

PARALLEL SESSION 5

Friday 12 October, 16:00–17:30

5.1. Workshop: Public health economics of universal strategies to promote health and prevent disease

Chair: Dr G Henriksson*

Organiser: Maarten J Postma, president of the EUPHA section on Public Health Economics

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In this workshop we intend to present the broad spectrum of public health economics for various aspects of promoting health and preventing disease. This broad spectrum will be illustrated for topics in health promotion (smoking and physical activity), food fortification and vaccination.

Cost-effectiveness and equity issues in interventions on promotion of physical activity

Lars Hagberg

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Physical activity creates health benefits and society makes large contributions in order to promote physical activity within the population. However, the cost-effectiveness and equity-in-health effect of these efforts is seldom evaluated. A model for economic evaluation of community-promoted physical activity has been constructed based on referenced works on the health effects of physical activity, standard methods of economic evaluation and targets for equity-in-health. A cost-effectiveness analysis of community-promoted physical activity is possible, but adequate knowledge of the components of cost-effectiveness and equity-in-health-effect are still limited. The most important determinants of cost-effectiveness may be adherence to new habits, the experience and value of time spent on physical activity and selection of the target-group.

Indirect and direct costs of smoking in Germany and resulting effects on tobacco prevention programs

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Purpose

To estimate disease related productivity costs and direct health care costs attributable to smoking in 2005 in Germany and to discuss effects on tobacco prevention programmes in schools.

Methods

Calculation of the direct and indirect costs was based on recent data for relative smoking related disease risks found in the US-Cancer Prevention Study II combined with age specific smoking prevalence for Germany. The human capital approach was applied to calculate years of potential work loss and productivity costs as a result of smoking. Within a top-down-approach based on the federal German Health-Costs-Report 2004 direct costs of smoking were estimated. Additionally, a literature search evaluating the cost-effectiveness of German smoking-prevention school programmes was conducted.

Results

Based on the assumptions within the analytical model, 107 389 deaths, 14 112 invalidity cases and 1.19 million cases of temporal disability to work were found to be due to smoking

in 2005 in Germany, respectively. As a result, productivity costs of about €10 billion and direct costs of about €7 billion were caused by smoking. In the literature search, one smoking-prevention school programme in Germany was identified which was analysed in detail with respect to cost-effectiveness. Based on the assumptions within that model, the author drew the conclusion that such programmes are highly likely to be cost-effective.

Conclusions

The analytical model showed that smoking has a strong financial effect on the economy; still, the overall impact of smoking on Germany's economy is not completely covered, since not relevant costs may be considered within this study. Further research is necessary to estimate the overall impact of smoking in Germany as well as the continuous effect of tobacco prevention programmes.

Economic evaluation of folic acid food fortification in The Netherlands

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Background

Folic acid intake before and during pregnancy has been proven to reduce Neural Tube Defects (NTD). Several countries therefore enrich bulk food with folic acid. Folic acid food fortification has shown to result in a 26–48% decrease in the prevalence of NTDs. The Dutch Health Council still advised against folic acid food fortification in 2000, in the absence however of formal cost-effectiveness information. Our study was designed to estimate cost-effectiveness and cost-utility of folic acid food fortification in The Netherlands.

Method

Prevalence of NTD at birth, life-time costs of care and folic acid fortification costs were estimated using Dutch registrations, Dutch guidelines for costing, (inter)national literature and expert opinions. Cost-effectiveness and cost-utility was expressed in net cost per discounted life year gained and net cost per discounted quality adjusted life year (QALY) gained, respectively and was estimated in a base case and in sensitivity analysis.

Results

In the base case and most sensitivity analyses folic acid food fortification was estimated to be cost-saving. Bulk food fortification with folic acid remains cost-effective as long as enrichment costs do not exceed €5.5 million (threshold at €20 000 per QALY).

Discussion & Conclusion

Our model suggests that folic acid fortification of bulk food to prevent cases of NTD in newborns might well be a cost-saving intervention in the Netherlands. Additionally, besides effects of folic acid in reducing the number of NTDs, there are indications for folic acid to be associated with the aversion of other birth defects, cardiovascular diseases and cancer. However, awaiting further evidence on these beneficial effects were not yet included in our model.

Comparing the cost-effectiveness of risk-based and universal hepatitis B vaccination strategies in a low-endemic country

Ardine de Wit

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Background

Most countries have included hepatitis B (HBV) vaccines in their national immunization programmes, but the Netherlands so far has chosen for a risk-based vaccination policy. The aim of the present study was to compare the cost-effectiveness of those risk-based strategies with universal vaccination of newborns or adolescents (12-year olds).

Methods

A dynamic model to estimate future incidence of HBV in the population was developed. This model describes horizontal, vertical and sexual transmission of HBV. Also, an age-specific economic model estimating direct health care costs, life years lost from HBV infection and quality of life consequences of HBV infection was constructed. For universal

strategies, costs were estimated assuming a 90% uptake of the vaccination and realistic vaccine prices. For each universal vaccination strategy, incremental costs and effects compared to existing policies were compared. Costs were discounted at 4%, effects at 1.5%.

Results

Universal vaccination of newborns in addition to the current risk-based policies is expected to be relatively cost-effective, with ratios between €3800 and €8700 per QALY. The adolescent vaccination strategy is more effective than the newborn vaccination strategy over a 50 year period of analysis. Whether it is more cost-effective depends on the costs of developing a new infrastructure to vaccinate adolescents (as the Netherlands at present do not vaccinate adolescents). Only when those costs are as low as €1.5 million annually, the cost-effectiveness of adolescent vaccination is more attractive than that of newborn vaccination.

Conclusions

Adding newborn vaccination to the current risk-based strategy is relatively cost-effective. The cost-effectiveness of adolescent vaccination depends on the operational costs of vaccination, but it is unlikely to be more cost-effective than newborn vaccination.

5.2. Workshop: Health systems impact assessment—development and application

Chairs: Nick Fahy¹, Matthias Wismar^{2*}

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This workshop will present the development, the tools and the experiences of the first application of the health systems impact assessment on the European level.

The policies of the European Union (EU) have impacts on health systems. This became most visible in the course of two seminal European Court of Justice (ECJ) cases (the so called Kohll/Decker cases of 1998) on the applicability of the free movement of goods and services to healthcare. Since then a string of court cases, based on the free movement of services has stirred concerns among Member States about the impact of the internal market on health systems.

The free movement of services is not the only policy with a potential to impact on health systems. There are 21 policies in the Treaty Establishing the European Community and some of them have already caused impacts in the past or are likely to produce some in the future. The actual and potential impacts on health systems of most of these policies, however, are underresearched.

In the framework of the high level group on health systems and medical care, Member States have pressed ahead with developing a methodology for health systems impact assessment. The aim was to integrate this methodology into the European Commission's internal impact assessment. Tools (health systems model, impact cube, policy assessment) were jointly developed by the Commission and the Observatory. The Council acknowledged these developments and the tools were applied for the first time in the course of the health services initiative.

Developing a methodology for health systems impact assessment is an innovative practice. Some Member States follow this development closely in order to see if the methodology could be used in their countries.

The development of the tools for health systems impact assessment

Claire Siddall

C Siddall

Health & Consumer Protection Directorate-General, European Commission

Issue/problem

Developing a suitable tool for the health systems impact assessment to be integrated in the internal Commissions' impact assessment.

Description of the problem

All major Commission proposals are subject to an internal impact assessment which shall ensure the effectiveness, feasibility and consistency of all EU legislation. Health and health systems are generally covered by this procedure. However, given the complexity of healthcare systems it can not be taken for granted that a desk officer from a non-health related Directorate General in charge of the impact assessment can easily relate to health systems' issues. The aim was to provide simple tools, integrated in the general impact assessment that help (a) raising awareness for the mechanism by which the pending proposal may produce impacts on health systems; (b) highlighting past impacts on health systems caused by the implementation of the policy; (c) specifying the relevance and magnitude of impacts. To this end, specific tools (health system model, impact cube, policy assessment, web-page) were developed in close liaison with the Member States and the experts in the field. The draft tools were also discussed with desk officers of non-health Directorate Generals in charge of impact assessment.