Prioritising pre-hospital outcome measures with a multi-stakeholder group: a consensus methods study

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Study aims
The aim of the PhOEBE programme is to develop better ways of measuring the quality of ambulance service care by:
1. linking ambulance service, primary and secondary care and mortality data
2. using this data to develop predictive models for outcomes that can assess quality and performance of ambulance service care.

Stage 1 of the programme identified potential outcome measures and uses consensus methods to refine and prioritise these measures.

The problem
Ambulance services in England treat 6.5 million people per year but get no information about what happens to patients after discharge. The consequences are:
- A reliance on measuring response times rather than outcomes to assess how well services perform
- Little opportunity for identifying problems and good practice or evaluating service developments

There is a lack of consensus on which outcome measures are important for pre-hospital care so we set out to address this.

Methods
We held a 1 day consensus event to discuss and prioritise pre-hospital care outcome measures identified from 2 systematic reviews. There were 43 participants from a range of backgrounds.

After small group discussions electronic voting was used to independently and anonymously rate 52 outcome measures as either:
- Essential
- Desirable
- Irrelevant

Consensus event participants (n=43)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Top 10 measures voted essential</th>
<th>Essential n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accuracy of dispatch decisions</td>
<td>36 (86)</td>
</tr>
<tr>
<td>2</td>
<td>Completeness and accuracy of patient records</td>
<td>35 (85)</td>
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<tr>
<td>3</td>
<td>Accuracy of call taker identification of different conditions / needs (e.g. heart attack/stroke/suitable for nurse advice).</td>
<td>33 (79)</td>
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<tr>
<td>4</td>
<td>Pain measurement &amp; symptom relief</td>
<td>33 (79)</td>
</tr>
<tr>
<td>5</td>
<td>Patient experience</td>
<td>31 (78)</td>
</tr>
<tr>
<td>6</td>
<td>Measuring patient safety</td>
<td>32 (76)</td>
</tr>
<tr>
<td>7</td>
<td>Over – triage rates and under triage rates</td>
<td>31 (76)</td>
</tr>
<tr>
<td>8</td>
<td>Compliance with end of life care plans</td>
<td>31 (76)</td>
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<tr>
<td>9</td>
<td>Proportion of calls treated by most appropriate service (whole 999 population)</td>
<td>30 (75)</td>
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<tr>
<td>10</td>
<td>Compliance with protocols and guidelines</td>
<td>29 (69)</td>
</tr>
</tbody>
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5 out of the top 10 measures were concerned with accuracy of processes
3 were about patient outcomes – pain management, experience and safety
2 were about treatment compliance

Key messages/next steps
- The dominance of process measures highlights the difficulties in identifying patient outcomes that are attributable to ambulance service care
- The outcome measures will be further refined in a Delphi study and developed as predictive models using a linked data.
- This method will offer ambulance services the potential to assess the quality of care they provide to patients.

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PhOEBE is funded by a NIHR Programme Grant for Applied Research