Paramedic perceptions on the feasibility of prehospital antibiotics for febrile neutropenia: a mixed-methods study

Authors Jake Thorogood[1], James Pearce[1,2], Brad Mitchell[1,2]

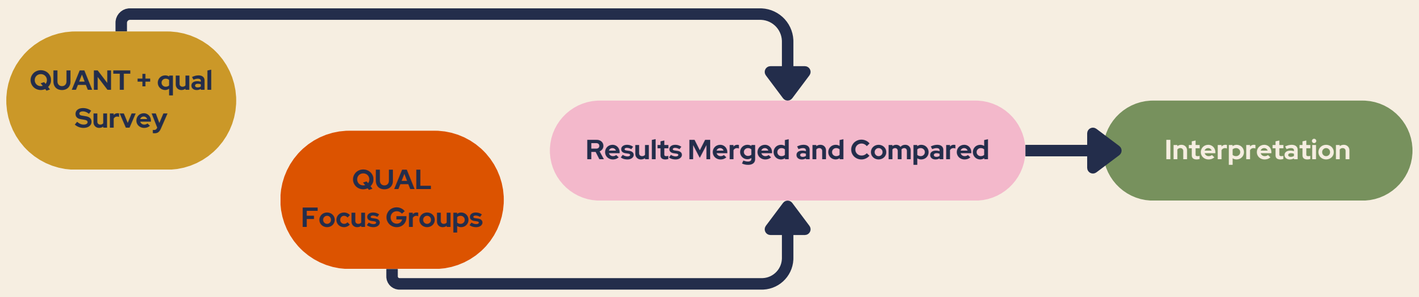
Affiliations
1. Flinders Health and Medical Research Institute, College of Medicine and Public Health, Flinders University, South Australia, Australia
2. SA Ambulance Service, South Australia, Australia

Background

- Febrile neutropenia is the presence of a fever with abnormally few neutrophils in the blood, which compromises the immune system's ability to fight against infection.
- Expert guidelines recommend that antibiotic therapy should be commenced immediately, ideally within 1 hr of recognition[1].
- Currently it is not routine practice within ambulance services to give antibiotics for febrile neutropenia, which likely limits optimal patient outcomes.

Methodology

- Two-phase convergent mixed-methods design
- Qualitative and quantitative responses from Australian registered paramedics in an online survey and focus groups.
- Data sets were mixed and thematically analysed together



Results

Survey = 50 participants
Focus groups (3) = 14 participants

Central Theme: Clinical Governance
The overarching framework ensuring safe, effective, and accountable paramedic practice in implementing prehospital antibiotics.

Paramedics rely on clinical cues and patient history to make provisional diagnoses, often treating febrile cancer patients as neutropenic until proven otherwise.

"Anybody that [is] undergoing any form of chemotherapy, or immunosuppressed in any way, and they've got a temperature generally tends to ring alarm bells." – FG2, P6

While logistical concerns were raised, most paramedics felt confident that practical barriers could be overcome with minor adaptations.

"Venepuncture and collecting bloods is not that difficult a skill that it couldn't be introduced pre-hospitally." – FG2, P6

Participants prioritised patient outcomes and proposed tailored strategies for high-risk groups, especially in rural and remote settings.

"Discharge [the patient] home with a bag [containing] the antibiotic that has been selected for them by their oncologist." – FG1, P1

Participants highlighted both the benefits and the challenges of integrating paramedic-initiated care with hospital workflows and specialist teams.

"[There is] often a delay at hospital triage and subsequent delay to treatment." – Survey, P4

Paramedics expressed strong support for formalised guidelines e.g., "Code Febrile Neutropenia" to legitimise and standardise expanded roles.

"Would love a formal Protocol/CPG to remove need for variations to clinical practice." – Survey, P15

Conclusion

- The results indicate that although logistical barriers exist, they could be feasibly overcome in dynamic ways for the benefit of the patient through improvements in health systems integration.
- The analysis generated multiple possible implementation strategies including discharging high-risk patients from hospital with take-home antibiotics and culture bottles for future prehospital use, or stocking these on ambulances fleets.

ACPIC25 Brisbane 10-12 September 2025

Acknowledgements

We would like to thank Jakab Foster, Dr. Ganessan Kichenadasse, and Richard Larsen.

References

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Contact

Jake.Thorogood@flinders.edu.au
James.Pearce@flinders.edu.au
Brad.Mitchell@vu.edu.au

This research was undertaken and completed as part of an Honours degree at Flinders University