

DECiPHEr

Model and VET

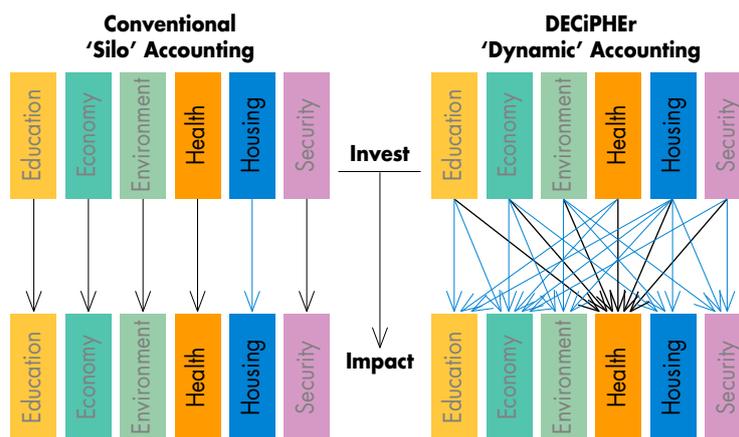
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1. Rationale

The aim of DECiPHEr is to produce a tool and training package for European municipalities which helps decision-makers optimise the mix of citywide programmes and investments to maximise public health impacts. The training package (VET in EU Leonardo language) depends on a cost-benefit model, initially focusing on Coronary Heart Disease (CHD). This report summarises the model (developed by the team from Sheffield Hallam University) and links it concretely to a proposed VET.

Figure 1: Domains



est in Finland, lowest in England) it is clear that local politicians and professionals are key decision-makers across a range of domains.

Too often in European cities, professionals and politicians operate in departmental 'silos.' In contrast all the DECiPHEr partner cities are 'Healthy Cities' and take a 'dynamic' approach which links health benefits to investments by many sectors. This is exemplified by their City Health Development Plans (CHDPs), a requirement of

Phases II, III and IV of the World Health Organization (WHO) European Healthy Cities Network. Excellent examples of CHDPs are the *Plan for Sustainable Development in Helsingborg 2008*,³ the *Udine City Health Development Plan*⁴ and the *Turku Strategy*.⁵

2. City Decision-Makers

Fundamental to DECiPHEr is the proposition that city governments and their inter-sectoral partners are key agents for developing health.^{1 2} Municipalities have many powers and responsibilities with a framework determined by central government. The four partner cities summarise these in **annex 1**. Though the extent of municipal power varies (high-

3. Domains

In order to develop the DECiPHEr model, partner cities have selected six domains in which municipal decision-makers influence the determinants of health, specifically CHD. Figure 1 summarises these domains.

¹ Green G. (1998) Health and governance in European cities: a compendium of trends and responsibilities for public health in 46 member states of the WHO European Region. WHO Regional Office for Europe. Copenhagen.

² Green G. & Tsouros A. (2008) *City leadership for health: a summary evaluation of Phase IV of the European Healthy Cities Network*. WHO Regional Office for Europe. Copenhagen.

³ Department for Sustainable Development/Municipal Executive Committee (2008) *Plan for Sustainable Development in Helsingborg*. City of Helsingborg, Sweden.

⁴ Centro Studi e Formazione Social. (2003) *Udine City Health Development Plan*. City of Udine.

⁵ Turku Strategy 2005-2008 (2005) City of Turku.

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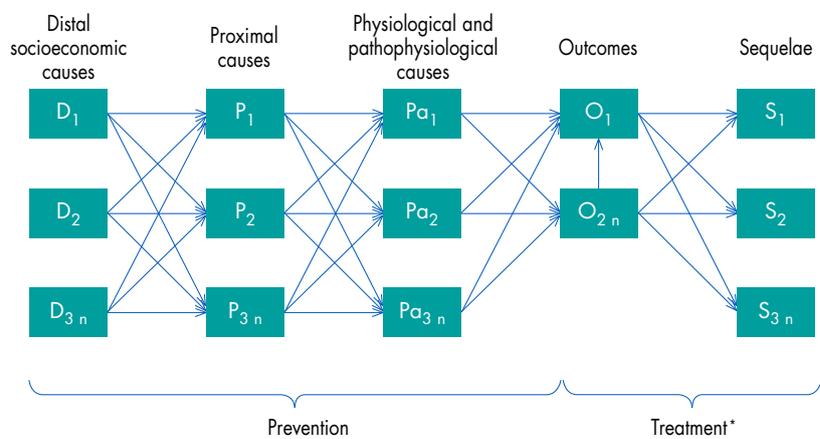
The term ‘accounting’ anticipates the DECiPHEr cost-benefit tool which will help decision-makers prioritise cost-effective investment programmes.

They were selected for three reasons. (a) Six is a manageable number given time and resource constraints. (b) The domains are selected from the familiar social model of health developed by Dalgren and Whitehead and their salience as *determinants* highlighted in WHO Solid Facts publication on the Social Determinants of Health.⁶ (c) Municipalities have influence (and often a constitutional/legal *competence*) over these domains, either by (i) providing a strategic framework for city development (ii) directly providing services and investment from the municipal budget (iii) purchasing services from contracting agencies, or (iv) influencing the investment programmes and services of *partner* agencies.

4. Model Development

Our model builds on the causal chains identified by the World Health Report published by WHO in 2002.⁷ Figure 2.2 in the WHO report is reproduced here as figure 2. It schematically charts the influence of distal ‘structural’ socioeconomic factors on proximal ‘lifestyles’ and then physiological and pathophysiological causes of disease. Both

Figure 2: Causal chains of exposure leading to disease



* Treatment of infectious disease can lead to prevention of further cases if it interrupts transmission.

An example:
Distal socioeconomic causes include income, education and occupation, all of which affect levels of proximal factors such as inactivity, diet, tobacco use and alcohol intake; these interact with physiological and pathophysiological causes, such as blood pressure, cholesterol levels and glucose metabolism, to cause cardiovascular disease such as stroke or coronary heart disease. The sequelae include death and disability, such as angina and hemiplegia.

structural factors and behaviour are identified by Helsingborg’s CHDP as influences on public health. Our model combines them; identifying how structural measures can, in the words of the WHO global strategy on diet and exercise, ‘make the healthy choice the easy choice.’⁸

Our model (figure 3) adds a number of elements to the WHO model. *First* we focus heuristically on CHD as the biggest cause of death in partner cities. (Later the model will expand to cover many aspects of health and well-being). *Second* we identify the 6 domains where city decision – makers have a significant influence and where structural

⁶ Richard Wilkinson & Michael Marmot (eds) *Social Determinants of Health: The Solid Facts* (2nd edition, 2003) WHO Regional Office for Europe. Copenhagen.

⁷ *The World Health Report 2002: Reducing Risks, Promoting Healthy Life.* (2002) WHO. Geneva.

⁸ *Global Strategy on Diet, Physical Activity and Health.* (Document WHA57, 2004) WHO. Geneva.

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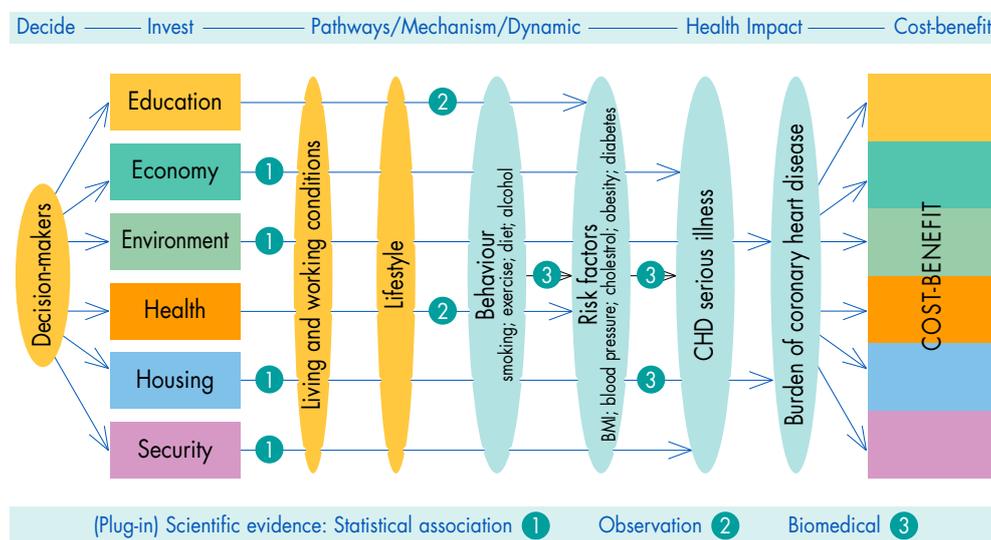
measures will probably have a significant influence on CHD. *Third*, we elaborate the intermediate points along the causal pathways which connect decisions in the 6 domains to the burden of coronary heart disease. *Fourth*, we include cost-benefit analysis and estimates. Intensive work on this aspect will be undertaken by the SHU team in the second half of 2009 in order to develop the DECiPHEr tool.

Fifth, we have 'plugged in' or 'triangulated' different forms of scientific evidence to elaborate the causal pathways from domains to

impacts. Key evidence in each of the six domains is summarised in Annex 2. Evidence may span all points in a pathway, for example linking housing conditions to the burden of CHD, or it may link intermediate conditions such as diet and diabetes.

Evidence is secured by different methods. It may be simple observation [type (2) in figure 3] for example that a 'Healthy Schools' initiative changes the diet of school children. It can be of links uncovered by statistical analysis, type (1). The 'Whitehall Study' is a classic exam-

Figure 3: DECiPHEr model: City Investment for Health



ple of experimental design, where Michael Marmot and colleagues linked the socio-economic gradient of British civil servants to the later prevalence of CHD. Others, like Chaix, linked pre-existing datasets of the Swedish population to make connections between neighbourhood characteristics and heart attacks. Bio-medical evidence, type (3), is also deployed to link behaviour to risk factors and risk factors to CHD. For example James Goodwin reviews evidence of how living in cold conditions reduces blood circulation and helps explain the large number

of winter deaths in England from CHD.

Over time the model will be refined as more evidence becomes available, especially about the scale of impacts. Just as weather forecasts have become more sophisticated over the past 20 years, leading to more accurate predictions, so our model will become more predictive as new scientific evidence is added.

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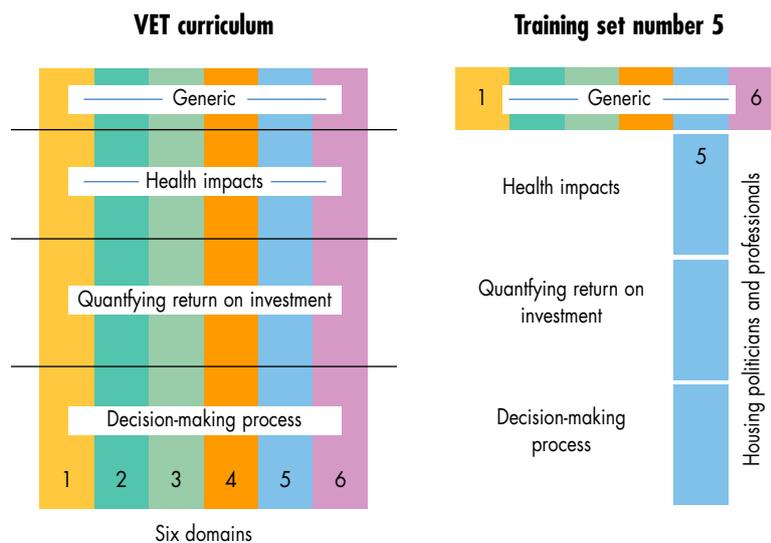
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5. Vocational and Educational Training

The task for the second DECiPHEr Phase is to pilot and produce a training package for city decision-makers. The realpolitik is that our model is very complex and is not easily accessible to politicians and professionals. The DECiPHEr tool should be accessible and easily understood. We envisage that VET material will be produced so that politicians will be sensitised to its value and professionals will use it.

The tool is a final product of the DECiPHEr project. It will not be finalised until 2010 in Phase 5. For Phase 2 we envisage that both Udine and Sheffield will work with the SHU team to develop a curriculum linked closely to the model. We envisage 4 components, shown horizontally in figure 4.

Figure 4: Training



First is a generic introduction to the whole DECiPHEr approach, sensitising politicians and professionals to the value of a harder edge to CHDPs. *Second* is an elaboration of pathways and health impacts based on scientific evidence (Annex 2). *Third* is a review of the decisions which impact on CHD and of the decision-making process (Annex 1). *Fourth*, probably a focus for later iterations of the VET package, is quantifying return on investment.

Figure 4 follows the first of the options proposed in the paper by the City of Sheffield. (Annex 3); organising the curriculum around each of the six domains. Professionals and politicians responsible for decisions in each domain might form a training set. A training set for Housing is illustrated, with participants first sensitised to the generic DECiPHEr approach, then focusing on the health impacts of their decisions. Then they could consider alternative investments to maximise public health impacts, and finally consider the barriers and opportunities for making better decisions.



LEONARDO DA VINCI
Transfer of Innovation

Developing An Evidence-Based Approach To City Level Public Health Planning & Investment In Europe (DECiPHEr)