



Co-funded by
the Health Programme
of the European Union



Pro-Health 65+ Health promotion and prevention of risk – action for seniors

WP 7b – Economic Evaluation of health promotion and disease prevention – methodological problems and challenges

Conference in Cracow 21.-22.09.2015

“Evidence for health promotion among the older people”

Heinz Rothgang, Kai Huter (SOCIUM, University of Bremen)

Katarzyna Dubas, Katarzyna Kissimova-Skarbek, Ewa Kocot (JUMC)

Economic evaluation of HPA for the elderly? Why? How?

- Are techniques of economic evaluation suitable to support decision-makers in allocation of resources regarding health promotion activities for the elderly?
 - Where are the limits?
 - **3 areas of problems:**
 1. General problems of economic evaluations
 2. Problems specific for HPA (vs. curative interventions)
 3. Target group specific problems
- **Focus:** What are central methodological problems and challenges concerning the elderly (→ limited comparability)

Content of the Presentation

- I. Introduction to economic evaluation
- II. Problems for evaluating HPA for the elderly
- III. Possible Solutions
- IV. Conclusions
- V. Recommendations

I. Economic Evaluation – a short introduction

„Comparative analysis of alternative courses of actions in terms of both costs and consequences“ (Drummond 2005)

Cost analysis	Analysis of efficiency → Depending on Outcomes
<ul style="list-style-type: none">• Cost analysis• Cost-minimisation analysis	<ul style="list-style-type: none">• Cost-effectiveness analysis (CEA) → natural parameters• Cost-utility analysis (CUA) → aggregated parameters• Cost benefit analysis (CBA) → monetary valuation of effects <hr/> <ul style="list-style-type: none">• Cost-consequence analysis (CCA) → multiple endpoints → disaggregated analysis of different costs and effects

II. Main problems concerning

Costs

- Intersectoral costs
- Measurement and valuation of informal caregiver time
- Measurement and valuation of productivity costs
- Costs incurred in added years of life

Effects

1. Long time horizon
 2. Long causal chains
 3. Broadly spread effects
 4. Different preferences of the elderly
 5. Life expectancy is shorter for the elderly
- } problems concerning health promotion
- } problems concerning activities for the elderly

Costs/Effects

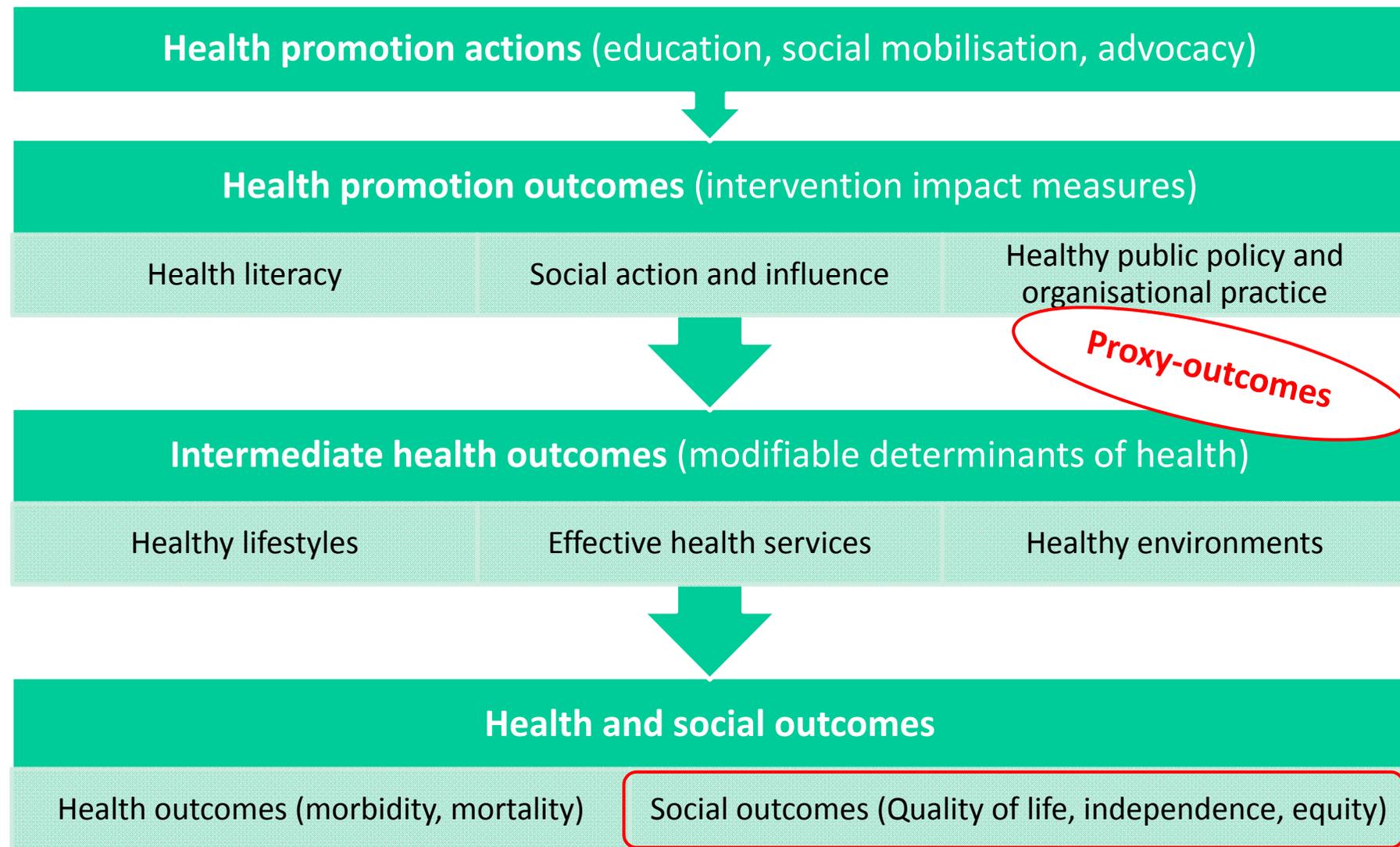
- Discounting
- Characterization of uncertainty → Sensitivity analysis

II. General problems concerning effects of HPA

Effects

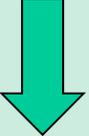
1. long time horizon → RCTs are difficult to implement
→ influence of third variables increases
→ long term outcomes have to be estimated
→ discounting is necessary
but shorter effective periods for older people
2. long causal chains → proxy outcomes are used

Health Promotion Outcome Model (Nutbeam 2000)



II. General problems concerning effects of HPA

Effects

1. long time horizon → RCTs are difficult to implement
→ influence of third variables increases
→ long term outcomes have to be estimated
→ discounting is necessary

but shorter effective periods for older people

2. long causal chains → proxy outcomes are used

3. broadly spread effects
→ multiple endpoints
→ intersectoral consequences
4. different preferences of the elderly
→ social benefits gain importance
5. shorter life-span left
→ age discrimination must be avoided

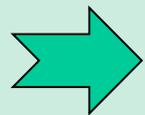
II. Problems concerning non-health benefits

in general:

- Subject to EBM-standards relevant effects have to be proven for individuals = changes in health state, personal benefits
this is suitable for curative and preventive measures, but ...

Problems concerning HPA

- Social benefits, e.g. of community based activities are difficult to account for
- Negative side-effects might be underestimated



Non-health targets, e.g. empowerment, social inclusion, reduction of social inequalities will be disadvantaged

Problems concerning older people

- It is often difficult to distinguish between health and social needs
- Social benefits might be more important than health improvements (e.g. integration into the community, inclusion, increasing mobility)

Solutions?

III. Which solutions does Cost-Effectiveness-Analysis (CEA) provide?

- effects are reduced to a **single parameter**
- often **proxy outcomes** are used

Remaining problems:

- not all effects are covered (intersectoral effects)
- proxy outcomes → causality has to be proved
- comparability of different interventions is very limited (especially curative vs. HPA)
- especially broad interventions with broad effects are difficult to evaluate by CEA

III. Which solutions does Cost-Utility Analysis (CUA) provide?

aggregated parameters → to compare different types of interventions
Quality of life (QoL)-index → instrument to cover multidimensionality of effects
QALY (Quality adjusted life-year) combines life extension & health related QoL
→ widely accepted reference standard for health economic evaluations

Remaining problems:

- only health related → social benefits are not covered
→ intersectoral benefits are not covered
- the linear conjunction of time and quality is set externally (extra-welfarism)
- Number of possible QALYs gained depends on life-span left

Consequences:

- limited comparability for HPA
- may discriminate against the elderly

III. Problems concerning Cost-Utility Analysis (CUA) and the elderly

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

1. The possible gain in life-years of elderly people is lower compared to younger people → less QALYs can be “produced”
2. Beyond-health- or social benefits are not captured, these are often of greater relevance for older people
3. Instruments to assess QoL (e.g. EQ-5D) rate health independent of age, but older people have different preference structures
e.g. physical functionalities have a fixed weight, though these become less important with increasing age
4. The average health condition of elderly people is usually worse; thus health gains are smaller, these are measured poorly by instruments to assess QALYs

III. Problems concerning Cost-Utility Analysis (CUA) and the elderly

Consequences:

- QALYs are not appropriate to evaluate interventions for the elderly
- Preference based approaches have to consider life-stage specific preferences
- Special instruments to measure QoL of older people are necessary
 - Makai et. al (2014) identified 4 promising **well-being instruments**
 - Ferrans and Powers QLI, WHO-QoL-Old
 - validated, but lack preference weights
 - ICECAP-O, ASCOT
 - preference weights available, but so far less widely validated
- Comparisons across age groups are not possible

III. Which solutions does Cost-Benefit Analysis (CBA) provide?

- **Monetary valuation of outcomes**, e.g. by individuals **willingness-to-pay**
- Allows the comparison of measures in different fields of policy
- Non-health benefits can be included

Remaining problems:

- Political reservations against monetary valuation of health benefits
- HPA have features of public goods → this results in low willingness-to-pay
- Results are not independent of who is asked → age bias possible

Consequences:

- CBA is rarely performed
- Possible age bias limits comparability

IV. Conclusions

Health Economic evaluations of HPA for elderly are possible

but

→ **A comparison of the effects of different HPA between different age groups cannot be performed**

main reason: diverging preference structures

Depending on the objectives of an intervention ...

→ **Preventive and curative measures have to be rated according to different standards**

main reason: different result dimensions cannot be merged to a single indicator

→ It is not advisable to decide about the allocation of scarce health care resources based only on health economic evaluation

V. Recommendations

1. Do not compare between different age groups
2. When comparing within one age group:
do not use QALYs (alone), but (additionally) use preference based outcome indicators that are better suited to represent preference structures of older people
3. Proxy outcomes have to be used with caution
(→ need to have thoroughly proven effect on patient relevant outcomes)
Health outcomes should be supplemented by social outcomes

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)

The content of this presentation represents the views of the authors and it is their sole responsibility; it can in no way be taken to reflect the views of the European Commission and/or the Executive Agency for Health and Consumers or any other body of the European Union. The European Commission and/or the Executive Agency do(es) not accept responsibility for any use that may be made of the information it contains.