



DETERMINE
Working
Document
4

ECONOMIC ARGUMENTS

**for addressing social determinants
of health inequalities**

**DETERMINE – an EU Consortium for Action on
the Socio economic Determinants of Health**



Summary

DETERMINE is an EU Consortium for Action on the Socioeconomic Determinants of Health (SDH). The overall objective of DETERMINE is to achieve greater awareness and capacity amongst decision makers in all policy sectors to take health and health equity into consideration and to strengthen collaboration between health and other sectors.

DETERMINE consists of seven complementary but discrete work packages. This working document summarises the second year activities of work package 5. It explores if and how economic arguments are being used to support action at EU level and in 12 countries and regions across Europe.

There are strong economic arguments for investing in health at population level and the benefits of reducing health inequalities are beginning to be recognised in economic terms. Furthermore, the recent Communication from the European Commission *Solidarity in Health: Reducing health inequalities in the EU* is an indication of a focus on health inequalities at EU level.

The evidence presented here paves the way for further exploration at EU and member state level to analyse in economic terms the health impacts of policies that address the social determinants of health. Such work can help to provide further evidence to support the argument that targeted investment to address health inequalities by action on the social determinants of health is more cost effective than paying for the consequences of health inequalities.

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www.health-inequalities.eu

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Introduction

DETERMINE is a three year project (2007-2010) supported by the European Commission and coordinated by EuroHealthNet. It brings together a high level Consortium with representation from 26 European countries with an overall objective of supporting and enabling policy makers and practitioners in all policy sectors to place a higher priority on health and health inequalities when developing policy. A core aim of DETERMINE is to strengthen the knowledge base on policies and actions addressing social determinants of health inequalities. DETERMINE consists of seven discrete but complementary work packages. The specific contributions of work package 5 are:

- Year 1: Identification and exploration of member state and EU level approaches to addressing social determinants of health inequalities.
- Year 2: Identification and exploration of economic arguments to support this work.

This working document summarises the second year activities of work package 5. For information on the first year activities of work package 5 and the DETERMINE project please visit www.health-inequalities.eu

Chapter one describes how the task was developed and the data collected. Chapter two provides the findings of a literature review of economic arguments for addressing social determinants of health inequalities. Reports from DETERMINE partners are presented in chapters three and four: Chapter three presents the opportunities and challenges to using economic arguments to address health inequalities while chapter four presents examples of economic evaluations conducted at member state and EU level that have considered health outcomes. Chapter five offers concluding remarks and recommendations. A glossary of frequently used terms is provided in Appendix 1 while Appendix 2 gives additional information on the task design.

I. Instrument design and data collection

Introduction

This chapter provides an overview of how the framework for identifying and exploring economic arguments for addressing social determinants of health inequalities was developed. It also describes how the data was collected and provides general comments on responses received.

Aim and objectives

The aim of this task was to better understand if and how economic arguments are being used to address social determinants of health inequalities within selected member states and by the institutions of the European Union. It is intended to use findings from this task to achieve more widespread adoption of effective and proven approaches to tackling health inequalities.

The objectives of the task were:

- To explore opportunities and challenges to using economic arguments to address social determinants of health inequalities.
- To identify examples of relevant economic evaluations that consider outcomes in terms of health and health inequalities.

Contributors

Members of the DETERMINE Consortium with a specific interest in work package 5 were asked to assess the situation within their own country or region. Partners representing 12 countries and regions across Europe undertook assessments and EuroHealthNet reviewed the situation at EU level. General contributions were received from additional members of the DETERMINE Consortium. The task was coordinated by the Institute of Public Health in Ireland.

Development of the guidance document & questionnaire

Initial scoping of the task took place at the second DETERMINE Consortium meeting in May 2008. Following this meeting, a review of relevant literature was undertaken and teleconferences were held with three key informants to clarify what is already known about economic arguments to address social determinants of health inequalities and how the DETERMINE project could complement and progress this work. This helped inform development of a draft questionnaire which was discussed and reviewed with partners at a workshop held in August 2008. At the workshop, one issue identified was the extent to which different policy areas should be included. It was agreed that the focus would be on policies driven by sectors other than health. However public health policies related to, for example, smoking, obesity and physical activity would be included but other healthcare policies, including treatment and services, would be excluded.

The first part of the questionnaire sought to identify examples of economic evaluations and then explore how they came about, their challenges and their successes. The second part of the questionnaire was designed to explore the economic arguments being used, who the main drivers were and who such arguments were intended for. If there was limited debate around such issues, partners were asked to comment on why they thought this may be so and to include their suggestions for future action in this area.

Data collection

Data collection took place between September 2008 and January 2009. Partners were responsible for collecting data within their own country or region using the questionnaire template. EuroHealthNet, in collaboration with the work package leader, coordinated the collection of data at the EU level. It was agreed that given time and resource limitations partners were not expected to undertake a comprehensive review of all policies in all sectors.

A total of thirteen completed questionnaires were received. Another partner contributed general comments but was unable to complete the questionnaire. Most partners indicated that they used a combination of their own knowledge and the expertise of colleagues and others to complete the questionnaire. A wide variation was noted in the depth of responses with several partners reporting difficulty in identifying any relevant examples of economic evaluations. Overall, more information was provided exploring the opportunities and challenges to progressing this approach than actual examples of economic evaluations. It is outside the scope of this task to assess the extent to which examples reported and issues highlighted reflect overall activity in this area in the different regions and countries.

Findings reported in the following chapters must be interpreted giving due consideration to the limited data available on this area of work, the limited expertise devoted to addressing this issue in many countries as well as limited resources available for this part of the project. The authors view these findings and the report as a useful first step in addressing this complex and complicated area.

2. Making the case: Establishing economic arguments

Introduction

This chapter presents the findings of a literature review conducted in June 2008 together with further research in April 2009. The review was undertaken to help inform and shape further data collection by establishing the main economic arguments for addressing social determinants of health inequalities.

Health can be considered in economic terms as both a capital and a consumption good. In the case of health as a capital good, people in good health attract a higher value than those in poor health due to their greater ability to be economically productive. Health as a consumption good is concerned with the contribution that good health makes to an individual's wellbeing, happiness or satisfaction.

Targeted investment to address health inequalities by action on social determinants of health is more cost effective than paying later for the consequences of these inequalities. It follows then that addressing health inequalities is not only a matter of social justice but also contributes to economic growth.

The economic benefits of better health

There are strong economic arguments for investing in health at population level. In 2001, the *WHO Commission on Macroeconomics and Health* demonstrated that a healthier population can bring substantial economic benefits to countries with developing economies. The authors estimated that 50% of the growth differential between rich and poor countries was due to ill health and shorter life expectancy. Increasing life expectancy at birth by 10% through targeted investment to tackle the major causes of premature deaths could increase the economic growth rate by 0.35% per year. (1)

Benefits to the economy may not be limited to developing countries. In 2005, a review of evidence in high income countries concluded that "there is considerable and convincing evidence that significant economic benefits can be achieved by improving health not only in developing but also in developed countries." The report outlines four channels through which this may occur: higher productivity, higher labour supply, improved skills as a result of greater education and training and increased savings available for investment in physical and intellectual capital. (2) However more recent work suggests that the evidence is less conclusive about the links between health and the economy particularly at the macro level. (3)

These issues have been considered in the development of a health strategy for the EU which commenced with a reflection process in 2004. (4) The second of four principles in the strategy *Together for Health* "Health is the greatest wealth" states that health is a prerequisite for economic productivity and prosperity. It also emphasises that healthy life expectancy not merely life expectancy is the key factor for economic growth and points to the inclusion of Healthy Life Years as a Lisbon Structural Indicator to underline this distinction. (5) The role of healthcare systems in supporting growth and employment has been recognised in a report commissioned as part of the mid-term review of the Lisbon strategy. *Facing the challenge: The Lisbon strategy for growth and employment* notes the importance of healthcare systems "... in generating social cohesion, a productive workforce, employment and hence economic growth." (6)

The economic costs of ill health

Clear understanding of the cost of ill health is a prerequisite for assessing the economic returns of investing in health. While healthcare costs are substantial and increasing, these represent only one part of the overall picture.

Failure to include the welfare costs of ill health risks understating the true economic benefits derived from health interventions. Three perspectives have been identified to gain a more complete picture of the costs of ill health. The broad perspective encompasses social welfare costs; the limited perspective considers micro- and macroeconomic costs; while the very limited perspective focuses on healthcare costs. (7)

Cost of illness studies separate costs into three components: direct costs, i.e. those associated with treating illness; indirect costs, i.e. costs associated with loss of productivity due to morbidity or premature death and; intangible costs which include the psychological dimensions of illness. However in many cases only the first two are measured. A review of cost of illness studies found that the cost of chronic diseases ranged from 0.02% to 6.77% of a country's GDP. Cardiovascular disease in particular was found to account for between 1-3% of GDP in most developed countries. (8)

The cost of health inequalities

Health inequalities are understood to be the difference in health outcomes between different population groups, including socioeconomic groups. Such inequalities are estimated to reduce average life expectancy across the EU25² by 1.84 years which equates to approximately 11.4 million life years lost. At the same time, healthy life expectancy is reduced due to the existence of inequalities by an average of 5.14 years or approximately 33 million healthy life years lost. (9) While these figures represent the EU25 as a whole, the large variation in the magnitude of health inequalities within member states is well recognised, with some southern European countries having smaller inequalities and most countries in the East and Baltic regions having larger inequalities than the European average. (10)

These inequalities have significant economic implications for the EU and for member states. When health is valued as a capital good, inequalities related losses have been estimated to cost around €141 billion in 2004 or 1.4% of GDP. This rises sharply to €1,000 billion or 9.5% of GDP when health is valued as a consumption good. (9)

2 These calculations were based on 2004 membership of the EU (25 member states)

Addressing health inequalities through action on social determinants of health

Just as the costs to society of ill health go beyond the cost of treatment, preventing ill health and reducing health inequalities is not the responsibility of the health care system alone. Health and health inequalities are largely determined by factors outside the reach of the healthcare sector, including low income, unemployment, poor environment, poor education and sub-standard housing. (11) Improving health and reducing health inequalities therefore requires action and investment across government to tackle these root causes. (2)

The *Tallinn Charter*, signed at the WHO European Ministerial Conference on Health Systems in June 2008, reiterates that "...investing in health is investing in human development, social well-being and wealth." It includes a commitment from member states to "...invest in health systems³ and foster investment across sectors that influence health, using evidence on the links between socioeconomic development and health." (12)

Following the report of the WHO Commission on Social Determinants of Health *Closing the gap in a generation* (13) the 62nd World Health Assembly called upon all member states "...to take into account health equity in all national policies that address social determinants of health." (14) Social policy is crucial to breaking the negative spiral linking ill health, poverty and social exclusion. A report commissioned by the European Commission's Employment, Social Affairs and Equal Opportunities Directorate (DG EMPL) establishes the economic and social costs of not having social policies of adequate quality and shows that more equity can go hand in hand with greater efficiency. The report concludes that social policies based on investment in human and social capital are conducive to higher economic efficiency as they improve productivity and quality of the labour force. (15)

Challenges regarding evidence on the cost effectiveness of action

The *Wanless Report to the UK Treasury* highlighted the need for more economic evaluations of health promoting policies, as the absence of such evidence is considered to be a significant barrier to achieving commitment by governments. (16) However conducting economic evaluations of policies affecting social determinants of health and health inequalities raises a number of methodological challenges because policies and interventions addressing public health issues generate very broad costs and benefits. A review of studies conducted in this area identified four main challenges: attributing outcomes to interventions; measuring and valuing outcomes; incorporating equity considerations; and identifying intersectoral costs and consequences. (17) A briefing paper which reviewed the current state of economic appraisals of public health interventions found that even where outcomes can be attributed to interventions, they usually incur a long time lag which is at odds with most decision-makers preference for benefits that occur quickly. Furthermore, unlike many clinical interventions, public health interventions often require a change in individual or population behaviour in order to be effective, therefore the behaviour change itself must be included in the economic analysis. Given the challenges associated with undertaking economic evaluations of health promoting policies, the authors assert that "...there is presently insufficient economic evaluation evidence to knowledgeably inform public health policy making." They suggest however that "...this state of affairs can be changed, but will require strong direction to ensure that priorities for economic evaluation evidence become organised and coordinated at local, regional and national levels." (18)

Calculating the distributional costs and benefits of public health interventions across different sections of the population adds another layer of complexity to the conduct of economic evaluations. In practice many economic evaluations do not consider the impact of the intervention on different population groups focusing instead on the whole population in their analysis. Even where it is known that the impact of a particular intervention may be unequally spread across population groups, it remains challenging to incorporate this into an economic evaluation.

³ The term Health Systems includes all actors, organisations, institutions and resources which have the potential to promote health in society

Conclusion

Economic arguments for cross sectoral investment in health are gaining momentum across Europe and there is increasing appreciation of the economic benefits that may accrue if action is taken to reduce health inequalities. While difficult to undertake, efforts are being made to analyse in economic terms the impact on health and health inequalities of a range of policies outside of healthcare. For example, the Global Health Equity Group (Marmot review) is currently undertaking a strategic review of health inequalities in England post 2010 which incorporates the economic perspective. (19) One of the contributors, the Centre for Health Economics in England, has recently published *An economic framework for analysing the social determinants of health and health inequalities* which includes a review of economic approaches to evaluation and priority setting for policies aimed at reducing health inequalities. (20)

By providing initial evidence, the reports highlighted here can pave the way for further exploration at EU and member state level to analyse in economic terms the health impacts of policies that address the social determinants of health. Such work can help to provide further evidence to support the argument that targeted investment to address health inequalities by action on the social determinants of health is more cost effective than paying for the consequences of health inequalities.

3. Opportunities and challenges to using economic arguments

Introduction

This chapter examines the opportunities and challenges to using economic arguments to address social determinants of health inequalities, as reported by DETERMINE partners. Many influencing factors were described and these have been grouped into six areas:

- Support for addressing social determinants of health inequalities.
- Acceptability of using economic arguments to achieve better health outcomes.
- Clear and meaningful arguments.
- Leadership from health ministries.
- Availability of specialised personnel, data and techniques.
- Consideration of health in assessment procedures.

Support for addressing social determinants of health inequalities

Findings from the first year of the project indicated that relatively few countries have government policy which emphasises social determinants of health inequalities. In the absence of policy support, sectors outside of health may be less likely to routinely or systematically consider health impacts of their policy. In the first year of the project, it was reported that potential health impacts are often not recognised in policies formulated by sectors such as transport, agriculture and housing. (21)

A pattern was observed between the existence of government policy which recognises social determinants of health and health inequalities and the routine inclusion of health outcomes in economic evaluations of non-health policy. In countries where there is strong policy support for a health in all policies perspective, it appears more likely that health outcomes will be considered in economic evaluations of non-health policy. On the other hand, in many countries general awareness about social determinants of health remains low and sectors outside of health do not recognise or place a value on the health outcomes of their policies. Therefore when economic evaluations are conducted on these policies, it appears that potential costs and benefits to health are less likely to be factored into the analysis.

Acceptability of using economic arguments to achieve better health outcomes

The premise that economic arguments should be used to support action on social determinants of health inequalities attracted mixed responses. A number of partners suggested that economic arguments were not routinely used because of a lack of acceptability of such arguments. Resistance to using economic arguments in these cases was based on the following reasons:

- General moral/ ethical arguments, for example “...the focus should be on producing health not saving money” and “...the purpose of the state is not income generation but to ensure better quality lives for its citizens.”

- The long lag time between intervention and return in many health promoting interventions may lead to such interventions being considered poor value for money particularly if a short or medium term perspective is taken.
- Interventions with some population groups may require higher initial investment or may produce less substantial economic returns and thus may be considered poor value for money when compared with the general population.
- Economic arguments may be perceived as not relevant or unnecessary, for example where there is a high standard of living or where personal responsibility for health is highly valued.

The legitimacy of using economic arguments is addressed in the Norwegian report *Health Effects in National Economic Analyses*. It is particularly concerned with the equity perspective and recommends that “...applying economic value on lives and health is only relevant in overall economic analyses. This type of assessment should not be applied to specific treatments or interventions. It is important that economic assessments of interventions and treatment are not conducted at the individual level.” (22) This is particularly relevant to the equity concern raised by DETERMINE partners regarding distribution of finite resources amongst different groups within the population.

The report also makes reference to the converging views of relevant ministries “...in the past the Ministry of Finance has used economic arguments and the Ministry of Health has used health arguments. Nowadays the debate seems to be more balanced and both arguments are considered relevant by both partners.” (22)

Clear and meaningful arguments

Some partners suggested that economic arguments to support a health in all policies approach need to be made clearer and presented in language that speaks to policy makers across a range of sectors. For example, in Scotland the report of the Ministerial task force on health inequalities *Equally Well* states that “...a reduction in health inequalities, by improving the health of those most deprived, is likely to result in a reduction of costs to the National Health Service (NHS) and society as a whole.” (23)

Explicitly stating the economic cost of ill health or the savings made to the economy by retention of good population health was also considered to be useful. Such costs have been calculated for several causes of ill health in Scotland including alcohol, smoking, obesity, mental illness, teenage pregnancy and asthma. Of these, mental illness is estimated to incur the highest costs – £1.5 billion per annum to NHS Scotland and more than £7 billion per annum in wider economic and social costs. Alcohol related illness is estimated to have cost the NHS £110 million per annum while the wider economic, human and social costs amounted to some £736 million per annum. (23)

An example from Norway explicitly links participation in the workforce and continued existence of the welfare state. A report by the Ministry of Labour and Social Inclusion makes it clear that the latter is dependent on employee contributions which will only continue if the workforce remains in good health. (24) In Slovenia, the focus has been on geographical inequalities in health. Demonstrating a relationship between poor health indicators and weaker social and economic performance at a regional level has prompted a response from both politicians and professionals. (25)

Leadership from health ministries

While overall government policy sets the context for supporting the economic case, it has been suggested by WHO and others that leadership must come from within health ministries. (12) An example is given from the Netherlands where the Ministry of Health has approached a number of national advisory boards including the Onderwijsraad (Education Advisory Board), ROB (Board for Public Government), RVZ (Council for Public Health and Health Care) and the SER (Social Economical Advisory Board), and asked them to identify areas of mutual interest with health. (26) Other indications of leadership within this Ministry include the hosting of a conference in November 2008 entitled “Health is Wealth”. (27)

Availability of specialised personnel, data and techniques

Reflecting the findings of the literature review, many partners commented that the complexity of undertaking economic evaluations was a barrier to their conduct. A significant proportion of economic evaluations cited in chapter four were conducted on policies which already have better health as an explicit objective, for example, those related to smoking cessation or diabetes prevention. Fewer examples were reported of economic evaluations which considered health outcomes of policies addressing the social determinants of health such as those related to transport or education. A number of partners suggested that where social determinants of health are not recognised by those undertaking the evaluations, health outcomes are less likely to be considered. Even where the policy has explicit health outcomes, economic evaluations may be more likely to focus on individual determinants of health than social causes. Furthermore they may not always consider indirect or longer term outcomes, thereby reducing the calculated cost effectiveness of an intervention.

It was also suggested that the evidence base on social determinants of health is not as strong as can be found for clinical or medical interventions due to difficulty in determining effects. This is recognised in an example from the Republic of Ireland which notes difficulties in accurately costing health benefits. In the *Economic Evaluation of Water Supply and Waste Water Projects* the authors state that “...there may be some health benefits due to the improved water quality, but these are likely to be difficult to quantify.” (28)

Some partners reported that there is disagreement amongst experts on the methodology used to evaluate health outcomes in economic terms. This is highlighted in a Norwegian report *Role of the Health system in Norwegian Society* which states that “...health effects and distributional health effects are complicated to measure and there are limitations regarding what factors are possible to measure. The numbers that are being used and compared are not absolute, but relative. They also serve as indicators and not facts about health, wealth and wellbeing. These are not unambiguous measures and the causal relations are complex. There is also a certain disagreement among researchers regarding what measures are the most appropriate to use.” (29)

While acknowledging difficulties in undertaking these types of economic evaluations, a number of partners referred to measures that aim to advance these efforts. For example, in the UK, all public health recommendations produced by the National Institute for Health and Clinical Evidence (NICE) now include an economic appraisal. Additionally guidance has been issued by NICE on how health economic evidence should be collated and analysed. (30) The WHO CHOICE (CHOosing Interventions that are Cost Effective) programme is also contributing to the evidence base by assembling regional databases on the costs, impact on population health and cost effectiveness of key health interventions. (31) In Scotland, a number of alternative outcome measures are currently being explored which attempt to encapsulate the complex factors influencing how cost effectiveness is measured. (32)

Consideration of health in assessment procedures

Some partners reported on efforts to include health in impact assessment and evaluation processes. For example the use of economic assessments as part of impact assessments was identified in *Prescription for a healthier Norway* (33) and further described in *Health Effects in National Economic Analyses* which supports the development of guidelines for economic assessments in the area of health in both health and non-health sectors. Distributional effects are also acknowledged in this report and it is recommended that these are explicitly included in economic analyses; socioeconomic groups are considered a natural unit for this. (22) The *Instructions for Official Studies and Reports*, used by all ministries and their subordinate agencies to clarify financial and administrative consequences of reforms, has recommended that policies are assessed for likely impacts on health. This recommendation has been taken forward and analytical tools such as Health Impact Assessment are being developed which will measure distributional effects of policies focusing on social determinants of health. (34) In Scotland, health impacts are routinely considered in economic evaluations conducted on legislation being taken forward by the Health Directorate, for example the smoke free public places legislation. (35)

A range of other assessment procedures were reported which currently do not appear to systematically consider health but may present opportunities to do so. Regulatory Impact Assessment/Analysis (RIA) is a tool used to assess the likely costs, benefits and impacts of new regulations. In Scotland, all new legislation requires a Regulatory Impact Assessment. Examples of RIAs conducted on a broad range of policies are available. (35) In the Republic of Ireland, the introduction of Value for Money Reviews and Regulatory Impact Analysis into the Irish Public Service and other Public Sector Agencies has resulted in an increase in the number of economic analyses being conducted in recent years. RIA was introduced in Ireland in June 2005 as part of an overall move towards better government regulation. (36)

At EU level, many policies and spending programmes are required to undergo some form of economic analysis through Impact Assessment and/or Evaluation. These aim to measure progress, efficiency and effectiveness of the measures being introduced. Since economic and social cohesion and solidarity are amongst the main objectives of the EU as laid down in Article 2 of the European Community Treaty, all broadly relevant EU policies and programmes should be assessed as to whether they contribute to this goal. However, where impact on social distribution is not an explicit concern of the policy being introduced, its impact on different socioeconomic groups is unlikely to be evaluated.

Impact Assessments (IA) analyse likely impacts of a policy in the economic, environmental and social fields, outline the advantages and disadvantages of each option and examine possible synergies and trade-offs. However, a scan of some recent IAs revealed that the results of economic analysis is often provided in broad terms, and that most do not go into detail about the projected cost/benefits or cost/efficiency in monetary terms.

As a general rule, all major policy initiatives and legislative proposals on the European Commission's Annual Legislative and Work Programme (CLWP) are required to undergo Impact Assessment. Some other proposals, which do not feature in the CLWP but which potentially have significant impacts, may also require an impact assessment. The precise scope of application is decided on an annual basis. (37)

Most European Commission (EC) policies undergo some form of evaluation, which includes economic analysis, however each major EC spending area appears to have its own evaluation guidelines. Furthermore even areas with clear evaluation guidelines may not always follow these. For example, while it is recommended that Cohesion (Regional) Policy assistance should be subject to regular and rigorous evaluation before, during and after implementation, there appears to be a lack of economic assessments in evaluations actually completed. This is confirmed by the *Study on the Use of Cost-effectiveness Analysis (CEA) in EC's Evaluation*, which found that CEA is seldom applied due to a lack of appropriate data to conduct

them. It identified the main prerequisites for applying CEA: possibility to concentrate on a single affect or available approaches to combine several effects; recognised indicator or rating grid for each effect; possibility to quantify/rate effects; possibility of comparing several interventions/options/scenarios. Since one or more of these prerequisites are missing in many instances, it is not surprising that CEA is far from frequent in EC evaluations. (38)

Conclusion

This chapter has considered the opportunities and challenges identified by partners to using economic arguments to address social determinants of health inequalities. While these have been grouped into six areas in reality most of these issues do not exist in isolation from each other. The synergy between a policy supportive environment for health in all policies and the use of economic arguments to support this approach demands particular attention. For example, the greater availability of specialised personnel, data and techniques may encourage more economic analysis and as more economic analysis occurs, techniques and data become more refined and precise.

Findings presented here indicate that this is a complex area and one that is not systematically incorporated into policy development or implementation. It is clear however that there is increasing interest in having a greater priority and focus attached to economic analysis of policy that impacts on the social determinants of health and that some useful work is emerging in this area. It is worth giving consideration as to how work undertaken by WHO and other international bodies could be adopted within member states. Furthermore action in a number of member states should be monitored and further explored to assess the elements of work amenable to adoption in other countries.

4. Examples of economic evaluations that consider health outcomes

Introduction

This chapter explores the extent to which identified economic evaluations consider health outcomes. They have been grouped into two sections. The first section considers evaluations of policies that have an explicit focus on health behaviours and health outcomes, namely general health promotion interventions, physical activity, diet, obesity, smoking, alcohol and mental health/ suicide. The second section considers evaluations of policies which are concerned with other determinants of health, namely education, agriculture, transport and transport safety, home and leisure safety, climate change and energy efficiency. It should be noted that these examples are based solely on the reports submitted by DETERMINE partners which, as outlined in chapter one, was not intended to be a comprehensive review of all policies in all sectors. It is beyond the scope of this task to assess the extent to which examples reported and issues highlighted reflect overall activity in this area in the different regions and countries.

Health behaviours and outcomes

General health promotion interventions

In Finland a report examining the cost effectiveness of different health promotion actions concluded that, on the basis of the available evidence, many actions are cost effective. The report is available in Finnish with an English summary. (39)

In Belgium (Flemish region), several cost effectiveness studies have been carried out, primarily in the areas of diet, alcohol and tobacco consumption and physical activity. A report is available in Flemish only. (40)

At EU level, a cost comparison of different cardiovascular prevention strategies was undertaken to determine how cost effective population based dietary guidelines were compared to other methods across EU member states. Estimated costs per life year gained were:

- £14 - £560 for population-based healthy eating guidelines.
- £300 - £790 for smoking cessation.
- £900 minimum for nurse screening and lifestyle advice.
- £6200 - £11300 for drug therapy (simvastatin). (41)

Physical activity

In Northern Ireland, the Department of Health, Social Sciences and Public Safety undertook a cost benefit analysis of the *Physical Activity Strategy for Northern Ireland*. The author calculated that successful implementation of the strategy's target to reduce the sedentary population from 20% to 15% could save 365 lives per year or 121 lives if the over 75s were excluded. Based on the latter figure, the value of the associated economic benefit would be £131 million and the direct cost saving to the Northern Ireland health services would be £620 thousand annually. (42)

A cost benefit analysis of walking and cycling track networks in Norwegian cities estimated the benefits of such tracks to outweigh costs by a factor of 4.5:1. The report is available in Norwegian with an English abstract. (43) Also in Norway, the Directorate for Health has produced an economic analysis of the effect of increasing physical activity in the population. The report is available in Norwegian only. (44)

In Finland, a report entitled *Money flows in sport in Finland* concluded that recreational sports/health promoting physical activities have positive health effects on the population and at the same time physical inactivity is very costly to society. The report is available in Finnish with an English abstract. (45)

Diet

In Norway, an economic analysis was conducted on a free fruit and vegetable scheme to pupils in primary and secondary schools which included an analysis of distributional effects. At the outset of the scheme, intake of fruit and vegetables showed a social gradient, where children with parents of low socioeconomic status ate less fruit and vegetables than children with parents of higher socioeconomic status. The report is available in Norwegian only. (46)

At EU level an Impact Assessment was conducted on the *Proposal for a Regulation ... in order to set up a School Fruit Scheme*. It cited scientific evidence which suggests an extra portion of fruit and vegetables per day reduces the risk of cardiovascular disease, diabetes and other diet related diseases by 30%. The resulting healthcare savings over time were then compared with the initial investment of fruit and vegetable provision. Initial estimates suggest substantial savings but the report concludes that more systematic monitoring and evaluation is needed to definitively establish cost effectiveness. (47)

Obesity

In the Republic of Ireland, the *Report of the Taskforce on Obesity* extrapolates estimates from UK data and applies it to Ireland to estimate that the annual economic cost of obesity in Ireland is in the region of €2.7 billion. This is based on an estimated 2000 premature deaths annually attributable to obesity. (48)

In the Netherlands, the National Institute for Health and the Environment (RIVM) produced a report which considers the cost effectiveness of exercise and healthy diet counselling among people with increased risk of type II diabetes mellitus due to overweight and obesity. Four packages of lifestyle counselling were modelled and each predicted substantial savings. The report is available in Dutch with an English abstract. (49)

Economic impacts were calculated as part of the Impact Assessment conducted on the European Commission *White Paper on a Strategy for Europe on Nutrition, Overweight and Obesity related health issues*. It cited a study in 2005 which estimated direct and indirect costs of obesity at 0.3 % of GDP for the EU15. Extrapolating this to the EU25, the cost of obesity rises to €40.5 billion a year. It should be noted that these calculations do not include costs to industry, the environment or society. (50)

Smoking

A health and regulatory impact assessment was conducted on the proposed smoking ban in public places in Northern Ireland which presented the costs and benefits of three different levels of implementation. Economic analysis identified that the primary resource savings to the NHS from this legislation would be from the reduction in hospital costs associated with treating main diseases linked to active and second-hand smoking i.e. lung cancer, ischaemic heart disease and stroke. Substantial cost savings were estimated over a 30 year period, particularly if Option 3, a comprehensive smoking ban, was introduced. (51) In Scotland, a review of the health and economic impacts of the proposed smoking regulation drew similar conclusions. (52) In Finland, the impact of pricing policy and public interventions to reduce smoking have been analysed from an economic perspective with some consideration given to the distributional effects of interventions. (53)

Alcohol

A *Factsheet on Alcohol related harm in Europe* produced by the European Commission's DG SANCO estimated that alcohol related harm cost the EU economy €125 billion in 2003, equivalent to 1.3% of

GDP. This estimate includes, amongst others, losses due to underperformance at work, work absenteeism and premature death. The actual spending on alcohol related problems in the EU is estimated at about €66 billion which includes spending related to crime, traffic accidents, health and disease treatment and prevention. (54)

Mental health/ Suicide

A limited economic analysis was conducted on the *Suicide Strategy in Northern Ireland*. For 2004, the total estimated cost of suicide to Northern Ireland, including direct, indirect and intangible costs, was £202 million or £1.4 million per suicide. Self-harm also has a significant economic impact in Northern Ireland, accounting for 1.5% of all hospital admissions over the previous five years. These incidents have been calculated as costing the economy £6.6 million due to lost earnings, hospital costs and other lost output. (55)

The annual economic costs of depression have been estimated at €118 billion across the EU. Direct costs, i.e. healthcare costs, account for only a minor part of this burden. The majority of costs (65%) arise indirectly from loss of productivity, i.e. due to sickness absence, early retirement and premature mortality due to suicide. (56) A systematic review of the evidence from economic evaluations on the prevention of mental illness found that robust evidence on cost effectiveness is limited to a very small number of interventions with restricted scope for generalisability and transferability. The most favourable results are related to early childhood development programmes. (57)

Other social determinants of health

Education

International research suggests significant returns on investment in early childhood education with higher returns more likely where programmes focus on children from lower socioeconomic groups. (58) However this finding should be interpreted with careful reference to the local context. For example, in the Netherlands there are large differences in the types of early childhood care and education offered. On the one hand, crèches are mainly provided to give parents the opportunity to work and may not always have a strong educational approach. On the other hand, preschools generally have a strong educational approach but because of their limited hours of opening, there are few employment benefits to parents. Furthermore it must be noted that benefits are highly dependent on the quality of supply and greater benefits usually incur higher costs. (59) Work has also been conducted in the Netherlands on the costs and benefits of early school leaving. In three out of four interventions studied, investment strongly outweighed the cost, particularly where investment was made in pre-school education. (60)

Agriculture

Economic analysis and future scenarios have been conducted in Slovenia to assess the impact of the *Common Agriculture Policy (CAP) on Slovene agriculture*. (61)

Transport

The voluntary sector in Scotland has used economic arguments, including health economic arguments, to campaign for more sustainable forms of transport. For example, it is estimated that if 40% of all short journeys were switched from car to bicycle, this would result in a saving of at least £2 billion per year due to reduced mortality and closer to £4 billion per year when improved health is included. (62)

Transport safety

In Scotland, the *Scottish Transport Appraisal Guidance* includes guidance on how to assess the costs of transport related accidents. (63)

An economic evaluation was conducted on the government road safety strategy in the Republic of Ireland. It considered the costs of fatal and non fatal accidents and estimated the savings brought about by the strategy to be over €1 billion for the prevention of fatal accidents and €502 million for non fatal accidents. (64) Conversely the *Value for Money Review of the Railway Safety Programme 2004-2008* found that in cost benefit terms, the safety dividend was less than the cost of the investment. (65) General guidance on cost benefit parameters for transport project appraisal is also available. (66)

A report prepared by the European Transport Safety Council examined the cost effectiveness of a number of transport safety measures and considered the following most promising: daytime running lights; random breath testing; audible seat belt reminders; use of European New Car Assessment Programme (EuroNCAP) as an incentive for developing safer cars; and road safety engineering. (67)

Home and leisure safety

The Ministry of Social Affairs and Health in Finland estimated the total costs of home and leisure accidents to society as €2.5-€4 billion. Almost half of the direct costs were health care expenses, one fifth were income transfers due to incapacity to work and almost one fifth were expenses of police or rescue services. The costs of prevention, information and research concerning home and leisure accidents were estimated to be less than half of one percent of the direct costs. The report is available in Finnish with an English summary. (68)

Climate change

The EU target for reduction in domestic greenhouse gas emissions is 20% by 2020 (from 1990 levels). To support a stronger EU climate change policy, calculations were made on the economic benefits to health of a 30% reduction compared to 20%. The findings show that while there are significant economic benefits to be realised from achieving the 20% target (between €13 billion and €52 billion), raising the target to 30% is estimated to yield a return of between €20 billion and €76 billion in the year 2020 alone. These returns would result from cleaner air and therefore fewer respiratory and health related problems, which would prevent 5,300 cases of bronchitis and 2,800 hospitalisations annually. These benefits would accrue year on year. (69)

Energy efficiency

It has been estimated that cold related illnesses cost the health sector £30 million every year in Northern Ireland. (70) However health impacts were not explicitly considered in a value for money review of the *Warm Homes Scheme* in Northern Ireland. While it identified a number of elements in the scheme which were not cost effective in terms of energy efficiency, this was not analysed in health terms. (71) At EU level, an Impact Assessment on the *Proposal for a Directive on energy performance of buildings* found that "...the investment requirements and the administrative costs of the measures that were analysed are relatively low compared to the benefits and the returns. The overall benefits for society in terms of reduction of energy consumption and thus reduced CO2 emissions, energy import dependencies, job creation, especially at the regional and local level, positive health and labour productivity far exceed the costs of the measures analysed." (72)

Conclusion

This chapter has presented examples of economic evaluations conducted in a range of different areas outside healthcare. A number of partners reported difficulty in finding any such examples, suggesting that for many countries, this type of analysis is not common practice. Overall there were more reports of economic analysis conducted on policies which focus on direct health and health related behaviour measures (e.g. smoking) than on policies which focus on the determinants of health (e.g. education). Evidence of distributional analysis was limited; only one example (diet) looked at the impact of policy on different groups.

5. Conclusion and recommendations

Conclusion

The purpose of this task was to explore if and how economic arguments are being used to support action at the EU level and in 12 countries and regions across Europe. It was anticipated that findings could be used to achieve more widespread adoption of effective and proven approaches to tackling inequalities.

The literature provides strong economic arguments for investing in health at population level and also suggests that benefits of reducing health inequalities are beginning to be recognised in economic terms. Furthermore, the recent Communication from the European Commission *Solidarity in Health: Reducing health inequalities in the EU* is another indication of a focus on health inequalities at EU level. (73)

Findings reported in chapters three and four demonstrate that economic arguments can and are being used to address the social determinants of health inequalities. The target audience for such arguments has been identified as mainly EU and national level policy makers, to encourage them to invest in health and/or consider the health and health equity impacts of policies. The primary organisations driving such arguments, particularly at the EU level are WHO Europe and DG SANCO, as well as advocacy groups and independent researchers.

Opportunities and challenges have been explored under six themes in chapter three and serve to illustrate that a number of approaches can be used to reach the common goal of healthy public policy and a reduction in health inequalities. Moreover the synergy created when two or more factors are present appears to be particularly effective.

Examples cited in chapter four reflect the range of policy areas which have considered health in economic terms. However it has been difficult to find a substantial amount of evidence at member state level. Moreover the diversity of responses received suggests that very different situations exist in different countries. While a few respondents gave examples which highlighted some interest and experience in this area, most partners reported that there appeared to be a general lack of appreciation of how economic evaluations could be used to strengthen policy in favour of health and health inequalities. Evidence of economic evaluations that calculate distributional effects appear to be even more limited. Issues such as lack of technical expertise, availability of appropriate data, policy support and leadership are all cited as contributing factors.

General recommendations

This work suggests that there is potential for wider dissemination of what is currently known. Moreover further exploration and development is warranted to achieve more consistent and systematic use of

economic arguments to support action on social determinants of health inequalities. Within member states, Health Ministries should play a leadership role in working to achieve greater permeability and acceptance of this approach across systems and this should be supported by Finance Ministries. This should be replicated at the EU and international levels, with agencies responsible for health taking a lead role, supported by relevant assessment, evaluative and financial mechanisms.

Recommendations for EU institutions

Having access to a consistent and systematic information system on health inequalities across the EU would greatly contribute to enabling economic assessments to incorporate health equity into their analysis. EU institutions and agencies should work with EU member states to establish a common data and knowledge base to measure, monitor, evaluate and report on health inequalities, as set out in the EC report *Solidarity in health: Reducing health inequalities in the EU*.

The actions outlined in the EC report *Solidarity in health: Reducing health inequalities in the EU* particularly those aimed at building commitment across sectors and developing the contribution of EU policies should, where relevant, incorporate a focus on economic analysis, to clarify the economic rationale for addressing the social determinants of health inequalities.

The EU should establish common approaches and methodologies to undertaking economic analysis that incorporate health and health equity. The 7th EU Framework Programme for Research should include economic research analysis in health equity and health systems performance assessment as well as policy intervention assessment.

The EU should use its internal collaborative mechanisms on health, social and economic policies to ensure health equity indicators are systematically included and applied in EC decision making processes. The outcomes of these assessment and evaluation procedures should be made available on EU websites such as Europa as well as through relevant information systems at member state level.

- As well as a greater focus on health and health equity overall, the EU Impact Assessment procedure should consider economic impacts in these terms.
- Cross sectoral bodies such as the Social Protection Committee and those involved in the Open Method of Coordination should promote the need for and apply the outcomes of economic assessments in their considerations.
- At EU level, common evaluation guidelines for all spending areas should include consideration and quantification of health impact.
- The Council of Ministers and the European Parliament should increasingly seek and apply health equity economic assessments in its decision making.
- EU agencies such as the EU Foundation for Living & Working Conditions should be empowered to include health economic analysis against their range of indicators in reports.
- Eurostat should ensure appropriate indicators for economic analysis are included in data gathering.
- Economic evaluations of initiatives undertaken under EU funding programmes should look at effects on different population groups.

Recommendations for member states

A greater proportion of health systems research funding should be allocated to improving the data and methodologies required to develop appropriate systems and carry out such economic analyses.

Greater priority should be placed on incorporating health and differential impacts into economic analyses.

Health Ministries should take a lead role in identifying and promoting economic arguments for health, public health and health inequalities and should support other ministries in ensuring health and health equity is taken into account from an economic perspective.

Finance Ministries should support this by requiring that economic impact assessments be undertaken as part of budget allocation processes.

Economic analyses should include as broad a number of stakeholders as possible, particularly those directly affected, to ensure that all possible effects are taken into account. This includes the private sector, where economic benefits may be insufficiently taken into account by public sector analysis alone.

Action should also be supported at the regional and local level, particularly cooperation between relevant research institutes, health agencies and municipal authorities to build knowledge on economic impacts of innovative local approaches. Community development initiatives could incorporate information on collective economic effects as well as effects on different population groups in their evaluations.

Recommendations for international organisations

Common comparative international data and indicators on health inequalities to which economic analysis can be applied should be developed. Particularly in the WHO Europe Region, there should be cross reference to common indicators being developed across EU member states.

Systematic cooperation within and between international sources of information on economic analyses that incorporate health and health equity (e.g. the Organisation for Economic Cooperation and Development, WHO, Eurostat, the United Nations Economic and Social Council and the EC) should be enhanced and made more transparent and accessible. Easily accessible databases should be established within and between agencies to allow maximum possible knowledge transfers. The role of international non-governmental networks such as the EU Health Policy Forum, the EU Social Platform, as well as Consumer, Environment and Development platforms should be recognised and supported in gathering and disseminating wide ranging stakeholder-based information relating to economic analyses.

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Appendix I:

Glossary of frequently used terms

Social determinants of health (SDH)

Health is determined by many factors outside the reach of the healthcare sector. The term social determinants of health (SDH) is used to highlight that the social conditions in which people live affect their health. As economic and environmental conditions are often closely linked with social conditions these may also be included in a broader interpretation of the term.

Health inequalities

Health inequalities refer to the variation in health experienced by different groups within a population.

Social determinant of health inequalities (SDHI)

A social determinant of health inequalities (SDHI) perspective combines the two concepts in order to emphasise the role of social conditions in people's different rates of health and illness.

Health in all Policies (HiaP)

A Health in all Policies (HiaP) approach promotes the role of sectors outside of health in taking health and wellbeing of citizens into account in their policies. It uses the SDH concept as a rationale for this approach.

Economic evaluation

Economic evaluation compares the costs and consequences of alternative courses of action.

Appendix 2: Task timeline & questionnaire

Timeline

Date	What	How	Where
May 2008	Scoping	Workshop	Consortium Meeting, Ljubljana
Jun-Jul 2008	Gathering information:	Literature review and contact with key informants	Desk based
Aug 2008	Discussion and agreement of issues	Workshop	Working Meeting, London
Sept 2008 - Feb 2009	Gathering information	Guidance document sent to all partners	Desk based/ Meetings
Mar-Apr 2009	Analysis	Reviewing partner responses and literature	Desk based
May 2009	Presenting draft findings	Agenda item and general discussion	Consortium Meeting, Prague
Jun-Nov 2009	Working paper	Reviewing and finalising paper	Desk based

Questionnaire

Questions one to three seek particular examples of where economic analyses have been conducted. The first question is broad and seeks examples which may not necessarily acknowledge health impacts in the analysis. The second and third questions seek examples which explicitly acknowledge impacts on health (question 2) and health inequalities (question 3). The remaining questions are intended to explore some of the background and arguments for using economic analyses to strengthen the case for action on the social determinants of health and health inequalities.

1. Are economic analyses used in relation to policies that address social determinants of health in your country, such as transport policy, agriculture policy, housing policy and so on? Please provide information on as many examples as possible.
2. Have you found evidence of attempts to analyse in economic terms the **health impacts** of policies that address social determinants of health? Please provide information on as many examples as possible.
3. Have you found evidence of attempts to analyse in economic terms the **impact on health inequalities** of policies that address social determinants of health? Please provide information on as many examples as possible.
4. What economic arguments are used for policies addressing the social determinants of health and health inequalities in your country? Please give examples as to how these arguments are articulated.
5. Who or what organisations or sectors are driving such arguments?
6. Who or what organisations or sectors are such arguments intended for?
7. If there is no or limited debate around economic arguments for such policies, please comment on why you think this may be the case
8. What economic arguments might attract and engage policy sectors outside of health to develop joint initiatives on health and/ or health inequalities?