What are the Research Priorities of Paediatric Emergency Medicine (PEM) Clinicians in the United Kingdom & Ireland? - an International Survey

PERUKI

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Introduction

Paediatric Emergency Research in the UK and Ireland (PERUKI) is a research collaborative that was established in August 2012. It consists of 40 centres from England, Ireland, Northern Ireland, Scotland and Wales, and aims to improve the emergency care of children through the performance of robust collaborative multicentre research within Emergency Departments (EDs).

Aim

A study was conducted to establish the research priorities of PERUKI members.

Methods

A 2-stage modified Delphi survey was conducted of all PERUKI members via an online survey platform.

Round 1 consisted of a single question: "Thinking about your clinical practice in the field of paediatric emergency medicine (PEM), what are the most important research questions which need addressing?". Each respondent could submit up to 12 individual questions in "PICO" (population, intervention, control, outcome) format that they identified as priorities for future research. From this total bank of responses, a list of all unique research questions was compiled, grouped by subject area/topic.

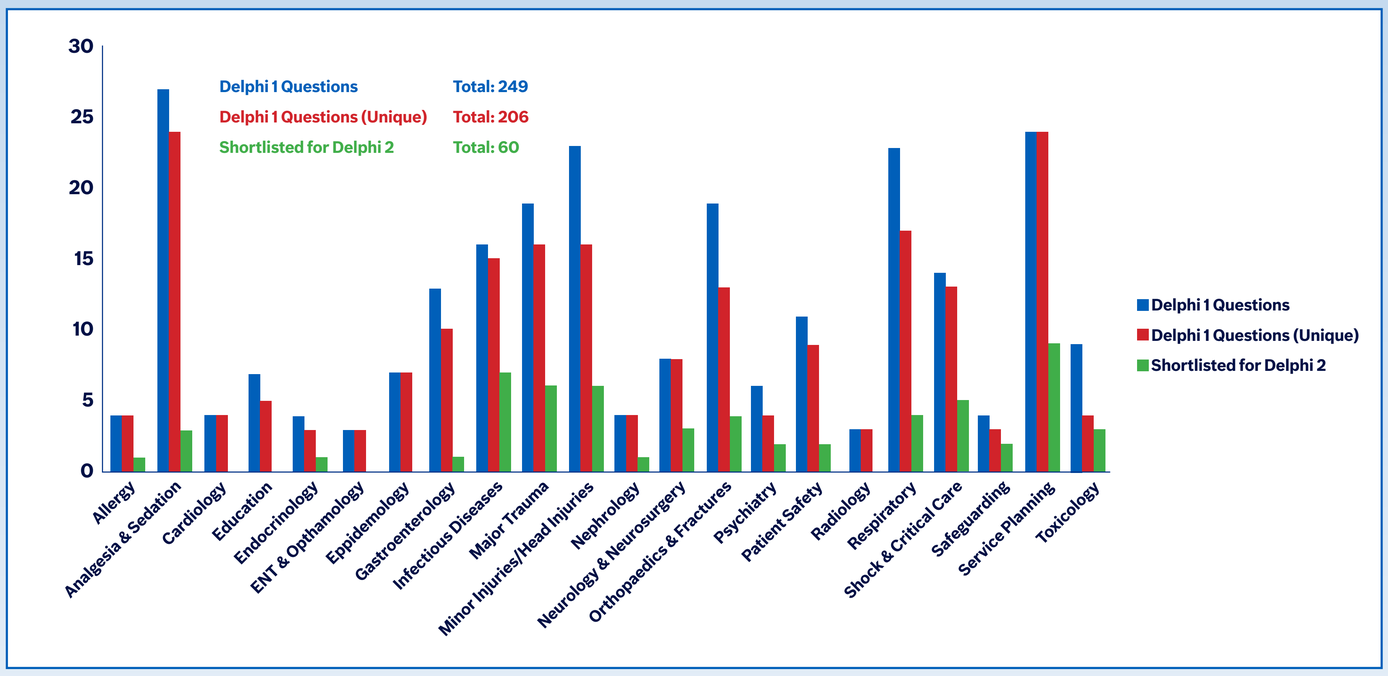
A shortlist of eligible questions was then drawn up by the PERUKI Executive Committee during a teleconference analysis discussion. Questions were considered to be eligible for further analysis if they were unanswered in the current literature and if they leant themselves to multi-centre research within the ED environment.

In Round 2, PERUKI members reviewed each of the shortlisted questions and rated each on a 7-point Likert scale of relative importance to their own clinical practice in PEM (1 = 'not a priority' to 7 = 'essential priority'). Questions were then ranked according to total priority score.

Results

Round 1: Response rate = 46/91 (51%)

Fig 1 – Number of Questions Proposed in Round 1 Survey (listed by topic area)



Round 2: Response rate = 58/95 (61%)

For the 60 research questions that were rated, the mean score of "relative degree of importance" was 4.70 (range 3.36 – 5.62).

Current PERUKI Research Priorities (top 20 highest ranking questions) – see Table 1

Conclusion

This is the first study to identify the research priorities of PEM clinicians in the UK & Ireland. The intention is that these results will be a catalyst for future projects and that research questions identified as PERUKI priorities will be looked on favourably when grant applications are made. The research priorities are at several different stages in the evidence process, with considerable variation in their background evidence, and are likely to require allocation to separate distinct funding programs. The results have already been shared with national funding bodies to guide the direction of future research in our specialty.

Table 1

1	In paediatric patients with a fever, are any biomarkers helpful in predicting presence or absence of serious bacterial illness?
2	In children with possible major trauma, which predictor variables identify serious injury requiring direct transport to a major trauma centre?
3	In children with septic shock does aggressive fluid management, as opposed to judicious fluid management, improve mortality? ''i.e. a response to FEAST in a UK population''
4	In children with acute severe asthma requiring IV therapy is salbutamol, aminophylline, magnesium or a combination of these superior in safety, and clinical and cost effectiveness?
5	In paediatric major trauma patients with major haemorrhage does IV tranexamic acid compared to no treatment reduce mortality and morbidity?
6	In children with c-spine injury, does currently available guidance provide satisfactory performance accuracy in identifying significant injuries?
7	In children with atraumatic limp (or possible orthopaedic sepsis) what is the best clinical decision rule for observation/investigation/management?
8	In well looking children with petechiae, can a clinical decision rule be derived to determine which predictor variables necessitate investigation?
9	Are observation wards/clinical decisions units within EDs cost-effective?
10	In children with head injury, does the updated NICE guidance compared with other clinical decision rules provide an acceptable management strategy in terms of performance accuracy and economic considerations?
11	What are current procedural sedation practices within EDs in the UK & Ireland?
12	In children with massive haemorrhage, does treatment with tranexamic acid compared with no tranexamic acid increase the rate of thromboembolic events?
13	What are the top 10 most commonly occurring patient safety issues occurring in PERUKI EDs?
14	In children with sepsis, does the use of paediatric sepsis bundles compared with standard treatment improve clinical outcomes?
15	What are current practices for pain control for children within EDs in the UK & Ireland?
16	Has the introduction of paediatric trauma networks and major trauma centres altered the patterns of major injury which affect mortality?
17	In children with petechiae, what is a safe minimum period of observation to ensure no clinical deterioration?
18	In paediatric patients presenting to the ED can the use of the Paediatric Observation Priority Score compared with the ManChEWS or PEWS more accurately predict severity of illness and hence the need for admission or discharge from the ED?
19	In children presenting with an acute moderate exacerbation of wheeze aged 1-16 years does intensive early treatment in the first hour compared with standard treatment reduce subsequent need for hospital admission?
20	In children with abdominal trauma, does the model provided by the PECARN network accurately identify which patients do not need abdominal imaging?

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