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CHALLENGES OF STUDYING COMPLEX COMMUNITY HEALTH PROMOTION PROGRAMMES

Experiences from Stockholm Diabetes Prevention Programme

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ABSTRACT

The main objective of this thesis focused on how to capture the complexity in the implementation of a community health promotion programme. The thesis is based on experiences of Stockholm diabetes prevention programme (SDPP), which was implemented in 1995-2004 in three municipalities, and include documentation within the programme, annual local governmental reports, local news cuttings, questionnaires and group discussions with the local steering committees members. The material have been analysed by qualitative and quantitative content analysis.

In study I, the planning model developed for SDPP was applied to study the programme development. It identified that the programme had been implemented mainly as planned. Physical activity was the risk factor that had become the major focus of intervention. Tobacco consumptions had been added as a fourth risk factor. **In study II**, the participatory "spidergram" methodology was applied to assess the extent and development of local intersectoral participation. Wide local intersectoral participation was achieved in planning and implementing activities whereas participation in allocating local resources, leadership and network were more restricted. Communication and shared responsibility appeared critical in influencing the development and perception of participation. **In study III**, a matrix with WHO's Health For All-targets was developed to identify health promotion activities within the local governments. Each target area was valued in relation to whether intersectoral collaboration and policy or monitoring systems had been established. It was found that almost all the target areas had been addressed, although main focus was given to environmental issues, unemployment, social care and welfare. Health promotion activities were often presented as environmental strategies. The social welfare administration and board for environment and health protection were most frequently involved in health promotion efforts. Policies or monitoring systems were developed within equality, alcohol and drugs, welfare, disability, and environmental and local Agenda 21 plans. **In study IV**, media monitoring and media analysis was applied to analyse the frequency, characteristics and content of newspaper coverage related to physical activity. Physical activity was reported both as a positive feature in the municipalities and an issue that created debate about priorities and resources. The public, local organisations and the authorities were involved in the debates. Health aspects were used as an argument when discussing the availability of activities, facilities and recreation areas. With the applied study design it was not possible to evaluate if the programme had had any impact on the health related content in the articles except for articles directly linked to the programme.

In conclusion, the applied analytical tools enabled to study the implementation processes and analyse various actors' roles or potentials in the implementation. A thorough documentation and monitoring of programme operations was found essential to capture the many activities and actors involved during such a long-term programme. The contributions of the analytical tools are that they have included several dimensions and data sources in the analysis. These methods would probably be more useful in formative evaluations to enable to adjust program operations during the implementation and to seize an important learning opportunity.

Keywords: community intervention, diabetes prevention, implementation, intersectoral participation, monitoring, planning models, programme theory, the spider-web methodology.

LIST OF PUBLICATIONS

The thesis is based on the following papers, which will be referred to by their Roman numerals.

I. Andersson, C. M., Bjärås, G. E. M., Östenson, C-G. (2002). A stage model for assessing a community-based diabetes prevention program in Sweden. *Health Promotion International*, 17, 317-327.

II. Andersson, C. M., Bjärås, G., Tillgren, P., Östenson, C-G. (2005). A longitudinal assessment of inter-sectoral participation in a community-based diabetes prevention programme. *Social Science and Medicine*, 61, 2407-2422.

III. Andersson, C. M., Bjärås, G. E. M., Tillgren, P., Östenson, C-G. (2003). Health promotion activities in annual reports of local governments. 'Health for all' targets as a tool for content analysis. *European Journal of Public Health*, 13, 235-239.

IV. Andersson, C. M., Bjärås, G., Tillgren, P., Östenson, C-G. Local media monitoring in process evaluation. Experiences from Stockholm Diabetes Prevention Programme. (submitted).

GLOSSARY

This glossary is mainly derived from:
Health promotion planning. An educational and ecological approach (Green and Kreuter, 1999) and Public Health Dictionary (Janlert, 2000)

Community	A multidimensional system that includes interaction between individuals, sectors and organisations i.e subsystems at various levels.
Community action	Any activity undertaken by a community in order to effect change.
Community capacity	Strengthen personal and organisational competences that enhance the communities capabilities to act on health issues.
Community organisation	The set of procedures and processes by which a population and its institutions mobilise and coordinate resources to pursue mutual goals.
Community participation	The involvement of people and institutions in the community in the formal processes of policy making and implementation. Participation can vary from high to low levels of involvement.
Community-based	Measures directed to an entire population.
Deductive analysis	Predetermined categories or variables are used to describe or analyse the phenomenon under study.
Disease prevention	Actions around a specific disease, its risk factors or health behaviours. Target groups defined as risk groups.
Formative evaluation	An assessment undertaken following the ongoing activities to be able to modify programme operations or as a part of a learning process.
Health promotion	Any planned activities: regulations, supportive physical, economic and social environements or educational activities that aim to improve health.
Impact evaluation	The assessment of programme effects on intermediate objectives, including behavioural changes and environmental changes.
Implementation	The act of converting programme objectives into actions through policy development, regulation, organisation, social and physical changes.

Implementation structures	How actors at different levels take part in the initiation, preparations and decision for delivering local interventions.
Inductive analysis	Categories or dimensions of analysis are discovered from open-ended observations in the data.
Input	Resources; funds, appointing people, instruction, support, assistance which is put into the programme.
Intersectoral	Participation of people and institutions across sectors in the community for joint actions for health.
Intervention	A set of planned activites over time designed to achieve specified objectives. Programme is used synonymously.
Monitoring system	A systematic record keeping system in order to monitor project implementation.
Naturalistic inquiry	Studying real-world situations. The researcher does not attempt to manipulate the research setting
Organisation	The act of marshalling and coordinating the resources necessary to implement a programme.
Organisations	Community institutions, including governmental bodies, authorities, non governmental organisations and interest groups.
Outcomes	The effects of a programme on its ultimate objectives, including changes in health, social benefits or quality of life.
Output	Services, products or activities that come out of the programme.
Planning	The process of defining needs, establishing priorities, analysing causes and solutions of problems and available resources to achieve objectives.
Policy	The set of objectives to and rules guiding the activities of an organisation or an administration, and providing authority for the allocation of human, material and monetary resources.
Process evaluation	The assessment of policies, materials, personnel, performance, quality of practices or services and their inputs and implementation experiences.

Programme	A set of planned activites over time designed to achieve specified objectives. Intervention is used synonymously.
Programme theory	Provides the scientific justification for how the elements in the programme should work to achieve desired outcomes.
Quasi-experimental design	A research design including a comparison population similar to the target population, but one that does not receive the intervention.
Risk factor	Characteristics of an individual that indicate an increased risk of ill-health, injury or unfavourable health behaviour.
Summative evaluation	An assessment of the expected effects/outcomes of a programme or intervention.
Triangulation	A technique of using different data sources, data collection methods, theoretical or analytical approaches, informants or investigators in a study to enhance the validity of interpretations.

CONTENTS

Abstract
List of publications
Glossary

1 Background ... 1
1.1 Public health, research and practice ... 1
1.2 Community interventions ... 1
1.3 Community interventions in Sweden ... 2
1.4 Type 2 diabetes ... 3
1.4.1 The Stockholm Diabetes Prevention Programme ... 4
1.5 Evaluations of community interventions ... 7
1.6 The framework of the thesis ... 8
2 Conceptual framework ... 9
2.1 Operational strategies for health promotion ... 9
2.2 Planning process ... 9
2.3 Implementation structure ... 10
2.3.1 Local governments as an actor ... 10
2.3.2 The local mass media as an actor ... 11
2.4 Implementation process ... 12
2.4.1 Community participation ... 12
2.5 Evaluation ... 13
2.5.1 Studying implementation processes ... 14
3 Objectives ... 15
4 Materials and methods ... 16
4.1 The study area ... 16
4.2 Public health work within the municipalities ... 16
4.3 General research approach ... 17
4.3.1 Data collection ... 18
4.3.2 Analytical approach ... 18
4.4 The design of each study ... 21
4.4.1 Study I ... 21
4.4.2 Study II ... 22
4.4.3 Study III ... 24
4.4.4 Study IV ... 25
4.5 Ethical considerations ... 26
5 Main findings ... 27
5.1 Study I ... 27
5.1.1 The implementation process ... 27
5.1.2 The stage model as a tool ... 27
5.2 Study II ... 28
5.2.1 The local participation processes ... 28
5.2.2 The spidergram method and triangulation of data sources ... 28
5.3 Study III ... 29
5.3.1 Health actions whitin the political governments ... 29

5.3.2 Local governmental reports and WHO's HFA targets 29
5.4 Study IV 30
5.4.1 Health actions in the local mass media 30
5.4.2 Media monitoring and media analysis methods 30
6 Discussion 31
6.1 Reflections on the implementation process in SDPP 31
6.2 Planning process 31
6.3 Implementation structures 32
6.3.1 Local goverenments as an actor 33
6.3.2 Local mass media as an actor 33
6.4 Implementation process 34
6.4.1 Local intersectoral participation 35
6.5 Evaluation 36
6.5.1 Studying the implementation process 36
6.6 General Methodological considerations 37
6.6.1 Describing implementation (Study I) 38
6.6.2 Assessing intersectoral participation (Study II) 39
6.6.3 Analysing the local goverments (Study III) 41
6.6.4 Analysing the local mass media (Study IV) 43
6.7 Lessons learned and implications for the future 44
7 Conclusions 45
8 Acknowledgements 47
9 References 49

1 BACKGROUND

1.1 PUBLIC HEALTH, RESEARCH AND PRACTICE

There is an ongoing concern in both research and practice for improving and maintaining good health in the human population. Eriksson (2000) has identified four knowledge domains in public health research. One domain concerns the distribution of health in populations and among different populations groups. Another knowledge domain focuses on the determinants of the health development. Research has focused on studying how structural and social factors in the society are linked to health. The third knowledge domain concerns the impact of health for individuals and the society. Studies have focused on gaining insight into how people's health is affected by illness, poverty or social exclusion. A forth domain is about actions for changing the health determinants. In Sweden, intervention research is the least developed domain in public health research (Eriksson, 2000; Swedish Council for Working Life and Social Research., & Swedish National Institute of Public Health, 2004).

A description and evaluation of the Swedish public health research was commissioned by the Swedish government in 2003. The National Institute for Public Health, Sweden (NIPH) and the Swedish research Council of Working Life and Social Sciences (FAS) appointed an international panel that conducted the evaluation. The panel found that the research focus in Sweden has been foremost on etiological studies of the distribution of ill-health in the population and impact of health determinants on the health of the population. It was emphasised that there was time for a shift in concern toward intervention research. The panel recommended, a major investment in public health interventions based primarily on disease prevention and health promotion (Swedish Council for Working Life and Social Research & Swedish National Institute of Public Health, 2004).

An important area of research in health promotion and disease prevention is to study how public health is supported by health promotion actions (Green & Kreuter, 1999). Intervention research may bridge the gap between research and practice. Epidemiology has an important role in developing interventions. Clinical and descriptive etiological and epidemiological studies help investigating the cause of disease and prioritise in choosing health objectives for an intervention. Etiological studies have revealed that diseases and health often have a multifactor origin influenced by behavioural, structural, social, and organisational practices. Interventions, therefore, need to be designed to meet the complexity of the health problems. However, to form the content and strategies of interventions it is not enough with epidemiological or etiological studies. Social, behavioural, organisational and policy research is required to assist in determining how to address individual, social and environmental change (Tuomilehto & Puska, 1987; Nutbeam, 1996).

1.2 COMMUNITY INTERVENTIONS

Community interventions have been a frequently applied strategy to promote health at the individual and community level. Promoting health includes preventing diseases, improving physical, mental and social health and enhancing wellbeing (Naidoo & Wills, 1998). Three action approaches are distinguished in health promotion. The

lifestyle approach focuses on actions to improve individual behaviours, attitudes etc. The structural, ecological approach emphasises changes or improvements in communities or environments to support healthy choices (MacDonald & Bunton, 1992). The third type of action includes to make changes at individual and environmental levels so people can maintain the good health the already enjoy (Lahtinen, Koskinen-Ollonqvist, Rouvinen-Wilenius, Tuominen, & Mittlemark, 2005). Creating a healthy society, enabling people to increase control over their living and working environment, is recognised as the most promising approach to positively affect public health. The community approach is believed to have great potential to bring about such changes as it is directed to the entire community including both its population and social system (Green & Kreuter, 1999; Bracht, 1990). Since the 60's many disease prevention or health promotion programmes have been applied to enhance behavioural patterns or conditions of living that is linked to maintained or improved health or reduced risks for ill-health (Farquahar, 1978; Farquhar, J.W., Fortmann, Maccoby, Haskell, Williams, Flora, *et al*., 1985; Jacobs, Luepker, Mittlemark, Pirie, Mascioli, et al. et al., 1986; Tuomilehto & Puska, 1987; Nutbeam & Catford, 1987; Steckler, Orville, Eng, & Dawson, 1989). These programmes have included a comprehensive approach attempting to change health behaviour and disease risk through mass media campaigns, activation of existing community organisations, or changes in the physical or sociocultural environment (Koepsell, Wagner, Cheadle, Patrick, Martin, Diehr, & Perrin, 1992).

Implementation of comprehensive community health promotion programmes has been acknowledged to be a complex and multidimensional process of putting ideas into actions. Potvin (2001) has outlined the complexity of these kinds of comprehensive community programmes. First, they are directed to the entire community and are therefore large in scope and magnitude with a lot of time and resources for planning and co-ordination. Second, large scale community programmes targeting both individual behaviour and the whole social context, norms, values, institutions and policies are assumed to influence health and health-related behaviour. As good health depends on many different factors, many sectors and actors need to be involved. Third, participation is seen as the most critical element of all community programmes to mobilise support and interest for health actions and encourage sustainability of intervention efforts. Fourth, community programmes require a long time scale to plan and implement community actions including various strategies and actors and for the process to gain community acceptance. Finally, community programmes need to be flexible and adaptable to their social context and actors involved.

1.3 COMMUNITY INTERVENTIONS IN SWEDEN

A few comprehensive, long-term community health or health promotion programmes have been developed in the Swedish context. Some of them are described briefly below.

Sollentuna Accident Prevention Programme (SAPP) – A community intervention programme aiming at preventing injuries in Sollentuna municipality in Stockholm County in 1984-1988. The strategy was to involve authorities, organisations, voluntary groups and citizens in preventive efforts. Four basic means were employed to involve the municipality and its organisations; health information and education, supervision and environmental changes (Bjärås, 1992).

The Norsjö project – A community-based prevention programme aiming at preventing cardiovascular disease in Norsjö municipality in the province of Västerbotten. The programme started as a demonstration project in 1985-1994, for later dissemination to the whole county. It included a combined population-based and high-risk approach. The programme applied a community organisational model. Activities have included screening and counselling via the primary care as well as mass media information, policy and partnerships. The activities were organised through social networks including local health provider, local media, vouluntary organisations and educational groups (Brännström, 1993; Emmelin, 2004).

Stockholm Cancer Prevention Programme (SCPP) – A community-based intervention in 1987-1996 in Stockholm County. The programme primarily focused on diet, tobacco and sunhabits for prevention of cancer. The intervention strategy was to involve various sectors and organisations in the preventive work. Activities have included educational efforts, mass media and promoting healthy products and availability of non-smoking areas (Kanström, 1994, Tillgren, 1995).

Stockholm Diabetes Prevention Programme (SDPP) – A community-based programme for prevention of type 2 diabetes in three municipalities in Stockholm County in 1995-2004. The programme has focused on the behavioural risk factors of type 2 diabetes: physical inactivity, obesity, dieatary and tobacco habits. The intervention strategy has included mobilising political and organisational support and participation. Activites have primarily included educational efforts, policy development, changes in the physical environement (Bjärås, Ahlbom, Alvarsson, Burström, Diderichsen, Efendic, et al et al, 1997).

1.4 TYPE 2 DIABETES

Type 2 diabetes mellitus is one of the most common chronic diseases and recognised as an epidemic global health problem. The prevalence of all diabetes is estimated to rise from 171 million in year 2000 to over 360 million in year 2030 (Wild et al, 2004). The increase is especially evident in low-income countries and among lower socio-economic groups and ethnic minorities in the western society. Population growth, ageing and changes to modern or “western” lifestyles leading to increasing prevalence of obesity, sedentary behaviours and unhealthy eating habits are suggested to account for the epidemic increase (Wild et al., 2004; Seidell, 2000). In Sweden, the prevalence of diabetes is about 3-4%, but is suggested to rise as a result of increasing body weight and obesity in the population (Eliasson, Andersson, Svärsudd & Tibblin, 2003).

Type 2 diabetes is a disease characterised by elevation of the concentration of glucose in the blood, due to impaired insulin secretion and/or action (insulin resistance) (Östenson, 2001). It is a serious and costly disease both for patients and society. The patients face a risk of developing chronic complications in eyes, kidneys, nerves, heart and blood vessels. All of these complications contribute to the excess morbidity and mortality and affect the quality of life in individuals with diabetes (Amos, McCarty & Zimmet, 1997; Eliasson et al., 2003). Diabetes has been estimated to be the fifth leading cause of death in the world (Roglic, Unwin, Bennett, Mathers, Tuomilehto, Nag et al., 2005).

Zimmet (2000) has emphasized the urgent need for an integrated approach addressing both lifestyle interventions and underlying socio-economic causes. Studies addressing behavioural risk factors as physical inactivity, obesity and diet have shown that it is possible to prevent or delay the disease on the individual level (Hamman, 1992; Manson and Spelsberg, 1994, Kumar, Adamsson and Östenson, 2000). Two approaches for primary prevention can be used. Efforts could be directed either to those with specific high risks in developing diabetes or targeting entire populations (Venkata Rama Kumar, Adamsson & Östenson, 2000). The high risk approach has been proven successful (Diabetes Prevention Program Research Group, 2002; Tuomilehto, Lindström, Eriksson, Valle, Hämäläinen, Ilanne-Parikka et al., 2001). However, little is known about primary prevention directed to the population as whole.

1.4.1 The Stockholm Diabetes Prevention Programme

The Stockholm diabetes prevention programme (SDPP) is a rather unique initiative including a combined research project for studying the risk factors of type 2 diabetes and a ten-year primary prevention programme (Bjärås et al, 1997). SDPP was initiated and planned in the late 1980s as an interdisciplinary collaboration, including experts in diabetology, social medicine and epidemiology at the Karolinska Institutet and the Karolinska hospital. Planning the programme, community analysis and building relationships with intervention municipalities took approximately four years. SDPP has a quasi-experimental design including three intervention and two control municipalities situated in the Stockholm County. It was the regional health districts of that time that selected and approached the intervention municipalities (Sigtuna, Upplands Väsby and Värmdö) to participate in SDPP. The selection was primarily based on previous collaborations with these municipalities. The control municipalities (Upplands Bro and Tyresö) were matched based on geographical and demographical characteristics. An etiologic study was performed prior to and after the intervention to achieve knowledge on risk factors and prevalence of disease. The etiologic baseline and follow-up studies included oral glucose tolerance test, anthropometric measures and a questionnaire about lifestyle habits in nearly 8 000 subjects in both intervention and control sites.

The intervention programme lasted ten years in 1995-2004. It was planned based on experiences from previous community-based programmes such as the Standford Five City Project (Farquahar, et al., 1985) and the North Karelia Project (Puska, Nissanen, Tuomilehto, Salonen, Koskela, McAlister, et al 1985). Social and behavioural change theories as well as communication and marketing theories have been applied to design the interventions (Bandura, 1977; Rogers, 1983; Nix, 1987; Bracht & Kingsbury, 1990). A Diabetes Prevention Unit (DPU) was set up in 1995 to coordinate the programme. The central programme organization has further included academics, politicians and practitioners at both regional county level and the local community level. The interventions in each municipality were governed by a project leader and local intersectoral steering committees in each municipality.

Intervention activities have focused on the preventable risk factors of type 2 diabetes; physical inactivity, poor dietary habits, obesity and smoking. Activities have aimed at increasing the awareness of the risk factors, the availability of physical activities,

healthy food, a non-smoking environment and professional guidance to loose weight, quit smoking or start exercising. Two approaches have been used in implementing the local interventions: community intervention and interventions in communities (Green & Kreuter, 1999). The first has focused on the entire community and its elements. It has included mobilising the political and municipal administrations to create a supportive policy environment for the interventions. It also embraced media coverage to inform the public about planned and ongoing activities. Interventions within the communities have addressed smaller subgroups of the populations in certain settings such as schools, residential areas and workplaces. Networking and partnerships have been central strategies in most activities. The organizational structure, selection of strategies and activities varied between the intervention municipalities. The focus has been on testing different approaches rather than implementing one general strategy. Fig. 1 illustrates the programme theory or "effect" model of SDPP. It shows how the programme intended to work together within the municipalities to achive desired outcomes of societal and behavioural changes and lastly the ultimate goal of reduction of type 2 diabetes.

Available resources and priorities among stakeholders have governed the extent of evaluation. The programme's effect is going to be evaluated by a summative or "outcome" evaluation. Outcomes on diabetes morbidity and intermediate effects on lifestyle factors will be measured based on the data from the baseline and follow-up studies. Several cross-sectional studies have been conducted to study the associations between type 2 diabetes and family history of diabetes, low birth weight, weight history, psychosocial stress, socioeconomic differences and alcohol, tobacco and coffee consumption (Carlsson, Persson, Grill, Alvarsson, Efendic, Norman et al., 1998; Carlsson, Persson, Alvarsson, Efendic, Norman, Svanström et al., 1999; Grill, Persson, Carlsson, Norman, Alvarsson, Östenson, et al., 1999; Carlsson Hammar, Efendic, Persson, Östenson, Grill et al., 2000; Persson, Carlsson, Grill, Svanström, Östenson, & Efendic, 2000; Agardh, Ahlbom, Andersson, Efendic, Grill, Hallqvist, Norman, Östenson et al., 2003; Agardh, Ahlbom, Andersson, Efendic, Grill, Hallqvist, Norman & Östenson, 2004; Agardh, Carlsson, Ahlbom, Efendic, Grill, Hammar, Hilding & Östenson, 2004) A process evaluation on the collaboration between the stakeholders, the representatives of the county council and the municipalities, has been conducted (Carlson & Jäder, 2005). In addition, a health economic evaluation has been initiated including an initial assessment of the intervention costs (Eriksson & Johansson, 2005) and in a second step a comprehensive cost-effective analysis based on data from the summative evaluation. Fig. 1 further shows how the present thesis is embedded within the programme context in terms of both implementation and evaluation.

Figure 1. The programme theory of SDPP

1.5 EVALUATIONS OF COMMUNITY INTERVENTIONS

Traditionally, research and evaluation of comprehensive community health promotion interventions focused on measuring effects in terms of disease morbidity, mortality and risk factor levels. Evaluations of the more immediate effects, so called impact evaluations, were also conducted to find out the effect of intervention strategies on changes in knowledge, attitudes, skills and behaviours. However, behavioural endpoints were found problematic, not so much for the programmes ability to affect behaviour, but rather the ability to gathering valid self-reported data (Nutbeam, Smith & Catford, 1990; Mittlemark, Hunt, Heath, & Schmidt, 1993). It was concluded that evaluation research in health promotion must not only focus on health outcomes. Awareness and participation rates in the population were suggested as primary outcomes (Blake Jeffery, Finnegan, Crow, Pirie, Ringhofer et al., 1987; Finnegan, Murray, Kurth, & McCarthy et al, 1989; Mittlemark et al., 1993).

However, little was told about what happened in the complex chain of events when ideas were put into action. It was acknowledged that focusing on long-term changes in health and social outcomes may miss the shorter-term system-level impacts of community organising. To address the complex nature of community organising and the fact that efforts seek changes on multiple levels, it was argued for more qualitative approaches and inclusion of a variety of indicators across sectors (Nutbeam, 1998; Minkler & Wallerstein, 1997). Evaluations were thought to be of greater value if they addressed both short-term and long-term goals more explicitly (Israel, Cummings, Dignan, Heaney, Perales, Simons-Morton et al., 1995).

There was a shift in emphasis in research to address the process involved in comprehensive health promotion programmes. It was reasoned that it is needed to know whether and how a programme has been implemented before considering its effects (Wimbush & Watson, 2000). This means that less visible effects such as increases in community participation, policy developments, environmental changes, community capacity and increased knowledge need to be assessed before changes in behaviour can become evident (Minkler and Wallerstein, 1997). This type of knowledge is emphasised to increase the applicability in practice and relevance to programme managers, practitioners and policy makers (Nutbeam 1996; Wimbush & Watson, 2000). Despite changes in research emphasis from demonstrating effect of interventions to understand the implementation process, this type of research is the least common in health promotion literature (Nutbeam, 1996). New evaluation approaches and analytical techniques that provide information and reflections on the dynamic processes involved in public health programmes still need development (Potvin, Gendron, Bilodeau, & Chabot et al., 2005).

1.6 THE FRAMEWORK OF THE THESIS

This thesis attempts to build on to the challenge of capturing the implementation process of a community health promotion programme. The programme theory of SDPP made explicit important elements for understanding the processes at the municipality level (fig. 1). The studies included in this will capture the planning and implementation phases in the intervention process of SDPP (fig. 2). In study I the planning and implementation of SDPP in the intervention municipalities were adressed. Study II focused on how local actors in municipalities have participated in planning and implementing activities within the programme. In study III and IV the local governments and the local mass media were particularly studied.

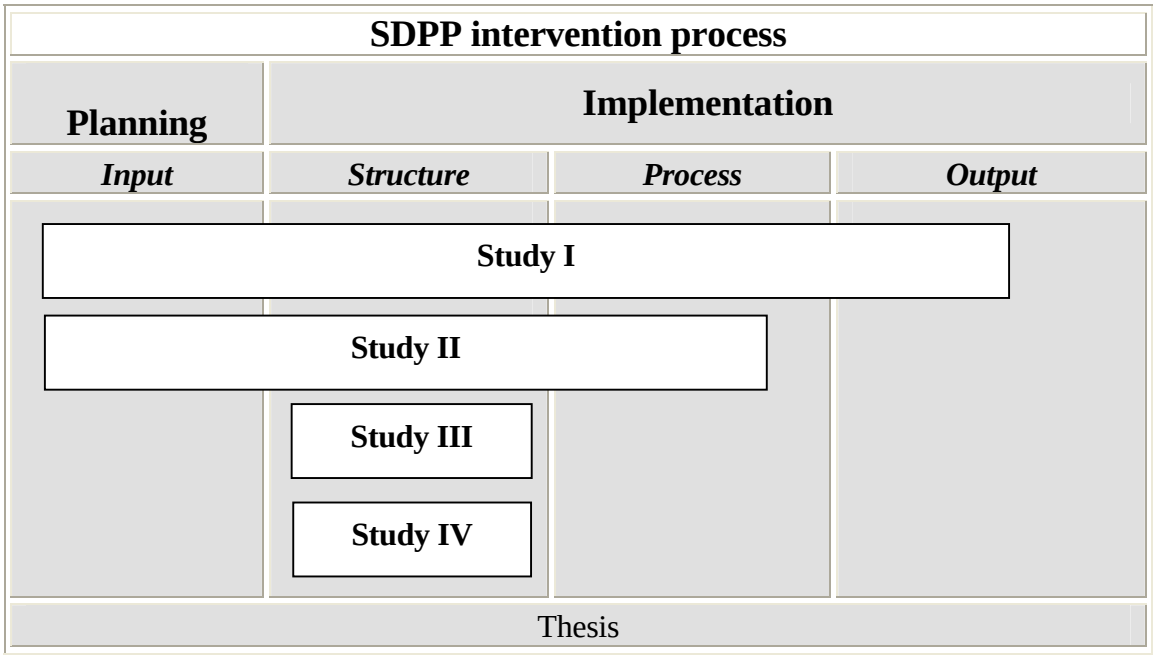

Fig. 2 The framework of the thesis

2 CONCEPTUAL FRAMEWORK

2.1 OPERATIONAL STRATEGIES FOR HEALTH PROMOTION

The Health For All (HFA) policy developed by the World Health Organisation in 1977 and a series of international conferences and declarations have been influential in outlining the elements of health promotion and important community actions. A framework for plans of action for health promotion was outlined after the Mexico Ministerial Statement on Health Promotion (WHO, 1999). The framework comprises planning, implementation and evaluation processes. These actions are guiding principles underlying most health promotion programmes or interventions.

2.2 PLANNING PROCESS

In Ottawa charter (WHO, 1986), it was emphasised that the health promotion work should strengthen community actions in setting priorities, making decisions, planning strategies and implementing them. It has been acknowledged that improving the capacity of communities for health promotion requires practical education, leadership training and access to resources (WHO, 1997). Community interventions whether implementing public policies, reforms, services or programmes, usually include input from an outside agent, organisation or governmental bodies. The input stage includes a sequence of activities: identification of a problem, solutions, decisions preparations, funds, people, assistance and support (Vedung, 1997).

Preparations of plans of action are suggested to include needs assessment: priority health development issues to be addressed, assets available (policy, legislation, human and financial resources), capacity of human resources and infrastructure available (WHO, 1999). This is often referred to as community analysis or diagnosis including a community profile, health profile, health risk profile and organisational profile (Bracht, 1988). These profiles help to answer to whom, why and how preventive or promoting work should be carried out (Bjärås 1993). Epidemiological data on distribution of health, disease and injury in a given population are often used to identify health needs in the community. Another approach is to let the population define and prioritise health issues of local concern to act upon (Minkler & Wallerstein, 1997). The community profile includes demographic information about population characteristics and serves to define target groups for actions. A health risk profile describes the presence and specific risks in the social and physical environment and living habits. An organisational profile identifies municipal agencies, local organisations and interest groups that may be important for carrying out the actions. The purpose is to identify those organisations that have an interest and professional competence or capacity to suggest how to organise the preventive work locally (Bjärås, 1993).

Behavioural and social research is further needed to design appropriate intervention activities. Health plans or interventions should clearly define: objectives, expected outcomes and identify indicators of progress, involvement of all relevant actors at appropriate levels such as the governmental bodies, NGO's private sector, academia,

religious institutions and funding agencies (WHO, 1999). This causal chain of events specifying how an intervention is suggested to reach desired outcomes has many names. It is called theory of treatment, theory of action, causal or effect models, intervention or programme theory. In this thesis the term programme theory will be used and further described below.

2.3 IMPLEMENTATION STRUCTURE

Emphasis on implementation is to strengthening capacity at all levels, developing assets and assuring appropriate infrastructure for promoting health. Implementation structure is an analytical concept that describes how actors at different levels take part in the initiation, preparations and decision for delivering the local interventions (Vedung, 1997).

A system approach can be used to explain the implementation process within the community structure. Walter (1997) argues for a shift in viewing the community as a social/demographic entity with which we interact or intervene, to vision community as a multidimensional and dynamic system of which we are a part. The multidimensional community system includes individuals, sectors and organisations i.e subsystems at various levels. The system provides the context for actions and relationships between community levels and members (Thompson & Kinne, 1999). Viewing the community as a multidimensional system has important implications for community organisation practices. It reveals the complexity of community work and explains how multiple dimensions interact to affect change (Walter, 1997). A basic assumption in the system perspective is that change in one sector will eventually lead to adjustments or responses in other sectors. However, it may take a long time to affect the whole system.

2.3.1 Local governments as an actor

Local interventions are heavily depending on local governmental support and goodwill to facilitate and legitimate actions. Moreover, health promoters intervene in a dynamic context with interchangeable political priorities particularly when changes of government. Local governments and their administrative structures are also important in the causal chain of actions for short-term and long-term outcomes (Warren, Rootman & Wilson, 2001). A supportive local policy environment characterised by intersectoral collaboration can build a crucial intervening structure (Rütten, 2001).
In the Swedish context, municipalities are recognised as important actors and arenas for promoting the populations' health as they are responsible for most public services (Guldbrandsson & Bremberg, 2004).

Building intersectoral public health policies was defined as a core strategy in the Ottawa charter (WHO, 1986). The incentive was to put health on the agenda of policy-makers in all sectors and at all levels. Policy development indicates the rationales for and the preferred directions for actions. The policy environment, i.e. regulations and policies, may influence economic, social and physical conditions in the municipalities that strengthen or restrict the health of individuals. Improving public health may also

involve reorienting the structure and services provided, advocating for public policies or creating supportive environments that enhance health (Haglund et al, 1993).
The implications of projects are that the learning, competence, ideas and goals built within them raise public and political awareness and are diffused throughout the community (Thompson & Kinne, 1999). It is implied that health promotion will become sustainable if institutionalised in policies and integrated into the ordinary lives and routines of the community (Milio, 2001). In the context of programme planning and implementation, monitoring the policy environment may have a strategic purpose. It can guide the planning to encourage public health actions, identify potential partners and prepare for institutionalising activities or monitor progress in developing health enhancing policies.

Health policy analysis has been concerned foremost with the content, costs or the impact of a particular policy on the population and to a lesser extent with the policy-making process. Studies addressing existing policy agendas of governments or organisations are particularly rare (Milio, 2001). However, there has been a call for development of indicators for assessing the presence of healthy public policies. It would reveal important aspects of the policy-making processes, identification of organisations and institutions involved, description and policy directions and past, present and future trends. Specified health goals and objectives for a country or region are proposed as frameworks for identifying relevant indicators or outcomes for conducting health impact assessment "HIA". Moreover, they will determine the extent of support from various levels of governments, sectors and organisations for the goals, targets and strategies (Warren et al., 2001).

2.3.2 The local mass media as an actor

The media have a central position among interest groups as an information channel but also due to their ability to create and shape issues of public concerns. Mapping the mass media may reflect the awareness and direction of an issue, message communicated, stakeholders involved and their interests in the debate (de Leuwe, 2001). Health promoters have a long tradition of utilising health communication to inform and influence both individual behaviour and attitudes or advocating for community changes (Wallack, Dorfman, Jernigan & Themba, 1993). The mass media have the capacity to propel or retard the goals of public health (Finnegan & Viswanath, 1999). Different functions of media in relation to health promotion have been identified. First, media bring community attention to issues. Second, they confer importance and legitimacy to the issue as relevant to community concerns. Third, the media are capable of widespread public dissemination of, and exposure to public health information. Mass media studies within health promotion have primarily focused on the extent or content of coverage about a particular programme, a health campaign or an advocacy initiative. Media coverage has also been proposed to serve as an intermediate measure of program exposure (Brownson, Mack, Meegama, Pratt, Brownson et al., 1996).

2.4 IMPLEMENTATION PROCESS

Community organisation is a central method of practice to achieve changes at the community level (Thompson & Kinne, 1999). Elements of community organisation are used in the planning and implementation of most community interventions (Minkler & Wallerstein, 1997). The community organisation processes include: mobilisation of community leaders, organisations and populations, stimulating them to participate by volunteer time and resources in coordinated efforts and to adopt prevention in their ordinary work or activities (Bracht, 1990).

Different strategies are implemented in health promotion to raise public and political awareness, communicating a health promotion message, proposing healthy public policies, strengthen community actions for health and creating supportive environments and encouraging healthy lifestyles. Educational strategies include education, training and skill building to individuals or groups such as professionals or families. A communication strategy including mass media communication may be applied. Mobilisation or organisational strategies includes strengthening social support networks, participation and community capacity. Advocacy comprises lobbying political organisation and activism for joint actions (WHO, 1999).

2.4.1 Community participation

Community participation was launched as a key concept of health promotion in the Ottawa charter (WHO, 1986). One distinction of the term community participation emphasises grassroots activism and citizens', i.e. target population's, involvement and control in decision-making processes (Arnstein, 1969; Rifkin, 1986). The other notion of participation refers to collaboration and partnerships among various community groups or actors for a common good (Bracht & Tsouros, 1990; Mitchell & Shortell, 2000). A shift in responsibility for planning and decision-making from agencies and professionals to the community and inclusion of various community groups in all preventive efforts is advocated to design actions appropriate to local circumstances (Labonte, 1997). Increased community collaboration is a mean to achieve community capacity to recognize and resolve health problems (Lasker, Weiss & Miller, 2001). Related terms are community health partnerships (Mitchell & Shortell, 2000), coalitions or alliances (Florin, Mitchell, & Stevenson, 1993).

Different conceptual frameworks have been developed for research on participation. Arnstein (1969) proposed "a ladder with eight levels of citizen participation". At the top of the ladder is community control and maximal citizen participation. At the bottom of the ladder is illusory and rhetoric form of participation, where community people are proposed to adopting an expert initiated agenda. Tones and Tilford (2001) used this spectrum of participation to make a parallel to top-down and bottom-up approaches. They categorised programmes into five community organisation types by their level of participation. Type 1 programmes signify community empowerment and improvement in socio-economic status. By contrast, type 5 programmes i.e. the traditional disease prevention programmes are characterised by limited community participation, but use a mix of agencies as intervention channels.

Rifkin (1986) have proposed one framework that shows how people participate in programmes and one analytical tool which enables assessments of the extent of participation in five key areas of a programme; needs assessment, leadership, organisation, resource mobilisation and management (Rifkin, Muller & Bichmann, 1988). This methodology also referred to as the spider web or spidergram has previously been applied in evaluations of community health programmes, to understand the mechanisms of participation and to compare findings of different groups of informants (Bjärås, Haglund & Rifkin, 1991; Schmidt & Rifkin, 1996; Eyre & Gauld, 2003; Naylor et al, 2002).

Some general features or critical elements have been identified to influence participation. Factors that have been proposed are who determines the needs, a clear mission and corresponding goals, history of working together and allocation of resources. Important elements in the organisational structure include governing, leadership, roles, coordination and communication. Aspects related to the organisational culture are common values, formal and informal relationships, how to maintain member interest and ensure sustainability (Mitchell & Shortell, 2000; Lasker et al., 2001; Brinkerhoff, 2002; Germann & Wilson, 2004).

2.5 EVALUATION

Ongoing monitoring and regular review should be included to be able to reorient plans. Evaluation can concern the results or the process or it can be part of a learning process. Although health promotion needs to account for its results, it is equally important to understand the processes. The monitoring and evaluation of complex interventions require different evaluations models and instruments. There is a need for testing and validating instruments that objectively document the process, the results and the costs of various health promotion programmes. Some measures of health promotion outcome proposed for studying the process include: 1) Social action and influence including measures on community participation, empowerment, social norms and public opinions. 2) Healthy public policy and organisational measures including policy statements, legislations, regulations, resource allocation, organisational practices, culture and behaviour. 3) Effective health services measures including provision, access and appropriateness of preventive services; healthy environments measures including access to healthy options (WHO, 1999).

A programme theory (also referred to as causal or “effect” model or theory of action) has been proposed as an essential first step in programme evaluation (Fitzpatrick, Sanders, & Wohrten et al., 2004). The use of a programme theory could serve several purposes: First, it describes the programme and communicates the place of a programme within a context (McLauglin & Jordan, 1999). Second, a programme theory provides the scientific justification for how the elements of the programme intend to work to achieve desired outcomes. These assumptions are based on hypotheses, theories or desired links between the intervention activities and effects (Sanderson, Haglund, Tillgren, Svanström, Östenson, Holm, L-E. et al., 1996). Third, it defines outcomes, measurements and data collection needed in the evaluation (Weiss, 1998; Rogers, 2000). Fourth, it can be applied as a tool to assess whether the programme was

implemented as designed and performed as intended. Employed in summative evaluations it can assess the validity of the hypothesised linkages between cause and effect in the programme theory model and may help explaining success or failure of programme impact (McLauglin & Jordan, 1999). As Lipsey & Pollard (1989) points out: a program may disappoint because a flawed theory was implemented or because a good theory was poorly implemented. Finally, the programme theory may be used in formative evaluations as a quality assurance. When there is a delay between activities and outcomes it becomes important to know whether the programme is on right track i.e. making progress in accordance to short-term or intermediate outcomes, and if not, corrective actions in the program design may be needed (Rogers, 2000).

2.5.1 Studying implementation processes

Because large-scale community programmes are complex and involve many actors and a variety of activities, monitoring programme implementation is particularly important (Pirie, 1999). Monitoring the implementation of a programme according to a planned schedule or predetermined objectives is viewed as a minimum level of evaluation of all health promotion programmes. However, few studies are to be found in the scientific literature. This indicates that this type of evaluations is either not conducted or that they are performed as a routine procedure within the programmes and published in internal reports. Potvin (2001) argues that programme coherence, testing the fit between prior theoretical frameworks and the empirical world, should examine how the programme theory was modified due to the daily practice and interaction in the community. It could potentially lead to useful insights concerning theories of interventions and help developing new program theories.

A methodology used in assessing programme implementation is employing rating scales (Lipps & Grant, 1990; Stevenson, Florin, Scott Mills & Andrade, 2002). Most studies are, however, concerned with whether the programme was successful in achieving its plan of action and highlighting key elements for disseminating successful programs (Potvin & Richard, 2001; Nutbeam, 1998). One criterion of a successful implementation has been proposed to be that the programme gained acceptance and the final aim that it is locally adopted and institutionalised. Local ownership or adoption of the program may be that the community continues to support and finance the project or that it becomes a part of the ordinary work and routines of the community (Fosse, 2000). Ensuring long-term community ownership depends on how successful the program has been to facilitate broad community participation of citizens and organisations (Bracht, Kingsbury & Rissel, 1999).

3 OBJECTIVES

The main objective of this thesis focused on how to capture the complexity in the implementation of a community health promotion programme.

Specific objectives:

1. To describe the development and implementation process of SDPP and to assess if the programme had been implemented as planned by utilising the SDPP planning model.

2. To analyse the development of local intersectoral participation in SDPP by using the spidergram methodology.

3. To identify health activities in the ordinary work of the local governments by applying a matrix based on WHO's 38 Health For All targets, and thereby exploring the capacity of the local governments as a potential actor in health promotion.

4. To analyse local newspapers coverage of physical activity by using media monitoring and media analysis and thereby exploring the capacity of the local mass media as a potential actor in health promotion.

4 MATERIALS AND METHODS

4.1 THE STUDY AREA

Both the intervention (Sigtuna, Upplands Väsby and Värmdö) and the control (Tyresö and Upplands Bro) municipalities are located in the metropolitan area of Stockholm. Upplands Bro, Sigtuna and Värmdö are by area 328-438 square kilometres while Tyresö and Upplands Väsby are, 68-75 square kilometres. All the municipalities have a varied landscape with both urban and rural areas. In addition, Värmdö comprises nearly a thousand islands in the Stockholm archipelago.

The municipalities have increased their population during the intervention period 1995-2004. In Sigtuna the number of inhabitants increased from 33 406 to 36 322, in Upplands Väsby from 36 277 to 37 517 inhabitants, in Värmdö from 26 548 to 34 029 people, in Tyresö from 36 627 to 40 605 people and in Upplands Bro the number of inhabitants increased from 20 025 to 21 348 persons.

4.2 PUBLIC HEALTH WORK WITHIN THE MUNICIPALITIES

In the 90´s local public health issues in Stockholm County were regionally supported and co-ordinated by public health units and regional co-ordinators in six medical health service districts. The intervention and control municipalities all resided within two of the districts. The intervention municipalities Sigtuna and Upplands Väsby and the control municipality, Upplands Bro were located within the north-west medical health service district while the intervention municipality Värmdö and the control municipality Tyresö were included in the south-east medical health service district.

The intervention municipalities of SDPP were selected because they had been collaborating with the county council in previous projects. Sigtuna participated in the Stockholm Cancer Prevention Programme (SCPP) during 1987-1997. The working group “Target health” within SCPP formed the taskforce of SDPP. Upplands Väsby had participated in activities within the diet intervention “Target Health”. Värmdö were collaborating with the county council in a project “Healthier Värmdö” for prevention of type 2 diabetes and cardiovascular disease. The project included education and skill building activities to individuals and groups to promote lifestyle changes. The work of SDPP was incorporated within this project. The control municipalities were selected to demographically match the intervention municipalities.

All the municipalities have had health planners, which were financed regionally but placed locally in the primary health care. Upplands Väsby and Tyresö have had additional local health planners located within the municipal administrations and financed 50/50 between the municipalities and the county council. In the intervention municipalities the project leaders of SDPP worked closely together with the health planners. In Sigtuna, another project leader has been appointed for a safety promoting project and later on a women’s project. Upplands Bro has had a project leader for a

physical activity project in 2001-2002 followed by an obesity program in collaboration with the county council.

Regional strategies of the medical health service districts and their co-ordination of the public health work resulted in implementation of similar projects and activities across the municipalities within the same district. Allergy and safety promotion have been conducted in all the municipalities. Tobacco, alcohol and drug prevention and the health of children, youth and elderly are other actions that have been running in most municipalities. Upplands Väsby and Tyresö have focused on crime prevention. Physical activity was promoted in Upplands Bro. Sigtuna had a project for promoting women's health and preventing breast cancer.

Public health councils including politicians and civil servants within the municipal administrations have only been active in Sigtuna and Upplands Väsby. Public health groups with civil servants in the municipal administrations and other local authorities have been established in all municipalities. However, in Värmdö the group was established in 2000 and referred to as welfare collaboration. In Tyresö, public health issues have been discussed and co-ordinated within the environmental work.

Local public health plans have been developed in Sigtuna and Upplands Väsby. In Sigtuna the plan was adopted in 2002. It made public health one of six main target areas within the municipality. Additionally, the organisation of public health and the role and institutionalisation of SDPP became more explicit. In Upplands Väsby a local public health plan was adopted in year 1998. A new public health plan was developed in 2003 to further increase the intersectoral responsibility and to institutionalise the public health work. The project leader of SDPP had a prominent role in this development.

4.3 GENERAL RESEARCH APPROACH

A case study approach was utilised, where the municipalities were treated as separate cases to achieve an understanding of the individual case before general patterns across the municipalities were summarised. Case studies are preferable when the aim is to understand certain situations in great depth or variations from one setting to another (Patton, 1990)

The present studies applied a mixed approach of quantitative and qualitative measurements, inquiry designs and analytical approaches. The method strategy generally included: 1) collecting qualitative data, 2) a deductive inquiry design, and 3) quantitative or qualitative content analysis as analytical approach.

Multiple methods were applied to strengthen the study design (Patton, 1990). Triangulation of data sources was used in study II to obtain a variety of data for cross comparisons and increase the validity in the study. In study IV, quantitative and qualitative methods were combined. The quantitative approach facilitated to organise the extensive collection of press cuttings. It enabled to gain a comprehensive picture of the frequency and characteristics of the mass media material that could be compared

between sites. Moreover, it enables the reader to judge how typical the selected quotations, in the following qualitative analysis, are in relation to the total material. It further facilitated inter-rater reliability test of the coding (Kvale, 1996). In the qualitative approach the themes were discovered from the articles. It enabled to receive a deeper understanding of how physical activity was portrayed in the local newspapers. The methodological approaches are summarized in table 1.

4.3.1 Data collection

Primarily qualitative data (open-ended responses in questionnaires, group discussions and documents) were collected to study the selected programme components. The questionnaires included ranking scales, which are to be regarded as quantitative data. Questionnaires, group discussions and documentation within the programme were used to obtain information on the programme implementation and participation processes (Study I and II). A monitoring system was developed at the initiation of the programme to keep a solid documentation on all the activities performed (Tillgren et al, 1997). Minutes were kept of all meetings within the program. The project leaders kept diaries and prepared monthly and annual reports that were filed at DPU. In addition project plans, invitations, posters, pamphlets etc concerning the implementation of local activities were filed. News and advertisement in local newspapers related to type 2 diabetes, physical activity, diet, and tobacco have been collected prospectively during the program implementation period as a part of the monitoring system of SDPP. To identify the support for health actions within the policy environment, annual local governmental reports were collected and analysed (study III). Press cuttings, about physical activity, in the local newspapers were collected to gain insight about the support for health actions in the media environment (study IV).

4.3.2 Analytical approach

The analytical procedures in the studies have been based on thematic content analysis. Content analysis (or textual analysis) is defined as a process of identifying, coding and categorising the primary patterns of the data. In this way researchers can systematically analyse information from transcripts of interviews, archival records, documents or observations (Patton, 1990).

The process started with reading through all the written material to get an overview of the material and thoughts on how to organise it. A common feature in content analysis is that the material includes extensive amounts of information. Then follows a time consuming ”process of boiling down” the information via different coding techniques (Dahlgren, Emmelin & Winqvist, 2004). This is conducted by looking for patterns in the data. These patterns can be represented as themes, categories, dimensions or classification schemes (Patton, 1990). In inductive analysis the themes are “discovered” from the data. The initial process of identifying, labelling and describing features of the data is referred to as open coding. In the next step, selective coding is conducted to reduce the number of codes and clustering them into categories by combining inductive and deductive thinking. The categories are then used when going through the material again, now better knowing what to look for (Dahlgren et al, 2004). This contrasts to an

analytical deductive approach where for example a theory or a model provides the given categories for coding the material (Dahlgren et al, 2004). Deductive coding was applied in all four studies. Study I and II used a deductive approach already when collecting the data. The analytical tool or methodology applied predetermined what information was to be collected. In study III and IV, an inductive approach including open coding was applied in the initial stages of the analysis.

Content analysis could be conducted quantitatively or qualitatively. Quantitative content analysis seeks to measure the frequency of certain features in the text whereas a qualitative approach aims to achieve a deeper understanding of the phenomenon (Silverman, 1993). In the studies of this thesis, both quantitative and qualitative content analysis was applied. The quantitative analyses included computerised data processing in the software programmes Epi 6 or MS Access (study II and IV). First, a coding scheme also referred to as a variable list was developed including general categories and sub categories. Epi 6 is a statistical data programme and the categories were, thereby, assigned a code number. Ms Access is a software programme that enables to organise, sort and relate data in form of text. The general categories and subcategories were assigned a code word instead of numbers. In study II, the MS Access data base were used to sort information on the activities performed and partnerships established to detect patterns of participation and changes over time. The computerised data processing, in study IV, was presented in the form of descriptive statistics. In the qualitative content analyses the following procedure was applied. Quotations or text from the documents, the open-ended responses in the questionnaire and written summaries from the group discussions were categorised in relation to defined categories. A matrix approach also referred to as logical or “descriptive” analysis was constructed and applied. It enabled to cross-classify different dimensions in the data to further describe patterns and relationships in the process (Patton, 1990). Syntheses were generated to find out factors that appeared critical in the implementation across the municipalities.

Table 1. A summary of the methodological approaches applied in the thesis

Study	Focus	Materials/Data collection	Timing of data collection	Analytical approach
I	Implementation process	Documents within SDPP Annual local governmental reports	The years 1988-2000 The years 1995-2000	Thematic content analysis. Deductive coding by using the SDPP stage model as a descriptive analytical tool. Comparisons between planned and actual implementation
II	Participation process	Questionnaires: with open-ended questions and ranking scales Documents within SDPP Group discussions	In 1997: (N=10); In 2000: (N=19); In 2002: (N=18) The years 1995-2002 (5,000 pages) In 2002/2003 (3 groups, 17 participants)	Thematic content analysis. Deductive coding by applying the spidergram methodology. Syntheses and comparisons of the results from the different data sources and across municipalities.
III	The local governments	Annual local governmental reports	The years 1995-2000 (1,142 pages)	Thematic content analysis. Initial inductive coding. Deductive coding by using “the HFA-targets” as a descriptive analytical tool. Quality criteria applied: key values within health promotion.
IV	The local mass media	Press cuttings about physical activity in five local newspapers	The years 1997-2002 (1,484 newspaper issues, in total 2,128 press cuttings)	Thematic quantitative content analysis. Deductive coding. Thematic qualitative content analysis. Inductive and deductive coding.

4.4 THE DESIGN OF EACH STUDY

4.4.1 Study I

This study is the base of the thesis. It summarises all the components of the programme implementation from theory to practice, from planning to implementation and evaluation. The study was initiated to get an overall picture of the programme and its interaction with the intervention municipalities that could provide a base for future evaluations of the programme. One objective was to describe and reflect upon the programme development and implementation processes of SDPP. Another objective was to test if the planning model of SDPP could be a useful tool for studying the implementation and assess whether the programme had been delivered as planned. Information about the implementation process was based on documents within the monitoring system for SDPP and annual local governmental reports in each municipality. Information from these documents were collected and categorised in relation to the stages and phases in the SDPP's planning model. This was conducted by reading the material and write down activities that related to each component in the model.

The model is a stage model that includes the programme phases: getting started, community analysis, initial programme design, programme preparation and implementation and review. Programme development activities included in the model are: organisation, strategy, targets, evaluation and funding. The phases and the development activities in the model created a 22-cell matrix. It was used as a check instrument to describe what had happened during the different phases and activities of the programme. It was compared to a previous review of the programme planning (Bjärås et al., 1997) looking especially for variations between planned and actual implementation. Based on the information obtained about how the programme indented to reach its goals, a model of the programme theory of SDPP was developed. This model was, then, applied to review the programme implementation and reflect upon the progress of different strategies to reach the intermediate- and long-term outcomes of the programme. This was a way to monitor if the programme was on right track.

4.4.2 Study II

The focus of this study was to receive a deeper understanding of the development of local participation and participatory relationships between the programme management (DPU), the local steering committees and local partners in the intervention municipalities. Local participation was defined as the inter-sectoral participation of various local actors in different programme areas and stages. The objective was to analyse the development of local intersectoral participation in SDPP by using the spidergram methododolgy. The spidergram method was used in combination with a document analysis and group discussions. Information was collected at three points in time (year 1997, 2000, and 2002). The local steering committee members described and estimated the extent of inter-sectoral participation. These results were compared with the extent of participation revealed in documents and then interpreted in group discussions.

The spidergram method (Rifkin et al., 1988) measures the extent of participation in five programme key areas: planning, resources, leadership, network and implementation. Questionnaires were designed with open ended questions to understand the development of participation in each programme key area. Additionally, a continuum was developed for each key area indicating narrow participation (expert-driven approach) at one end and wide participation (community-driven approach) at the other end. The representatives of the local steering committees responded individually to the questionnaires. To get a base line measure a retrospective assessment of year 1997 was conducted in year 2000, with steering committee members in Sigtuna and Upplands Väsby (N=10). Members in all three committees responded to the second questionnaire in 2000 (N=19) and the third questionnaire in 2002 (N=18). The ranks for each steering committee were averaged (median value) and visualised in a pentagram (spidergram) showing the perceived extent of participation in 1997, 2000 and 2002. The differences between the assessments showed where changes had occurred and to what extent. The responses to the open-ended questions in the questionnaires were analysed by a content analysis. The respondents' answers were categorised in relation to each key area, year and municipality. In the next step, a summary was provided for each municipality including all years.

A document analysis was conducted including approximately 5 000 pages of documents about the local intervention process in each municipality during 1995-2002. To systematise the information a data base was established in the software programme MS Access. For each municipality, three separate data sets were made. One data set included information about the steering committee members: organisational affiliation, year of involvement, attendance at meetings and involvement in activities. Another data set concerned activities: year of initiation, type of activity, target group, targeted risk factor, strategy and settings. The third data set consisted of information related to partnerships formed including: type of activity, actors involved at different levels, what kind of involvement, and steering committee members involved in forming the partnerships. It was then possible to sort the number of activities or partnerships initiated during a particular year or how many actors had been involved in the same activity during several years. Analyses were not conducted to achieve an exact number to judge the extent of inter-sectoral participation, but rather to see the patterns of

participation and changes over time. Important information found in the documents that did not fit into the data base structure were extracted and documented in a MS Word document. The information was sorted in relation to each year. A heading was added indicating whether the information concerned DPU involvement, the steering committee, local partners, resources or other reflections. This information was collected as potential influential events and used as input in the comparisons.

Group discussions were conducted with the members (N=17) in each local steering committee in 2002/2003. The purpose was to collectively reflect and interpret the meaning of the changes in each key area visualised in the spidergram and according to information found in the document analysis. Each steering committee was assembled in a meeting. First, the methodology of the spidergram method was presented. Secondly, the spidergram figure was shown to illustrate results from each assessment and changes that had occurred over the years. Thereafter, the discussion was guided by questions about whether the changes illustrated in each programme key area seemed valid. Moreover, the discussion focused on inconsistencies found between answers obtained from the open ended questions, the ranks and the document analysis. Finally, their perception of the questionnaire and rationales for their assessments were discussed. Field notes were taken and a summary of the discussion related to each key area were written.

The assessments were interpreted by triangulation. A synthesis was conducted of the results from each of the data sources described above. Cross-comparisons were made in three steps. First a matrix was developed for each municipality to compare the information obtained from the different data sources. In the matrix, each key area was summarised including information from the open ended questions in 1997, 2000 and 2002, reflections in the group discussion and findings in the document analysis. These findings were compared with the spidergram ranking of each municipality and year. Second, another matrix was designed for each municipality to assess the involvement of actors: experts/DPU, the steering committee, and other local partners in the different phases (1997, 2000 and 2002) of the programme. Finally, in a third matrix, similarities and differences in the involvement of DPU, the steering committee members and other local partners were compared between the three intervention municipalities.

4.4.3 Study III

The objective was to identify health activities in the ordinary work of the local governments and thereby explore the capacities of the local governments as potential actors in health promotion. It was tested if investigating annual local governmental reports could provide information about local agenda-setting priorities and capacities for health promotion. The study material consisted of annual local governmental reports during 1995-2000 in the three intervention municipalities of SDPP.

The WHO:s HFA targets had been applied in a previous study to identify health promotion activities in annual reports of district councils in Gothenburg city (Ehnberg & Stigelius, 1995). Based on these experiences, a similar instrument was elaborated on to identify health promotion actions in annual local governmental reports. A matrix with the 38 “health for all”-targets from 1991 (WHO, 1993) was developed and applied as a coding sheet. Quotations in the local governmental reports were categorised and inserted in the matrix in relation to the target areas. The WHO’s classification of targets into the main areas: goals, strategies and support formed the more general themes. In the next step, each target area was analysed and valued. A system of assigning plus or minus to the target area were applied. The criteria used for valuing the target areas were based on fundamental values in health promotion such as intersectoral collaboration, policy development and monitoring progress. One plus sign (+) was given if the target area was mentioned in the annual reports and a minus (-) if it was not targeted. Two plus (++) were assigned to the target area if it was described as an intersectoral project or if the activity was mentioned by more than one governmental committee. Three plus (+++) were achieved when policies, action plans or monitoring system were incorporated in the ongoing work for the particular target area.

4.4.4 Study IV

The objective of this study was to analyse local newspapers coverage of physical activity and thereby explore the capacity of the local mass media as a potential actor in health promotion. An approach of media monitoring and media analysis methods, for studying the frequency, prominence and framing of media coverage was presented. To illustrate the methods the study focused on press cuttings related to physical activity. This was decided as physical inactivity is one of the strongest risk factors for type 2 diabetes and has been the major focus of intervention within SDPP. First, general patterns in the reporting of physical activity in five local newspapers were determined. Second, potential influences and dissemination of public health information due to the presence and collaborative efforts of SDPP were studied. Editorial content (reportages, news articles, news items, editorial column and letters) and advertisements (paid adverts and free public notices) had been collected prospectively during the programme period as part of the monitoring system of SDPP. In 2001, the coding of all the collected press cuttings started and the data were entered into the software programme epi 6. This study comprised the main local newspaper in each of the five municipalities during the years 1997-2002, in total 1 484 issues. The study sample focuses on the press cuttings reporting on physical activity.

Deductive and inductive coding was performed using both quantitative and qualitative content analysis. First, a quantitative content analysis was performed to describe the frequency and prominence of the coverage of physical activity. A list of variables was defined based on a framework developed by Brännström and Lindblad (1994). It included background variables such as newspaper name, publication year and month. Characteristics of the cutting comprised; type, size, images and content of the images. Main content and headline were specified as well as actors interviewed, if their statements expressed an opinion or facts and if the articles expressed a health perspective. The number of physical activity items and the proportion of editorial content and advertisements were estimated in each newspaper. The prominence of the editorial content of physical activity was operationalised by the size of the article, number of pictures and placement of the headline above or below the fold of the page. The frequency, characteristics and prominence of press cuttings about physical activity (N=2 128) were estimated in the software programme epi 6 and presented as descriptive statistics.

In a second step, a qualitative content analysis was designed to deeper study the general patterns of local news reporting on physical activity in the editorial content (N=224). Special attention was given to how physical activity was framed/portrayed in the local news. Inductive, open coding was used on 20 articles to gain categories for further coding procedures. Each sentence or paragraph in the articles was labelled with a code word. These codes were entered into the software programme MS Access and sorted. Relating codes reduced the number of labels to more general themes. These themes or “frames” formed a new coding list. It focused on the topic, settings, health aspects, actors, informational sources, contextual information and level of action. A data base was developed in MS Access, to enter and sort the information.

4.5 ETHICAL CONSIDERATIONS

The studies were approved by the regional ethics committee at the Karolinska Institutet. The respondents to the questionnaires and participants in the group discussions (study II) were selected based on their involvement in SDPP. They were informed beforehand that participating was voluntary. All the responders gave their consent to participate. Information about the research project in general and the specific study was announced verbally and on the meeting agendas. In addition information was given in a covering letter of the questionnaires. The questionnaires could be responded anonymously. The respondents were participating on behalf of their working position and they could choose whether they wanted to respond with their name on the questionnaire. The information collected was not regarded to be sensitive or harming the personal integrity. In reporting the information no names were presented except for the project leaders and the management of DPU, who had given their permission to do so. In the presentations of the members involved in the steering committees (study II), it may be possible to identify them by their working position. However, it is not possible to identify what a specific member have responded in the questionnaire or the group discussion. All documents and media cuttings used are official materials. In addition, no names or positions are mentioned in relation to the statements presented. All the material has been filed with special attention to security.

5 MAIN FINDINGS

5.1 STUDY I

5.1.1 The implementation process

It was found that the programme by large had been implemented as planned. However, due to financial shortfall and the long-term administration of the etiological study it was not possible to manage a periodic review after 5 years. The programme preparation and organisation were seemingly satisfying for its development and implementation. Most efforts have been made to promote physical activity. This was motivated by data from the etiological study and other research showing the obvious benefit of physical exercise as a protective factor for type 2 diabetes and other diseases. Physical activity was also the target area that received most interest and engagement locally. Tobacco use was added as fourth risk factor since findings from the etiological study showed an association between smoking and snuff and the development of type 2 diabetes. The program strategies have slowly moved from short-term activity-based to integrated long-term health promotion work within the political and administrative structure. It has been a time-consuming process, but over the period the interest has grown at the municipal authorities. Improvements in the physical environment such as preparing walking and bicycling tracks were the activities that yielded most co-operation, financial support and local responsibility for maintenance. It was found difficult to motivate restaurants to engage in activities to promote healthy food and smoke free environments. There has been limited documentation within the programme on how well it has reached the adult population and whether the information and activities implemented have empowered them to protect their health.

5.1.2 The stage model as a tool

The planning model of SDPP was found to be a simple and useful tool to follow the implementation process. It provided a structure for describing what have occurred in different phases and to compare whether the programme had been implemented as planned. It was acknowledged that the programme phases and components are, in reality, not strictly separated in time. Programme components are rather overlapping each other and there is a constant movement back and forth between them. The model was, thereby, too rigid to elucidate the dynamics and all underlying circumstances and evidence of programme development.

5.2 STUDY II

5.2.1 The local participation processes

The assessment of the local inter-sectoral participation processes showed that the perceived degree of participation was not increasing by time but rather varied across the key areas during the program period. Since the programme was regarded to be a product initiated and owned by the county council, it was surprising that expert/DPU involvement was not perceived to have exerted control over the local programmes. The initial presence of DPU was valued positively. The steering committee members rather felt more involved and part of the implementation in the beginning due to the contact and skill building activities with DPU. It was emphasised that when the presence of DPU declined the independency of the steering committees increased, which in turn created some uncertainty over programme goals and strategies. Continuous assistance from DPU was requested. The local committee members were important for adjusting the programme to local conditions. Initially, they were also important channels for information exchange and establishing partnerships with other actors. In later years the implementation and collaborating efforts with local partners became more focused to the project leader. The perceived participation was not always consistent with information obtained by the other data sources. Only small changes between the years were shown in the spidergrams, while the document analyses indicated greater changes in some of the key areas. It was noted in the group discussions that many of these inconsistencies depended on varying degrees of personal involvement in activities and communication within the local steering committees.

5.2.2 The spidergram method and triangulation of data sources

Applying a multi-method design was found to provide a wide range of information. Moreover, it enabled cross-comparisons between data sources and controlled for weaknesses of each method. The spidergram method was found to be a pedagogical tool that stimulated reflections, the participatory and co-learning process. The steering committee members thought that it very clearly illustrated the dynamics of community participation. Steering committee members in Sigtuna and Värmdö, however, thought that placing the marks in relation to the given statements was difficult. In contrast, the steering committee members in Upplands Väsby found the instrument easy to answer. The key area, resources was found difficult to estimate by all steering committees. Other difficulties connected with the method were to manage to process and present all the material and dimensions in the analysis in an easy and meaningful way.

5.3 STUDY III

5.3.1 Health actions whitin the political governments

WHO's 38 HFA-targets were not adopted as a strategy in any of the three municipalities but almost all the targets had been profiled by objectives and activities in the municipal governmental committees and administrations. Most of this work was not labelled as health promotion. Goals for improving health outcomes have specially focused on children and young people, supporting socially and economical vulnerable groups and people with disabilities. Targeting women's health has been less developed.

Diabetes prevention and participation in SDPP, allergy protection and safety promotion were acknowledged. Cancer, communicable and cardiovascular diseases were not directly targeted. Strategies for promoting healthy lifestyles were particularly concerned with tobacco, alcohol and drugs. A comprehensive policy promoting healthy lifestyles was only adopted in one of the municipalities. Improving health competence consisted of information about local policies, radon, sun exposure and healthy lifestyles.

Healthy public policies mentioned in the annual reports of the municipalities were an equality policy, an alcohol and drug policy, a welfare programme, a local disability programme, an environmental strategy and a local Agenda 21 plan. The environmental aspects were frequently addressed across the governmental committees and administrations. Additionally, health promotion activities were often presented under the headline of environmental strategies.

Many of the target areas included intersectoral work. Although, "partners for health" including developing structures and an active process of participation in health issues were under development. The social welfare administration and board for environment and health protection were most involved in health promotion efforts.

5.3.2 Local governmental reports and WHO's HFA targets

The annual reports were found to reveal important information concerning activites related to public health within the local governments. WHO's HFA-targets provided an easy and meaningful way to extract and classify relevant public health initiatives. It was, however, acknowledged that the method could not separate visionary goals from actions implemented. The targets were valued in relation to fundamental health promotion principles/values, but the study could not tell whether the initiative mentioned really existed, the quality of them or their effect.

5.4 STUDY IV

5.4.1 Health actions in the local mass media

There were more similarities than differences between the municipalities in the media portrayal of physical activity. Similar in all municipalities was that physical activity was reported both as a positive feature in the local community and an issue creating debate about priorities and resources involving the public, local organisations and the authorities. Health aspects were expressed as reinforce performance of physical activities. Health aspects were also used as an argument when discussing limited priorities or availability of activities, facilities and recreation areas. Differences detected in the reporting were that two of the intervention municipalities (A and B) had a higher presence of physical activity content, expressed health aspects and utilised a thematic framing more often in the stories than the control municipalities.

5.4.2 Media monitoring and media analysis methods

The approach was found relevant for studying the extent, visibility and characteristics of physical activity content in the local newspapers. We found some methodological difficulties, when trying to use media coverage as an intermediate measure/outcome of programme exposure or dissemination. The present study design and the media tracking system available were not able to trace if the programme had had any influence on the health related content in the local newspapers.

6 DISCUSSION

6.1 REFLECTIONS ON THE IMPLEMENTATION PROCESS IN SDPP

The programme's theory made explicit important elements for understanding the implementation process at the municipality level. It adressed 1) how the programme was planned and actually implemented, 2) the development of local intersectoral participation, 3) identifying health actions within the local governments, and 4) exploring the capacities of the local mass media as potential actors in health promotion. A primary focus of the thesis has been to further elaborate on analytical tools for studying these elements. Strength and weaknesses of the analytical tools will be discussed in 6.3.

6.2 PLANNING PROCESS

According to study I, the implementation of SDPP at the local level has mainly proceeded in accordance with the original plan. Preperations for initiating a primary prevention programme for type 2 diabetes including investigating the aetiology of type 2 diabetes were conducted by external experts. Decisions to implement the programme were primarily taken by the medical health services districts at the regional level. In addition defining the course of actions and expected outcomes, assessing available organisational capabilities and involvement of relevant actors were performed by external experts. This is in line with how most large-scale community programmes have been initiated and prepared. However, it is in contrast to the preferred approach of community interventions as argued for in the scientific literature. Active involvement of people and the community should begin with what they define as needs and goals to be addressed (Rifkin, 1986; Labonte, 2001; Minkler & Pies, 1997).

The municipalities were approached to participate in the programme, by the medical health services districts, based on previous collaborations in health promotion work. This could have both positive and negative consequences for the interventions. A history of working together has been viewed positively to govern corresponding values (O'Neill, Lemieux, Groleau, Fortin, & Lamarche, 1997). On the other hand, it might neglect the importance of investing a lot of time to build local trust and acceptance for the intervention (Walter, 1997).

Programme inputs to the local interventions have comprised resources in terms of monetary funds contributed by the county council. In study II, regionally funds were perceived to have comprised the major part of resources allocated for the programme. However, in the economic evaluation it was found that approximately 1/3 of the total costs for the local interventions were financed locally. Resources were invested in the programme by time devoted for engaging in intervention activities, materials and services provided by the local partners (Eriksson & Johansson, 2005). Important inputs from the programme were personnel resources in form of a project leader in each municipality and the programme management (DPU) supporting the local

interventions. Health education, skill building activities and assistance were provided to local actors especially in the initial stage of the intervention.

Organisational profiles were conducted as part of community analyses in the three previous Swedish health promotion programmes (Brännström, Rosén, Wall, & Weinehall 1988; Tillgren, Haglund, Kanström, & Holm, 1992; Bjärås, 1993). These analyses have been performed to set priorities and for planning and designing actions. The community analysis enabled to identify potential collaborators and the most appropriate organisations for carrying out the interventions (Tillgren et al., 1992; Bjärås, 1993). Various data sources were applied to get an overview of the organisational structure in the municipalities. Interviews with key persons, questionnaires, review of secondary data sources and internal documents from the organisations were conducted. Tillgren and co-authors (1992) concluded that community analysis is a time consuming process. The WHO-matrix applied in study III could be of potential use in such a first review of municipal capacity and readiness for involvement in health promotion. It provided an overview of how important health issues were addressed in the ordinary work of the local governments and administrations. This information may identify those actors that have an interest and the competence needed to design and legitimate appropriate intervention efforts (Bjärås, 1993).

6.3 IMPLEMENTATION STRUCTURES

The concept of implementation structure of interventions takes it departure in that there are some actors that will be more engaged than others in the implementation (Fosse, 2000). According to study I, the political level has been important. Formal decisions to participate in SDPP and to politically legitimate and support the programme were taken in the municipal executive boards. Having the local Heads of the municipalities representing the municipalities in the central steering group of SDPP has further made programme activities legitimate.

An appropriate infrastructure for promoting health was developed by forming local steering committees involving relevant actors and sectors to govern the local interventions (Bracht & Tsouros, 1990). According to study II, the local steering committees were initially important channels for planning and implementing activities. They were served as communication channels to and from their organisation and for establishing partnerships with local actors. The steering committee involvement declined in later years. It became evident that the role of the committees was unclear. There were differences in mandate to participate and influence decisions. Some members felt less involved and informed than others. In later years, the steering committees were functioning more as advisory groups for the local interventions. More work was carried out by the project leader. It was reflected that the individual responsibility should have been defined more clearly and the practical work shared to a greater extent within the groups.

Mobilisation of local partners has proceeded well in all municipalities. Partnerships and support have been developed within all levels in the municipalities. The involvement of

local actors increased over time. This was due to implementing activities that required more local decisions, skills and local resources from other instances. Most organisations initially identified as potential partners in the organisational profile of SDPP (Bjärås et al, 1997) have been involved in activities. Citizen involvement or grass-roots activism in planning and implementing activities had been clearly lacking in SDPP. However, it has not been the focus of SDPP, but rather to engage professionals from different sectors for joint efforts (Bracht & Tsouros, 1990). It has previously been found that the public are seldom involved in planning and making decisions about the community health promotion programmes (Brännström, Emmelin, Dahlgren et al., 1994; Bjärås, 1991). Explainations that have been discussed are whether the public lack channels for influencing community activities at this kind or if it is a naturally division of work between the public and professionals (Brännström et al., 1994). Bjärås (1991) has suggested that the community developmental approach where the public is actively involved in forming the interventions is too optimistic. Professionals will remain the primary actors of community interventions due to limited interest from the public and because established organisational structures of professionals initiating the interventions will remain. In SDPP, mainly one intervention activity, "the walking concept", has been carried out by voluntary local residents.

6.3.1 Local goverenments as an actor

It was demonstrated in study III, that much of the ongoing work in the local governmental committees and administrations relates to the public's health. Health aspects were addressed as goals and visions in the annual local governmental reports. Structural determinants of health such as economics, unemployment, education, welfare, care and the environmental issues were most prominently adressed. This may not be surprising since the municipalities are ultimately responsible for the welfare of their inhabitants. However, it indicates a potential and a readiness for the local governments to be involved in health promotion actions directed to the determinants of health. In SCPP, the authors were surprised to find the local environmental and health protection agency most interested in public health work (Tillgren, et al., 1992). This was consistent with our findings. The work on sustainable development and Agenda 21 has received great support locally. According to Fosse (2000) it could be explained by that the environmental work fits well into the bureaucratic structure and is well supported by legislation and delegated responsibilities. Bjärås (1993) acknowledged that support for safety work was often founded in legislation. Legislation gives responsibilities and offers guidelines for the municipal administrations. This gives implications for that the governmental bodies and administrations are fundamental actors to be involved in public health work.

6.3.2 Local mass media as an actor

In study IV, it was found that health aspects were addressed in articles related to physical activity in the local newspapers. Presented from the general publics view health aspects were expressed as reinforce performance of physical activities. Health aspects were also used as an argument when discussing limited priorities or availability

of activities, facilities and recreation areas. In addition, some studies were focused on health information related to physical activity or consequences for physical inactivity. It gives implications for that the local mass media may be an important actor to communicate a public health messages and an important forum that may assist in raising political and public awareness around health issues. Media monitoring and media analysis may, therefore, be valuable methods to reflect what issues are debated and how they are shaped on the media agenda (de Leuwe, 2001). However, to be noted is that who gets access to the mass media may differ (Brännström & Lindblad, 1994). Male persons in the position of authorities or medical staff were found to be the most prominent actors in the articles related to the Norsjö project. In study IV, the public and local authorities were the most prominent actors. Overall, men and women were equally cited in the local newspapers. Similar to the Norsjö study middle-aged persons were over represented and while elderly were seldom cited. In the case of SDPP, it was not possible to evaluate if the programme had had an impact on the health related content in the articles except for articles directly linked to the programme.

6.4 IMPLEMENTATION PROCESS

According to study I, re-orientations made in the implementation of SDPP have concerned a stronger focus on activities enhancing access to physical activities. This was due to findings in baseline study of SDPP showing that physical inactivity was the behavioural risk factor most strongly associated with type 2 diabetes. It was also the target area that yielded most interest, support and engagement locally. It was also around those activities that local integration and maintenance have been achieved. Altering tobacco consumptions was added as a fourth objective due to findings in the etiological baseline study (Persson et al., 2000). In contrary, the programme did not take action to prevent impairment of psychosocial health, which also was found as a risk marker for type 2 diabetes (Agardh et al., 2003).

Sigtuna and Upplands Väsby have performed more similar in the implementation process compared to Värmdö (study II and IV), which might be explained by different conditions, structure and approach in Värmdö. A great population growth has taken place in Värmdö during recent years. This has resulted in that most efforts have been put on building the infrastructure to meet the service needs in the population. Therefore, there has been less time, resources and priority to build structures for health promotion. This was also evident in the health economic assessment where local resources allocated in Värmdö were found to be about 1/5 compared to 1/3 in the two other municipalities (Eriksson & Johansson, 2005). During the year 2000 the local intervention work within SDPP in Värmdö was put aside awaiting a new organisation. Building a new organisation takes time and it resulted in less activities implemented and collaborations established. The work in Värmdö has also been somewhat less activity oriented and instead focused more on advocating efforts.

It has been argued that interventions tend to remain as projects and have difficulties to be translated to long-term policies because their nature of special funding, a fixed start and ending (de Leeuw, 2001). According to study II, total local ownership had not yet been achieved. However, some activities had been adopted by local organisations.

Maintenance of walking tracks has been prepared by political or administrative decisions making administrative boards responsible for it. Strengthening intersectoral networks within the programme has prepared the ground, competence and experiences of collaborations in the municipalities. As mentioned in study II, collaborations around specific activities or services have made the health promotion work visible and yielded interest locally. Over time the community has begun to raise concerns regarding more complex problems of segregation and health. This has led toward a new era of locally defined health promotion initiatives. In all three municipalities the project leaders of SDPP is continuing to promote health within these new efforts.

6.4.1 Local intersectoral participation

The involvement of DPU has fluctuated during the years with more activity in the beginning. According to study II, initial assistance, skill building activities with DPU and exchanging experiences between the municipalities' local steering committees were highly valued. The intention of DPU was to gradually withdraw to let increase the independency and control of the municipalities. This was achieved, but it also resulted in that some steering committee members felt abandoned. It created a sense of vague directions of the interventions. Lessons from this study suggest that continuous communication, assistance and skill building activities with the programme management may strengthen participation and a sense of belonging in the local steering committees. Overall, communication and shared responsibility within the local steering committees appeared critical for the development and perception of participation.

In SDPP, rather high local inter-sectoral participation was perceived in planning and implementing activities, whereas the resources, leaderships and networks were regarded more restricted. The involvement of the steering committees decreased over time with a stronger focus on the project co-ordinators. Local partners gained greater influence and responsibility as more activities focused on multi-sector collaboration and institutionalisation. Overall, activities were implemented in relation to local interest. All actors involved have probably not shared the same agenda of combating type 2 diabetes but have had a common interest in the local activities concerning increased access to physical activities, healthy food and health education etc.

Our study is based on the assumptions that a broad participation of various local actors is beneficial in allocating resources, gaining community acceptance and reaching broader segments of the population. In addition, more people involved have greater potential to achieve more. It is however debated whether broad participation is better than a more restricted participation. It has been argued that issues that have to do with values and collaboration is only possible when consensus is reached. Too much diversity can lead to conflicted interest (Mitchell & Shortell, 2000). Conflicted interest between actors were not emphasised in our studies. However, it was acknowledged that division of roles, decision making and labours should have been more clearly defined.

6.5 EVALUATION

6.5.1 Studying the implementation process

The strength of the programme theory was that it provided a visual presentation of the rationale and relationships between elements of the evaluation (Weiss, 1998; Rogers, 2000; Fitzpatrick, Sanders, & Wohrten et al., 2004). Another rationale for applying a programme theory resides in monitoring progress in the hypothetical links leading to the programme objectives (Sanderson et al., 1996). This thesis can not provide evidence for that an activated community leads to increased knowledge, changing attitudes or behavioural changes in the population, since it did not study what happens on the target population side of the intervention process. The thesis focuses on the planning and implementation stages in the process of SDPP.

The selection of the programme elements were based on their relevance in relation to the programme theory of SDPP. However, the focus selected will neglect some other important components. Outputs that relate to the process objectives of the programme were largely neglected. These outputs include: increased access, in the municipalities, to physical activities, healthy food in stores and restaurants, non-smoke free environments and counselling to increase physical activity, loose weight or quit smoking. These are briefly touched upon in study I when reviewing progress toward reaching desired outcomes. According to that study it would be most interesting in investigating increased access to physical activity. This objective was most vigorously pursued, and therefore likely to show an effect if successful. Studies could furher address communication processes, to see how the programme messages have been disseminated within the municipalities. The maintenance of the programme activities could be analysed more thoroughly.

6.6 GENERAL METHODOLOGICAL CONSIDERATIONS

As Green and Lewis (p57, 1986) have pointed out "where does the road lead if you measure to the left or to the right…".

Decisions about what areas are of interest for research or praxis are often based on theoretical or practice related assumptions (Kvale, 1996). In the present thesis, the studies were based on both practical and theoretical pre-understanding. The authors have had a practical pre-understanding of the program and its context due to involvement in the planning, implementation or evaluation of the programme. This is usually referred to in quantitative research as a problem for the researcher to maintain distance from the observed phenomena. In qualitative research the ability to capture the multiple realities of those studied by spending time and learn about the field is a method to increase the credibility of the study (Patton, 1990; Dahlgren et al., 2004). Initial interviews were conducted with officials and health workers in both the intervention and control municipalities. This was a good opportunity to learn about the municipalities, the municipal structure and the organisation and priority of public health issues. Closeness to the programme by participating in meetings and the programme process has been a favourable condition. However, it has sometimes made it more complicated to validate whether the results are consequences of logic interpretation and the actual account of main findings or if easy conclusions were made because there was some evidence that supported our experiences of the programme. This has been dealt with by continuously getting back to check the data with the data sources. Member checks (Dahlgren et al., 2004) discussing the findings with the steering committee participants were conducted in study II. Presentations of preliminary findings to colleagues and students, also called peer-debriefing (Dahlgren, et al., 2004) have enabled reflections upon the validity of the data. Notes about decisions along the research process have been written down in each study to enable reflection. Thus, a close insight in the programme process has been more advantageous than obstructing to assess and interpret the different programme components.

According to Kvale (1996) theoretical knowledge about the phenomena/concept that is going to be studied is a prerequisite to be able to ask relevant questions. The present studies take their standpoint in reality, and methods and indicators were based on the purpose of the studies. The selection of studying the implementation process, local participation, the local governments and the local mass media was decided as they were identified as key elements of the programme theory (fig.1). The programme was developed based on theories and previous research linking these concepts to the intended benefits of the programme. The theoretical pre-understanding has, therefore, influenced the choices of methods and aspects to be studied (Kvale, 1996).

The rationale for using a quantitative or a qualitative methodology in public health research has been debated. A pure qualitative strategy would involve: 1) collection of qualitative data, 2) a holistic-inductive design of naturalistic inquiry, and 3) content or case studies as analytical approach. A strictly quantitative approach would comprise: 1) quantitative data from 2) an experimental, hypothetical-deductive design, and 3) statistical analysis (Patton, 1990). However, it is now generally accepted that qualitative and quantitative approaches are complementary and serve different

functions rather than being mutually exclusive or hierarchical. In qualitative research an inductive approach is emphasised, where the themes and categories are discovered from reality as mirrored in the data (Dahlgren et al., 2004). As the phenomenon of our interest are conceptualised and derived from existing theories and previous research it may entitle a deductive approach. Using an established theory or a model is also a way of attaining valid indicators, but may pose limitations to what kind of information that is obtained. An inductive process of getting acquainted with the material has often proceeded even when a deductive approach was chosen. It has included a process of reading and re-reading the material and making notes trying to find patterns and concepts to sort the material. Oscillating between data and theory are referred to as abduction or an inductive/deductive mix (Dahlgen et al., 2004).

Validity is the principle that is used to judge the quality of research. As thorough descriptions as possible of the methods and coding procedures applied is one way to enable the readers to judge the value of information obtained and the interpretations made (Patton, 1990). Content validity indicates the degree to which an instrument has adequately sampled the meanings of a concept (Green and Lewis, 1986). The professional and scientific literature may provide some insight into the meaning of the concept. Triangulation of data sources, data collection methods, investigators or analytical techniques are recognized to increase the ability to make valid interpretations. It may compensate for weaknesses of a single method, hopefully provide a broader picture and foster reflections when comparing the data (Patton, 1990). Triangulation of data sources and data collection methods was utilised in study II and two different analytical techniques in study IV. Using different coders could have been advantageous in the present studies, but has not been possible due to time and resource limitations. However, in study IV reliability test, of the coding was conducted, which showed high consistency between coders.

Below follows a discussion on what is being investigated by selected methods within each study in this thesis. The strength and weaknesses of the applied approaches, data sources or methods will be discussed as well as whether approaching the study subjects in a different way could have provided better indicators of the components in the intervention process. Final judgements of the validity of the methods will be based on the ability of the methods or instruments to capture the concept under study.

6.6.1 Describing implementation (Study I)

In this study, the SDPP planning model was applied to describe the whole programme development. The description may serve as a basis in further evaluations. It identifies factors in the implementation process that may be of importance when interpreting outcomes in a summative evaluation. The planning “stage” model was used in combination with the programme theory “effect” model of SDPP. The stage model revealed details on how the work has proceeded. The effect model presented the underlying theory of how the programme intended to reach its goals. It enabled to describe and reflect upon the programme progress in relation to its plan of action (McLauglin & Jordan, 1999).

The method provided a framework, where a large amount of information could be organised and understood. The detailed planning model of SDPP is advantageous compared to more simple planning models, as it outlines a variety of programme phases and components. General planning models use to identify only the broad sequences: analysis, planning, implementation, evaluation and maintenance.

The model is, however, a simplification of the reality. Activities are seldom planned or implemented in such a rational step by step process (Potvin, 2005). Thus, the dynamics of local health promotion work was not visualised by the model. The information shows the breadth of activities undertaken in such a large-scale programme, but lacks in depth. The study mainly describes the process in implementing SDPP. It does not account for other processes in the municipalities that may have stimulated or constrained the implementation and health promotion actions achieved (Potvin, 2005). Moreover, using primarily programme documentation as a data source may pose constraints to the study. There is, however, no limit for what and how to review this process. Within each programme component or a particular phase it is possible to ask questions about why things turned out in a certain way and make additional data collections.

The implementation process was evaluated by comparing the planned and actual implementation. Rating the level of the implementation would have provided a more critical judgement of whether an area could be viewed as successfully implemented or not (Lipps and Grant, 1990, Stevenson et al, 2002). Additionally, it could have shown more explicitly how many activities that had been locally integrated. Individual measurements of participant rates as well as organisational level participation could further have enriched the descriptions. Monitoring of citizen participation in activities is, as noted in study I, clearly lacking in the programme. If the database developed for study II had been available it could have given insight into the number and types of participating actors at different levels and the amount of activities implemented targeting various population groups. Describing the implementation in each municipality would have made explicit variations among the sites. However, the intention of this study was not to compare the process between sites but rather compare planned and actual implementation of the programme.

In conclusion, the SDPP planning model was found useful to capture the development and implementation processes of the programme. However, a more critical approach, judging the level of implementation success could have increased the value of the study further.

6.6.2 Assessing intersectoral participation (Study II)

The spidergram method was used in combination with other methods to assess the long-term process of local participation in the intervention municipalities. A longitudinal approach revealed how participatory relationships were formed and maintained. It further showed how relationships between external and internal actors influenced the long-term development and perception of local participation. Using a

multi-method design enabled us to capture the dynamic and complex process of local participation.

The indicators of participation proposed by Rifkin (1988) has been used in several studies (Bjärås et al, 1991; Rifkin & Pridmore, 2001; Naylor, Wharf-Higgins, Blair, Green, & O'Connnor, 2002; Eyre & Gauld, 2003) and found appropriate to obtain valid measures of the extent of local participation in important programme key areas. The indicators are also consistent with other typologies and conceptual frameworks of local participation (Mitchell & Shortell, 2000; Lasker et al., 2001; Brinkerhoff, 2002; Germann & Wilson, 2004). The method has got several advantages. In our study the steering committee members highly valued the visual presentations of the spidergrams. It provided a clear picture of how the process of participation evolved over years. The spidergram method is a flexible framework that can be adapted to various settings and modes of data collection. Bjärås and co-workers (1991) proposed that the indicators can be used to for measuring participation: 1) at different times, 2) by different assessors or 3) by different participants. The assessments could be conducted by assessors or participant individually or collectively. Some studies applying the spidergram method have ranked the key areas by discussing and reaching consensus about appropriate level of participation (Bjärås et al, 1991; Naylor et al., 2002). A number of data sources could be employed such as interviews, questionnaires, group discussions and documents.

A limitation of the spidergram method is that it does not assess if intersectoral participation is good or bad (Rifkin et al., 1988: Bjärås et al 1991). The data base could provide detailed information of partnerships formed at various levels around specific targets areas or activities, duration of partnerships or which actors have been continuously involved in activities. However, it did not fit the spidergram framework to include this dimension.

The spidergram method builds on experiences of key persons or participants involved in the process (Rifkin & Pridmore, 2001; Eyre & Gauld, 2003). Still, it may be sensitive to participant replacement, recall biases, understanding or knowledge of the factors to be ranked. In study II the spidergrams only revealed small changes in the extent of participation between the years. This can be due to recall biases as the baseline assessment and second assessment were performed at the same occasion. It could also be that the ranking scale was not sensitive enough to detect differences. The respondents could choose to mark their response at positions between the given categories in the ranking scale. This was however, acknowledged as difficult in two of the steering committees. In particular, statement "C" indicating wide local participation caused problems. The statements often included the steering committee and local partners. The options were regarded to have limited correspondence to the reality when steering committee members felt that they have not been involved. This was also evident when controlling the internal validity between open-ended questions and comments with the rankings. In those cases, the ranking was not responded to. Additional statements to choose among in the ranking scales could have made the extent of participation more explicit. Perhaps it would have been more appropriate to use interviews or conducting a spidergram collectively in the group (Gibbon, Labonte, & Laverack, 2002). The dialogue within the group might increase the understanding

and knowledge of the factors to be ranked. A third possible explanation could be that most progress is made during the initial years. In Sigtuna and Upplands Väsby the programme had been going on for awhile even at the first assessment point. This is to be compared to Värmdö, where the participatory process was perceived to have changed significantly from initiating the new organisation to reach full operation. They conducted the baseline assessment the very same year the new organisation was initiated.

Adding a document analysis to the spidergram method was found valuable to compare the subjectively perceived participation with some "objective" measures of participation. Documents are advantageous since they reveal information about the practical work and how actors account for and legitimate their activities (Silverman, 1993). The documentation in the meeting protocols and activity reports had, however, not been produced to especially meet the purpose of this particular study. Information may be lacking or being inaccurate. Moreover, misunderstandings and misinterpretation may have occurred when coding the material. Uncertainties have as much as possible been avoided by asking the person producing the document or others involved in the particular activity. It would have been preferable if the data base had been set up in advance. It had been time saving and minimising errors if those involved in the planning and implementation of the activities had entered the information in the data base.

The group discussions seemed to have compensated for some of these biases and increased the validity of interpretations (Basch, 1987). It was learned when conducting the group discussions that more time should have been devoted for preparation and discussion. To have more time to reflect it might have been productive to let the committee members receive some information about the results of the study before the group discussion.

In conclusion, combining different methods and information sources to assess participation at different points in time, areas and levels contributed to the understanding of the dynamic process of participation. This further controlled for weaknesses in each method and compensated for recollection biases or lack of understanding and knowledge of some issues. In addition, it facilitated reflections on the information and thereby increased the validity of the interpretations. A formative use of the method is recommended to feed back information to the municipalities to be able to modify strategies. A retrospective use of the method will miss important learning abilities and potential use of the results (Potvin & Richard, 2001).

6.6.3 Analysing the local goverments (Study III)

In this study, it was explored what information on health promotion is to be found in the governmental annual reports. Moreover, WHO's "Health For All" (HFA) targets were tested as an instrument for identifying and systematically categorising the health promotion activities.

The strength of annual reports as a data source resides in their position as follow-up-instrument of the budget and operational plan, which is the governing instrument of the local governments (Kingdon, 1995). They also serve as public information officially stating political intentions in the municipalities (Rådet för kommunal redovisning, 2000). Annual reports may, therefore, reflect the awareness, intention and organisational practices for public health issues by the local authorities. Still, it is not possible to say whether this is the real practice of the municipalities. The annual reports may include plans which were not realised or initiatives that are not active anymore. It is, however, nearly the only official evidence available of intensions and practice of the ordinary work within the local governments' political and administrative structure. This analysis does not give a fair representation of the health promotion work in the municipalities. It only reveals if and how the work of the local governments and administrations relates to public health or public health work. An additional strength of using documents is that it is an unobtrusive measure, not affected by the researcher or the study situation (Silverman, 1993).

The 38 HFA-targets developed by WHO's were found to be a useful tool that could be applied for evaluation purposes and to map health promoting activities on the local level. It seemed relevant to use objectives and strategies that had been classified as important for public health based on research and internationally agreed upon. The coding procedure was facilitated by descriptions of the context, priorities and strategies for each target area provided by the WHO. To have consistently applied criteria to follow when deciding what information to include also strengthened the objectivity in the content analysis. One person was coding the material. Communicated validity or so called peer-debriefing was conducted with co-authors (Kvale, 1996; Dahlgren et., 2004).

Only small differences were found between the municipalities when assigning plus or minus in valuing the targets. This approach may not be sensitive enough to detect differences between the municipalities. On the other hand, there might not be so much difference between the municipalities at this level of analysis (local governmental level). The same laws and regulations are guiding the work in the local administrations. Differences between the municipalities may rather be evident by what is executed further out in the organisations. The present study design can not assess how health promotion work is addressed in other units, organisations and institutions except from the local governmental committees and administrations. To be able to say something about the implementation of actions in working units such as schools, children's day and home care, additional data collection would have been required.

A more qualitative approach with textual analysis could have yielded further insights into how health and promotion activities were defined. It would also have been possible to more quantitatively count and compare the amount of text about health promotion. The analysis could have been further enriched by comparing past and present trends. Additional data collection trying to obtain measurable indicators as proposed in HFA could have provided indications on the impact of the targets/policies.

In conclusion, the method appears to be particular useful in community analysis. It could be applied as a first step in monitoring organisational readiness and health

promotion efforts and identifying potential partners for joint actions. An even more relevant approach to a Swedish context could be to transfer the method to the Swedish national health goals that were established recently (Swedish National Institute of Public Health, 2003).

6.6.4 Analysing the local mass media (Study IV)

An approach to analyse media coverage was developed and tested. Additionally, it was elaborated on the rationales for using media monitoring in process evaluations.

Newspapers have been acknowledged to influence and reflect the community's agenda (Newman & Fitzsimmons, 1994). Analysing mass media coverage has been proposed as an appropriate method for mapping an important forum, where public concerns or issues are debated and shaped (de Leeuw, 2001). Local newspapers are particularly relevant since they are close to the local context and serve as a forum for the public and community leaders (Wallack, 1997). In Sweden, local newspapers are the printed media that reaches most of the population and all socio-economic groups as they are delivered each week to all households free of charge (Nord & Nygren, 2002).

The strength of the present method is that it combines qualitative and quantitative methods. A quantitative approach enabled to examine the extent and visibility of the mass media coverage and compare between sites whereas a qualitative approach facilitated a deeper understanding of the content. The approach seemed relevant for the purpose of determining general patterns in the reporting on physical activity. The study design was, however, not suitable for evaluating if the programme had had a potential impact on the health related content in the articles. In SDPP, the programme's media activities have probably been insufficiently intense to expect an impact on the local news-making. It was merely a matter of whether the programme's presence in the municipalities and collaborations with local actors might have influenced the awareness and dissemination of the health messages concerning physical activity.

It was concluded, that media coverage could not be used as an intermediate measure with the present approach. A pre-planned comprehensive evaluative framework should have been developed. Information and documentation about media relationships, local media's interest in public health, media coverage prior to the programme and comparisons of general trends of reporting should have been monitored to be able to track programme influence above other explanations.

In conclusion, despite the acknowledged limitations media monitoring is regarded to be a valuable method in process evaluations. It has a potential of exploring the community agenda concerning what issues, how frequently and how they are debated and understood in the community.

6.7 LESSONS LEARNED AND IMPLICATIONS FOR THE FUTURE

Evaluations of large-scale, multi-components programmes pose particular challenges to data collection. The purpose of the study, data sources and methods need to be selected with care. It was learned that the present studies would have benefited from being more integrated with each other. For example the data base established for study II could have been further utilised in the other studies. Applying a multi-method design is needed to obtain a variety of information. It facilitated a deeper understanding of the implementation process and enabled cross comparisons of data sources. The importance of a pre-planned evaluation strategy was acknowledged. It is important that financial resources are tailored for the evaluation in the initial stages of the intervention. Having a programme monitoring system was found essential. Advances in the monitoring system have been made throughout its application in the present studies. Developments have proceeded from procedures of documenting and keeping information to a computerised system that assisted in analysing information about activities and established partnerships. The databases were used as an information base for conducting the economical evaluation of SDPP and may enable other evaluations as well. However, it would have saved a lot of time and minimized errors if these procedures and data management had been pre-planned and utilised in a timely manner. Although documentation is important, the time devoted to it needs to be balanced with the regular operations of the programme. Most important it would have facilitated periodic feedback of the programme's progress, provided an important learning ability and for making adjustments in the programme. The same applies for the methods in this thesis.

This thesis has enabled pilot testing of some approaches and instruments for data collection and analysis of the programme implementation. Moreover, the thesis has discussed improvements needed for further developments of these tools. Findings from these studies need to be viewed in a wider evaluation context. The studies may give an understanding of the implementation process that can be used to interpret and discuss programme outcomes in the summative evaluation. Within a near future, results are provided from the summative evaluation of the programme. In addition, the final cost-benefit economic evaluation will find out whether the intervention has been worth the money invested in it. Future challenges within SDPP should be to address the intermediate outcomes (changes in attitudes, knowledge, enabling factors such as increasing access to physical activities, healthy food and counselling services). It could add valuable knowledge about the causal chain of events in the community approach.

7 CONCLUSIONS

The main objective of this thesis focused on how to capture the complexity in the implementation of a community health promotion programme. The thesis has made further elaborations on analytical tools to capture the planning and implementation processes, the development of intersectoral participation and to identify the capacities of the local governments and the local mass media as potential actors in health promotion. The contributions of the analytical tools are that they attempted to include several dimensions and data sources in the analysis.

The planning model of SDPP had advantages compared to more simple planning models due to its levels of details. The model was found to provide a useful framework, where large amount of information could be organised and understood. By analysing the actual implementation and compare with how the programme was initially planned enabled to detect adjustments made in goals and strategies during the implementation period. However, a more critical approach, judging the level of implementation success could further have increased the value of the study.

A further contribution to the spidergram methodology was made by combining it with a multi-method design. It enabled to capture how participation was perceived by the people involved in the programme implementation. This information was compared with the extent of participation documented in the programme monitoring system. In a third step, changes in participation and inconsistencies found between the data sources were discussed and clarified in the group discussions. Limitations were identified in the ranking-scales that were one part of the questionnaire. The statements should have been more clearly differentiated or further categories added to facilitate the ranking. Questionnaires may not be the optimal method to collect data in the spidergram. Interviews or participatory modes of collectively conducting the spidergram might increase the understanding and knowledge of the factors to be ranked. The spidergram framework is suggested to be particularly suitable in formative evaluations. It enables to feedback important knowledge to the local community and to the people involved and for making adjustments in the programme.

The 38 HFA-targets developed by WHO's were found to be a simple and useful tool to map health promoting goals, strategies and activities within the local governments and administrations. Valuing the target areas in relation to core principles in health promotion as intersectoral work and policy development added an extra dimension to the analysis. However, further improvements can be made in the analytical design by analysing trends and combining it with other data sources to assess how the actions are actually performed within the administrations. The method appears to have potential use in community analysis. It could be applied as a first step to monitoring organisational capacity, health promotion efforts and identifying potential partners for joint actions. An even more relevant approach in a Swedish context could be to use the method to monitor progress in relation to the Swedish national health goals.

Media monitoring and media analysis seemed relevant to analyse the frequency, characteristics and content of newspaper coverage related to physical activity. Media monitoring and media analysis can be valuable methods to reflect what issues are debated and how they are shaped on the media agenda. In the case of SDPP, it was not possible to evaluate if the programme had had an impact on the health related content in the articles except for articles directly linked to the programme. A pre-planned evaluation framework should have been developed. Information and documentation about media relationships, local media's interest in public health, media coverage prior to the programme and comparisons of general trends of reporting should have been monitored to be able to define programme influence.

In conclusion, experiences of the applied tools may provide further guidance and highlight critical issues for those who wish to evaluate health promotion interventions at the local community level. These methods would probably be more useful applied in formative evaluations. It would enable to adjust program operations during the implementation and to seize an important learning opportunity. A thorough documentation and monitoring of programme operations was found essential to capturing the many activities and actors involved during such a long-term programme. To obtain a deeper understanding of the many and dynamic processes involved in the implementation of health promotion intervention, a thoroughly planned study design that combines different methods and information sources is required.

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