Economic evaluation of occupational therapy pre-discharge home visits for patients with a stroke: issues arising

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Introduction: Background

- People who have had a stroke may be offered a pre-discharge home visit by an occupational therapist (OT)
- 73% receive home visits in UK\textsuperscript{1}
- Identified as being costly\textsuperscript{2,3,4,5}
  - With no data on costs
- No evidence of effectiveness
Feasibility study
RCT + cohort group
Home visit vs. hospital interview

No significant difference in primary outcome (NEADL) at 1 month follow-up
Method: Economic evaluation

- **EQ-5D**
  - Baseline, 1 month

- **Resource use**
  - Staff time (attending, travel, administration etc)
  - Transport
  - Equipment

- **Costs**
  - NHS staff earnings
### Results: Economic evaluation

<table>
<thead>
<tr>
<th>EQ-5D</th>
<th>Baseline (EQ)</th>
<th>1 month (EQ)</th>
<th>Effect (EQ)</th>
<th>In QALYs (EQ)</th>
<th>BS’d mean (95% CIs) (EQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment</strong></td>
<td>0.394</td>
<td>0.531</td>
<td>0.137</td>
<td>0.011</td>
<td>0.010 (0.001, 0.019)</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>0.430</td>
<td>0.501</td>
<td>0.072</td>
<td>0.006</td>
<td>0.005 (-0.005, 0.015)</td>
</tr>
<tr>
<td><strong>Increment</strong></td>
<td>-</td>
<td>-</td>
<td><strong>0.065</strong></td>
<td><strong>0.005</strong></td>
<td><strong>0.005 (0.005, 0.006)</strong></td>
</tr>
<tr>
<td><strong>Cohort</strong></td>
<td>0.483</td>
<td>0.570</td>
<td>0.088</td>
<td>0.007</td>
<td>-</td>
</tr>
</tbody>
</table>
## Results: Economic evaluation

<table>
<thead>
<tr>
<th>Costs</th>
<th>Staff A time (sd)</th>
<th>Staff cost (sd)</th>
<th>Total cost (sd)</th>
<th>BS’d mean (95% CIs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>180 (85)</td>
<td>£158 (75)</td>
<td>£183 (81)</td>
<td>£188 (165,216)</td>
</tr>
<tr>
<td>Control</td>
<td>99 (53)</td>
<td>-</td>
<td>£75 (40)</td>
<td>£73 (58,86)</td>
</tr>
<tr>
<td>Increment</td>
<td></td>
<td></td>
<td><strong>£108</strong></td>
<td><strong>£114 (113,115)</strong></td>
</tr>
<tr>
<td>Cohort</td>
<td>203 (63)</td>
<td>£215 (122)</td>
<td>£243 (130)</td>
<td></td>
</tr>
</tbody>
</table>
Results: Economic evaluation

<table>
<thead>
<tr>
<th>Observed ICER</th>
<th>BS’d mean (1000 reps)</th>
<th>Normal 95% CI</th>
<th>Bias-corrected 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>£15,832</td>
<td>£22,016 (-£6,353)</td>
<td>-£29,435, £16,729</td>
<td>-£35,330, £11,180</td>
</tr>
</tbody>
</table>
Results: Economic evaluation

- Standard means suggest cost-effective  
  - £15,832/QALY
- Bootstrapped mean suggests less cost-effective
- Net benefit  
  - 47% probability at £20,000
  - 58% probability at £30,000
Discussion: Small gains

- Small gains (and relatively low costs)
- Implications for economic evaluation?
  - Power of generic measures to detect small effects
    - Need for huge sample?
  - More uncertain ICER
    - Substantial bias in bootstrapping
    - 5000 reps resulted in mean ICER of £40,202
      - How many reps is right?
- Need to justify economic evaluation
  - Should small fry be left to clinicians?
  - Minimum budgetary impact?
Discussion: n=small

- Feasibility study = small sample size
  - Particularly problematic as dealing with small incremental gains

- Economic evaluation alongside small RCTs
  - Irrelevance of inference
    - Where do we draw the line?
    - Likelihood of a larger trial?
Discussion: Communication of results

- Largest trial of its kind
  - Best data available
- Occupational therapists not familiar with economic evaluation
- Easy to misinterpret results
Discussion: Parting questions

• Is there a role for economic evaluation when gains and costs are both expected to be small?
• What is the role for economic evaluation in feasibility trials?
• Are economists responsible for publishing guides to economic evaluation in clinical practice journals?
Thank you for listening

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