Economic Evaluation Studies of Self-Management Interventions in Chronic Diseases: a systematic review

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Background

- Future of chronic health care
- Challenge for policy makers
- Self-management: a popular intervention...
- ...yet difficult to conceptualize

- And, what about the cost-effectiveness of self-management interventions?
The aim of this study is to:

systematically review the literature economic evaluation studies conducted alongside a trial of one or more self-management interventions in adolescents, and to investigate the cost-effectiveness outcomes and methodological quality of these studies.
Methods

Inclusion criteria:

- The study was a full economic evaluation, either conducted alongside a trial or a model based economic evaluation
- The study reported a self-management intervention
- The study participants were 18+
- The study was published in or after 1990

Exclusion criteria:

- Review, abstract, study protocol, editorial, commentary, policy decision, final rule, pilot study, internet article, literature study, qualitative study, opinion case study or letter
Methods(2)

Search strategy (key terms):

• Period covered: 1990-2012 (May)

• Databases:
  – NHS EED (CINAHL, Embase, PsycINFO, MEDLINE, PubMed)
  – PubMed
Methods(3)

• Study selection
• Data abstraction and methodological quality assessment
• Using an existing checklist (customized) to abstract data:
  - General and epidemiological information
  - Cost-effectiveness of self-management interventions
  - Economic information
  - Critical appraisal of the quality of the economic evaluation (CHEC)
CAPHRI School for Public Health and Primary Care

Results

- Records identified through database search (n=2217)
- Records after duplicates removed (n=2143)
- Records screened on title and abstract (n=2143)
  - Records excluded based on title and abstract (n=2093)
    - Full-text articles included (n=31) due to:
      - No self-management (n=15)
      - No economic evaluation (n=2)
      - No self-management & economic evaluation (n=5)
      - Wrong design (n=7)
      - Wrong population (n=2)
- Full-text articles assessed for eligibility (n=50)
- Studies included in this review (n=19)
## Results (2)

### General and epidemiological characteristics

<table>
<thead>
<tr>
<th>Country</th>
<th>Netherlands (3), Finland (2), Sweden (1), Norway (1), United States (6), United Kingdom (5), Canada (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perspective</td>
<td>Societal (11), Healthcare sector (5), Healthcare payer (1), Healthcare system (1), NHS (1)</td>
</tr>
<tr>
<td>Self-management intervention defined as:</td>
<td>Self-management (7), self-management education (5), education (4), group rehabilitation (1), self-help (1), exercise training (1)</td>
</tr>
<tr>
<td>Comparison</td>
<td>Usual care (11), education (4), guidebook (1), exercise programme (1), home programme (1), unknown (1)</td>
</tr>
<tr>
<td>Follow-up</td>
<td>12 months (14), 24 months (2), 6 months (1), 18 months (1), 60 months (1)</td>
</tr>
<tr>
<td>Disease category</td>
<td>Asthma (7), COPD (2), arthritis (2), diabetes (2), heart failure (1), knee pain (1), hypertension (1), IBS, (1), back pain (1), Anticoagulation therapy (1)</td>
</tr>
<tr>
<td>Groups</td>
<td>2 (14), 3 (3), 4 (2)</td>
</tr>
</tbody>
</table>
Results (3)

<table>
<thead>
<tr>
<th>Economic characteristics and cost-effectiveness</th>
<th>Summary of results (n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>CEA (13), CUA (6)</td>
</tr>
<tr>
<td>Cost identification</td>
<td></td>
</tr>
<tr>
<td>Healthcare (HC)</td>
<td>Yes (18), no (1)</td>
</tr>
<tr>
<td>Patient &amp; family</td>
<td>Yes (11), no (8)</td>
</tr>
<tr>
<td>Outside HC</td>
<td>Yes (11), no (8)</td>
</tr>
<tr>
<td>Intervention</td>
<td>Yes (19), no (0)</td>
</tr>
<tr>
<td>Cost measurement (&gt;1 per study possible)</td>
<td>Medical records (11), cost-questionnaire (9), databases (3), telephone (2), cost diary (2)</td>
</tr>
<tr>
<td>Cost valuation (&gt;1 per study possible)</td>
<td>Cost price estimations (9), cost guidelines (4), tarrifs (3), unknown (3), database (1), human capital approach (1)</td>
</tr>
<tr>
<td>Effect identification &amp; measurements (&gt;1 per study possible)</td>
<td>Generic QoL measure (15), disease specific effect measure (12), disease specific QoL measure (1)</td>
</tr>
<tr>
<td>Self-management intervention cost effective?</td>
<td>Yes (16), no (3)</td>
</tr>
</tbody>
</table>
# Results (4)

<table>
<thead>
<tr>
<th>CHEC-list item (n=19)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competing alternatives clearly described</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Appropriate time horizon</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Costs for each alternative described</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Costs valued adequately</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Outcomes for each alternative described</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Outcomes valued adequately</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Incremental analysis of costs and outcomes conducted</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Sensitivity analysis/analyses conducted</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Do the conclusions follow the reported data?</td>
<td>16</td>
<td>3</td>
</tr>
</tbody>
</table>
Conclusions

• Self-management is a cost-effective treatment based on this review
• Moderate methodological and economic quality of included studies
• Economic evaluation studies comparing one or more self-management intervention are rare
• The challenge of defining self-management

• Recommendations:
  - Solid methodological and economic quality of future research is imperative
  - Future research would benefit from a golden standard definition of self-management
Limitations

- Time span starts in 1990
- Two databases were used
- Conference abstracts were excluded
- Absence of a study protocol for this study
Thank you for your attention!

Questions?

Questions may also be addressed to:
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Health Services Research
Focusing on Chronic Care and Ageing