

Modelling the results of health promotion activities in Switzerland: development of the Swiss Model for Outcome Classification in Health Promotion and Prevention

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SUMMARY

This paper describes the Model for Outcome Classification in Health Promotion and Prevention adopted by Health Promotion Switzerland (SMOC, Swiss Model for Outcome Classification) and the process of its development. The context and method of model development, and the aim and objectives of the model are outlined. Preliminary experience with application of the

model in evaluation planning and situation analysis is reported. On the basis of an extensive literature search, the model is situated within the wider international context of similar efforts to meet the challenge of developing tools to assess systematically the activities of health promotion and prevention.

Key words: health outcome model; evaluation; health promotion; measurement

INTRODUCTION

Clearly, the need for an evaluation tool that takes account of the complexity and long-term nature of health-promotion activity, while rendering such activity accountable in an evidence-based world, is widely felt. The 'evidence debate' (McQueen, 2001, 2003) has given rise to a rich literature. Authors have challenged the extension into public health and political decision-making of the hierarchy of quality established in clinical evidence-based medicine (Rychetnik *et al.*, 2002b; O'Neill, 2003; Goldenberg, 2006; Irwig *et al.*, 2006; Kemm,

2006; Lambert *et al.*, 2006), this being of limited relevance to the complex social situations at issue in health promotion (Tones, 2000). The complexity of evaluation in health promotion is widely acknowledged and has received considerable attention (Green and Lewis, 1986; Tones *et al.*, 1991; Hepworth, 1997; Macdonald, 1997; Speller and Learmonth, 1997; Ziglio, 1997; Nutbeam, 1998; Briss *et al.*, 2000; Learmonth and Mackie, 2000; Raphael, 2000; Rychetnik *et al.*, 2002a; Dooris, 2005). A noteworthy contribution to clarifying the issues involved has been made by the WHO European Working Group on Health Promotion Evaluation

(Rootman *et al.*, 2001) and by the International Union for Health Promotion and Education (European Commission, 1999; IUHPE, 2004, 2005). Aside from international collaborations, a number of countries and geographic regions have invested considerable effort in establishing working frameworks to standardise and improve evaluation (King, 1996; Glasgow and Vogt, 1999; Reed *et al.*, 2000; Watson and Wimbush, 2000; Kahan and Goodstadt, 2001; Thurston *et al.*, 2003; Saan and de Haes, 2005).

This paper documents attempts in Switzerland over the past 4 years to develop a tool intended to facilitate, improve and render more coherent the evaluation and planning of projects in health promotion: the Swiss Model for Outcome Classification in Health Promotion and Prevention (hereafter referred to as SMOG or Swiss Outcome Model) (Cloetta *et al.*, 2004, 2005) (<http://www.promotionsante.ch/en/knowhow/tools/model.asp>). In so doing, the tool is situated within the broader epistemological context.

CONTEXT AND MANDATE FOR MODEL DEVELOPMENT IN SWITZERLAND

Any evaluation tool destined for use at the national level in Switzerland must be understood within the context of the country's federal system (Knoepfel and Bussmann, 1998), which generates considerable heterogeneity and diversity despite the low population size (7.5 million). Citizens enjoy direct democratic rights; political and administrative responsibilities are shared between the Confederation and the 26 cantons (equivalent to a state in the USA, Australia or Germany). Taxation, education and health, for example, come under cantonal authority. There are four national languages (German, French, Italian and Romansch). Health costs are managed through a system of 92 health insurance companies (Liste des assureurs-maladie admis. Bundesamt für Gesundheit. 25.01.2007, <http://www.bag.admin.ch/themen/krankenversicherung/00261/index.html?lang=fr>).

Health Promotion Switzerland is a foundation, financed via a levy of 2.40 CHF (=1.5€) per health-insured person, and established by the Swiss cantons and health insurance companies to initiate, coordinate and evaluate policies to promote health—Art. 19/20, Federal Health Insurance Act (Die Bundesversammlung der

Schweizerischen Eidgenossenschaft, 2006). Improving evaluation and quality assurance at all levels is a major priority.

The Swiss Model for Outcome Classification is the result of several years of collaboration between Health Promotion Switzerland and the Institutes for Social and Preventive Medicine in Bern and Lausanne. From the outset, the model was intended:

- to be applied globally, i.e. used whatever the particular approach and content of a health promotion/disease prevention project,
- to supply a 'common language' to improve communication between stakeholders,
- to give an overview of the activities of funded projects, since each could be 'plotted' in the different categories and sub-categories and
- to assist project leaders and evaluators in formulating and assessing clear objectives and outcome indicators.

STRUCTURE AND DESCRIPTION OF THE MODEL

As illustrated in Figure 1, the model presents as 16 categories structured over four levels moving from left (A) to right (D):

- (A) health-promotion measures,
- (B) factors influencing health determinants,
- (C) health determinants and
- (D) health status of the population.

Both levels (A) and (B) are additionally structured according to four focal domains in health promotion: infrastructures and services for health promotion and prevention; formal organisations, structures and networks (such as political, legal and administrative systems and commercial organisations); informal structures, such as associations and groups in the community; and individuals. The model essentially embraces all concepts of the Ottawa Charter (<http://www.euro.who.int/AboutWHO/Policy/20010827>), but these are not necessarily structured in the same manner.

Level (A) is classified into four main approaches.

- (A1) development of health-promoting services,
- (A2) advocacy; networking organisations,
- (A3) social mobilisation and
- (A4) development of individual skills.

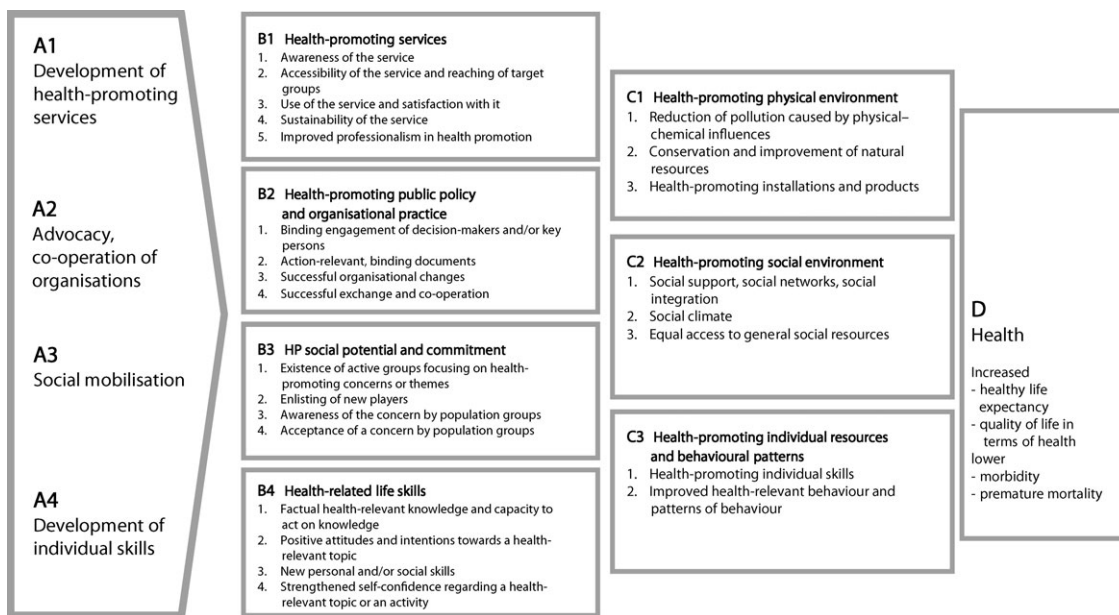


Fig. 1: Overview of the Swiss Model for Outcome Classification in Health Promotion and Prevention (SMOC).

Health-promotion measures A1 to A4 are intended to have results situated at level B, these being, the establishment of:

- (B1) health-promoting services and provisions,
- (B2) health-promoting public policy and organisational practice,
- (B3) health-promoting social potential and commitment and
- (B4) individual health-related life skills.

These results, B1–B4, are, in turn, destined to have an impact on the determinants of health (C), classified in the model into three separate categories:

- (C1) health-promoting physical environment,
- (C2) health-promoting social environment and
- (C3) health-promoting individual resources and behavioural patterns.

Finally, these determinants of health, C1–C3, exert a positive influence on health (D), as expressed in increased healthy life expectancy and increased quality of life, or in lower rates of morbidity or of premature mortality.

The above explanation being somewhat simplified for the purposes of clarity, it is emphasised that although the model implicitly implies a chain of effects, actions at level A being intended to have an impact at level B, B on C,

and ultimately C on D, no absolute linear understanding of causality is intended here. The hypothesised chain of multiple effects is essentially horizontal, but may include vertical movements, particularly at level B. For this reason, no arrows are depicted in the model: it is acknowledged that pathways to the achievement of health are multiple and rarely linear, and therefore cannot be pre-ordained. When the model is applied, the project or programme designers define the movement of arrows according to available data combined with their conception of intended effects.

Each category of results at levels B and C has a set of pre-defined sub-categories, as indicated in Figure 1. Hence, the existence of a health-promoting service (cf. category B1) is not a result in itself unless it can be shown that (1) potential users are aware of its existence, (2) it is accessible to the intended target groups, (3) the service is made use of and the users satisfied, (4) it is sustainable and (5) the quality of service provision is to a high standard. The purpose of developing sub-categories was to provide a means of facilitating the formulation of indicators.

Obviously, no one project or programme aims to act on all factors that determine health. The SMOC aims to help programme and project designers in determining their own

particular objectives and the measures they adopt to achieving these. Since the model is intended as comprehensive, even when focussing on only one given project, the complexity of health determinants remains acknowledged through the continuing graphic presence of the categories that are not selected.

Concepts central to health promotion such as empowerment (Hubley, 2002; Wallenstein, 2006), participation (Bracht and Tsouros, 1990), health literacy (Nutbeam, 2000; Kickbusch, 2002) and lifestyle (Abel, 1999) do not appear explicitly within categories in this model since they are cross-sectional in nature and cannot be assigned unambiguously to any one outcome category of the model. For example, empowerment and participation may designate not only the outcome of an intervention, but also a guiding principle in the conception of an intervention. In this sense, they may be included as the measures in A or as outcomes in B. Similarly, health literacy may be attributed to B4 or B3, and lifestyle to C2 and C3.

SMOC DEVELOPMENT PROCESS

Model development first began towards the end of 2002. Originally inspired by the work of Nutbeam (2000), the model retains his

four-level concept of movement from activity to outcome. In Nutbeam's model, these are presented vertically, and are specified as: health and social outcomes, intermediate health outcomes (modifiable determinants of health), health-promotion outcomes (intervention impact measures), health-promotion actions. The SMOC continues to adopt the system of classifying results into different pre-defined categories (Figure 1), but differs in a number of ways: the titles and content of the categories have been changed, and new ones have been added (e.g. the inclusion of an approach related to health-promoting services); each category is sub-divided into, and therefore specified through, a small number of sub-categories; the four levels are presented horizontally, moving from actions, on the left, to final outcomes, on the right. Additionally, a detailed guide-to-use accompanies the model, providing specific examples of the way in which indicators may be formulated from each of the sub-categories. In this way, the model becomes a tool.

Figure 2 charts SMOC development through three main phases: model construction, feasibility testing and dissemination. The method of model construction was essentially reiterative: categories were proposed, and subjected to consideration on the grounds of theoretical coherence and pertinence. The latter was assessed on

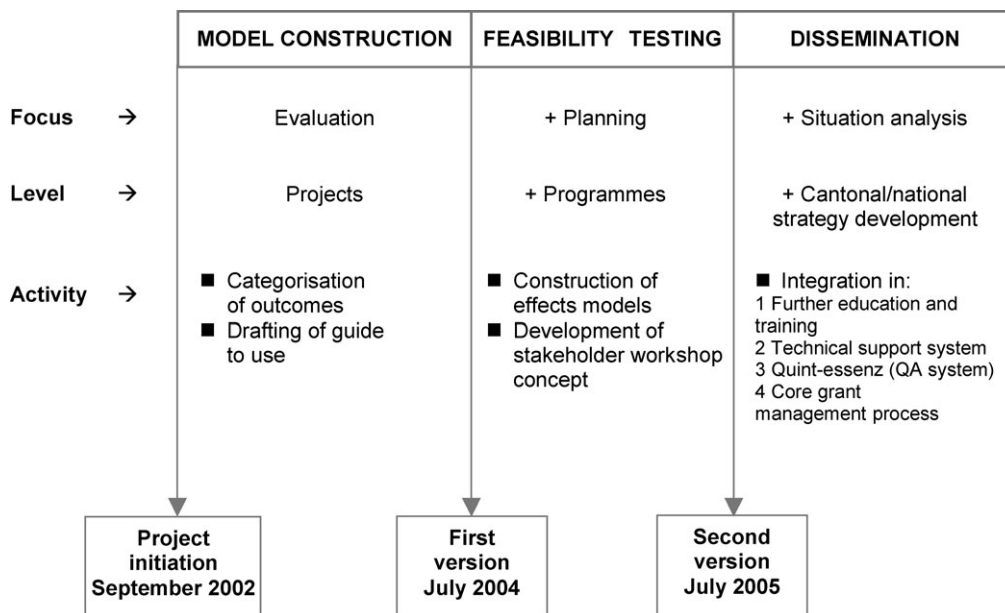


Fig. 2: Calendar of the SMOC development process.

the basis of the collective experience of the authors and by applying the model to a series of existing projects. Originally devised in German, its subsequent translation into French, English and Italian led to modification for the purposes of conceptual harmonisation over all languages. Translation served to highlight conceptual ambiguity and increased the precision of the tool.

The first version was applied in around 20 different health-promotion projects and programmes and in training workshops for health-promotion professionals. Feedback data on ease and appropriateness of use of the model resulted in the production of a revised second edition published on the Foundation's Web site a year later. As illustrated in Figure 2, the SMOC was initially intended for project evaluation, but the possibility for wider use became progressively apparent once the model was applied to concrete examples. For example, one important feedback from the feasibility testing was that the tool proved useful for situation analysis and planning prior to project development. These functions were then incorporated into the basic concept. Similarly, it became apparent that it could be used not only for individual projects, but also in the case of programmes combining a number of projects (Bury *et al.*, 2005) and even in the development of health-promotion or -prevention strategies at cantonal or national level (Spencer *et al.*, 2006). The model is not designed to be used by a project manager or evaluator alone, but is intended for collective use, such as by the entire project team or by key team members together with evaluators. Moreover, the collective determination of a project's model of effects (also described variously in evaluation as theory of action or programme logic) is itself a key part of the process. The exercise of confronting opinions and understandings renders explicit assumptions remaining hitherto implicit. This provides clarification for both individual members and the team collectively and facilitates the production of transparent objectives.

The dissemination phase began towards July 2005. To some extent, dissemination began beforehand, notably through availability on Health Promotion Switzerland's Web site and through the Swiss Health Promotion National Conference in January 2005 (Ackermann and Spencer, 2005). The dissemination phase is, however, characterised by wider use and by

institutionalisation of the SMOC, thanks to its integration in further education and training curricula in the field of health promotion and public health throughout Switzerland. In Switzerland, the SMOC is included in Masters programmes (MPH, MAS) in six different universities. Additionally, the model is now an integral part of the Health Promotion Switzerland funding process and is linked with the organisation's quality assurance tool Quint-essenz (<http://www.quint-essenz.ch/fr/>). Table 1 presents some of the first applications of the model illustrating the level of use (project, programme or strategy), purpose and location. First intended for internal project evaluation, it became apparent that, in certain circumstances, the SMOC could also prove useful for external evaluations. One such example is its use as part of the evaluation of the programme 'Suisse Balance', designed to promote healthy body-weight through the promotion of healthy eating and physical activity (Bury *et al.*, 2005).

Application of the SMOC may be illustrated by the development of the strategies on alcohol and tobacco in the canton of Geneva, implemented by the Department of the Economy and Health. In each case, authors of the model worked with the principal stakeholders (Health Authority, the NGO mandated for prevention of harm related to alcohol and to tobacco, respectively) to (1) conduct a situation analysis of alcohol- or tobacco-related problems in the canton; (2) specify the revised cantonal strategy and, in consequence, the major goals for the next mandate; (3) develop a theory of action in which current and planned activities were discussed in relation to the major goals and the hypothesised means (levels B and C) to achieving them; (4) establish the programme of activities for the coming years, the priorities in relation to each goal over the coming year and the indicators by which their achievement was to be assessed. Negotiation took place in workshops in which activities, and results at levels B, C and D, were written and physically arranged on a poster-size version of the model. The process was reiterative and continued until satisfaction of all stakeholders was achieved. The exercise brought about considerable clarification of implicit values and motivation and was perceived as highly useful and effective by the stakeholders involved. The next stage will be evaluation of the two programmes using the defined indicators.

Table 1: Initial applications of the SMOC

Title	Organisation responsible	Level	Themes	Purpose
Early detection of depression and suicidal behaviour in young people in the canton of Bern	Cantonal Public Health Authority, Bern	Project	Early diagnosis of depression and suicidal behaviour	Project and intervention planning
<i>Bunt kickt gut</i> – Swiss intercultural street football league	Infoklick	Project	Integration of migrants	Design for Autoevaluation
Midnight Basketball	Midnight Projekte Schweiz	Project	Integration of young people	External outcome-focussed evaluation
<i>Suisse Balance</i> (Healthy eating and physical activity promotion programme)	Health Promotion Switzerland and Federal Office of Public Health	Nationwide programme	Healthy bodyweight	Design for external Evaluation
Health Promotion in pre-school age, City of Bern	Public Health, Social, Youth and School Services in the Canton of Bern	Municipal strategy	Health Promotion in pre-school age, Intersectoral collaboration	Development of a common strategic orientation
Development of a cantonal strategy on alcohol, tobacco, physical activity/ healthy eating in the canton of Geneva	Cantonal Public Health Authority, Geneva	Cantonal strategy	Alcohol, tobacco, physical activity and healthy eating	Setting of objectives and indicators
National strategy for healthy bodyweight	Health Promotion Switzerland	Nationwide strategy	Healthy bodyweight	Situation analysis and strategic planning
Afrimedia – HIV/AIDS prevention for sub-Saharan migrants	Swiss AIDS Foundation	Nationwide project	HIV/AIDS prevention	Situation analysis and intervention planning
Development of a cantonal strategy for health promotion and prevention	Cantonal Department of Health and Finance, Glarus	Cantonal strategy	Harmonisation of vertical programmes towards a common health promotion strategy	Situation analysis and priority setting

POSITIONING OF THE SMOC IN RELATION TO OTHER MODELS

It was considered important to situate the Swiss Model for Outcome Classification in relation to similar attempts elsewhere to develop a systematic approach to the evaluation of health-promotion activities. The SMOC has links with many different forms of scientific enquiry; the models and tools identified from a systematic literature search each shared some, but not all, of the characteristics of the SMOC and fell into two main fields: health and evaluation. Those in use having particular links with the SMOC are outlined below and further examples are referenced.

Models from the health field

A significant starting point in modelling the determinants of health is seen as the Lalonde

report (Lalonde, 1974). Since then, various models have been developed to improve the practice of public health and health promotion, some aiming to be comprehensive and others more focussed on specific aspects.

As described above, the model bearing most similarity to the SMOC is that of Nutbeam, which first inspired the work in Switzerland. Nutbeam's model has been developed further and applied for the evaluation of health-promotion activities in Scotland by the Health Education Board (HEBS) (Watson and Wimbush, 2000). As with SMOC, the model was found to be an important tool for engaging stakeholders in the evaluation planning process and for building consensus about outcomes.

The Netherlands Institute for Health Promotion and Disease Prevention (NIGZ) has developed a Health Promotion Framework, which, in common with the SMOC, has four

main levels entitled ‘interventions—intervention results—determinants—health’. However, the specific elements or ‘boxes’ at each level differ from those of the SMOC. The Netherlands model also includes a pre-intervention level designated ‘Organise’, covering seven different kinds of resources required in order that interventions may take place, such as ‘Manpower Competence, Methods/Materials ...’. The framework is completed by a surrounding circle, representing different elements of societal context (demography, politics, ...) (Saan and de Haes, 2005; Saan and de Haes, 2006). As Health Promotion Switzerland, the NIGZ also has a complementary quality assurance tool available to practitioners, the ‘Preffi’. Originally designed to orientate research in health promotion, the NIGZ model has a more theoretical emphasis and different objectives than the SMOC. Under development for over 10 years, it is also more elaborate. Despite differences, when presented together at an international workshop held in 2006 (Saan and de Haes, 2006; Spencer *et al.*, 2006), common factors regarding the utility of the models were identified: to clarify objectives and demonstrate to decision-makers how results may be expressed other than in epidemiological data.

The European Community Health Promotion Indicator Development (EUHPID) Project is of key relevance to the SMOC in that it has produced a theoretically based model of health development (Bauer *et al.*, 2003, 2006). Essentially, EUPHID proposes three main classes of public health outcome indicators: indicators of health (corresponding to level D in the SMOC); indicators of individual determinants of health (corresponding to SMOC category C2); and environmental determinants of health (separated in the SMOC into C1-physical environment and C2-social environment). The EUHPID model notably insists on the importance of indicators maintaining a balance between the pathogenic and the salutogenic perspectives on health. This balance was also a guiding principle in the SMOC construction, as is apparent in the nomenclature of the sub-categories. EUHPID acknowledges the need for specific classes of process indicators to be developed, reflecting the strategies used to influence ongoing health development. The EUPHID model and the SMOC therefore prove complementary. The former proposes specific indicators for the SMOC levels C and D; the latter, in levels A and B, proposes an approach for

deconstruction of the process of moving from intervention to impact on health determinants.

It should not be forgotten that considerable work has been conducted over many years in health education to develop a systematic approach to intervention planning and evaluation, as testified by manuals such as that of Green and Lewis 1986. One of the most extensively used tools is the PRECEDE model, which stipulates the predisposing, reinforcing and enabling factors necessary for behavioural change towards health. Subsequently named the PRECEDE-PROCEED model, it has been extended to include wider issues such as the environment and policy and organisational factors necessary for change (Green and Kreuter, 2004). Direct comparison with the SMOC would be difficult, since PRECEDE-PROCEED is more complex and ambitious in its scope: the PRECEDE phase covers five types of diagnosis (situation analysis), and the PROCEED phase covers implementation and three types of evaluation. Specific mention is, however, made here in view of its importance in the field: developed over the past 40 years, it is widely taught and documented to have been applied in around a thousand studies (<http://www.lgreen.net/precede.htm>).

Table 2 summarises models and tools identified as having a similar purpose and approach as the SMOC. The table includes both those discussed above and additional models, destined variously for programme planning, evaluation and promotion of best practices. Of less direct relevance to the SMOC, they are not further developed here, but are included for reference and in testimony to the myriad of attempts to improve the state of the art in the field. It is impossible to establish a taxonomy, distinguishing between models on specific criteria, since they overlap considerably. For example, choice of the term ‘conceptual model’ or ‘tool’ reflects a difference in emphasis, but no clear distinction between the two may be drawn. The ‘purpose’ indicated in the table is drawn from the authors’ own descriptions.

Social psychology is present in health promotion in relation to mechanisms associated with salutogenesis, providing theoretical bases for interventions related to health and behaviour so that they might be effective, such as the transtheoretical model (Prochaska and Velicer, 1997), or the theory of planned behaviour (Armitage and Conner, 2001) and offering

Table 2: Overview of relevant models and tools applied in health promotion

Title	Description of purpose	Reference publication
EUPHID Health Development Model for the classification of public health indicators (European Community Health Promotion Indicator Development Model)	European set of pathogenic and salutogenic indicators for monitoring health-promotion interventions; common frame of reference	Bauer <i>et al.</i> , 2006
Outcome model for health promotion (Nutbeam)	Common framework for evaluating health promotion; outcome hierarchy	Nutbeam, 2000
Health Promotion Framework/Knowledge management cycle (NIGZ)	Common frame of reference on knowledge required to optimise effectiveness; focus research, guideline for intervention planning	Saan and de Haes, 2006
PRECEDE-PROCEED	Health-promotion planning and evaluation (diagnosis, implementation, evaluation)	Green and Kreuter, 2004
Interactive Domain Model (IDM)	Framework designed to assist practitioners in taking a Best Practices approach to health promotion	Kahan and Goodstadt, 2005
RE-AIM Framework	Evaluation of public health impact (reach, efficacy, adoption, implementation, maintenance) of programmes	Glasgow and Vogt, 1999
Project Description Framework	Framework to assess the effectiveness of health promotion	Thurston <i>et al.</i> , 2003
Results Mapping	Programme evaluation tool	Reed <i>et al.</i> , 2000
Outcomes Hierarchy for Health Promotion (Australia)	Framework/outcomes hierarchy; tool for policy, planning and evaluation	King, 1996

insight regarding various aetiological psychological components of ill-health or good health, e.g. locus of control (Lefcourt, 1982), learned helplessness (Peterson *et al.*, 1995), sense of coherence (Antonovsky, 1996), self-efficacy (Bandura, 1977) and empowerment (Yeo, 1993; Wallenstein, 2006). Any one or more of these different theories may be incorporated into the SMOC, as and when appropriate, depending on the mechanisms of action postulated by those devising the projects or programmes.

Model construction as practiced in evaluation

The evaluation of activities in relation to project and programme objectives is a key concern in evaluation. A completely separate tradition from public health, the field of evaluation has developed entirely different understandings of what constitutes evidence and the methods generally used to obtain it. Successive schools have refined different theoretical concepts and related techniques (Patton, 1997; Pawson and Tilley, 1997). This tradition emphasises that evaluation must be tailored to the specific context and resources, and that it should be participative, taking into account the perspectives of the different stakeholders. Furthermore, understanding of process is considered as

important as the assessment of outcome; the former allowing us to distinguish inadequacies in programme content from those in programme implementation (Springett *et al.*, 1995). Evaluation in this sense is most known in the public sector with regard to social policy analysis, and the epistemological complexity of this field and its potential contribution is relatively little known to health practitioners. However, health promotion and other fields, such as health policy, are increasingly incorporating the paradigm and methodology of evaluation into their methodological toolbox (Lincoln, 1992; Thompson, 1992; Springett *et al.*, 1995).

The definition of a succession of objectives, each defined by a number of indicators, and leading towards an ultimate goal, is a characteristic of many tools used in evaluation. The field of evaluation boasts a rich methodology for the analysis of process, impact and outcome in complex situations. One technique that has similarities with the SMOC is that offered by logic models (CDC Evaluation Working Group, 2006) (<http://www.uwex.edu/ces/lmcourse/Resources/ContentPages/bibliography2.htm>). Part of a wider approach in evaluation known as 'theory-based evaluation' (Chen, 1994), a logic model 'provides a graphic depiction of the relationship between the main strategies of a program and

associated goals, objectives, population(s) of interest, indicators and resources' (Hyndman *et al.*, 2001). Its purpose is 'to communicate the underlying "theory" or set of assumptions or hypotheses that program proponents have about why the program will work' (Funnell, 1997, 2000; Schmitz, 1999). Their application now extends into the field of public health (Letts and Dunal, 1995; Center for Disease Control, 1999; Hyndman *et al.*, 2001; Ministry of Health, 2006). An important and key difference between this type of modelling and that of the SMOC is that in logic models the theory is separately constructed for each program (the theory of the program), whereas programs to which the SMOC is applied, by definition, all adopt the theoretical underpinning of health promotion (program constructed on the basis of an acknowledged theory).

DISCUSSION

There are many types and different understandings of what constitutes a 'model' (Earp and Ennett, 1991). One such is the Swiss Model for Outcome Classification in Health Promotion and Prevention, which has both its strengths and weaknesses in the compromises made in order that it might exist. The first challenge is to balance validity and ease of use: highly elaborate models more validly represent the complexity of causality in health and disease, but prove difficult to put into operation. Models are by definition reductionist in nature and this may cause frustration. A higher degree of complexity is possible if the model remains conceptual; greater simplification is required when destined as a tool for the planning or evaluation of a specific project or programme. In considering the inclusion of any additional element, the corresponding costs in terms of user-friendliness must be borne in mind. It has been observed that the SMOC is easily adopted when introduced to potential users in a workshop. Its feasibility of application on a wide scale in a non-interactive setting is not yet known. Impressions thus far are that ease of use depends largely on the user's level of familiarity with the concepts involved and the techniques of theoretical modelling.

Since the SMOC is designed for use not only in health promotion, but also in disease prevention, it may be used whether the perspective

adopted is biomedical, lifestyle or socio-environmental (Raphael, 2000). Although increasing the potential for use, this openness regarding ideological positions leads to a certain theoretical ambiguity that could prove problematic to some. Similarly, the fact that use has been extended from evaluation to planning and to situation analysis limits the further refinement of the SMOC in any one of these directions. In the same way, the extension of use from project to programme to strategy, which emerged directly from application in the field, may at same point raise theoretical or methodological problems.

No model is ideal or equally useful whatever the purpose. Ultimately, however, the question to be addressed is to what extent does the Swiss Outcome Model fulfil its mandate. Evidence indicates that it is in the process of so doing, with feedback indicting that SMOC can serve as a 'common language' among stakeholders and as a tool to improve accountability to funding agencies and the general public. As yet, the potential extent of dissemination is unclear, but certain indicators of institutionalisation and sustainability (Shediach-Rizkallah and Bone, 1998) such as uptake by external organisations and authorities and integration into postgraduate teaching courses, are apparent. Finally, it would appear that the SMOC has potential as a complementary tool with regard to theoretical work on indicator development in the European region.

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