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Economic evaluation of health promotion activities for older people – conceptual questions

Pro Health 65+ Health promotion and prevention
of risk – Action for Seniors

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"Know the Ropes – Balancing Costs and Quality in Health Care"

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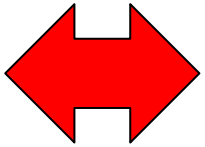
Background

- **ProHealth 65+**
  Health promotion and prevention of risk – Action for Seniors
  Co-funded by the Health Programme of the European Union; CHAFEA (Consumers, Health, Agriculture and Food Executive Agency)
- **Partners**
  - Jagiellonian University Medical College, Cracow
  - Maastricht University
  - Università Cattolica del Sacro Cuore, Roma
  - SOCIUM – Research Center on Inequality and Social Policy, University of Bremen
- **Our Part in the project:**
  - What is known about **cost-effectiveness** of health promotion activities (HPA) for older people?

Today: Methodological challenges in theory and practice

Theoretical Analysis

What are the main methodological challenges for the economic evaluation of HPA for older people?



Systematic Review

How are these challenges or problems tackled in practice in actual economic evaluations on HPA for older people?

Field of interest:

Health promotion and preventive interventions for older people

I. Field of Interest: Health promotion and prevention

- **WHO definition:**
  "health promotion is the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions" (WHO, 1986)

- **Objectives of health promotion for older people**:
  - Maintaining quality of life, self-dependence, self-determination, self-efficacy, social integration, self confidence, mobility
  - Delay, decrease, prevention of the need of long-term care

I. Field of Interest: Health promotion and prevention

Methodological Challenges of the economic evaluation of health promotion for older people

Methodological Challenges of the economic evaluation of health promotion interventions in general

- Intersectoral costs
- Broadly spread effects
- Long causal chains (proxy outcomes)
- Long time frame of interventions
- Equity considerations
- …

Societal perspective

II. Methodological Challenges

Most important aspects concerning older people

- **Costs:** Appropriate measurement and valuation of
  - Informal caregiver time
  - Productivity costs/unpaid work
  - Costs incurred in added years of life
- **Outcomes:**
  - Consideration of social/beyond-health benefits
  - Consideration of specific preferences of older people in aggregated indicators
    (QALYs versus e.g. ICECAP-O)

II. Methodological Challenges "QALYs"

4 reasons, why QALYs may discriminate against older age groups:

1. Lower possible gain in life-years
   → less QALYs can be "produced"

2. Beyond-health or social benefits not captured
   → but often more relevant to older people

3. Instruments to assess QoL (e.g. EQ-5D) rate health independent of age ←→ different preference structures of older people (e.g. fixed weight of physical functionalities).

4. Small health gains are measured poorly by instruments to assess QALYS
   → Possible health gains of older people are often smaller, because their average health condition is usually worse

The Systematic Review

III. Systematic Review on economic evaluation of HP4OP

Eligibility criteria

- **Target group:** population aged 65 years and older
- **Interventions:** health promotion and primary prevention
  (→ WHO-def. and types of interventions specified by McKenzie et al. 2012)
- **Type of studies:** full economic evaluations (CEA, CUA, CBA, CCA)
- 2000-2015; English, Polish, German,

Search strategy

- 5 electronic databases; websites of 23 related institutions
  (MEDLINE; EMBASE, Cochrane, NHS EED, HTA database via CRD)

III. Systematic Review on economic evaluation of HP4OP

Prisma-flow:

Records from data bases research:	n=8.638
Records from institutions:	n=28
Total number of records: (Duplicates: n=2.216)	n= 8.666
Records screened:	n=6450
Full text articles assessed for eligibility:	n=117
Final number of studies included:	**n=29**

III. Systematic Review – Results I

Type of intervention:

29 studies included

22 – fall prevention
3 – general disability
2 – general health status
1 – lack of physical activity
1 – oral health

16 – single intervention
6 – multifactorial intervention (mix of different activities)
7 – comparison of different interventions

17 – include primary data collection
12 – based on secondary sources

Perspective of the study and type of economic evaluation

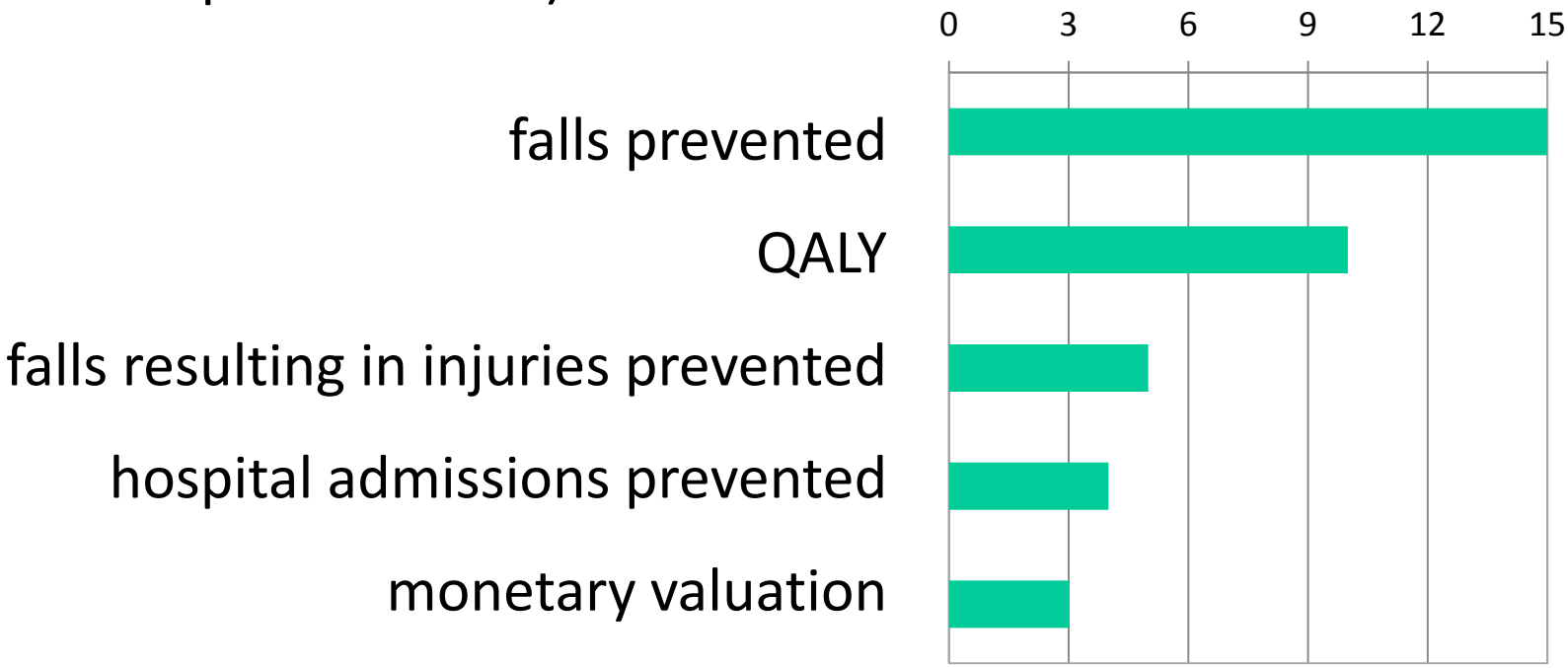
Societal perspective	Payer/provider perspective	Perspective unclear	Type of ec. evaluation
6 CEA **4 CEA/CUA** **1 CUA** **1 CBA**	6 CEA 4 CEA/CUA 2 CUA 2 CCA 1 CBA	1 CEA 1 CBA	**13 CEA** **8 CEA/CUA** **3 CUA** **2 CCA** **3 CBA**
12 studies	**15 studies**	**2 studies**	29 studies

1 CBA assesses indirect benefits by WTP for avoided morbidity/mortality

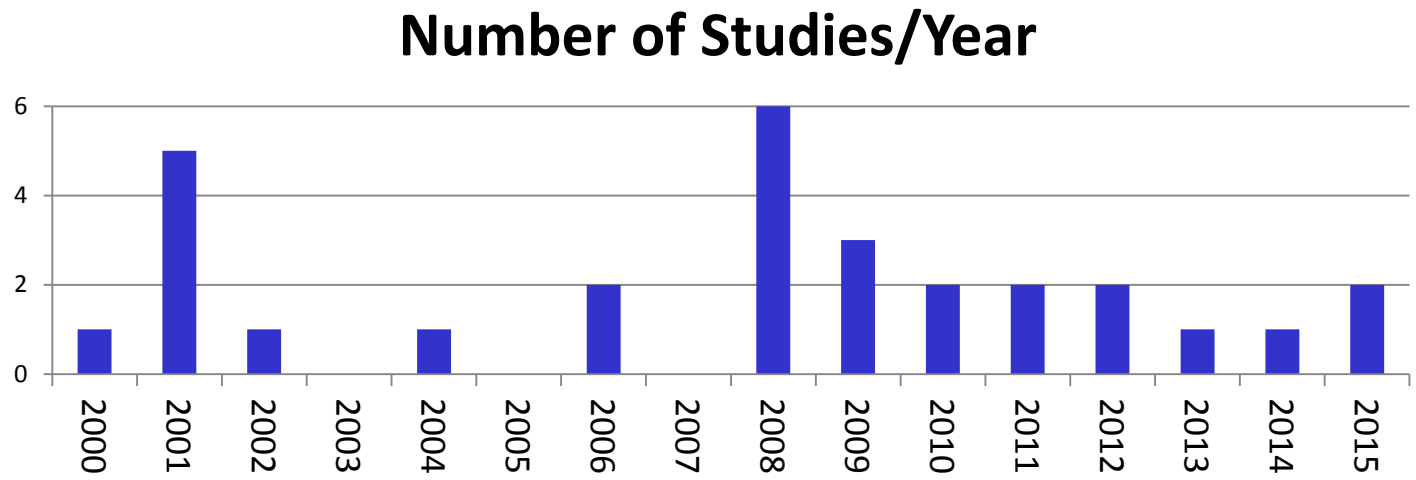
III. Systematic Review – Results III

Most common outcome indicators:

(incl. multiple indicators)



III. Systematic Review – Results IV



Time horizon:

16 studies → 1 year or less

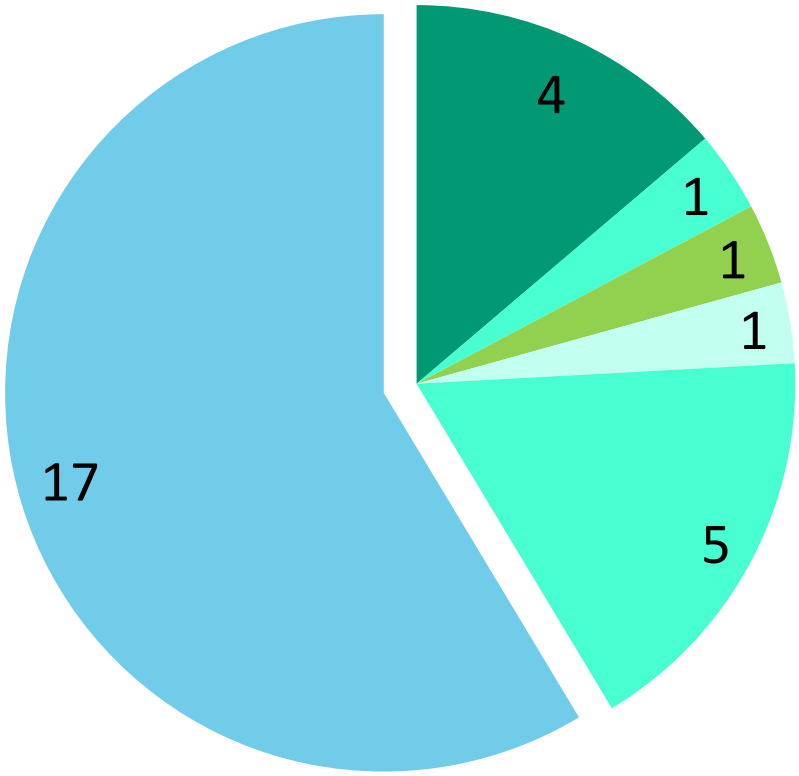
5 studies → >1 to 3 years

5 studies → 10years / lifetime (using a Markov /math. Model)

Equity issues:

only one study mentions that minority groups were underrepresented

III. How are methodological problems tackled in practice?



- **Informal care-giver time:**

  4 studies:
  → as part of **direct** health care costs (avoided)

  1 study:
  → as part of **indirect** costs of the intervention

  1 study:
  → mentions exclusion of informal care as limitation

  1 study situated in nursing home

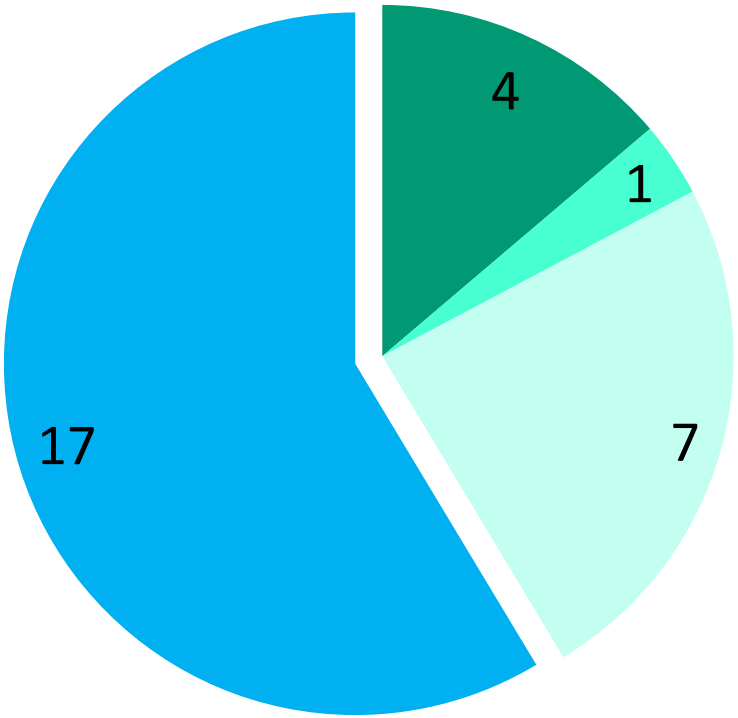
III. How are methodological problems tackled in practice?

- **Valuation of informal care-giver time**

    1. Valued by nationally published estimates for **unpaid household work** (Salkeld et al. 2000)
    2. Valued by the **price of professional help** as replacement price (Jenkyn et al. 2012)
    3. Valued as **lost leisure time** (i.e. 3€/hour) (Johansson et al. 2008)
    4. Based on **shadow prices** for unpaid work (Hendriks et al. 2008)

    The methods to measure the time provided by informal caregivers differ as well or are not reported

III. How are methodological problems tackled in practice?



- **Productivity costs:**

  4 studies:
  consider productivity effects as part of participants' costs

  1 study:
  mentions the exclusion of senior's time or production as limitation

- **Unrelated costs in added years of life:**
  1 study: considers costs for long-term care and health care in gained years in one version of their evaluation

III. How are methodological problems tackled in practice?

- **Consideration of productivity costs**
  - **As part of participants' costs**
    1. Participants were asked, which activities they gave up to participate in the programme (Iliffe et al. 2014)
       → **unpaid work included**
    2. Formal income lost of participant or his/her companion & costs for hiring a babysitter (Chen et al. 2008)
       → **unpaid work partly included**
    3. participant's time **valued as leisure time** (35% of average wages (Johansson et al. 2008)
    4. Cost estimate without explanation (Jenkyn et al. 2012)

III. How are methodological problems tackled in practice?

Social or Beyond-health benefits:

1 study: includes additional social indicators
→ „self-efficacy for exercise“ & „social network-size“

4 studies: include „fear of falling“

4 studies: mention that cost-effectiveness may be underestimated, because of positive externalities

Aggregated Indicators:

Only QALYs are used that do not consider divergent preference structures of older people

1 CBA uses WTP for morbidity/mortality avoided (literature based)

Conclusions

IV. Conclusions

- **Specific requirements** of the economic evaluation of health promotion interventions **for older people** are overall seldom taken into account or at least mentioned as limitation.
- **Cost-categories** that are important for the economic evaluation of HP for older people **are partly considered**.
- **Social benefits** are considered only to a **very limited** extent; **divergent preferences** of older people are **not considered** at all
- Analysis of existing studies shows **huge differences in the methods** applied and in the overall quality of the studies; **methodological assumptions differ widely**;
  there is no common code of practice that guides the presentation or discussion of these studies.

IV. Conclusions

Overall:

- **Methodological Challenges** are **met poorly** in existing studies so far
- Consideration of specific requirements of the ec. evaluation of interventions for older people is still at the beginning
- Only a **very narrow scope** of possible **health promotion interventions** is subject to economic evaluation so far
- Comparison of results of different economic evaluations even of similar interventions has to be done with great caution.
- A comparison of the cost-effectiveness results with results for other age groups is not possible – and should not be done.

Thank you for your attention!

This presentation arises from the project Pro-Health65+ which has received funding from the European Union, in the framework of the Health Programme (2008-2013)

I. Systematic Review – Search Terms

Type of interventions by McKenzie at al. (2012)

- Health communication strategies
- Health education strategies
- Health policy/enforcement strategies
- Environmental changes strategies (economic, services, social, cultural, psychological, political)
- Health-related community service strategies
- Community mobilization strategies
- *Other:*
  behaviour modifying activities, organization culture, incentives and disincentives, social activities – support groups, peer support/buddy support, social assemblies, social networks