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DYNAMO-HIA

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Welcome to the 2007/2008 Annual DYNAMO-HIA Newsletter

Welcome to the 2007/2008 issue of the annual newsletter of DYNAMO-HIA. The purpose of this newsletter is to inform policy makers, staff members, and researchers throughout Europe and beyond about the DYNAMO-HIA project. This first newsletter introduces DYNAMO-HIA and describes the achievements during the first year of the project (2007/2008).

Aims of the project

The DYNAMO-HIA project will develop and build an instrument to quantify the health impact of changes in health determinants as a result of different policies and applies it to selected life-style related health-determinants and resulting diseases across EU countries. The instrument, a dynamic model called DYNAMO-HIA, will be generic (adaptable to various health determinants and outcomes relevant for the policy in question), applicable throughout the EU, and made publicly available. Where possible, it will be based on existing instruments. The specific objectives of the project are:

1. To develop and implement a stand-alone software tool (DYNAMO-HIA) to estimate the health impact of policies by comparing the population health impact of one or more policy interventions with a baseline scenario. This tool translates changes in health determinants into changes in population health.
2. To compile and make publicly available data sets (consistent across EU countries) on a few example health determinants/risk factors (smoking, obesity, and alcohol consumption) and their effects on four example diseases (cancer, cardio vascular disease (CVD), diabetes, and chronic obstructive pulmonary disease (COPD)).
3. To illustrate the tool by assessing the health effects of several health-relevant policy options with regard to these health determinants.

Coming meetings

5th Steering group web meeting October 7, 2008, Rotterdam, the Netherlands

Participants: all Work package leaders + coordinating team EMC-RIVM

Topic: Pilot data for the Netherlands

Coming presentations

Stefan Lhachimi: *DYNAMO-HIA a tool for the quantification of health impact of policies* accepted for presentation on 9th **International Health Impact Assessment Conference**, 9-10th October 2008 - Liverpool, UK.

Proposal for model specification

During the first year a draft report on the model specification was written and discussed at the first expert meeting on May 23, 2008, attended by 34 experts in the fields of HIA, epidemiology and/or modeling. Here we briefly summarize the approach and main characteristics of the model specification of DYNAMO-HIA. The model specification document is available upon request.

Approach

The DYNAMO-HIA tool has to strike a balance between being (1) a sufficiently realistic formal model, (2) user friendly, and (3) able to accommodate commonly available epidemiological data to ensure wide applicability. To reconcile these multiple targets, we developed a set of desiderata and constraints to evaluate existing models and guide the development of the new tool. Hence, the specification process was based on existing models and focused on synthesizing already established features.

Features of the DYNAMO-HIA tool

- DYNAMO-HIA will be a dynamic simulation model with discrete time steps in 1-year intervals.
- DYNAMO-HIA will feature a general disease model (allowing to model multiple chronic diseases) and is based on a multi-state modeling approach.

- The tool models explicit risk factor states and hence allows for mortality selection.
- Risk factors can come in three different forms: continuous, in classes (up to 9 categories), and in classes where duration of class membership is important. Apart from health determinants, diseases can be risk factors for other diseases.
- The model is envisioned to accommodate up to three different types of disease process: (1) chronic diseases, (2) partly acutely fatal diseases, and (3) diseases where the excess mortality depends on the duration of the disease.
- The model will mainly need standard epidemiological data such as disease incidence, prevalence, mortality, and relative risk (by sex and age).
- The user will define the policy-induced change in risk factor prevalence or risk factor transition rates. The step from epidemiological data to transition rates of the model is included. Several population based health outcome measures (such as life expectancy or DALE) will be readily available to quantify the difference between the reference and the different policy scenarios.

Work Packages

The DYNAMO-HIA consists of 11 work packages:

1. Coordination of Project: *Johan Mackenbach, Wilma Nusselder, Jet Smit*
2. Dissemination of the Results: *Jet Smit*
3. Evaluation of the Project: *Johan Mackenbach*
4. Model Specification: *Wilma Nusselder, Stefan Lhachimi*
5. Construction of Software Tool: *Hendriek Boshuizen, Sido Mylius, Pieter van Baal*
6. Smoking: *Estevez Fernandez Munoz*
7. Overweigh/Obesity: *Tim Lobstein, Rachel Jackson-Leach, Philip James*
8. Alcohol: *Martin McKee, Joceline Pomerleau, Kate Charlesworth*
9. CVD and diabetes: *Kathleen Bennett, Simon Capewell, Julia Critchley, Bernie McGowan*
10. Cancer: *Andrea Micheli, Paolo Baili, Camilla Amati, Ilaria Casella, Natalia Sanz*
11. Definition of Scenarios: *Wilma Nusselder, Stefan Lhachimi*

Meetings in the first year

1st Steering group meeting: November 2, 2007, Rotterdam, the Netherlands. Participants: all Work package leaders + coordinating team EMC-RIVM. Topic: kick-off meeting.

2nd Steering group meeting December, 13, 2007, web-meeting. Participants: all Work package leaders + coordinating team EMC-RIVM. Topic: Data guidelines + measuring mortality in DYNAMO.

3th Steering group meeting March 12, 2008, web-meeting. Participants: all Work package leaders + coordinating team EMC-RIVM. Topic: Model specification.

4th Steering group meeting May 22, 2008, Rotterdam, the Netherlands. Participants: all Work package leaders + coordinating team EMC-RIVM. Topic: Model specification + selection of cancer sites + data+ input formats.

1st Expert meeting May 23, 2008, Rotterdam, the Netherlands. Topic: model specification. Audience: 34 participants from 19 countries being experts in the field of health modeling, HIA, and epidemiology.