Pre-hospital outcomes for ambulance service care: a systematic review

Viet-Hai Phung[1], Andrew Booth[2], Joanne Coster[2], Janette Turner[2], Richard Wilson[2], A. Niroshan Siriwardena[1,3]

[1]Community and Health Research Unit, University of Lincoln, [2]School of Health And Related Research, University of Sheffield, [3]East Midlands Ambulance Service

Introduction

Ambulance service performance measurement has previously focused on response times and survival. We conducted a systematic review of the international literature on quality measures and outcomes relating to pre-hospital ambulance service care, aiming to identify a broad range of outcome measures to provide a more meaningful assessment of ambulance service care.

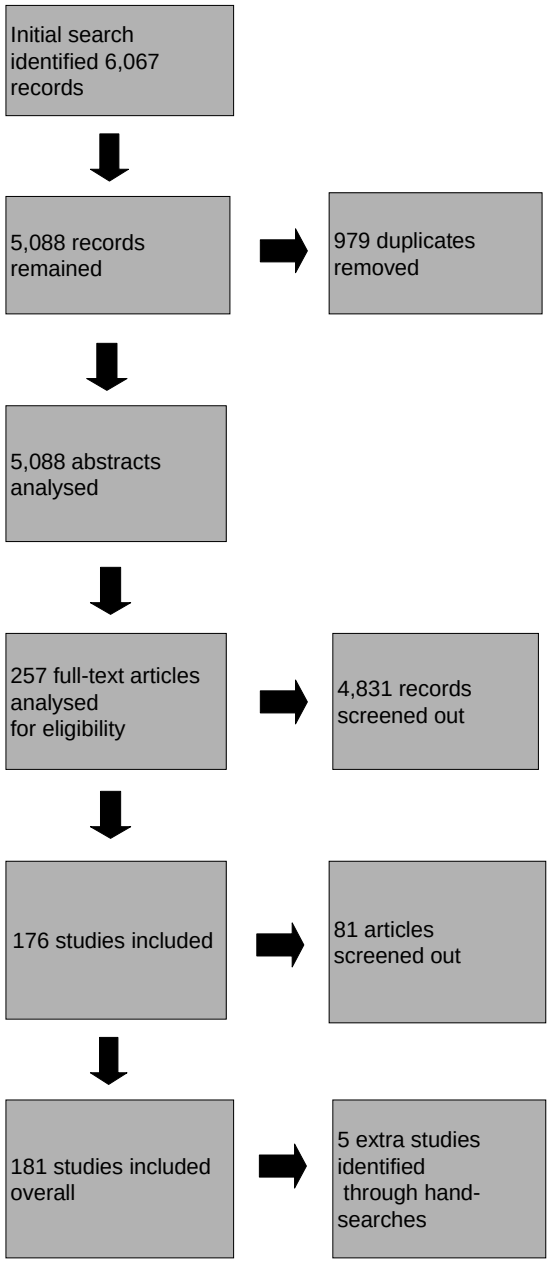
Aim

We aimed to review the international evidence base to describe the range and scope of outcome measures for prehospital performance and quality. This will seek to inform discussion about what measures might be relevant for a wider pre-hospital population.

Method

We searched a number of electronic databases including CINAHL, the Cochrane Library, EMBASE, Medline and Web of Science. The next stage involved developing a data extraction tool, which established the eligibility criteria for inclusion. We included studies if they: were research or evaluation; referred to the pre-hospital phase of care; reported outcomes; and were published in the English language.

Study flow



Results

Overall, 181 full-text articles were included: 83 (46%) studies from North America, 50 (28%) from Europe and 21 (12%) from the UK. A total of 176 articles were obtained after examining 257 full-text articles in detail from 5,088 abstracts screened. A further five papers were subsequently identified from references of the articles examined and studies known to the authors. There were 140 articles (77%) which contained at least one survival-related measure, 47 (34%) which included information about length of stay and 87 (48%) which identified at least one place of discharge as an outcome.

Limitations

We encountered a problem of incomplete information, for instance studies not specifying which pain scales when these had been used or using survival as an outcome without specifying a time period.

Conclusion

In addition to measures relating to survival, length of stay and place of discharge, we identified 144 additional outcome measures. Few studies included patient reported or cost outcomes. By identifying a wide range of outcome measures this review will inform further research looking at the feasibility of using a wider range of outcome measures and developing new outcome measures in pre-hospital research and quality improvement.

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