incorrect or missed diagnoses, and insufficient communication with patients. WHO advises that most adults will face at least one diagnostic error in their lives, and note that these errors contribute to nearly 16% of preventable harm in healthcare systems worldwide.

Locally, the Victorian Managed Insurance Authority (VMIA) has identified that many insurance claims stem from failures in diagnosis, communication, or escalation of care in emergency medicine. This Victorian health sector reality inspired the convening of a dedicated think tank on misdiagnosis in emergency settings. The resultant 2022 report, [Better Patient Safety: Preventing patient harm in emergency and urgent care settings](#), is salient reading for our ambulance service setting.

The report underscores that diagnosis-related issues such as misdiagnosis, delays in testing, and interpretation errors, are primary risk factors in emergency and urgent care settings. It highlights the importance of collecting and sharing observations that can inform effective differential diagnosis practices. Diagnosis, like most elements of medicine, is an evolving and complex process that relies on collaboration and shared decision-making. Safe emergency medicine requires a group effort grounded in teamwork across health professions.

Improved diagnosis for patient safety is supported by robust systems. Circling back to WHO, its [Global Patient Safety Report 2024](#) offers universally relevant guidance. Key report takeaways include:

- **Build a safety culture:** Prioritise patient safety across all facets of care, fostering an environment where errors are reported, and lessons are learned without fear of punitive measures. Stephanie Sewell and Alex Robertson's article "Driving change: The role of self-reporting in patient safety", speaks to this point.
- **Avoid medication errors:** Always double-check medications, doses, and patient histories to prevent adverse drug events. Using checklists and standardised protocols can help minimise the risk of errors when administering medications in the field.
- **Communicate clearly:** Effective communication is key. Use standardised handover protocols to ensure critical information is accurately passed on to other paramedics and receiving healthcare staff. Tools like IMIST AMBO help structure communication and support handovers that are smooth and error-free.
- **Follow infection control protocols:** Including using PPE and rigorous hygiene practices, to safeguard both patients and healthcare providers.
- **Safe use of technology:** Embrace technological advancements, albeit cautiously, ensuring thorough training to mitigate risks such as data loss or privacy breaches.
- **Manage stress and fatigue:** Promote strategies for managing stress and prioritising mental health to optimise workforce wellbeing, performance, and patient outcomes.
- **Keep skills sharp:** Commit to ongoing training and skill development to stay current with evolving professional good practice and safety standards.
- **Engage patients:** Involve patients and carers in their care journey through informed decision-making and active participation, enhancing safety and experience.

You may recognise AV's approach is closely aligned with these critical recommendations. By prioritising these elements in our daily practices, we are collectively elevating our standards of care and impact on patient outcomes. Enjoy the read.





## Director, Paramedicine

 By **A/Prof Ben Meadley ASM**, Director, Paramedicine

Hello everyone. It's an honour to be appointed as the inaugural Director, Paramedicine at Ambulance Victoria, and it's great to write my first editorial for *Clinical Insights*. The theme of this edition centres largely around diagnostics in paramedicine and out-of-hospital care, so I thought I'd share my experiences developing as a clinician, blending diagnostic capacity with clinical decision-making.

I've been fortunate to have a long career in paramedicine, and as all paramedics would appreciate, becoming proficient as a registered healthcare professional has its many challenges. Reflecting on my time in the profession, I realised early on that there were two major components of paramedicine that I needed to master. One of those is very tangible, which I call the science of paramedicine. Concurrently, there is a less tangible component that I refer to as the art of paramedicine. These two components cannot exist independently; it is up to us as healthcare professionals to blend them in each clinical context to deliver the best care to our community.

When I reference the science of paramedicine, these are the things we can learn from textbooks, clinical guidelines, or research articles and then translate into our practice. This includes procedure-based care, where the treatment provided is mostly interventional and is reliant on a structured, systematic process to deliver medication or interventions such as needle decompression or airway management. Additionally, this encompasses taking objective assessments as part of a clinical history, such as measuring blood pressure, heart rate, oxygen saturation, and taking an ECG.

It is often said that many practical and interventional components of what we do as paramedics could be taught to non-clinicians with relative ease, and with sufficient exposure, mastery could be obtained. However, we all appreciate that without the art of paramedicine, the science often has limited utility. The art of paramedicine, in my mind, is the distinguishing factor that paramedics bring to health care. While many healthcare professionals undertake similar

roles and apply similar principles to align subjective and objective components of their care, paramedics are uniquely trained, equipped, and experienced to merge art and science effectively.

The art of paramedicine involves working in often challenging environments with limited time and resources, taking objective assessments using limited diagnostic tools, and then applying skills-based interventions coupled with evidence-based

procedures and medications within context. This requires thorough and systematic patient assessment, integrating all available information, applying foundational knowledge, deciding on a course of action, and measuring treatment effect through reassessment. Additionally, the system pressures and logistical challenges we face daily in the out-of-hospital environment add to the complexity of this art.

Whether you are just starting your career as a paramedic or have been in the field for a long time, you undoubtedly have your views on the art versus science concept. However, I would guess that most paramedics would suggest that the most impressive clinicians they've encountered are not necessarily those who are most procedurally or technically proficient, but those who demonstrate mastery of the art of paramedicine.

Personally, those who have mentored me along my journey have been able to take objective information, apply the art of paramedicine, and deliver the best care for their patients. While interventional care is an important part of what we do as paramedics, it doesn't define us. What we bring to our patients is a balance of science and art.

I hope you enjoy this edition of *Clinical Insights*, and I look forward to seeing you out in the field when I'm completing my clinical shifts across the state.



Reflecting on my time in the profession, I realised early on that there were two major components of paramedicine that I needed to master.







# “Paramedics don’t diagnose”

## Harmless anachronism or dangerous dogma?



By **James Oswald**, Specialist Clinical Practice Guidelines

“Paramedics don’t diagnose.” I am absolutely certain you have heard that, or something similar, at some stage in your career. Usually this is followed by something like, “we assess and treat symptoms”. This has never made sense to me.

We have guidelines for acute coronary syndromes, STEMI, traumatic brain injury, spinal injury, and adrenaline insufficiency among many others. Whatever you call these, they certainly aren’t just symptoms in the same sense as pain, nausea or shortness of breath. So, is the idea that we don’t diagnose a harmless anachronism or a dangerous dogma?

### What’s a diagnosis?

If you pick up a dictionary, you’ll notice that the definition of diagnosis is actually pretty broad. It’s a general term that means using information to draw a conclusion about the cause of a problem. It’s not specific to doctors and it’s not even specific to health care.

If we dig deeper, we see that it has always had a simple meaning. The amusingly titled “A table of hard words” (literally an appendix to a medical text that explained some of the trickier terminology) published in 1681 described diagnosis simply as an explanation or clarification relating to a disease. Around the same time, the French physician Lazare Rivière, described the diagnosis of coma as, “plain enough... they which have it lay with their eyes shut and seem asleep”. It doesn’t get much simpler than that.

At some stage, the implied definition of diagnosis grew to include two additional ideas. Firstly, that diagnosis is a complete, static, and totally accurate understanding of the cause of a disease, and secondly, only a medical doctor has the ability to reach this understanding. That is, a doctor examines the patient and identifies a single underlying cause of disease with absolute accuracy and that disease doesn’t change or evolve in any way. It isn’t clear to me when these ideas entered our cultural schema, but a quick vibe check suggests they’re very early-century: totally focussed on the biomedical model of disease and dripping with medical paternalism. Diseases are caused by little bugs and doctor knows best.

But is there is a kernel of truth here? Health care is a bit more complicated than in Rivière’s day. Nowadays, we generally try to wake people up before diagnosing them with a coma. More seriously, the phrase “paramedics don’t diagnose” warns against making certain statements about complex matters without enough training. And that is probably a reasonable thing for anyone to be concerned about. I don’t think it is terribly controversial to suggest that you should be careful making big decisions with little information. There is no doubt some diagnoses require a lot of knowledge, experience, and additional information in the form of tests or imaging. However, there is also no doubt others do not. A femur turned at right angles is fractured. You do not need a medical degree to know that. Nor, for that matter, do you need to be a paramedic. And that is where we learn the emperor has no clothes.

The lay person describes it as a broken leg and calls an ambulance.

The paramedic, with some more training and experience, calls it a fractured femur - and they may be able to say that with more accuracy than the average person. They can offer something for this: pain relief, splinting, and transport.

The emergency physician, a person with much more training, experience and information (like an x-ray), may then add more precision: it is a transverse fracture of the femoral shaft. This more specific characterisation leads to a more specific solution: a nerve block and a particular surgical procedure.

All of these share the same fundamental qualities: information about the patient’s presentation was used to form an opinion about the underlying problem. That opinion then informed a decision on how to fix that problem.

For the lay person, rudimentary knowledge of anatomy and a massively deformed leg led to the conclusion that the leg was broken. That characterisation, “broken leg” is meaningful. It says something about the underlying cause and the treatment required. You won’t be able to walk this one off – you need an ambulance. For the doctor in the emergency department, they drew on more knowledge, experience, and information. They went through a well-honed process of analysis, and they produced a more specific characterisation and offered a more comprehensive solution. But it is not, at its core, a different process.





Where these examples differ is in their precision and accuracy.

The lay person localised the problem to the leg. Not very precise. They made the reasonable judgement it was broken. Accurate in this case, but perhaps not in others.

The paramedic narrowed it down a bit to the femur. More precise. There is a fair chance they'd be right about it being fractured more often than the lay person. In general - more accurate.

The doctor added further precision and a great deal more accuracy.

If the last of these examples is a diagnosis, then what are the other two? They involve the same fundamental process. Is it the precision and accuracy of the doctor's diagnosis that makes it a diagnosis? Doctors can be wrong. An incorrect diagnosis is still a diagnosis. Similarly, new information might emerge which leads to a change in diagnosis. Precision and accuracy is not key to the definition.

I would argue it is far more pragmatic and sincere to define diagnosis by its fundamental qualities, rather than who makes it. Everyone can make a diagnosis. The real question is, how accurate is it?

In 2019, we introduced the Patient Assessment Standards that defined diagnosis as any clinically meaningful characterisation of a patient's presentation that leads to care. In my view, one of the most important things the Standards did was to formally introduce the concept of diagnostic uncertainty.

### Diagnostic uncertainty

There may have been a time when it was useful to say, "paramedics don't diagnose". It was essentially shorthand for, "paramedics can't diagnose anything with sufficient accuracy because they lack the training, experience and assessment equipment". Diagnostic accuracy was so low, and diagnostic uncertainty was so high, that it was probably wise not to entertain these nuanced ideas and simplify the message – to take the concept of diagnosis off the table altogether.

A few decades ago, it was reasonable to suggest that paramedics shouldn't make ill-informed guesses about whether the patient was experiencing an MI. We didn't have the right information to make that decision. Now we do. We diagnose STEMIs every day. We can even make pretty well-informed predictions regarding the specific culprit artery. This is not just because we have a monitor capable of capturing a 12-lead ECG but because we have the knowledge to know what we're looking at when we do. Importantly, though, there are other areas where we are not a lot better off than we were 30 years ago – abdominal pain in older people comes to mind. So, does the idea at the core

## What are your thoughts?



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of "paramedics don't diagnose", essentially a little intellectual humility, remain useful? It absolutely does, we just need to think about it differently.

The famous 19th century physician Willam Osler wrote that, "Medicine is a science of uncertainty and an art of probability". The question today is not whether we diagnose. We clearly do. The more important question is, how accurate is the diagnosis? What is the probability that we're wrong? How much uncertainty is there? If there is uncertainty, there is probably risk and how we deal with that risk is crucially important. We are not alone. A few years ago, I got a phone call from an eminent emergency physician. She was impressed with the way we had described the diagnostic process in the patient assessment standards. To my surprise, she described the similar journey emergency medicine had taken. Her diagnosis? We're doing well.

So, harmless anachronism or dangerous dogma? A little of both, I suppose. The words, "paramedics don't diagnose" were epistemic safety wheels – they kept us safe in our professional infancy. Now as we leave our collective adolescence, we need to embrace the truth in its complexity and nuance: we do diagnose. This is not a celebration of how far we've come but rather a sober reflection on our professional responsibilities. With the acknowledgement that we diagnose, comes an obligation to deal with uncertainty and risk in a considered and mature way. This is a broader challenge for paramedicine – embracing the grey where there once was black and white. But I am very confident the future is in good hands.

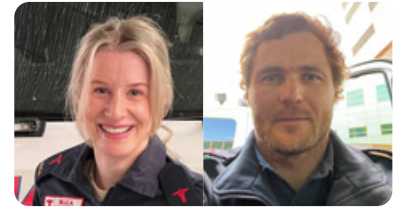




## The role of self-reporting in patient safety



By **Stephanie Sewell**, MICA Paramedic, with **Alex Robertson**, MICA Paramedic



When I first started working in health care, the idea of reporting an error or mistake was unthinkable. I was busy enough just trying to remember guidelines and finding my way to hospital. Yet, during my career with AV, the healthcare landscape has changed significantly with regard to patient safety. Did you know that in Australia, it is estimated that hospital acquired complications account for \$4.1 billion of total hospital expenditure?<sup>(1)</sup> This correlates with other international research that indicates hospital adverse events are the eighth leading cause of death in the US<sup>(2)</sup>.

I can clearly recall the first patient review process I was involved with. I self-reported the incident, and I experienced both fear and stress due to my perception of punishment and consequences. My lack of understanding of the process and my uncertainty regarding the potential outcomes contributed to my hesitation to self-report incidents.

One of the biggest barriers to self-reporting is known to be a perception that the organisational response will be punitive. In this article I will try and debunk this myth. I was lucky enough to sit down with one of our own MICA paramedics Alex Robertson, who has a remarkable story about reporting a patient safety incident. In fact, the reporting of this incident made it all the way to ensuring best care for all our patients with critical asthma.

Alex was dispatched to a 30-year-old male patient suffering from acute onset of shortness of breath. At the time Alex was working as a single officer ALS paramedic on a night where there was a significant surge in workload, specifically respiratory presentations, now known as thunderstorm asthma. On his arrival, the patient looked unwell, with pallor, diaphoresis, and respiratory distress, including maximal work of breathing. On examination the patient had a respiratory rate (RR) of 50/min, was speaking in words only (not sentences), had inspiratory/expiratory wheeze with low tidal volume, Glasgow Coma Scale (GCS) of 13 (E4V3M6), mild agitation, heart rate (HR) of 150 bpm, blood pressure (BP) of 170/100 mmHg, oxygen saturations (SpO<sub>2</sub>) of 90% on room air. The patient had a past medical history of asthma, with ICU presentations and a previous intubation. The patient was prescribed Seretide and Ventolin, however the use of these had demonstrated no improvement in his symptoms.

There was no MICA or ALS backup available, however, an ALS Team Manager heard Alex's requests for assistance and arrived shortly after loading. During this case the patient was

managed with standard ALS asthma management including oxygen, Salbutamol (total 30 mg), Atrovent, intramuscular (IM) Adrenaline and intravenous (IV) access. The patient demonstrated no improvement despite this timely intervention and Alex was able to successfully consult with the AV Clinician for IV Adrenaline administration.

50 mcg of IV Adrenaline was administered with a notable improvement in tidal volume and speech, however this initial improvement only lasted 5 minutes before further clinical deterioration. An additional consultation with the AV Clinician occurred and the patient received another 50 mcg IV dose of Adrenaline.

The patient further deteriorated to have a GCS of 9, catatonia, RR 60/min, HR 70 bpm, BP 100/50 mmHg, SpO<sub>2</sub> 88% on oxygen. Alex was unable to consult the AV Clinician due to radio traffic. A critical decision point was reached, and Alex intervened with two 100 mcg IV Adrenaline doses. This resulted in significant improvement to conscious state and perfusion. The patient was again able to speak in words. The patient arrived at the emergency department still in severe respiratory distress, however with a GCS of 13 and improved perfusion status. The use of IV Adrenaline likely contributed to a positive outcome for this patient, and sparked interest and review into the management of asthma across AV.

Alex recalls this case as being *'chaotic from a sense of uncertainty and confusion around what was occurring across the service (I had not heard of thunderstorm asthma prior to this event), the resource depletion and feeling of being alone (especially when continually trying to call for help on dispatch/Duty Manager/Clinician channels but unable to get through). That then impacted my ability to cognitively operate. It felt overwhelming from a clinical decision-making perspective.'*

Alex not only experienced an extremely stressful case, but this was exacerbated by an anxiety associated with using skills outside his scope of practice and the fear of repercussions. Despite the apprehension Alex felt during this case, he self-reported this case to people he trusted within AV, being a Team Manager (TM) and Clinical Support Officer (CSO), who assisted Alex's self-reporting via Riskman. Prior to this occasion Alex had no familiarity with Riskman or the review process. Alex explains that *'...once I self-reported, the support was overwhelming and immediate; a CSO and my managers met with me the next day and I was taken*





*out of service. I think my TM at the time was concerned for my welfare given how stressed I was about the possible repercussions, and I will always be grateful to those managers who supported me at this time.'*

Alex's feelings regarding this are not isolated, these feelings and barriers are felt across all disciplines in health care and noted throughout the literature. The barriers to self-reporting cover themes such as the burden of reporting, fear of disciplinary action and embarrassment, lack of familiarity with the process and the impact of blame culture.<sup>(3)</sup>

To ensure that our own culture here at AV is not to blame and shame, we need to recognise that supportive actions and systems evaluation rather than individual culpability is what instigates organisational change. Yet it's clear that the unfamiliarity and fear associated with a misunderstanding of the patient review process is still prevalent.

I must admit that I was also largely unaware of the process for reporting an incident and had no understanding of the work performed by the Patient Review team, until after being involved in the process.

Across AV, patient safety incidents are identified via an array of methods including self-reporting, consumer feedback and through the audit process. Upon identifying a potential patient safety incident, paramedics enter the notifications via Riskman (available via OneAV) and via the ROAM mobile app (see QR code for download). Following this notification, triage and review methodology can be determined. The Patient Review team assesses the severity of patient harm. The patient safety incidents are then classified using a standardised Incident Severity Rating (ISR) Scale.

Download the ROAM mobile app



Apple App store



Google Play

The ISR Scale can be seen below:

Rating	Severity	Description	Example
ISR 1	Severe/ death	Incident with severe clinical implications	A delay to recognition of oesophageal intubation leading to the death of the patient.
ISR 2	Moderate	Incident with moderate clinical implications	A fall from a stretcher fracturing an arm. No permanent harm.
ISR 3	Mild	Incident with mild clinical implications	Pain not managed.
ISR 4	No harm/ near miss <sup>1</sup>	Incident with no clinical implications	Incorrect dose of the right medication that has caused no harm to the patient.

1. A near miss is an incident that had the potential to cause harm but didn't, due to timely intervention and/or luck and/or chance.

Commonly, patient safety incidents are classified as ISR 3 and 4. These often result in a local team manager discussion, debrief, or local level review. ISR 2 cases require an in-depth case review, often performed by the CSO with a Patient Review Specialist providing support and oversight. An ISR 1 requires a root cause analysis and includes an in-depth case review. This is performed by the root cause analysis panel, led by the Patient Review Specialist Lead supported by CSOs and local management.

From 1 July 2023 to 27 June 2024, there was a total of 2,063 Riskman entries received by the Patient Review team. Of these, 44% were noted to be self-reported. There was a total of 20 ISR 1 and ISR 2 cases throughout this period. Therefore, 98% of the cases entered were classified as either an ISR 3 or 4. These high levels of ISR 3 and 4 ratings emphasise our patient safety incidents are either near miss, no harm, or mild harm. Continued self-reporting will only enhance a patient safety culture and should be encouraged without fear of significant or career altering repercussions.

Alex now works as a MICA Paramedic and attends many critical cases, with varying degrees of complexity and the requirement to operate in clinically "grey" areas. Alex is therefore more familiar with the self-reporting process: *'I'd be lying if I said I still don't get slightly anxious about self-reporting. This experience along with many others I have had over the past few years has helped me become more comfortable and confident at self-reporting. I would also be lying if I said all the experiences have been positive, but even in the rare negative experiences I've had in self-reporting, the positive influence of the people driving the direction of patient review have been incredible. The negative experiences and how that has been managed have now given me more confidence in the system that is continuing to evolve around self-reporting.'* Alex feels that the clinical team embedded in the patient review process, allows for senior paramedics to provide oversight to clinical data, feedback and examine key themes to allow for 'system changes that benefit patients and paramedics'. Another key benefit Alex sees in his positive attitude to self-reporting is *'closure of personal uncertainty exists around whether your action was in line with AV's clinical direction.'*







The self-reporting of Alex's case, along with the exceptional increase in workload and lack of intensive care back-up, prompted a review into the use of IV Adrenaline in the patient with asthma who is poorly ventilating. This review focused specifically on the interventions provided during the thunderstorm asthma event. A total of 17 patients received IV Adrenaline, with 11 displaying improvement (improvement is defined by a positive change in respiratory status). 32 patients received IM Adrenaline during the thunderstorm asthma event, however only 11 patients displayed improvement in their respiratory status. Of the 21 patients who didn't respond to IM Adrenaline, MICA was not available to assist with management with IV Adrenaline on 9 of these cases. It was noted via retrospective review that Paramedics provided IV Adrenaline on three occasions without intensive care support due to lack of resources. There were no adverse effects in patients receiving IV Adrenaline.<sup>(4)</sup>

While it is recognised that the thunderstorm asthma event resulted in an unprecedented demand for ambulances, with multiple critically unwell patients, the data recognises the benefit of IV Adrenaline in the poorly ventilating patient, while also highlighting a patient safety risk of clinical deterioration during thunderstorm asthma events. Following the self-reporting of this case and review of the thunderstorm asthma data, ALS administration of IV Adrenaline in limited settings, has been implemented into AV Clinical Practice Guidelines. The positive impact on patient safety can be easily seen in this setting due to the self-reporting of clinical cases to support system change.

A further example of self-reporting to improve patient safety include the introduction of EMMA capnography. Following aggregation of patient safety reports for lost or intermittent capnography in the setting of peri- or post-intubation, it was identified that a redundancy was required to ensure safe and successful intubation. During investigations into the loss of capnography, it was highlighted that the capnography failure may be because of failure of the monitor/defibrillator capnography module, the PEEP valve, or capnography sensor line contamination. Given that multiple causes were identified and troubleshooting in this critical point can be time consuming and result in patient harm, the introduction of EMMA capnography aimed to maintain patient safety through intubation confirmation via EtCO<sub>2</sub>, while effective and safe troubleshooting is performed to identify the monitor/defibrillator capnography issues. The introduction of this vital piece of equipment would not have been possible without individual crews self-reporting this issue to establish collective system and equipment-based issues.

Similarly, the adult BVM pressure limiting ("pop off") valve was introduced in April 2023, to comply with new standards. Following this there was a near miss incident identified when a patient who had aspirated required ventilation at

high airway pressures. The lack of ventilation was noted by paramedics on scene via a loss of EtCO<sub>2</sub> and the patient was able to be successfully ventilated using an older style BVM. From this incident, a Bulletin was released highlighting the equipment change and process to override the valve. Fast forward to 2024 and there have been further self-reported patient safety incidents because of the pressure limiting valve causing ventilation to not be possible, despite BVM use feeling "normal". The continued patient safety incidents in this have instigated system changes to further mitigate patient risk. The BVM pop-off valve is now to be placed into the override position as default across adult, paediatric, and newborn BVMs, noting this is a change from practice since the implementation of the newborn resuscitation education in the *2024 Clinical Workshops*.

While the crews involved in these patient safety incidents may have found themselves in extremely stressful and difficult cases, the self-reporting of these incidents have emphasised that further communication from suppliers and alternative distribution of priority information are required to safeguard patient safety.

I feel privileged to have insight into the clinical review process through my own self-reporting of incidents and assistance with the Patient Review team. I am also grateful to be part of a MICA team which openly seeks feedback, participate in clinical discussions, and encourage self-reporting of incidents. As Alex has highlighted throughout his experience, the self-reporting process also provides personal case closure, as we often hold the most judgement for ourselves. It is important we recognise that individual incidents are often not isolated, and the reporting and audit process establishes trends and drives systemic changes to provide for the best patient care everywhere.

### Further resources

For information regarding the patient review procedure:

- Patient Safety Incident Management Procedure- PRO/QPE/003
- A thorough and precise guidebook on the patient review process can be found on OneAV, titled Patient Review Operational Handbook, = this can be found by following the link [Resource Hub - GUI/QPE/003 Patient Review Operational Paramedic Guidebook - All Documents \(sharepoint.com\)](#)

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## Diagnosing end of life events: The team approach

By **Sam Peart**, Alternate Services Lead



The discussion of death as an inevitability is a challenging conversation for many people, especially for those not in health care who may have only a few close exposures to this concept in their lifetime. Palliation seems counterintuitive to the normal resuscitation mindset of paramedicine. Once the need for palliation is recognised, emergency intervention and haste are replaced by communication and compassion.

In the presence of a known life-limiting illness, there may be significant decline over days, weeks, or months. Depending on the acceptance, understanding, and preparation of the patient and their loved ones, the readiness for this end-of-life event can vary greatly. Despite my multiple interactions with palliation both personally and professionally, I certainly do not consider myself an expert, and I take great relief from knowing there are services available 24/7 that can assist me to achieve the best palliative results for these patients, regardless of their arrangements up to this point. The following is a case I was involved in on a MICA SRU, where a team of paramedics and alternative services were formed to allow a patient to die with dignity and comfort at home.



### Case

0800 Saturday, ALS crew attending a patient at home in altered conscious state.

### Scene

The crew arrived at a house in Melbourne. The patient's frail elderly father led the crew to the patient who was in semi-squalid living conditions in a bedroom.

### Patient

The man in his mid-60s was extremely frail in bed. The crew estimated he weighed approximately 40 kg and his family reported he had rapid severe weight loss and decline in health over recent weeks from long-term illness. The patient was reported to have stage four cancer with a vast number of metastases and had disengaged from health services recently. His family was unaware of his exact medical history or medication details as he was reportedly very private. It was unclear if the patient had a regular GP or palliative care services, and family on scene stated that the patient would not want to be resuscitated.

### Assessment

The patient had cachectic appearance in decorticate position in bed, with evidence he had been there for an extended period, likely several days. GCS 11 (E4, V2, M5), laboured rapid open mouth breathing at a rate >40/min, HR 140 bpm, BP 70/40 mmHg, SpO<sub>2</sub> unable to sense, BGL 7.6 mmol/L, temperature 35.6°C.

The ALS crew requested MICA backup for a patient with altered conscious state meeting escalation of care criteria. On arrival of the MICA SRU, a team discussion was held to verbalise a plan and priorities.

### Initial priorities

1. Establish the patient's existing conditions.
2. Identify medical documentation to inform decision making.
3. Openly discuss the patient's likely trajectory and options for care.





## Results

1. Discussion with family on the phone revealed the extent and severity of patient's long term health struggles and cancers.
2. Various medication packets were found in his room, as well as a business card for a local catchment palliative care service.
3. Family members both on scene and on the phone expressed that the patient would not want invasive or resuscitative interventions. The patient did not have a known advance care directive and had reportedly been withdrawing and refusing medical assistance for the past month. When the option of organising palliative care for the patient to die in the home was provided, they were extremely relieved.

## Subsequent priorities

1. Engage with all possible palliative care pathway options and most recent known GP.
2. Continue to inform the patient's family of plan and progress, as well as outline expectations for possible outcomes.
3. Support the family to provide the patient's comfort measures including pressure area padding, changing soiled clothing, warmth with blankets, supplemental oxygen, and moist mouth swabbing.

## Results

Multiple concurrent phone calls were made to establish the most appropriate pathway for this patient including:

- Local palliative care service – details taken for out of hours call back.
- Palliative Care Advice Service – limited capability to assist as patient not actively being managed with palliative care plan. Recommended continuing with local palliative care service.
- Last known general practitioner – phone not answered.
- Victorian Virtual Emergency Department (VVED) registration commenced for advice and possible medication consultation.

The local palliative care service called back 10 minutes later. Their records showed that they had previously seen the patient given the severity of his condition, however he had refused multiple attempted in-home visits. An infield nurse was able to attend the scene and assess the patient within 45 minutes.

The VVED consult commenced with a doctor who was

understanding of the situation and prepared to assist with palliative PRN medications. The palliative nurse arrived during the consult to allow for interprofessional collaboration and decision making.

VVED emailed scripts to the local pharmacy to be collected by a family member, while the palliative nurse prepared a subcutaneous butterfly.

As patient care was handed to the local palliative care service, all AV resources were able to clear the scene after clarifying the care plan with the nurse and patient's family. The entire scene time for this case was 90 minutes, estimated to be similar or quicker than the time it would take to extricate, transport, and handover the patient at hospital. Most importantly, this pathway allowed the patient to die at home as they had wanted, afforded the family a more positive experience, and allowed the paramedics to take pride in the best care they provided for the patient.

The process of including specialist providers into the care of a patient when transport to the emergency department is not the most appropriate option may seem daunting and complex. However, once we understand the capabilities and variety of services that can be provided in the comfort of home, and this is well communicated to the patient and their family, these can create some of the most professionally satisfying outcomes.

## The takeaway

1. Establish goals of care and present pathway options openly and honestly.
2. Acknowledge that at times patients or families may not want this option, even if you believe it is in their best interest.
3. If you are unsure which service to use, you can try many at the same time as seen in this case. The following services are excellent at assisting with patient care, and using their experience to guide our decision making.
  - Regular GP
  - Local specialist health providers
  - Palliative Care Advice Service
  - Residential in reach (for patients living in residential aged care)
  - VVED

More information on these providers can be found on the [Alternate Services OneAV](#) page, as well as [Alternate Pathways Podcast Series](#).



# Safe in Place pathway

## What the data tells us

By **Catherine Spiden**, Program Lead – Safe in Place



In the Autumn edition of *Clinical Insights*, it was highlighted that alternate care pathways have become a crucial part of the Victorian Health System. Sam Peart discussed how AV has embraced the integration of Alternate Service Providers (ASPs) into our healthcare framework and James Shuttleworth talked about the importance of patient safety netting.

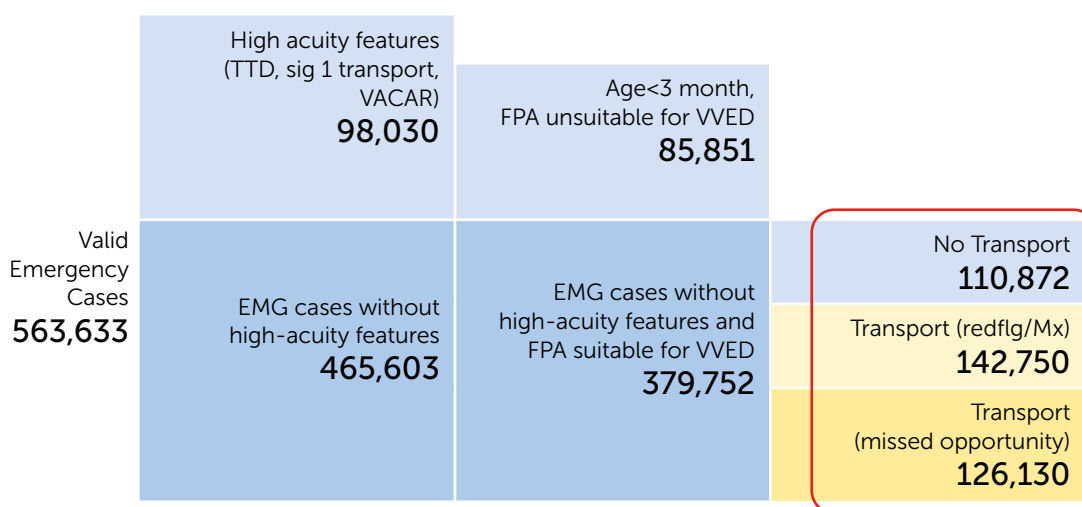
I'd like to bring these two points together and discuss AV's commitment to establishing a *Safe in Place* pathway. In 2023, the Safe Non-Transport Improvement Plan (SNTIP) was delivered with an aim to outline recommendations to improve the experience and outcomes for patients not transported and reduce any associated risks by:

- Connecting patients to the right services depending on their needs.
- Providing helpful information for patients and carers, including patient care summaries.
- Uplifting paramedic/nurse capability relating to triage and care of patients that remain at home.

- Reducing avoidable transport to an emergency department, thereby improving ambulance availability for the acutely unwell.

To date, comprehensive data analysis using 12 months of AV clinical data (1 January to 31 December 2023) has been undertaken to identify the number of patients with low acuity presentations transported to hospital. A variety of clinical filters were applied to this cohort to determine the "potential missed opportunities" (126,130 cases) that could be supported by alternate care pathways. However, clinical data filtering alone cannot determine the numerous social, behavioural, and medical complexities that impact the most appropriate referral or transport options. Therefore, in-depth clinical case reviews were undertaken on prioritised Final Patient Assessments (FPA) as recorded in VACIS to determine potential clinical cohorts that would benefit from alternate care pathways.

Currently, we refer approximately 4% of patients (80 patients a day) to the Victorian Virtual Emergency Department (VVED). Through in-depth case review we have identified that there are potentially many more patients that would benefit from referral to alternate care pathways.



Safe in Place: Opportunities in low acuity cohorts (2023)



Below are six deidentified case studies that highlight “missed opportunities” and support the *Safe in Place* pathway. They are based on the paramedics’ Final Primary Assessment of the patient.

### 1. Croup

AV was called to a 3-year-old male who woke in the evening with a barking cough, stridor, shortness of breath, but with no prodromal symptoms that day. The child had no pre-existing conditions of concern and did not take any regular medication. The patient lived 15 km from the closest emergency department (ED).

On arrival paramedics assessed the child. He was described as alert but anxious, presented with a barking cough, inspiratory stridor while coughing, had an increased work of breathing which was recorded as “mild respiratory distress”, with no chest wall retraction. The child was afebrile, skin normal and VSS within normal parameters (SpO<sub>2</sub> 98% RA, RR 32 / min, HR 140 bpm, temperature 36.6°C). The child was treated by paramedics with an oral dose of Dexamethasone and transported to the ED. The child improved and was assessed as being calm/quiet with a normal respiratory status.

This child meets the criteria for moderate croup ([Croup CPG P0601-1](#)) and referral to VVED as an alternate care pathway could have been considered for this patient.

### 3. Allergic reaction

AV was called to a 13-year-old female who lived at home with her parents, she is normally well and not on any medications. She has a history of peanut allergy only (not anaphylaxis after allergy testing). It was late afternoon and a weekend day in metropolitan Melbourne. The patient had eaten a pork roll and an hour later complained of tingling in her lips, mild pruritis, felt hot all over, and had small red patches to her arms, legs, and face. Nil other signs symptoms reported. The patient self-administered an antihistamine just prior to AV arrival.

A thorough assessment was undertaken by paramedics and no further symptoms were identified, HR 95 bpm, NSR, BP 120/75 mmHg, RR 20 /min, chest clear, normal respiratory status, SpO<sub>2</sub> 99%, and temperature 36.6°C.

This patient does not meet the criteria for anaphylaxis, however, must still be treated with a high level of concern. Referral and consultation with VVED would be appropriate to determine the best pathway of care for this patient.

### 2. Hypertension

A son called 000 in the evening for his 72-year-old mother who lived at home independently with her husband. An hour earlier the patient complained of feeling unwell, with a generalised tremor, headache, and a blood pressure of 205/105 mmHg on a home monitor. The patient self-administered Panadol prior to AV arrival and the headache resolved. The patient’s medical history included hypertension, asthma, and vertigo, and she was compliant with her medications which included Ventolin inhaler, Seretide and Valsartan.

On arrival paramedics assessed the patient. She was alert and seated in her lounge chair with a visible tremor in her arms and legs. The patient’s skin was normal, HR 90 bpm, NSR, BP 210/106 mmHg, RR 18 / min (normal RSA), SpO<sub>2</sub> 98% RA, temperature 36.5°C, BGL 5.1 mmol/L. The paramedics provided reassurance and the patient was transported to the local ED. Her tremor resolved and her VSS O/A to ED were HR 80 bpm, SR, BP 162/70 mmHg, RR 18 /min (normal RSA), SpO<sub>2</sub> 98% RA.

This patient meets the criteria for severe hypertension ([Hypertension CPG A0410](#)) and referral to VVED as an alternate pathway of care could have been considered for this patient.

### 4. Faint

AV was called to a 22-year-old male in a café on a weekday morning. He bit down on a piece of food and broke his tooth. The patient became pale and felt dizzy, as he was being assisted to the ground, he lost consciousness for less than 10 seconds. On regaining consciousness, he attempted to sit up and had another episode of unconsciousness (less than 10 seconds). The patient had no medical history or risk factors and was not on any medication.

On AV arrival the patient was assessed. He was alert, GCS 15, PEARL, no neurological symptoms, his skin was pale but warm and dry, HR 88 bpm, NSR, 12 lead ECG NAD, BP 127/71 mmHg (no postural drop), BGL 6.3 mmol/L, SpO<sub>2</sub> 98%RA, RR 18 / min, temperature 35.4°C. He had generalised weakness which improved in AV’s care and skin colour returned to normal. The patient was transported to the local emergency department.

Although the patient was in a public place, VVED referral could have been considered, supported by the [CPG A0725 Syncope](#).





## 5. Back pain

AV was called to the home of a 76-year-old female who lives independently at home with good support from her family. It was mid-morning on a weekday, she was out walking when she experienced a sudden onset of back spasm. A bystander drove her home and a family member called AV. The patient had a history of thoracic spinal canal stenosis and osteoarthritis. The patient was currently under the care of her GP for this and prescribed anti-inflammatories which she had not been taking. Her only other medication was Aspirin.

On assessment the patient was alert, standing in a position of comfort (able to walk), but still describing spasm in her thoracic region aggravated by movement and she had pain 2/10. There was no recent injury, no current bruising/swelling, no altered sensation, no new weakness, and no other symptoms recorded. HR 110 bpm (ST), BP 130/75 mmHg, RR 20 / min, SpO<sub>2</sub> 94%, normal RSA (no 12 lead ECG taken), temperature 36.5°C. The patient declined analgesia and walked to the ambulance without assistance. The patient was transported to the local ED.

There are patient safety risks that need to be considered here, elderly/frail, falls risk and her increased heart rate (is this an expected clinical sign with the patient's presentation/pain or is there another reason for her tachycardia?). Could an alternate pathway of care have been considered here, the local Priority Primary Care Centre (PPCC), GP within 2 hours or VVED referral?

AV's Clinical Practice Guidelines (CPGs) have strong referral care pathways across multiple guidelines to support paramedics in decision making and safety netting. The non-transport checklist also steps thorough the process for patients being considered for alternate care pathways. These are valuable resources making shared clinical decisions about referring patients to alternate service providers. The Paramedics Assistance Tool ([PAT app](#)) can help to locate the right service and the [Alternate Pathways Podcast and Feedback Page](#) on OneAV is a great resource to get up to date information on alternate services.

There is an array of alternate service providers that paramedics can refer to:

- Victorian Virtual Emergency Department (VVED)
- Priority Primary Care Centres (PPCC)
- GP/Locum
- Residential In Reach (RIR)
- TelePROMPT
- Sobering Services
- Victorian Poisons Information Centre (VPIC)
- Palliative Care Services
- AV Field Referral – Taxi transport, Nursing Services and for Patient Management Plan information

## 6. Respiratory tract infection

AV was called to a 24-year-old female on a cool evening, and she was 5 km from the closest ED. The patient lived independently at home. She complained of three days of feeling generally unwell with dizziness, lethargy and had 24 hours of a sore throat, a feeling of "fullness" in her head and sinuses, and had an episode of a streak of blood in her phlegm. She had a past history of low iron and stated she gets dizzy when it is low, with no regular medication.

On assessment the patient was alert, able to walk well, had no neurological deficits, headache, or fever, but had ongoing dizziness (three days), red throat on inspection (no visible swelling), and a productive cough with yellow/green sputum, with no other noted symptoms. Her vital signs revealed GCS 15, HR 110 bpm, ST (10 minutes later remained in NSR 70 – 80 bpm, 12 lead ECG NAD, BP 125/85 mmHg, skin normal, RR 20 / min with normal respiratory status and chest clear on auscultation, SpO<sub>2</sub> 99% RA, temperature 35.8°C, BGL 6.2 mmol/L, pain in throat 2/10, and COVID negative. The patient was transported to the local ED by the crew.

Given the time of night and patient's symptoms she would have been suitable for a VVED referral. As we are in the winter months and seeing many cases of seasonal illness, the COVID and Influenza CPGs provide support when making decisions regarding alternate pathways of care for these patients.

AV is committed to actioning prioritised initiatives from the SNTIP. We recognise there is an opportunity to better support both our clinical workforce and patients to connect them to the care that best meets their needs in place, and within the community. These resources and services have been implemented to complement our CPGs and consultation processes to assist in effective shared decision making when considering alternate pathways of care for patients.

1. **Ask yourself:** 'What is this person's context?' If you need more information about this, it's okay to ask. Think about potential barriers to a person enacting a plan you have made.
2. **Ask the patient:** 'Are you happy/comfortable with this plan?' If there is a moment of hesitation, stop and explore. Make sure you let them know it's okay if they are unsure.
3. **Ask yourself and your partner:** 'What else haven't we considered?' If the vital signs are normal, remember the risk for deterioration is in the history.



## Interested in participating in research?

 By **Emily Nehme**, Research Governance Manager



### Supporting paramedics in research

AV's Centre for Research and Evaluation is dedicated to supporting advancements in out-of-hospital care through rigorous research and evidence-based practice. We work collaboratively with universities and other health services to participate in cutting-edge research. We are currently supporting more than 100 active research projects, with a further 275 research projects successfully completed over the past two decades. These projects range from clinical trials to retrospective studies of defined patient cohorts using data contained in VACIS or in our statewide clinical quality registries (e.g. VACAR and VASQI). More recently, we are supporting an increasing number of data linkage studies, where AV clinical data is linked with emergency department and hospital outcome data or coronial (death) records. In doing so, we can examine the entire patient journey through the health system, from the Triple Zero (000) call through to discharge or death.

Since 2004, we have supported an extensive portfolio of research students undertaking their Honours, Master's or PhD programs. To date, we have supported 37 students in the completion of their PhDs, 23 of whom are paramedics. We are also currently supporting 11 PhD students, four of whom are paramedics. In addition, we have supported 28 paramedics in the completion of the research component of their Master's degree, and 17 paramedics to complete their Honours degree. Collectively, paramedics undertaking higher degree by research degrees have published over 100 peer-reviewed articles using AV data!

### What research support do we provide?

The AV Centre for Research and Evaluation can provide student supervision and mentoring. We can assist with:

- Project design
- Protocol and methodology development
- Human Research Ethics applications
- Access to literature
- Data collection
- Research promotion within AV
- Statistical support
- Project write up

### Getting AV approval for your research project

If you are undertaking, or interested in completing, an Honours, Master's or PhD that involves recruitment of AV people or use of data, it is important to discuss your project with AV and obtain approval prior to commencement.

All research involving AV people or data must be approved in accordance with the AV Research Governance Procedure (PRO STP 003). This involves completing an AV Research Application Form, obtaining Human Research Ethics Committee approval, and submitting your project protocol. We can provide advice on the completion of these applications. Ensure you allow sufficient time (two to three months) to obtain these approvals before you need to commence your project.

Our Research Application Guidelines (PRO STP 001) are also available on OneAV. They contain helpful information about the application process, instructions to assist with completing the AV Research Application Form, and tips for writing a project protocol.

If in doubt, contact the AV Centre for Research and Evaluation to discuss your project and/or interests.

### Things we look for in assessing research projects

There are several things that AV considers before approving participation in research projects:

1. Ensuring projects are unique to prevent overlap with any previously approved projects and duplication of effort.
2. Ensuring appropriate supervision arrangements are in place to make sure that projects will be completed successfully.
3. All projects must be submitted to a Human Research Ethics Committee for approval.
4. Impact on paramedic workload. From time to time, we may decline to participate in projects to avoid overburdening paramedics with involvement in research.

### Where you get more help?

If you have any questions, don't hesitate to contact us at [researchgovernance@ambulance.vic.gov.au](mailto:researchgovernance@ambulance.vic.gov.au).



# Using ambulance data to monitor the impacts of drugs, alcohol, and mental health in the community

Courtesy of the **National Addiction and Mental Health Surveillance Unit (NAMHSU)**, Monash University

## Turning Point

Turning Point is a national treatment, research, and education centre that provides leadership in the alcohol and other drug, gambling, and mental health sectors.

Combining innovative clinical and population health research and expert policy advice with service innovation, surveillance, system enhancements, capacity building, and specialist support, Turning Point empowers people, communities, services, and governments to respond to current and emerging alcohol, other drug, and gambling harms.

Part of Eastern Health and affiliated with Monash University,

Turning Point's work has helped to transform lives, with more than 100,000 Australians seeking support from their highly skilled clinicians every year. Their research and health surveillance teams inform cutting-edge treatments and shape health and social policy, while their workforce training equips frontline staff with the skills and confidence to respond and treat addiction. Turning Point aims to address addiction issues across the spectrum of harm, establishing effective methods for supporting client journeys from initial help-seeking through to specialist treatment and recovery.

## National Addiction and Mental Health Surveillance Unit

NAMHSU partners with a range of government and non-governmental bodies, providing data that helps shape their responses to harms involving AOD, mental health, and suicide and self-harm. Public health surveillance programs, such as The Australian Institute of Health and Welfare's [National Suicide and Self-Harm Monitoring Project](#) and [AOD compendium](#), receive monthly NASS statistics that are incorporated into their national datasets. Similarly, Turning Point's [AODstats](#), a Victorian Department of Health project, combines ambulance figures with a range of other data

sources to create an interactive, open resource capturing harms related to alcohol, and illicit and pharmaceutical drug use in Victoria. Researchers within NAMHSU are active in leading novel studies on a diverse range of topics.

From describing ambulance attendance trends relating to [alcohol harms](#) and [opioid consumption](#), to analysis of [adolescent suicide and self-harm behaviours](#), NAMHSU produces work that seeks to serve both the local and broader scientific community.

### NAMHSU 2023 highlights



## National Ambulance Surveillance System

The National Ambulance Surveillance System (NASS) is a novel public health monitoring system providing ambulance data on harms related to alcohol and other drugs (AOD), mental health, suicide, and self-harm, in participating Australian states and territories. The NASS is a partnership between Turning Point, Eastern Health and Monash University, and jurisdictional ambulance services across Australia. At every attendance, paramedics create an electronic patient care record (ePCRs) that documents out-

of-hospital patient data, assessment, and treatment. These ePCRs are supplied to Turning Point, where the National Addiction and Mental Health Surveillance Unit (NAMHSU), a team of specially trained researchers and coders, individually assess each record to capture relevant information. The data subsequently generated is used to inform and evaluate policy and clinical practice, identify intervention points, and guide workforce development at local, state, and national levels.



## National Ambulance Surveillance System AOD harms 2023 (Victorian arm)

### Demographics and co-morbidities



**50,473**

AOD-related attendances



**38 years**

median age of AOD-related attendances



**57%**

of attendances were for males, **42%** were for females



**8,173**

Mental health-related attendances (**16%**)



**10,984**

Suicide and self-harm-related attendances (**22%**)

### Service use



**78%**

of attendances transported to hospital



**33%**

of attendances with police co-attendance

### Temporal characteristics



**108 minutes**

Average time spent on scene at AOD-related attendances

#### Sunday

Day of the week with highest AOD-related attendances (**18%**)



**8pm-10pm**

Highest number of AOD-related attendances (**13%**)

### AOD aggregates



**27,923**

Alcohol intoxication-related attendances (**55%**)



**15,354**

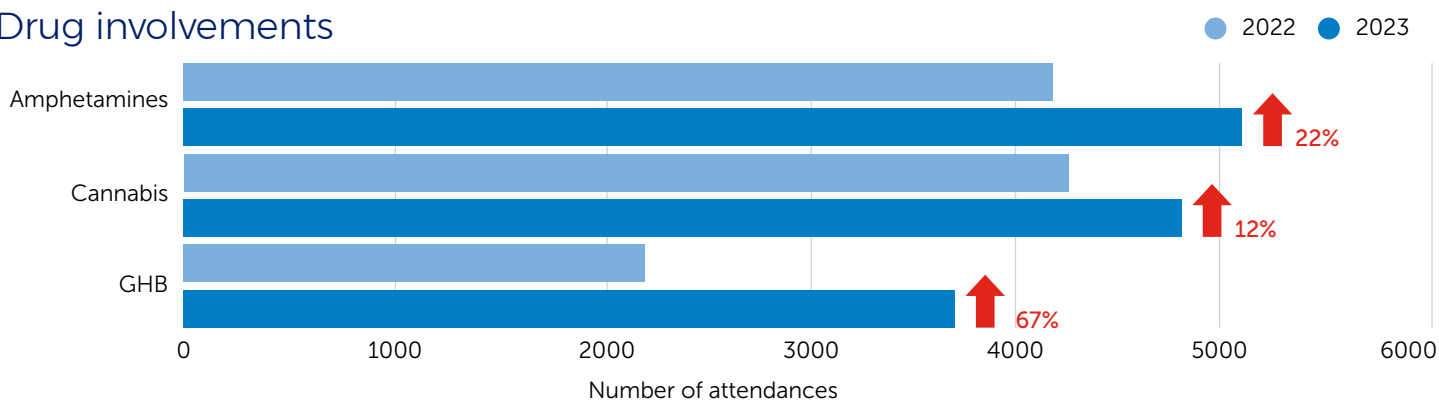
Illicit substance-related attendances (**30%**)



**10,574**

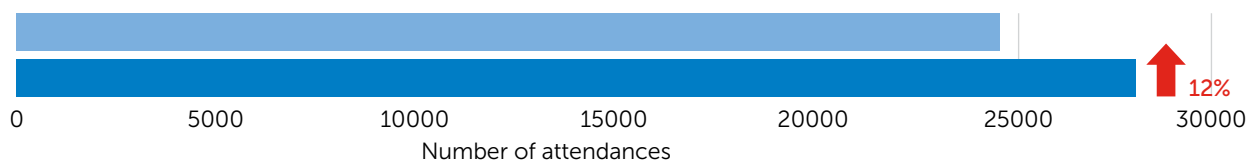
Pharmaceutical substance-related attendances (**16%**)

### Drug involvements



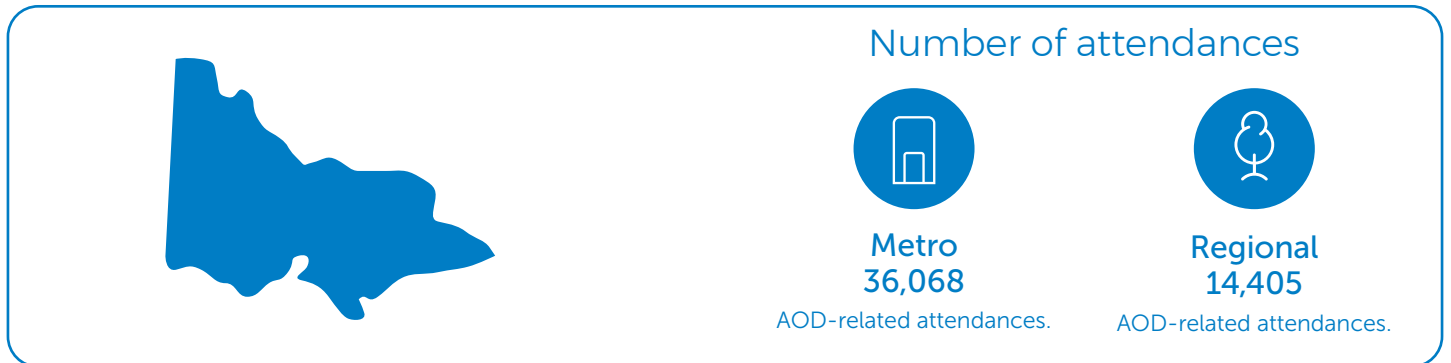
2023 ranking: #4 benzodiazepines (7.3% or n=3,677), #5 non-opioid analgesics (4.3% or n=2,159), #6 heroin (4.2% or n=2,125), #7 antipsychotics (3.6% or n=1,817)

### Alcohol intoxication

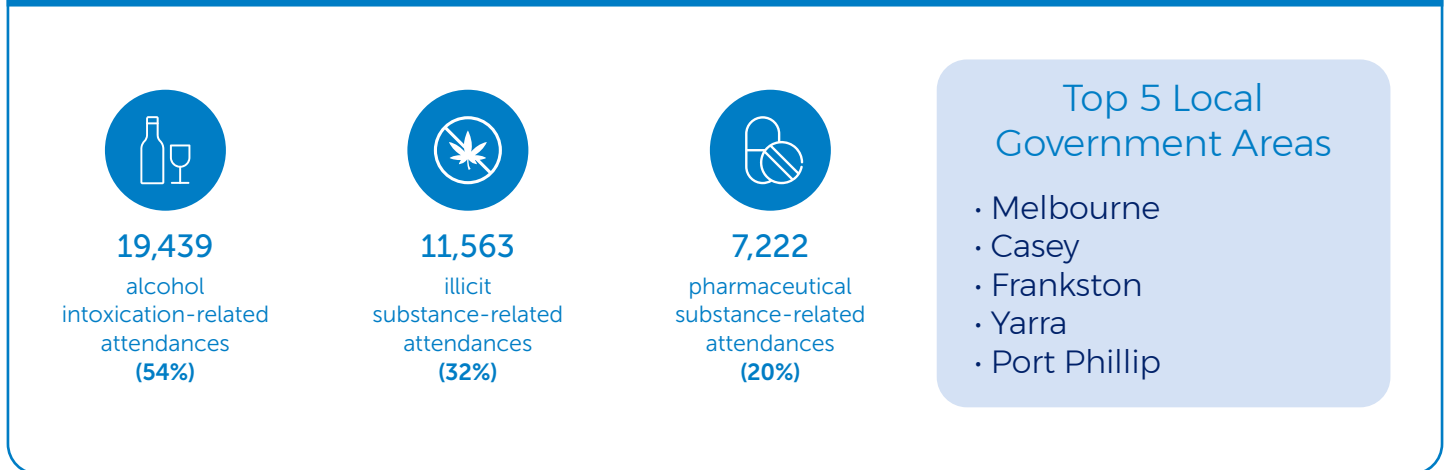




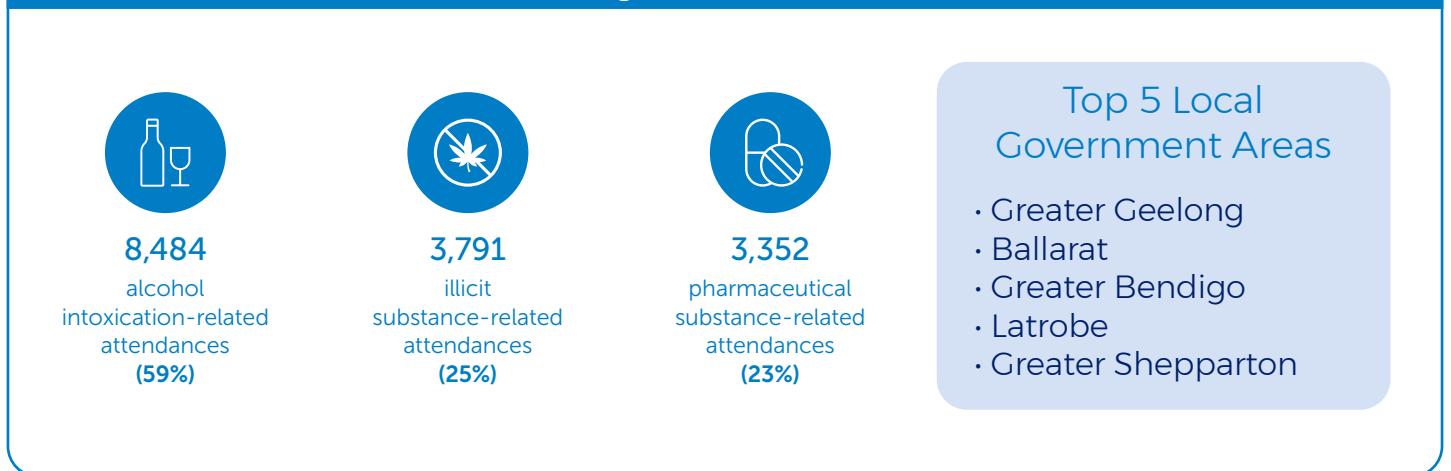
## Geographic breakdown 2023



### Metropolitan Melbourne



### Regional Victoria





# Differentials: Diagnosis



By **Penny Grattan**, Acting Lead Commencing Practice

## Loop back: shortness of breath

The *Autumn 2024 Clinical Insights* included a differential diagnosis activity designed to challenge your thinking and develop your problem solving skills. Of those who provided their answers via the QR code, 96% accurately identified the primary provisional diagnosis for the presented patient. If you haven't yet completed the activity, there is still time: go back and give it a go now because a spoiler is coming.

Have you done it yet? The underlying diagnosis for this case was Anemia. A subtle presentation in field that could be easily overlooked, reiterating the need to think critically and consider all options when assessing an individual's presentation.



## Differentials: Diagnosis

This activity uses a problem-based learning model that encourages critical thinking, problem-solving, and clinical reasoning abilities. Regardless of your level

of experience these activities can challenge your thinking and extend your knowledge. The following are intentionally unstructured problems and there are no right or wrong answers. Think of it as "choose your own adventure". Consider the **why, what, how**, and with each question ask yourself "what led you to draw those conclusions?"

### Let's work through the first one together.

*You are working at your current branch on your current shift. You are dispatched to a 35-year-old female with severe abdominal pain and vomiting.*

- What are your initial thoughts?
- What would the differential diagnoses be?
- How would you determine one over the other?
- Would it change your thinking if the vomiting came before the pain? Or visa-versa? Why?
- Would onset time change your thoughts?
- Would that change your management plan?
- What pharmacological interventions might you consider?
- How would that benefit the patient?



### Did that get the brain ticking over? Here is another one for you.

*You are working at your current branch on your current shift. You are dispatched to a 13-year-old, presenting with burns after lighting a fire with petrol 10 minutes ago. The burns are partial to full thickness to the entire right arm, the right side of the chest and abdomen.*

- What are your initial thoughts?
- What percentage of burn would you estimate?
- Is there a calculator you could use?
- Could they have other injuries? What would you expect those injuries to be?
- What would your logistical priorities be?
- What if you were working alone?
- What if the patient deteriorates?
- Is fluid indicated?
- What are the pain relief options?
- What would make you choose one option over another?

### Are you getting the idea? Here is another one.

*You are working at your current branch on your current shift. You are dispatched to a 50-year-old person complaining of dizziness.*

- What are your initial thoughts?
- What would the differential diagnoses be?
- How would you determine one over the other?
- Would onset time change your thoughts?
- What specific assessment tools would you apply?
- What if they had started a new medication today? How would you determine if that medication was contributing to the presentation?
- How would you explain your findings to the patient or their family?



**Here is our last one.**

*You are working at your current branch on your current shift. You are dispatched to a 22-year-old who is reportedly in an altered conscious state.*

You know the drill.

- What are your initial thoughts?
- What could it be? How would you rule in or rule out each differential?
- What led you to those initial possibilities?
- What would you be looking for on arrival?
- What if they were 67 years old? Would that change your initial thoughts? Would your list of differentials change? Would your approach to ruling them in or out change?

Thank you for following along, now go on and see if you can create your own case studies and questions to challenge yourself or maybe your colleagues.



Internal  
AV only

## Your thoughts matter

The *Clinical Insights* team strives to create an informative, educational, and engaging newsletter for AV's clinical workforce.

Your opinion matters. Let us know how we're doing and what we can improve. Share your thoughts here.

Scan the QR or [use this link to join](#)



# Grand Rounds

Internal  
AV only

## Spring: Improving diagnosis for patient safety

**Held on World Patient Safety Day, the Spring Grand Round will align with the WHO 2024 theme of improving diagnosis for patient safety.**

**When:** Tuesday 17 September 2024, 12 - 1:30pm

**Where:** Teams Webinar

[Register here.](#)

The speaker line-up will be circulated over the coming weeks.

## Winter: Managing respiratory problems

**Shortness of breath accounts for 10% of paramedic call-outs, matching chest pain as the most common call type. Paramedics are routinely called upon to expertly manage patients in severe respiratory distress.**

The Winter 2024 Grand Round:

- Unpacked a clinical case involving severe asthma and cardiac arrest
- Discussed the challenges of ventilation in obstructive pulmonary disease; and
- Gleaned from the experience of external experts Dr Claire Wilkin (Paediatric Emergency Physician RCH) and Dr Joanna Lawrence (Director of Paediatrics VVED).

The Grand Round: Managing Respiratory Problems recording is available on [OneAV](#).



Continuing professional development (CPD) aims to enhance your practice and improve patient outcomes. It involves seeking learning opportunities to extend your knowledge and skills. Setting your own learning agenda helps to focus on areas that matter to you. Learning and accruing hours can happen anywhere and extends beyond AV. Start with a plan to learn about topics you're interested in, then reflect on your learning, and log your experience. Some examples of learning opportunities are below.

## Workshops or seminars

Including workshops, conferences or webinars provided by AV or external agencies.



## Online learning

This may include Learning Hub courses. You can find additional courses through the "Find Learning" section. Alternatively, you can access external online courses.



## Podcasts

Including Clinical Conversations and other healthcare related podcasts.



## Written publications

Including journal articles, bulletins, blogs, or clinical updates.



## Peer discussions

Including clinical debriefs, case studies scenarios, and activities.



## Your CPD should:

- ✔ be based on the latest evidence available
- ✔ add value to your current knowledge
- ✔ help you improve your competence
- ✔ enhance patient outcomes
- ✔ ensure that you maintain currency in your practice
- ✔ include a minimum of 8 interactive hours.

## Higher education

You may have enrolled into a course to advance your practice or to enhance your ability to perform your role.



## Videos

This may include CPG walkthrough videos found within the CPG App, the Clinical Video Library via OneAV, online tutorials, or lectures.



**Learn** something new or refresh your knowledge.

**Reflect** on how you are going to incorporate that learning into your practice.

**Log** your reflections and remember to keep your records for five years.



Learn



Reflect



Log

Scan this QR code for Ahpra's CPD resources, including tips, FAQs, guidelines, and logbook.

