

Paramedic Confidence, Comfort, and Preparedness in Assessing Asthma Severity: A Scoping Review

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Paramedics' confidence, comfort, and preparedness in asthma assessment remain underexplored, highlighting the need for research to guide future education, training, and simulation strategies.

Introduction

• Respiratory emergencies are common and clinically significant in the out-of-hospital setting, often requiring paramedic transport for further assessment and management.

• Acute asthma exacerbations can rapidly progress to life-threatening episodes if not recognised and treated early, with symptoms varying widely in severity and presentation.

• Little is known about paramedics' self-reported confidence, comfort, and preparedness when assessing asthma severity in the out-of-hospital setting.

Aim: To synthesise current literature on paramedic confidence, comfort, and preparedness in assessing asthma and respiratory emergencies, to inform training, policy, and clinical guidelines.

Methods

• Electronic databases Ovid Medline, CINAHL, Embase, PubMed, and Scopus were searched using terms for paramedics, asthma, and confidence, comfort, preparedness.

• PRISMA-ScR guidelines were followed, with two reviewers independently screening titles, abstracts, and full texts against inclusion/ exclusion criteria.

• Data were charted, quality appraised with JBI tools, and synthesised narratively according to confidence, comfort, and preparedness.

Results

• Six studies were included (USA = 4, New Zealand = 1, UK = 1); no Australian data were found.

• **Confidence** Explored through self-reported measures or inferred from clinical decision-making and guideline deviation; findings highlight variability and limited evidence

• **Comfort** Closely linked to exposure. Low-frequency, high-acuity presentations generated uncertainty and anxiety.

• **Preparedness** Simulation and targeted education improved readiness, but intervention selection and protocol adherence remained inconsistent.

• None of the included studies directly measured asthma-specific confidence, comfort, or preparedness.

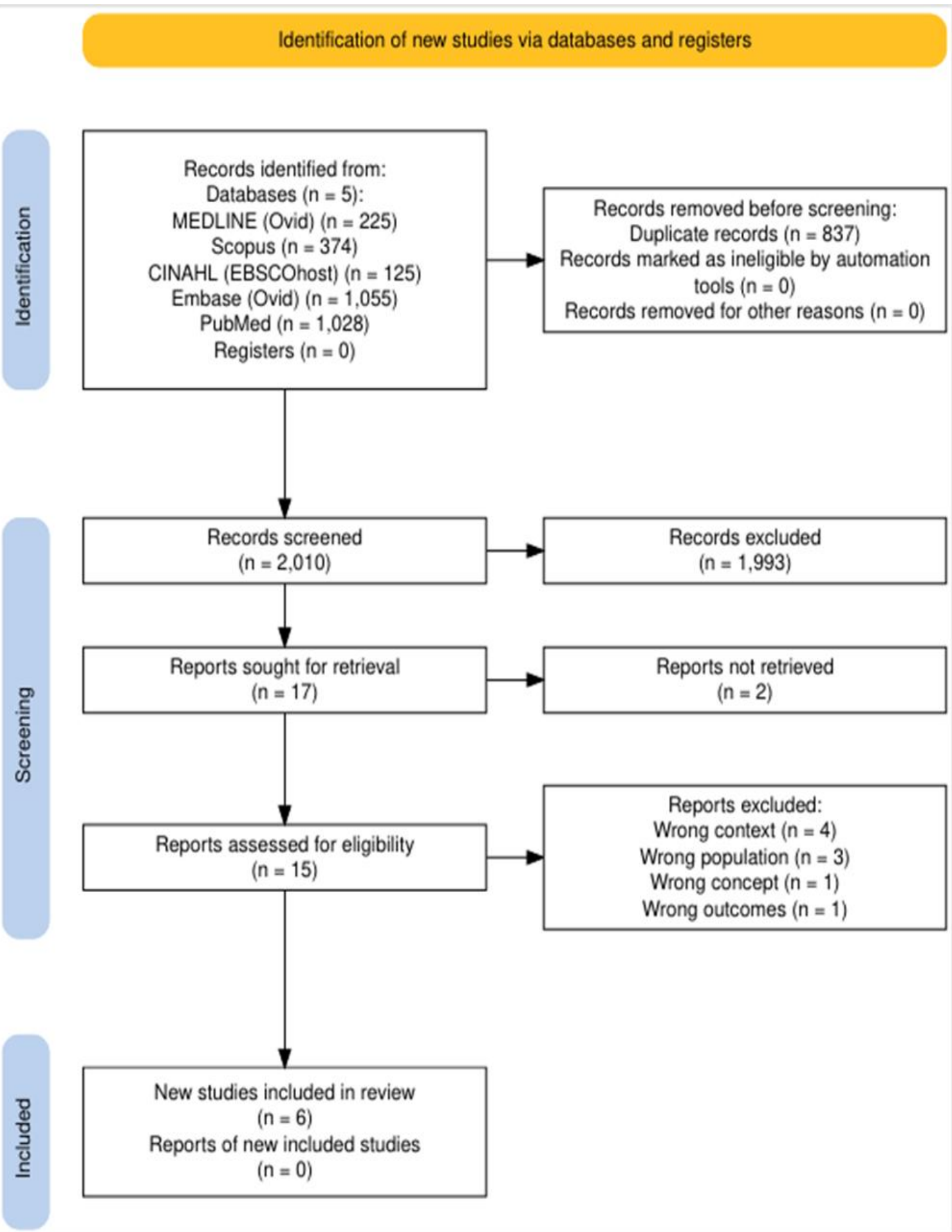


Figure 1: PRISMA flow chart

Table 1: Included Studies and Key Findings

STUDY / CONCEPT EXPLORED	KEY FINDINGS
Christie et al. (2016), NZ Confidence & preparedness (inferred from diagnostic accuracy); comfort (inferred from familiarity)	Moderate diagnostic agreement; higher accuracy with familiar conditions; higher confidence & preparedness with familiar cases & experienced paramedics
Mortimer et al. (2024), UK Confidence in adapting from guidelines; comfort managing side effects & comorbidities; preparedness in dynamic prehospital settings	Paramedics adapted management based on patient presentation & experience; clinician experience, side effects & comorbidities influenced decisions; context-driven practice
Lammers et al. (2021), USA Confidence & preparedness in paediatric emergencies, including asthma; comfort in clinical decision-making	Simulation improved confidence & preparedness for high-acuity, low-frequency emergencies; immersive simulation enhanced comfort & reasoning
Miller et al. (2016), USA Confidence in clinical decision-making; preparedness & comfort in paediatric respiratory emergencies via continuing education	Immediate post-intervention knowledge improved; no long-term retention; baseline higher in providers with >1 year paediatric experience; licensure & experience did not affect gains
Schroter et al. (2020), USA Confidence & preparedness (inferred from diagnostic accuracy & interventions); comfort limited due to low exposure/training	Severity often recognised (92%) but diagnostic accuracy lower (50%); correct interventions 38%; gaps in confidence, preparedness & comfort
Scribano et al. (2000), USA Preparedness inferred from readiness for paediatric interventions; confidence from intervention appropriateness; comfort implied by protocol adherence	Only 56% received fully appropriate interventions; some under- or over-utilisation; gaps in preparedness & confidence; protocol adherence implies some comfort

Discussion

• Indirect measurement of confidence, comfort, and preparedness highlights a gap in how these concepts are studied in paramedic asthma care.

• Limited clinical exposure and inconsistent training may hinder readiness for high-acuity or paediatric cases.

• Education, simulation and guideline reinforcement may improve paramedic decision-making and patient outcomes.

• Workforce-level strategies are needed to support consistent, safe, and evidence-based asthma management.

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References

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