

# Navigating paediatric deterioration in the out-of-hospital setting: Barriers and facilitators

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## 1. Background

Clinical deterioration is a global healthcare issue with life-threatening consequences if not recognised early. In children, deterioration is often subtle and can progress rapidly due to their unique anatomical and physiological differences. Unlike adults, children may compensate for longer periods before experiencing sudden decline, making early recognition vital for improving outcomes.

In the out-of-hospital (OOH) environment, recognising paediatric deterioration is particularly complex. Paramedics must make rapid decisions with minimal resources and personnel, while also navigating challenging environments including uncomfortable transport conditions, continuous motion, and high levels of stimulus. These factors, combined with age-dependent vital signs and the lack of validated paediatric early warning scores, making timely recognition and management even more difficult.

Despite the high stakes, there is a paucity of literature surrounding specific barriers and facilitators to recognising paediatric deterioration in the OOH setting.

## 2. Methods

A cross-sectional study of Australian paramedics was conducted between August and September 2024. Quantitative data (n=78) were analysed descriptively, while open-ended responses underwent thematic analysis.

**Aim:** To identify barriers and facilitators to recognising paediatric clinical deterioration in the OOH setting.

## 3. Results (key findings)

Most participants (53%) reported feeling confident in recognising paediatric deterioration. However, 49% stated that paediatric cases account for less than 10% of their workload, and 55% found these cases to be more stressful than adult cases. Additionally, nearly 40% of participants indicated that their current training level was insufficient for recognising paediatric clinical deterioration.

Challenges in assessing paediatric patients were compounded by communication barriers between out-of-hospital and in-hospital settings, with paramedics identifying a need for improved language consistency and follow-up on patient outcomes to enhance case reflection and skill development.

"The lack of training and ability to recognise deterioration in paediatric population leads to a lot of paramedics simply 'loading and going' without accurately and appropriately assessing and managing the child."  
(Participant 5)

"The low frequency makes it hard to maintain competence. Decreased down time for training and study at work also makes it hard to maintain knowledge and skills."  
(Participant 78)

"We speak different languages which can make placing emphasis on acuity difficult."  
(Participant 67)

## 4. Conclusions

Recognition of paediatric clinical deterioration remains a critical area of concern, driven by factors such as varied preparedness amongst paramedics, low exposure to paediatric cases, challenges in assessment and communication breakdown between OOH and in-hospital care teams.

The infrequent nature of severe paediatric emergencies contributes to reduced confidence and competence amongst paramedics, underscoring the need for more robust and standardised tools and guidelines tailored to paediatric care.

## 5. How could this translate to practice?

- Training and Education:** Supports the case for more realistic paediatric simulations, scenario based training, and refresher modules for low-frequency, high-risk cases.
- Clinical Guidelines & Protocols:** Creation and implementation of standardised paediatric assessment tools tailored to the OOH environment.
- Confidence & Preparedness:** By highlighting where confidence drops (e.g., rare presentations, time-critical deterioration), ambulance services can introduce mentoring, case review sessions, and crew debriefing that focus on paediatrics.
- Workforce Wellbeing & Support:** Identifying and addressing the emotional load and anxiety that paramedics report in paediatric cases can lead to better psychological support frameworks, including case reviews and peer support programs.

"Just the general increased stress and overthinking when treating [paediatrics] due to feeling like having a increased risk of missing something that could detriment their outcome and the fact that they are dependent, and have the rest of their lives to live with potential ramifications."  
(Participant 48)

"More training needs to occur re communicating with children, global impressions, assessments in particular history taking, anything just because emotions take over. We are well placed to help, but just as well placed to hinder... or worse."  
(Participant 72)

Figure 1: Approach to recognising paediatric clinical deterioration

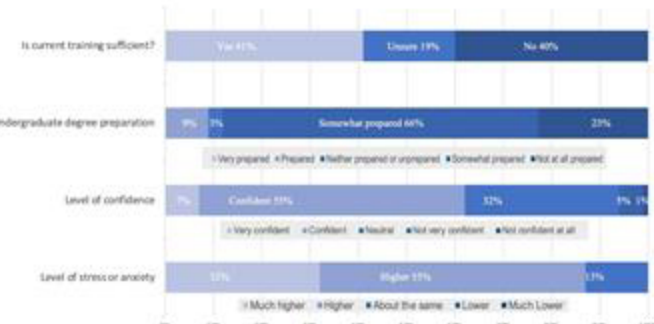


Figure 2: Assessment of paediatric patients

