A systematic review of the activity and impact of emergency care practitioners in the NHS

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CRD summary
This review found that emergency care practitioner services have been implemented successfully in a variety of UK settings. Differences in study populations and research methods made it impossible to draw firm conclusions about their cost-effectiveness. These cautious conclusions reflect the limitations of the evidence presented and seem appropriate.

Authors' objectives
To assess the effect of emergency care practitioners on healthcare delivery, effectiveness of practice and resource use in the UK NHS.

Searching
CINAHL, MEDLINE, EMBASE and The Cochrane Library were searched up to August 2012. Search terms were reported. There were no language restrictions. The Journal of Emergency Medicine database was also searched. Grey literature was identified using Google and Google Scholar, and by a search of the Department of Health website. Reference lists of relevant papers were also screened.

Study selection
Published or unpublished studies of services that had emergency care practitioners as a key component in any UK setting were eligible for inclusion. Core emergency care practitioner skills and competencies were listed. Empirical evaluation studies of any design were eligible. Studies had to report on NHS staff or patient perceptions of the emergency care practitioner role; healthcare costs; or assessment of clinical working practices of emergency care practitioners. Studies of purely telephone services were excluded.

Some included studies compared emergency care practitioners with other health professionals such as general practitioners or advanced care practitioners. Others studies used a pre-intervention versus post-intervention design or had no formal comparator. Various methods were used to measure outcomes.

Initial screening of studies was done by one reviewer, but a second reviewer was involved in the final selection of studies for inclusion.

Assessment of study quality
Study quality was assessed based on criteria from published guidance for appraising cohort studies with additional criteria for qualitative and mixed-methods studies.

Quality was assessed by two reviewers independently and disagreements were resolved by discussion.

Data extraction
The authors did not explicitly state how many reviewers extracted data for the review.

Methods of synthesis
A narrative synthesis was presented organised by type of study and outcome. Differences between studies were discussed in the text and presented in tables.

Results of the review
Twenty-one studies were included comprising 15 per-reviewed publications and six project reports. Numbers of patients and/or staff involved were reported but the total number of participants was unclear. Eleven studies were described as quantitative, nine studies had both a quantitative and qualitative element, and one study was qualitative. Most studies met most quality criteria. All but two studies used methods that would identify confounders. Results of nine studies were not considered generalisable.

Four high-quality studies found either greater overall patient satisfaction or better processes of care with emergency
care practitioners compared with control practitioners.

One comprehensive study (that controlled for several confounders) found differences that were statistically significant but of uncertain clinical significance.

Studies of patient referral (nine studies) found some evidence that patients treated by emergency care practitioners were less likely to be referred to other services, although it was unclear whether this was due to differences between patients treated by emergency care practitioners and others (selection bias).

Three studies investigated avoidance of admission and found that emergency care practitioners' impact in reducing admissions varied across settings.

Results of studies on emergency care practitioners' workplace behaviour were also reported.

**Cost information**

Four studies compared costs of emergency care practitioners with those of other providers (ambulance service, emergency department, or 'usual care'). Three studies found cost savings associated with use of emergency care practitioners, but study methods varied and the estimated cost savings differed widely across studies.

**Authors’ conclusions**

Emergency care practitioner services have been implemented successfully in a variety of settings. Differences in study populations and research methods made it impossible to draw firm conclusions about their cost-effectiveness.

**CRD commentary**

The review question and inclusion criteria were broad but generally clear. The search covered a range of appropriate sources and located both formally published studies and grey literature. Limited details of review methods were reported.

Study quality was assessed using recognised criteria for observational and qualitative studies. A narrative synthesis was appropriate for the topic and the types of studies included; the authors highlighted the better quality evidence. Some relevant study details were provided but there was little information about emergency care practitioner interventions or settings, which sometimes made the findings difficult to interpret. The included studies were observational (so potentially at high risk of bias) or used interviews or surveys to measure perceptions.

The authors' cautious conclusions, taken together with the implications for practice and further research, appropriately reflect the limitations of the available evidence.

**Implications of the review for practice and research**

**Practice**: The authors stated that caution should be exercised before concluding that commissioning of an emergency care practitioner service was more productive than alternatives such as general practitioner visits or paramedic treatment at the scene.

**Research**: The authors stated that further evaluations should consider whether the beneficial impact of emergency care practitioners applies across settings and patient groups, and was not just a result of new investment in services. They also recommended research to better understand the qualifications, training and career pathways of emergency care practitioners.

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