Georg Marckmann¹, Corinna Klingler¹, Jürgen in der Schmitten²

¹Institute of Ethics, History and Theory of Medicine, Ludwig-Maximilians-University of Munich, Germany
²Institute of General Practice, University Hospital of Düsseldorf, Germany

The economics of advance care planning: Empirical data and ethical implications

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"Aggressive", life-prolonging treatment at the end of life

- Often unbeneﬁcial / unwanted care
  - Contradicts obligations of beneﬁcence/nonmaleﬁcence & respect for autonomy

- Exponential increase of hc costs before death
  - Unwise use of scarce hc resources ⇨ contradicts distributive justice

Ethically problematic!

Advance directives = solution?

- Reduce (unbeneﬁcial &) unwanted care
- Reduce costs of care near the end of life
Two questions…

(1) **Empirical question:**
Does the increasing use of ADs reduce cost of care?

- No convincing evidence so far
- Potential reason: No *systemic* ACP intervention
- Does ACP reduce cost of EOL-care?
- Systematic Review: Cost implications of ACP

(2) **Normative question:**
If ACP reduces costs: Should it be an *explicit goal* of ACP?

- Ethical & political discussion
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What qualifies as an “ACP-program”?
• No universally accepted standard of required elements of an ACP-program
• High variability of ACP-approaches

Required elements of ACP-program
• Discussion & plan of future hypothetical medical situation
• Facilitated by a qualified hc professional
• Systemic, regional implementation

Open questions
• Qualification of facilitators?
• Structure & content of planning process?
• Elements of systemic implementation?
Some methodological challenges upfront….

Economic evaluation

Effects / Benefits
- Quantitative measure of ACP-effectiveness?
  ⇒ “honor patients’ well-informed preferences”
- May result in shorter life-time
  ⇒ loss of QALYs
  ⇒ negative health benefit?!?
- No CEA/CUA of ACP so far!

Challenges
- Perspective: Institution? Payer? Societal?
- Many studies assess resource consumption (hospitalization, hospital days, hospice use)
- Comprehensive overall cost assessment necessary (cave cost shifting!)

Our approach
- Included: also cost-minimization studies

Included: only studies w/ outcome cost of care, all perspectives
**Objective:** To examine the economic implications of ACP

**Research question according to PICO:**
- **P** (patients) = all patient groups
- **I** (intervention) = ACP
- **C** (comparator) = usual care
- **O** (outcome) = costs of care

**Search strategy:**
(advanced care planning OR synonym) AND (costs OR synonym)

**Synonyms for ACP used:**
- resuscitation order*, advance(d) directive*, living will*, end-of-life decision*, end-of-life conversation*, end-of-life discussion*

**Synonym for costs used:**
- price*, economic*, resource*, efficiency*

**Databases searched:**
1. Pubmed
2. NHS EED
3. EURONHEED
4. Cochrane Library
5. EconLit

Plus: references of includes articles included
Potentially relevant citations identified through database search, excluding duplicates ($n = 852$)

- Citations screened based on title & abstract
  
  - Articles assessed for accessibility ($n = 29$)
  
  - Full-text articles assessed for eligibility ($n = 26$)

- Studies included in systematic review ($n = 7$)

- Citations excluded ($n = 823$)
  
  - Articles not accessible as full text ($n = 3$)

- Full-text articles excluded ($n = 19$)

Reasons for exclusion:
- No ACP intervention
- No empirical study
- No cost assessment
General findings

• Only 1 study with comprehensive ACP-intervention including systemic/regional implementation [Malloy et al. 2000]!
• Interventions often poorly defined (“discussions about advance directives”) ⇒ “fuzzy” boundary of ACP
• ACP: often one element in a more comprehensive approach to improve end-of-life care
  ⇒ impossible to assess specific effect of ACP
• No real cost-effectiveness studies ⇒ just cost-minimization studies comparing care with and without ACP
  ⇒ comprehensive ACP-programs have never been subject to a formal cost-effectiveness analysis!
## Results (2)

<table>
<thead>
<tr>
<th>Article</th>
<th>Intervention</th>
<th>Study Type</th>
<th>Cost measure</th>
<th>Findings</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malloy et al. 2000</td>
<td>Let Me Decide AD program</td>
<td>RCT</td>
<td>Average total costs per patient (18m)</td>
<td>Can$ 3,490 (LMD) vs. Can$ 5,239 (C)</td>
<td>↓</td>
</tr>
<tr>
<td>Chambers et al. 1994</td>
<td>Ø (documented AD discussion)</td>
<td>Observational study</td>
<td>Total charges of last hospitalization</td>
<td>$30,478 (AD) vs. $95,305 (C)</td>
<td>↓</td>
</tr>
<tr>
<td>SUPPORT Study 1995</td>
<td>Skilled nurse ⇨ facilitate ACP</td>
<td>Cluster-RCT</td>
<td>Modeled based on Therapeutic Intervention Score</td>
<td>Adjusted resource use ratio 1.05</td>
<td>=</td>
</tr>
<tr>
<td>Engelhardt et al. 2006</td>
<td>Advanced Illness Coordinated Care Program (AICCP)</td>
<td>Cluster-RCT</td>
<td>Health care costs (3 m) (n=169!)</td>
<td>$12,123 (AICCP) vs. 16,295 (C) n.s!</td>
<td>(↑)</td>
</tr>
<tr>
<td>Edes et al. 2006</td>
<td>Home-based Primary Care ⇨ “AD discussion”</td>
<td>Longitudinal study</td>
<td>Health care costs (6 m) (n=43!)</td>
<td>Net cost-savings $1,873 per patients</td>
<td>↓</td>
</tr>
<tr>
<td>Zhang et al. 2009</td>
<td>Ø (has MD discussed EOL-wishes?)</td>
<td>Observational study</td>
<td>Medical costs in last week of life</td>
<td>$1,876 (EOL-disc.) vs. $2,917 (C)</td>
<td>↓</td>
</tr>
<tr>
<td>Hamlet et al. 2010</td>
<td>Telephonic EOL-counseling</td>
<td>RCT</td>
<td>Medicare costs</td>
<td>$40,363 (EOL-C.) vs. (C) $42,276</td>
<td>↓</td>
</tr>
</tbody>
</table>
ACP & costs: Potential outcomes

Inefficient ⇔ ethically not acceptable!

Ethically justified (Even with large $\alpha$? ⇔ burden of justification increases w/ $\alpha$)

Ethically not acceptable! (Priority of pt autonomy over efficiency - even w/ small $\beta$?)

Efficiency gain ⇔ ethically mandated!
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Ethical implications

Possibility to reduce costs ⇒ financial incentive to do ACP with a desired outcome (depends on perspective!)
⇒ contradicts fundamental principle of ACP: openness of communicative process
⇒ conflict of interest!!

EOL-care preferences often not well developed ⇒ makes ACP process especially vulnerable to external influences!

Validity of documented preferences difficult to assess!

Practical implications:

(1) Primary objective of ACP must be to honor patients’ wishes
  • at lower costs ⇒ happily welcome!
  • at higher costs ⇒ still valuable use of resources (within certain limits?)

(2) Quality of facilitation process is of utmost importance
  • qualification, certification & supervision of facilitators
  • defined structure and content of facilitation process
Conclusions

Empirical question
• Cost-effectiveness of comprehensive ACP-programs has not been investigated so far
• Cost-minimization studies ⇒ trend to reduced costs due to less hospital admissions and hospital days
• Large variability of results [cf. Nicholas et al. JAMA 2011]
• No comprehensive cost-assessment in most studies, payer perspective! (e.g. costs for n/h-stay, out-of-pocket payments are neglected)
• Further studies ⇒ clarify the required elements of an ACP-program

Normative question
• Primary objective of ACP: honor patients’ well informed wishes ⇒ measure for success
• Safeguard against “financial infection” of ACP-process: quality of facilitation process ⇒ elicitate patients’ true preferences