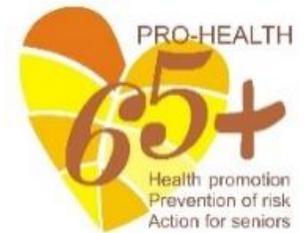


# PRO HEALTH 65+

## Health Promotion and Prevention of Risk – Action for Seniors



### PROJECT POLICY BRIEF 8

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## MAPPING THE BENEFIT OF ECONOMIC EVALUATIONS OF HEALTH PROMOTION INTERVENTIONS FOR OLDER PEOPLE

### ABSTRACT

The support of health promotion activities for older people aims at the enhancement of the health and well-being of older people and the efficient use of resources in the healthcare sector. Economic evaluations of health interventions on the other hand try to guide policy makers in their attempt to rationally allocate scarce resources in healthcare systems. This policy brief recommends decision makers to what extent they should make use of economic evaluations in their decisions on the allocation of resources for health promotion interventions for older people. Regarding allocation decisions our recommendations stress that (i) a comparative appraisal of health promotion and curative interventions is not advisable, and (ii) health promotion interventions for different age groups should not be compared directly with each other. The final decision and valuation of outcomes remains a political task – this concerns especially the social and intersectoral benefits of these interventions. Economic evaluations of health promotion interventions can only be a valuable instrument to support allocation decisions as long as their specific requirements are taken into account.

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## INTRODUCTION

As a result of demographic change the proportion of older people in the population is growing. As morbidity in this group is high, healthcare for this age group has become a highly important issue, not least as healthcare and long-term care for older people have become a major cost factor in aging societies. The support of health promotion activities for older people is a promising strategy to enhance the health and well-being of older people. Sometimes it is also promoted in order to reduce healthcare expenditure.

Sound evidence on the cost-effectiveness of health promotion activities could thus encourage support for the implementation of health promotion activities for older people. So far there are comparatively few economic evaluations of health promotion interventions for older people, and most of the studies are focussed on fall prevention interventions. While this is an important area of action, there are many other fields of health promotion that have hitherto not been covered by economic assessment. It is therefore vital to promote economic evaluations for health promotion interventions for older people in order to obtain good evidence on cost effectiveness as a solid basis for decision-making. On the other hand, there is a broad debate on methodological problems and limitations of the economic evaluation of health promotion activities. While target group-specific problems – especially problems concerning health promotion for older people – have not been discussed to a great extent in this context so far, there is literature on the economic evaluation of health interventions aiming at older people in general. Against the background of current methodological debates this brief, therefore, sums up the value and importance of economic evaluations of health promotion interventions for older people. The main focus of the brief is the question to what extent economic evaluation may support decision makers in the allocation of resources for health promotion interventions for older people.

The main conclusion is that economic evaluations of health promotion activities can be a valuable instrument to support allocation decisions if their special requirements are taken into consideration. Regarding allocation decisions it should be taken into account that (i) a comparative appraisal of health promotion and curative interventions is not advisable, and (ii) results of economic evaluations of health promotion interventions for different age groups cannot be compared directly with each other. The final appraisal of outcomes remains a political task – this concerns especially the social and intersectoral benefits of these interventions. The implementation of economic evaluation alongside health promotion interventions has to be supported, and a special focus has to be set on the enforcement of common research standards that include a valuation of benefits, benefits to society as a whole and impacts on health inequities.

## POLICY CONTEXT

When political decisions over the funding of health promotion activities for special target groups need to be made, such activities have to be weighed up against other competing programmes. These alternative interventions – be they curative rather than preventive or aimed at other population groups – may be more effective, or they might have similar effects. Economic evaluation is concerned with the comparative analysis of alternative courses of action with regard to their costs and consequences (Drummond 2005). Its basic purpose is to identify, measure, value and compare the costs and consequences of the alternatives under consideration. In this way, health economic evaluation helps to answer the question whether a specific programme is worth pursuing as against other programmes one could conduct with the same resources.

Health economic evaluations have become an important instrument for supporting decision-making processes in many countries. Originally developed for curative interventions and pharmaceuticals in particular, economic evaluation methods are today applied to more complex health promotion interventions and public health programmes, for example by the National Institute for Health and Care Excellence (NICE) in England and Wales.

According to the WHO definition, 'health promotion' is the process of enabling people to increase their own control over and improve their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions. Such strategies operate at multiple levels, including the individual, the family, the community, and society. This broad focus amplifies the general methodological problems of economic evaluations. This applies especially the more complex and less specific the targets of the respective programmes become.

Older people comprise a population group with several specific characteristics that should be considered in economic evaluations. These concern e.g. special social needs and differing values concerning health. As a rule, they no longer participate in the formal labour market, but contribute considerably to welfare production through unpaid work like voluntary work or informal care. These specific features may affect the comparability of results even further.

## EVIDENCE AND ANALYSIS

### DATA BASIS

This brief is based on a detailed analysis of literature on methodological problems of economic evaluations of health promotion activities and literature that tackles specific problems of older people in the context of economic evaluations.

### FINDINGS

Health promotion activities comprise a wide range of activities not all of which are complex, long-term interventions. But as especially these interventions imply methodological problems, we will focus in the following on activities that are characterized by a comparatively long time-frame and a certain degree of complexity.

Main problems or challenges of the economic evaluation of health promotion compared to curative interventions are related to the recommended perspective of analysis (i), the attribution of effects (ii), the identification, measurement and valuation of costs (iii), the measuring and valuing of outcomes (iv) and equity considerations (v) (cf. Weatherly et al. 2009).

In the following we discuss the five main problems in more detail and point out their specific implications for the appraisal of economic evaluations of interventions for older people:

**1. The recommended perspective of analysis** for health promotion interventions is usually a societal perspective. In contrast to a perspective of the patient, the provider or the health care system, this implies that the value of all changes in resources used or gained as a result of the intervention has to be included. Curative interventions are often evaluated only from the perspective of the provider or the health system and third-party payer. Health promotion activities often affect different sectors like education, the health services or environmental strategies, and rely on volunteer work or participants' leisure activities. Some interventions for

older people may have special implications for long-term care and/or needs for informal care, which should be included if all effects are to be taken into account. In practice, this is often difficult to accomplish, but comparability of different interventions is limited if not all costs and benefits are accounted for. The societal perspective captures the value of all changes in resources used and gained as a result of an intervention, including informal caregiving and productivity costs. As the effects of health promotion may typically have a greater impact in other sectors than curative interventions, it is highly recommended to use the societal perspective for economic evaluations of health promotion activities.

**2. Problems concerning the attribution of effects** are closely linked to the long time horizon of these interventions. This implies that the follow-up period of an evaluation study has to be correspondingly long, or modelling approaches have to be used to estimate long-term effects. During a longer follow-up time the influence of third variables is increased. As a result the specific impact of an intervention will be more difficult to identify. Furthermore, interventions directed at populations or communities are more difficult to evaluate by randomized controlled trials (RCTs), which are the methodological gold standard when evaluating curative interventions. For this reason, insofar as RCTs are not possible, alternative study designs must be applied to capture the effects of an intervention. These factors entail a higher degree of uncertainty in economic evaluations of complex health promotion interventions.

**3. The adequate identification and measurement of costs** is one of the major components of any economic evaluation. Methodological problems are closely related to the recommended societal perspective of analysis. This perspective implies specific demands on the assessment of intersectoral costs. Concerning interventions for older people this applies especially to the appropriate measurement and valuation of informal caregiving and the measurement and valuation of productivity costs. Caregiving costs – needed or saved due to an intervention – have to be included in the cost analysis, but often only paid caregiving is considered. There is an ongoing debate on different methods for including informal caregiving, and the analysis of the impact of these methods requires further research. Older people are usually both providers and receivers of informal non-paid care and it can be a defined target of health promotion interventions for older people to avoid dependency on long-term care. For these reasons the results of an economic evaluation may be biased if informal care is not valued adequately. Similarly, the inclusion of productivity costs is methodologically contentious. Productivity costs primarily represent lost economic productivity associated with a lost or impaired ability to work due to morbidity or mortality. Not solely but at least partly due to the contentious character of this cost factor, productivity costs are often disregarded; if they are included, the analysis is mostly focused on productivity related to paid work. This focus neglects the value of the contribution provided to society through unpaid work e.g. of seniors, like volunteer work or informal care for relatives or children. Thus, the inclusion of productivity costs in the economic evaluation will discriminate against seniors if unpaid work is not included or valued notably less than paid work. Another contested topic is the inclusion of costs that incur in life years gained by an intervention, especially costs that are unrelated to the intervention. This has to be treated transparently to guarantee the comparability of different interventions.

**4. The identification and measurement of outcomes** is not the primary task of health economic evaluations. The proof of the efficacy and effectiveness of an intervention rather has to precede the health economic evaluation. But a specific requirement of health economic evaluations consists of condensing the effects to an outcome parameter that can be compared with the costs. This is especially complex in health promotion interventions, which comprise not only health but also social outcomes and are often intended to achieve long-term effects.

A focus on health impacts only is particularly problematic in the context of health promotion interventions for older people. It is often difficult with older people to distinguish between health and social needs, thus the social value of a programme may be more important than health improvement. Integration into the community, inclusion, or increasing mobility is not always associated with an improved health status, but it can be a crucial outcome of a health promotion programme. Therefore, taking the 'beyond health' benefits into account is particularly important with respect to programmes for older people. But such aspects are often difficult to capture. In health economic evaluation three different types of outcome parameters are distinguished: natural parameters that are used in cost-effectiveness analysis (CEA), virtual parameters used in cost-utility analysis (CUA), and monetary outcomes as part of a cost-benefit analysis (CBA).

**Natural parameters**, like for example 'new cases of disease prevented' or 'life years gained' have the disadvantage that they often measure only one-dimensional effects. Their comparability is mostly limited to indication-specific interventions and they appear unsuitable for covering multidimensional or complex effects of health promotion. The juxtaposition of several natural outcome parameters reduces the comparability of different interventions.

A common concept for covering the multidimensionality of effects and achieving a comparability of different types of interventions is the use of a comprehensive index – a **universal parameter** – that identifies, quantifies, evaluates and sums up a variety of effects. A prominent concept for measuring effects in healthcare is a quality of life (QoL) index. The most commonly used universal indicator in health economic evaluations is the quality adjusted life year (QALY), which combines life extension and a health-related QoL-index. The QALY serves as a widely accepted reference standard for health economic evaluations and is also commonly used in the evaluation of health promotion interventions. Although it offers these distinct advantages it still entails limitations and methodological problems. With respect to the valuation of interventions for older people this concerns four aspects: First, as older people – even if they are healthy – have a lower remaining life expectancy, the possible gain in (quality-adjusted) life years is lower compared to that of younger people. As a result, the number of QALYs that might be 'produced' by an intervention is smaller and in consequence the intervention will be less highly valued. Second, the QALY is limited to health-related quality of life, so 'beyond-health' effects like maintaining independence or the social effects of an intervention – which are particularly important for older people, will not be captured. Third, instruments that assess QoL measure the quality of life regardless of age. In common QoL indexes, physical functionalities are of particular significance, though these become less important with increasing age. The QoL of older people will be underrated if age-dependent measures of value are not considered. Fourth, the average health condition of older people is poorer than that of younger people. Due to co-morbidities the health gains that can be realized are smaller, since even if an intervention is successful it will not restore full health. At the same time, small health gains are measured rather poorly by instruments used to assess QALYs. This is one reason why health promotion interventions for older people may yield fewer measured health benefits and, hence, a comparably less improved quality of life, even though the objectives of an intervention have been fully achieved.

Other instruments or indexes have been developed in recent years to assess the quality of life or well-being especially of older people (i.e. ICECAP-O, ASCOT). Though these are promising instruments, the comparability of their results will still be limited to different interventions within the older age group.

Another option for overcoming the limitations of CEA and CUA is the **monetary valuation of effects** (CBA). This can be done without subjective elements by determining the health costs avoided, but this implies that the health gain itself is attributed no value. Such an approach should therefore not be followed. Following the societal perspective another means of monetisation used more commonly is the evaluation of the effects of an

intervention through the willingness of an individual to pay for it. The individual's willingness to pay captures different effects of an intervention in one unit. It is up to the individual to balance and weight the different values or benefits, and non-health related effects can be included as well. This allows a comparison of measures in different policy fields. A major problem of the willingness-to-pay approach, especially for interventions aiming at older people, is that the results are not independent of who is asked. If measures are clearly limited to a defined target group – like older people – the vote on an allocative question will be biased by the distributive consequences for the respondents. It is to be expected that results will differ depending on whether younger or older people are asked. Thus a possible age bias limits comparability in CBA as well.

This overview on different methods of measuring and valuating effects shows that it is difficult to identify outcome parameters that cover the complex effects of health promotion in one index. The inclusion of the social benefits of an intervention and/or differing preference structures of older and younger people are particularly challenging.

Cost-consequence analysis (CCA) might be a solution to this problem. A CCA provides a disaggregated analysis of different costs and effects. It can be described as a CEA or CUA with multiple outcomes. It takes into account the fact that there are different types of benefits that might be difficult to aggregate or might be assessed differently from various perspectives. Nevertheless, comparability with other interventions is limited and the differentiated assessment of the various effects or benefits has to be accomplished by the decision-maker.

**5. Closely related to these problems is the question of equity considerations.** The incorporation of effects on health equity is of special interest because public health or health promotion interventions are often set up to counterbalance health inequalities. Rather than merely maximizing health gains, they also aim at an equity-oriented distribution of health gains. Thus, proper assessment criteria of public health interventions may differ significantly from those for curative interventions.

**Table 1:** Risk factors for age discrimination in the economic evaluation of health promotion for older people

Methodological options	Potential discriminatory effects for older people
If ...	The effect will be ....
the perspective of the study is partial,	societal benefits are underestimated; for older people e.g. reduced costs for long-term care.
informal caregivers time and other informal care costs are excluded,	benefits of interventions that aim at the reduction of dependency on long-term care are underestimated.
productivity costs are included without considering unpaid work,	societal value of senior's unpaid work is neglected (informal care, volunteer work, household work).
cost incurred in added years of life unrelated to the interventions are included,	life-prolonging interventions for older people will be rated less cost effective, because older people will produce more costs in near future due to comorbidities.
effects are measured by natural parameters (CEA),	social benefits that are more important for older people are not covered.
effects are measured by QALYs (CUA),	benefits of interventions for older people will be underestimated, because. ... preferences of older people, especially social benefits are not covered. ... a lower life expectancy results in less QALYs gained.
benefits are valued as monetary outcomes by willingness-to-pay (CBA),	results will be biased depending on distributive effects on the respondent, interventions for older people maybe rated poorly if respondents are younger people.
benefits are valued monetarily without subjective elements (CBA),	benefits of the intervention will be underestimated, because social benefits are especially important for older people.

## IMPLICATIONS AND RECOMMENDATIONS

### POLICY LEVEL

- Promote economic evaluations of health promotion activities for older people, because economic evaluations can be an important guide for allocation decisions. Sound evidence on cost-effectiveness will support the implementation of health promotion initiatives for older people.
- Use economic evaluations as a guide for decision making, but keep in mind that decisions cannot be drawn directly from their results. Results have to be weighed and interpreted in relation to specific policy objectives. Otherwise, especially complex interventions whose effects may be diverse, multidimensional and thus difficult to evaluate may be disadvantaged.
- Do not compare directly results of economic evaluations of interventions for people aged 65+ with results for younger age groups. In particular, they should not be compared using common quality-of-life indicators like the QALY, as these do not reflect diverging preference structures of different age groups. In particular they do not reflect that older people place greater value on social benefits than on physical capabilities.
- Do not compare directly results of economic evaluations of health promotion interventions with those of curative interventions. Depending on their objectives, health promotion interventions often have more complex goals and a longer time horizon. Their goals may especially include social benefits or other effects that outreach immediate health gains. These benefits may be underrepresented in the results of economic evaluations.
- Take into account effects of public health or health promotion interventions on health inequities. Otherwise the implementation of these interventions may reinforce them. Equity measures should be included in the assessment of these interventions and have to be weighed up against pure effectiveness measures.
- Neglecting the special requirements and limitations of the economic evaluation of health promotion interventions for older people may lead to an implicit age-based rationing.

### RESEARCH LEVEL – RESEARCH PROMOTION

- Promote research on economic evaluations for health promotion activities for older people to maintain a better basis for decision-making.
- Promote the development and implementation of common research standards and a dedicated methodological approach for the evaluations of health promotion activities for older people.
- Promote the development, valuation and use of preference-based indicators that reflect preference structures of older people. Effects that cannot be integrated in a single index and health equity impacts have to be described complementarily.
- Ensure that the costs of informal care are considered in economic evaluations. If productivity costs are included, senior productivity (unpaid labour) has to be considered as well. The impact of health care costs in added years of life has to be treated transparently and should be reported separately.

## RESEARCH PARAMETERS

### PROJECT FOCUS

ProHealth 65+ is focused on health promotion and prevention of health risks among seniors. The project seeks to determine effective methods of promoting a healthy lifestyle among older population groups by bringing together knowledge and experience of main partners and health promoters from Poland, Germany, Italy and the Netherlands and exchange it with collaborating partners from Portugal, Greece, Bulgaria, Czech Republic and Hungary. The effective implementation of training for health promoters working with this age group is the ultimate project goal.

### PROJECT OVERVIEW

Pro-Health 65+ project corresponds with directions of the EU strategic Health Program (the Second and Third Health Program). The project is focused on 'Investing in Health' as part of the Social Investment Package for Growth and Cohesion through professionally designed health promotion programs implemented by well-informed and efficiently operating health promoters. It is targeted at the elderly with the intention of providing them with good health and good quality of life, and enabling them to be active and socially integrated (Healthy Aging). It will be implemented as a collaborative project in close cooperation with partner countries using a variety of research and institutional experience. It will be important to add the project activities to other European and national activities so that they are complementary and compatible.

### METHODOLOGY

This project is about research and implementation. It will use two sets of tools. For research, we will accumulate and develop knowledge: analyze previous studies related to the subject of health status of older people and the health determinants (social, economic and cultural) in different stages of life; identify and evaluate health promotion methods; analyze institutions of health promoters and also funding, distribution, and modelling of financial circuit and incentives; critically review cost-effectiveness analysis. Quality will be guaranteed by supervision of the Advisory Board and will be assessed in accordance with the rules of the project. For the implementation of project results, we plan to prepare a manual for health promotion that will help to fill the most common knowledge gaps among street-level health promoters and training materials for key institutions providing health promotion for the elderly. We will also conduct training in cooperation with the newly created Board of Health Promoters for selected street-level health promoters in the project countries.

### EXPECTED OUTCOMES

Widespread knowledge and use of evidence based and economically effective methods of health promotion within different groups of street-level health promoters (health care practitioners, policy-makers, local and NGOs activists, social workers, trade unionists, journalists etc.) is one direct result of the project. Analyzing different institutions of public health, legal basis, sources and methods of financing and cost-effective ways of conducting the work in this area, will enrich the knowledge on possibilities and barriers related to promoting health. The project will contribute to the application of relevant health promotion methods in joint actions in the field of public health.

## PROJECT IDENTITY

<b>PROJECT NAME</b>	PRO HEALTH 65+ Health Promotion and Prevention of Risk – Action for Seniors
<b>COORDINATORS</b>	<b>JAGIELLONIAN UNIVERSITY MEDICAL COLLEGE</b>  Project leader: Prof. dr. hab. Stanisława Golinowska Project manager: Andrzej Kroppiwnicki
<b>ASSOCIATED PARTNERS</b>	<b>JAGIELLONIAN UNIVERSITY MEDICAL COLLEGE</b> <a href="http://www.uj.edu.pl">www.uj.edu.pl</a> Principle investigator: Prof. dr. hab. Stanisława Golinowska  <b>MAASTRICHT UNIVERSITY</b> <a href="http://www.maastrichtuniversity.nl">www.maastrichtuniversity.nl</a> Principle investigator: Prof. dr. Wim Groot  <b>UNIVERSITÀ CATTOLICA DEL SACRO CUORE</b> <a href="http://www.unicatt.it">www.unicatt.it</a> Principle investigator: Prof. dr. Nicola Magnavita  <b>UNIVERSITÄT BREMEN</b> <a href="http://www.uni-bremen.de">www.uni-bremen.de</a> Principle investigator: Prof. dr. Heinz Rothgang
<b>FUNDING SCHEME</b>	Pro-Health65+ which has received funding from the European Union in the framework of the Health Programme (2008-2013)
<b>DURATION</b>	August 2015 – July 2017 (36 months)
<b>BUDGET</b>	EU contribution: 960 165 Euro
<b>WEBSITE</b>	<a href="http://pro-health65plus.eu">http://pro-health65plus.eu</a>
<b>LINKEDIN FORUM</b>	<a href="https://www.linkedin.com/groups/ProHealth-65-Health-Promotion-Prevention-8354412/about">https://www.linkedin.com/groups/ProHealth-65-Health-Promotion-Prevention-8354412/about</a>
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