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# Facilitators for the development and implementation of health promoting policy and programs – a scoping review at the local community level

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## Abstract

**Background:** Health promotion, with a focus on multidimensional upstream factors and an ecological, life-course approach, is establishing itself as the guiding philosophy for addressing public health. Action at the political and programmatic level on the Social Determinants of Health has proven effective for promoting and building public health at all levels but has been particularly evident at the national and international levels – due in large part to available documents and guidelines. Although research and experience establish that health promotion is most effective when settings-based, the development of health promoting policies and programs at the local level is still difficult. This study intended to investigate available knowledge on the development and implementation of health promoting policies and programs at the local level and identify factors most important for facilitating capacity building and outcome achievement.

**Methods:** We used a scoping review in order to review the current literature on local policy development and program implementation. Keywords were chosen based on results of a previous literature review. A total of 53 articles were divided into two categories: policy and implementation. Critical analysis was conducted for each article and a summary assembled. Data was charted with specific focus on the aims of the study, data acquisition, key theories/concepts/frameworks used, outcome measures, results, and conclusions.

**Results:** The articles included in this study primarily focused on discussing factors that facilitate the development of health promoting policy and the implementation of health promotion programs. Most significant facilitators included: collaborative decision-making, agreement of objectives and goals, local planning and action, effective leadership, building and maintaining trust, availability of resources, a dynamic approach, a realistic time-frame, and trained and knowledgeable staff. Within each of these important facilitating factors, various elements supporting implementation were discussed and highlighted in this study.

**Conclusion:** Our results indicate that clear and consistent facilitators exist for supporting health promoting policy development and program implementation at the local level. These results offer a starting point for local action on the Social Determinants of Health and have the potential to contribute to the development of a framework for improving action at the local level.

**Keywords:** Health promotion, Local, Implementation, Policy, Programs, Social determinants of health

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## Background

As the health care costs of many nations become increasingly unsustainable and efforts for collective well-being intensify, recognition is increasing for reorienting the current paradigm's dependency on the health care sector as the primary caretaker of population health [1–3]. The traditional biomedical model is steadily being replaced with an agenda founded on the principles of health promotion. Health promotion takes a systematic approach to empowering populations to gain control of the variables that influence health [4]. This perspective advocates for an investment in multidimensional upstream factors, promoting social, individual, environmental, and political health as a proactive measure and a basic human right ahead of, but not in lieu of, reactive treatment services focused on the individual [1].

The social determinants of health (SDoH) have emerged, over many years of research and practice, as the dominant practical framework for implementing health promotion [5, 6]. According to Raphael [7], the “social determinants of health grew out of the search by researchers to identify the specific mechanisms by which members of different socioeconomic groups experience varying degrees of health and illness”. Recognizing the significance of these determinants, the Commission on the Social Determinants of Health at the World Health Organization has acknowledged that population health may benefit most by using the social determinants of health as a foundation for knowledge-based policy-making [1]. Action in this direction, however, requires that both policies and programs involve key actors from nearly every sector of society [1], adopting an ecological, life-course approach [8, 9]. Developing and implementing these types of policies and programs therefore becomes particularly complex [10, 11].

Because of this complexity, and the subsequent difficulties in implementing concrete action on the SDoH, various tools and frameworks have been developed to aid in facilitating this type of work. The *Global Plan of Action on the Social Determinants of Health*, drafted at the World Conference on the Social Determinants of Health in Rio de Janeiro in 2011, presents some practical guidance for policy-makers in the form of an unofficial international agreement [12]. Health in All Policies (HiAP) is a well-documented approach to implementing intersectoral policy development, which strives to use the determinants of health as a means of influencing policy-making in various key sectors to improve population health [13]. The document, *Intersectoral Action on Health* published by the World Health Organization, was designed as a tool to aid policy-makers in developing and implementing long term, action oriented health policy [14]. Although these resources can, in some cases, be practically useful for local policy-

makers and program implementers, they generally focus on the implementation of policy at the national and international levels [14]. As a consequence, a growing number of national policy agendas, in countries such as Finland, Australia, Sweden, Norway, the UK, and the Netherlands, have clearly established a precedent for action on the SDoH [13, 15–17].

Despite the fact that action on the SDoH has been most evident at the national level, much of the current research on the SDoH demonstrates the importance of developing and implementing public health policy and programs across sectors and within settings [9, 18–20]. This settings-based action is rooted in a local focus and recognizes that health is influenced primarily by the environments people are exposed to in their daily lives (where people work, learn play, and love) [4]. The settings approach therefore uses a whole-systems approach (i.e. addressing systemic factors at the society level), rather than a more traditional individual or intervention-based approach, to public health. One would then assume that the combination of top-down, national agenda setting and a strong research base supporting locally-driven program implementation would result in the evidence of health promoting programs and policies at the local level.

However, despite a sizeable quantity of knowledge in support of action on the SDoH, policy development and in particular program implementation at the local level (county, municipality, and community) continues to be extremely challenging, with varied success [14, 21, 22]. Some research has offered suggestions as to the nature of these difficulties, ranging from differences in values, priorities and cultures, to a lack of resources [20, 23–25]. However, concrete evidence on the challenging nature of development and implementation remains somewhat limited, due in large part to its complexity, dependency on the understanding of local contexts and conditions, and current research being largely dependent on descriptive information rather than empirical analyses [26, 27]. Some review studies have offered insight into factors facilitating public health interventions, however few have focused on the local level with an explicit focus on promoting health at a society (i.e. structural and political) level [9, 20, 28, 29]. In Norway, where action on the SDoH is becoming increasingly prioritized, current research has established that increasing knowledge and availability of resources for effective implementation strategies and political processes is necessary to increase competence and drive knowledge-based action on the SDoH at the local level [21]. It is therefore important to focus not just on the barriers to the development and implementation of local health promoting policies and programs but, potentially more important, on factors that facilitate the realization of this work.

The intent of this study was, therefore, twofold. First, to conduct a thorough investigation of current scientific research on the development and implementation of health promoting policies and programs at the local level. Second, using this information to identify the most important facilitators for implementing concrete, local action on the SDoH.

## Methods

In order to investigate the current state of knowledge related to local development and implementation of health promoting policies and programs, we chose to conduct a review of the current literature. A scoping review was chosen over a traditional systematic review because of the exploratory nature of this research, with a focus on broad research questions, the collection of various kinds of data and research articles, and the interpretation of large amounts of material [30].

Keywords were chosen based on results of a previous literature review in connection with the project “Innovation in the public sector - From knowledge to action and from action to knowledge” [21]. From these results, the following keywords formed the basis for our initial search: health promotion, Health in All Policies (HiAP), implementation process, implementation evaluation, evaluation method, action research, decision-making, local community, community partnership, community participation, intersectoral collaboration, cross-sectoral collaboration, knowledge-based, empowerment. These keywords were then subdivided into three categories to simplify the search process (Table 1). Categories were determined based on the weight and scope of each keyword within the topic area. ‘Health promotion’ and ‘HiAP’ are central to this study and create its theoretical foundation and were therefore categorized as main topics. Keywords in Subtopic level 1 represent broad themes or topics relevant to our investigation within health promotion and HiAP. Keywords in Subtopic level 2 represent specificity within the themes represented in Subtopic level 1. To illustrate the reasoning behind the categorization of these keywords into their relative subcategories, as an

**Table 1** Three categories for simplifying the search process

Main Topic	Subtopic level 1	Subtopic level 2
Health Promotion	Implementation process	Local community
HiAP	Implementation evaluation	Community partnership
	Evaluation method	Community participation
	Action research	Intersectoral collaboration
	Decision-making (Policy)	Cross-sectoral collaboration
		Knowledge-based
		Empowerment

example, ‘community participation’ would be built into the ‘implementation process’ of an agenda based on ‘HiAP’.

Using these keywords, a search process was performed by the first author. An initial search was first conducted using Google Scholar. This search consisted of using all possible three-word combinations of which one keyword was used from each category. This search was limited to the first 100 articles within each individual search grouping. A second search was then conducted in databases CINAHL, Medline, Scopus, and Global Health using all possible combinations of a non-random sample of keywords from the original list. The keywords ‘health promotion’, ‘HiAP’, ‘implementation evaluation’, ‘local community’, and ‘intersectoral’ were used in this search as they proved to produce the highest number of articles relevant to our topic of interest. Using these same databases, a third search was conducted using ‘health promotion’ together with ‘evidence based’ and ‘implementation’ and/or ‘evaluation’ and/or ‘translation’ to include additional research that was poorly represented in the second search. The electronic search was supplemented with a citation search (scanning of retrieved reference lists) and key author search to further cross check the inclusion of articles from the electronic search and include additional articles that may have been unaccounted for. We discontinued the search process when new keywords and searches revealed the same references (i.e. achieved saturation). A total of 139 relevant articles were found. After accounting for inclusion and exclusion criteria (Table 2), a total of 53 articles (Appendix 1) were divided into two categories based on relevance to both 1) Policy and 2) Implementation. Due to the use of a scoping review, methodological design and study quality were unaccounted for. We did, however, limit our inclusion of articles to peer-reviewed, published studies to secure a standardized level of information quality. Only articles published after 1999 were included in order to ensure the inclusion of a significant number of articles (and a relatively large amount of information), built on earlier research conducted after the release of the Ottawa Charter in 1986, while still keeping this material sensitive to present contexts.

A critical analysis of each article was conducted by the first author with a focus on the aim of the present study.

**Table 2** Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
English language	Published before 2000
Peer-reviewed journal article	Research focused on health services
All study designs	Research conducted in low and middle income countries
Research focused on healthy populations	Research focused on disease and/or sick populations

This included an analysis of themes related to methods used for and factors facilitating the development or implementation of health promoting policies and programs. Following procedures outlined by Armstrong et al., data was charted with specific focus given to the aims of the study, data acquisition (methods and participants), key theories/concepts/frameworks used or addressed, outcome measures, results, and conclusions [30]. Summaries were constructed for each category of articles (Policy and Implementation) by the first author with particular focus on commonalities across articles. Consultation of methods and material used throughout this process was undertaken with all study authors and complemented with relevant experience and insight.

## Results

### Overview of included studies

Of the articles included in this study, articles collecting and analyzing original data, with a particular focus on practical application of the material ( $n = 33$ ), overshadowed articles that collected or reviewed available data, presented untested frameworks or tools, or focused on discussing the past, present, or future state of health promotion and related topics ( $n = 20$ ). Practical relevance was the general focus throughout. Case studies designs ( $n = 23$ ) dominated our analysis, with many of the remaining articles using reviews ( $n = 10$ ) or mixed methods ( $n = 7$ ). A significant number of articles ( $n = 33$ ) included in our analysis focused on local settings, while others focused on national or international agendas, multiple organizational levels, or did not specify any level in particular. In this study, local is defined as municipality level or smaller, however intervention types at this level are broad, including studies focusing on everything from municipality level policy to school based interventions (Table 3).

### Focusing on facilitating factors

The articles included in this study primarily focused on discussing factors that facilitate the development of health promoting policy and the implementation of health promotion programs that improve the capacity of local governments and public health professionals to improve local public health and/or achieve intended objectives. The number of facilitating factors mentioned were many and their importance varied greatly. Several of these factors, however, appeared often across studies and were repeatedly emphasized for their importance. Figure 1 illustrates the frequency of discussed facilitating factors across articles included in this study. Although not inclusive of all mentioned facilitators, those included in Fig. 1 were mentioned or discussed most frequently. For each specific facilitating factor, the total number of articles in which these factors were discussed is included alongside a

comparison of the number of articles in each category (policy and implementation).

Collaboration was the most common factor for achieving intended goals and objectives across settings. This collaboration was best enabled by the use of teams, committees or forums made up of professionals from various organizations, sectors, and disciplines both within and outside of the health sector. It was clear that collaboration should be both vertically and horizontally integrated into all stages of planning, implementing, and evaluating. Several articles ( $n = 4$ ) discussed the benefit of combining a top-down and bottom-up approach [31–33]. Collaborative efforts were further facilitated by good communication, the engagement of all relevant stakeholders, and a focus on equity and cooperation. Several articles ( $n = 7$ ) made explicit mention to deliberate and purposeful use of a participatory approach to include all relevant stakeholders [28, 34–37]. A common theme related to collaboration in this context was a ‘whole-system’ approach. Although relatively few articles made explicit reference to a ‘whole-systems’ approach ( $n = 7$ ), many of the articles included in our analysis discussed collaboration as a systemic objective, permeating, to the greatest extent possible, every relevant level of society and politics. Regardless, of the articles that made specific mention to a whole-systems approach, several stated that this approach benefits from being settings specific ( $n = 3$ ) or grounded in complexity theory ( $n = 2$ ).

The agreement of goals and objectives stood out as a highly influential factor for policies and programs that led to an improvement in, or increased capacity for, local public health. Taking time to outline and define responsibilities and ownership roles for all relevant stakeholders proved to be central to this process. In deciding upon the goals and objectives of a policy or program, the use of current, relevant knowledge was, in some studies, explicitly prioritized. This process improved with the inclusion of initial evaluation and continuous reevaluation of available knowledge to guide the direction of the policy or programs being discussed and agreed upon. A number of articles ( $n = 3$ ) mentioned that goals and objectives, and eventual sustainability of concrete action, benefited from being focused on population level interventions as opposed to individual level interventions [9, 28, 29]. Individual level interventions, these articles argued, generally fail to take into account the social and political contexts [9, 28, 29]. Regardless, eventual goals and objectives benefitted from being clearly defined (to avoid confusion and increase accountability) and rewarding all relevant stakeholders (to stimulate ownership and involvement). A small number of articles ( $n = 3$ ) discussed the creation of awareness around these goals and objectives as an important factor

**Table 3** Summary of included studies

Study	Design	Country of origin	Level of examination (local/national/intl.)	Major theories and/or concepts discussed
Annor, S. and P. Allen. Why is it difficult to promote public mental health? A study of policy implementation at local level. <i>J Public Ment Health</i> . 2009;7:4:17-29.	Case study	England	Local - Community	Implementation of public mental health policy; health promotion; partnerships
Austin, G., et al. Translating research to practice: using the RE-AIM framework to examine an evidence-based physical activity intervention in primary school settings. <i>Health Promot Pract</i> . 2011.	Mixed methods	Australia	Local - School	Physical activity program using RE-AIM framework to guide identification of barriers and facilitators; health promotion; translation
Axelsson, R. and S. B. Axelsson. Integration and collaboration in public health—a conceptual framework. <i>Int J Health Plan M</i> . 2006;21:1:75-88.	Exploratory	Sweden	Not specified	Development of a framework for inter-organizational collaboration across sectors; differentiation; cooperation; multi-disciplinary teams
Barry, M. M. Researching the implementation of community mental health promotion programs. <i>Health Promotion J Austr</i> . 2007;18:3:240-46.	Case study	Ireland	Local - Community	Rural mental health project highlighting factors contributing to success
Batras, D., et al. Organizational change theory: implications for health promotion practice. <i>Health Promot Int</i> . 2014.	Review	Australia	Not specified	Review of organizational change models to address strategies for adoption of key theoretical insights when implementing health promotion initiatives in diverse settings; capacity building
Berkeley, D. and J. Springett. From rhetoric to reality: Barriers faced by Health For All initiatives. <i>Soc Sci Med</i> . 2006;63:1:179-88.	Mixed methods	England	National	Barriers to implementing Health for All initiatives; Healthy Cities; Health Action Zones
Bloch, P., et al. Revitalizing the setting approach—supersettings for sustainable impact in community health promotion. <i>Int J Behav Nutr Phys Act</i> . 2014;11:1:118.	Case study	Denmark	Local - Municipality	Super settings; health promotion; integration; participation; empowerment; sustainable development; action research
Brownson, R. C., et al. Translating epidemiology into policy to prevent childhood obesity: the case for promoting physical activity in school settings. <i>Ann Epidemiol</i> . 2010;20:6:436-44.	Case study	USA	Local - School	Investigates policy relevant evidence for promoting physical activity in youth
Cacari-Stone, L., et al. The promise of community-based participatory research for health equity: a conceptual model for bridging evidence with policy. <i>Am J Public Health</i> . 2014;104:9:1615-23.	Case study	USA	Local - Community	Community-based participatory research (CBPR) partnerships contribution to policy-making for health equity; evidence to policy; participation; civic engagement
Chappell, N., et al. Multilevel community health promotion: How can we make it work? <i>Community Dev J</i> . 2006;41:3:352-66.	Case study	Canada	Local - Regional/Community	Project identifying strategies for implementing multi-level projects; health promotion
Corburn, J., et al. Health in All Urban Policy: city services through the prism of health. <i>J Urban Health</i> . 2014;91:4:623-36.	Case study	USA	Local - City	Health in all Policies strategies; urban governance; equity; city planning; healthy cities
Dooris, M. Joining up settings for health: a valuable investment for strategic partnerships? <i>Crit Public Health</i> . 2004;14:1:49-61.	Review	England	Local - not specified	History, theory, and context of healthy settings strategy
Eriksson, C. C., et al. Academic practice—policy partnerships for health promotion research: Experiences from three research programs. <i>Scand J Public Health</i> . 2014;42:15suppl:88-95.	Case study	Sweden	National	Explores factors that foster Academic Practice Policy (APP) partnerships
Frahsa, A., et al. Enabling the powerful? Participatory action research with local policymakers and professionals for physical activity promotion with women in difficult life situations. <i>Health Promot Int</i> . 2014;29:1:171-84.	Case study	Germany	Local - Community	Investigates enabling in relation to policy makers engaged in cooperative planning; health promotion; community-based participatory research (CBPR); physical activity

**Table 3** Summary of included studies (Continued)

Franks, H., et al. Public health interventions and behaviour change: Reviewing the grey literature. <i>Public Health</i> . 2012;126:1:12-7.	Review	England	Not specified	Factors facilitating and inhibiting effective interventions; public health; grey literature; health promotion
Glanz, K. and D. B. Bishop. The role of behavioral science theory in development and implementation of public health interventions. <i>Annu Rev Public Health</i> . 2010;31:399-418.	Review	USA	Not specified	Theories used for design and implementation of health promotion interventions; health behavior; ecological perspective
Hendriks, A.-M., et al. Local government officials' views on intersectoral collaboration within their organization – A qualitative exploration. <i>Health Policy and Technol</i> . 2014.	Interview	Netherlands	Local - Municipality	Explores local policy makers views on intersectoral collaboration; integrated public health policy; Health in all policies
Israel, B. A., et al. Community-based participatory research: lessons learned from the Centers for Children's Environmental Health and Disease Prevention Research. <i>Environ Health Persp</i> . 2005;146:3-71.	Case study	USA	Local - Children's centers	Recommendations for effective implementation of Community-based participatory research (CBPR); collaborative research; partnerships
Jansen, M. W., et al. Public health: disconnections between policy, practice and research. <i>Health Res Policy Syst</i> . 2010;8:37.	Review	Netherlands	Local - General	Explores disconnections between policy, practice, and research cycles
Jansson, E. V. and P. E. Tillgren. Health promotion at local level: a case study of content, organization and development in four Swedish municipalities. <i>BMC Public Health</i> . 2010;10:1.	Case study	Sweden	Local - Municipality	Understand content, organization, and process in the development of health promotion
Jansson, E., et al. National public health policy in a local context—implementation in two Swedish municipalities. <i>Health Policy</i> . 2011;103:2-3:219-27.	Case study	Sweden	Local - Municipality	Investigates public health policies; multilevel governance; policy implementation
Jilcott, S., et al. Applying the RE-AIM framework to assess the public health impact of policy change. <i>Ann Behav Med</i> . 2007;34:2:105-14.	Case study	USA	National	Application of the RE-AIM framework to evaluate health policy
Juneau, C.-E., et al. Evidence-based health promotion: an emerging field. <i>Glob Health Promot</i> . 2011;18:1:79-89.	Case study	Canada	Not specified	Analysis of research in practice; evidence-based practice; health promotion
Kegler, M. C., et al. The role of community context in planning and implementing community-based health promotion projects. <i>Eval Program Plann</i> . 2011;34:3:246-53.	Mixed methods	USA	Local - Community	Identify major themes in collaborative planning and implementation of health promotion projects
Koelen, M. A., et al. What is needed for coordinated action for health? <i>Fam Pract</i> . 2008;25 Suppl 1:i25-i31.	Review	Netherlands	Not specified	Identify factors important in achieving and sustaining coordinated action for health; client involvement; participation
Kok, M. O., et al. Practitioner opinions on health promotion interventions that work: Opening the 'black box' of a linear evidence-based approach. <i>Soc Sci Med</i> . 2012;74:5:715-23.	Interview	Netherlands	Local - Municipality	Identify factors that contribute to success of health interventions; evidence-based; knowledge translation; decentralization; actor-network theory
Koller, T., et al. Addressing the socioeconomic determinants of adolescent health: experiences from the WHO/HBSC Forum 2007. <i>International Journal of Public Health</i> . 2009;54:2:278-84.	Descriptive	Various	International	Explore experiences from researchers, policy-makers, and practitioners; forum; socioeconomics; adolescent health; determinants
Kreuter, M. W., et al. Evaluating community-based collaborative mechanisms: Implications for practitioners. <i>Health Promot Pract</i> . 2000;1:1:49-63.	Review	USA	Not specified	Investigate reasons why literature on community based coalition strategies show marginal health systems change
Krieger, J., et al. Using community-based participatory research to address social determinants of health: lessons learned from Seattle Partners for Healthy Communities. <i>Health Educ Behav</i> . 2002;29:3:361-82.	Case study	USA	Local - Community	Collaboration on the social determinants of health; multidisciplinary; collaboration; social support; housing

**Table 3** Summary of included studies (Continued)

Larsen, M., et al. Intersectoral action for health: the experience of a Danish municipality. <i>Scand J Public Health</i> . 2014;42:7:649-57.	Case study	Denmark	Local - Municipality	Experiences using intersectoral action for health; identify facilitators and barriers; health in all policies; collaboration
Laverack, G. and R. Labonte. A planning framework for community empowerment goals within health promotion. <i>Health Policy Plann.</i> 2000;15:3:255-62.	Descriptive	Australia	Local - Community	Framework for health promotion planners, implementers, and evaluators to consider community empowerment in top-down initiatives
Layde, P. M., et al. A model to translate evidence-based interventions into community practice. <i>Am J Public Health</i> . 2012;102:4:617-24.	Descriptive	USA	Local - Community	Modification of existing model for incorporating evidence-based public health; Community health improvement process (CHIP)
Matheson, A., et al. Complexity, evaluation and the effectiveness of community-based interventions to reduce health inequalities. <i>Health Promot J Austr.</i> 2009;20:3:221-26.	Case study	New Zealand	Local - Community	Complexity theory; whole systems approach; health inequalities
Metzler, M. M., et al. Addressing urban health in Detroit, New York City, and Seattle through community-based participatory research partnerships. <i>Am J Public Health</i> . 2003;93:5:803-11.	Case study	USA	Local - Community	Urban research centers activities using community based participatory research (CBPR)
Minkler, M. Community-based research partnerships: challenges and opportunities. <i>J Urban Health</i> . 2005;82:ii3-ii12.	Case study	USA	Local - Community	Healthy communities project with successful implementation of Participatory action research (PAR)
Minkler, M. Using Participatory Action Research to build Healthy Communities. <i>Public Health Rep.</i> 2000;115:2-3:191.	Case study	USA	Local - Community	Illustrate difficulties and opportunities for implementing community based participatory research (CBPR) approach; ethics;partnerships; urban health
Naaldenberg, J., et al. Elaborating on systems thinking in health promotion practice. <i>Glob Health Promot.</i> 2009;16:1:39-47.	Exploratory	Netherlands	Local - Community	Highlights concepts important for practical application of systems thinking in health promotion practice; complexity; collaboration
Ollila, E. Health in all policies: from rhetoric to action. <i>Scand J Public Health</i> . 2011;39:6:11-8.	Exploratory	Finland	International	Analysis of intersectoral health policy-making and opportunities for strengthening implementation of health in all policies; equity
Peters, D., et al. Manifestations of integrated public health policy in Dutch municipalities. <i>Health Promot Int.</i> 2014.	Case study	Netherlands	Local - Municipality	Investigates the development and implementation of integrated public health policy; determinants of health; multisectoral
Poland, B., et al. Settings for health promotion: an analytic framework to guide intervention design and implementation. <i>Health Promot Pract.</i> 2009;10:4:505-16.	Framework	Canada	Not specified	Analytical framework to analyze features of a setting that influences implementation of interventions; analysis framework; health promotion; school
Raphael, D. Challenges to promoting health in the modern welfare state: The case of the Nordic nations. <i>Scand J Public Health</i> . 2014;42:1:7-17.	Exploratory	Canada	National	Investigates the Nordic welfare state and challenges related to health promotion efforts; public policy
Rohrbach, L. A., et al. TYPE II translation transporting prevention interventions from research to real-world settings. <i>Eval Health Prof.</i> 2006;29:3:302-33.	Case study	USA	Local - Community/School	Type II translation of prevention interventions; adoption; dissemination; training; prevention
Schilling, J. M., et al. Connecting active living research and public policy: transdisciplinary research and policy interventions to increase physical activity. <i>J Public Health Pol.</i> 2009;S1-S15.	Review	USA	International	Evaluates policy initiatives and research in health promotion; translation of research to policy; physical activity; built environment
Shareck, M., et al. Reducing social inequities in health through settings-related interventions – a conceptual framework. <i>Glob Health Promot.</i> 2013;20:2:39-52.	Review	Canada	Not specified	Theory and practice of the settings approach; health promotion; social inequities

**Table 3** Summary of included studies (Continued)

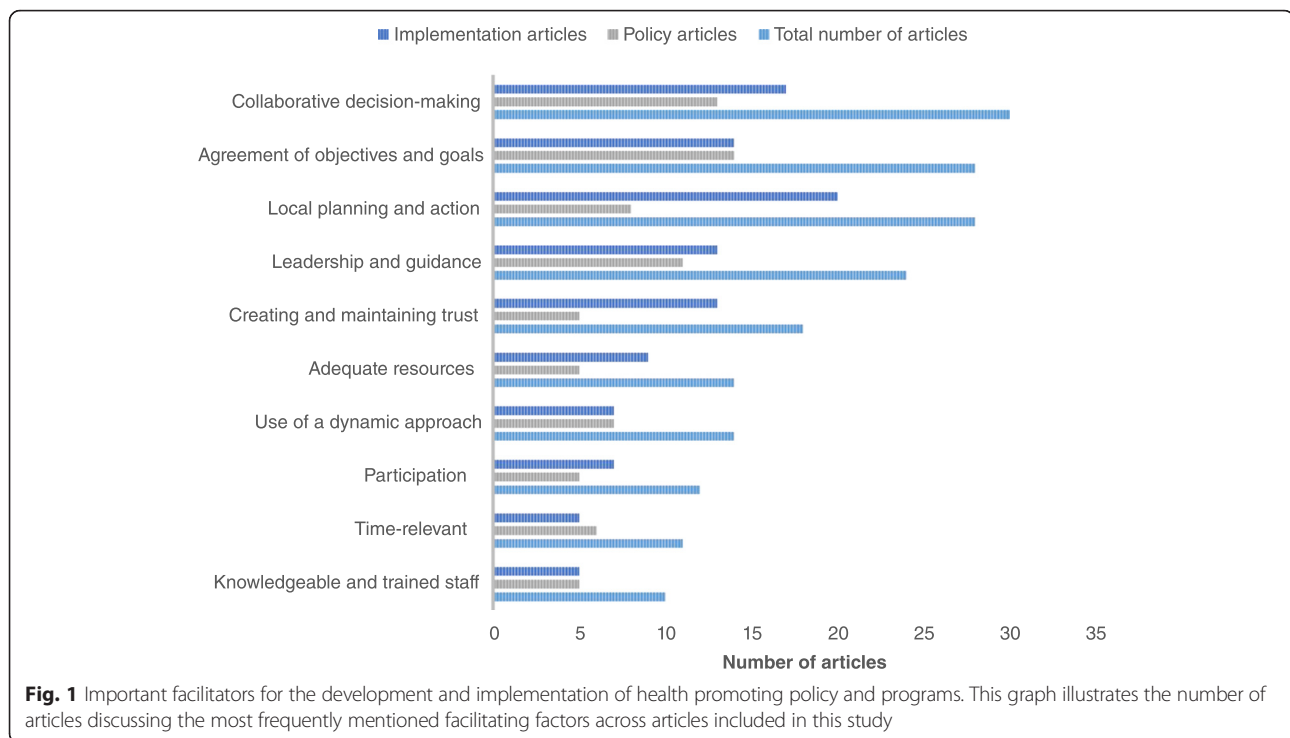
Skutle, A., et al. A community-based prevention program in western Norway: Organisation and progression model. <i>Addict Behav.</i> 2002;27:6:977-88.	Case study	Norway	Local - County/ Municipality/Community	Systemic organization in various settings; health promotion;
Sogoric, S., et al. A naturalistic inquiry on the impact of interventions aiming to improve health and the quality of life in the community. <i>Soc Sci Med.</i> 2005;60:1:153-64.	Mixed methods	Croatia	Local - City	Describe facilitators of health promotion efficiency and indicators of success; impact assessment
Steenbakkens, M., et al. Challenging Health in All Policies, an action research study in Dutch municipalities. <i>Health Policy.</i> 2012; 105:2-3:288-95.	Pre-test, Post-test	Netherlands	Local - Municipality	Coaching program and evaluation used to improve the use of health in all policies; intersectoral; integrated local health policy; obesity
Storm, I., et al. Opportunities to reduce health inequalities by 'Health in All Policies' in the Netherlands: An explorative study on the national level. <i>Health Policy.</i> 2011;103:2:130-40.	Mixed methods	Netherlands	National	Explores opportunities to reduce health inequalities using health in all policies; socioeconomic; intersectoral collaboration
Swanson, R. C., et al. Rethinking health systems strengthening: key systems thinking tools and strategies for transformational change. <i>Health Policy Plann.</i> 2012;27 Suppl 4:iv54-61.	Exploratory	USA	Local/National	Theoretical foundation and proposed tools in support of a comprehensive systems thinking perspective to guide health practice; global health
Wallerstein, N. and B. Duran. Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. <i>Am J Public Health.</i> 2010;100:5:1:40-6.	Mixed methods	USA	Not specified	Analysis of community-based participatory research (CBPR) as a method of bridging research and practice to improve health equity
Whitelaw, S. et al. 'Settings' based health promotion: a review. <i>Health Promot Int.</i> 2001;16:4:339-53.	Review	Scotland	Not specified	Settings based health promotion research and practice; practitioners
Wilcox, S., et al. Results of the first year of active for life: translation of 2 evidence-based physical activity programs for older adults into community settings. <i>Am J Public Health.</i> 2006;96:7:1201-09.	Mixed methods	USA	Local - Community	Successful implementation of health promotion programs; physical activity; older adults; evidence-based
Wilson, K. M., et al. Peer reviewed: an organizing framework for translation in public health: the knowledge to action framework. <i>Prev Chronic Dis.</i> 2011;8:2.	Descriptive	USA	Not specified	Development of a framework for implementing scientific knowledge into sustainable action in public health; Knowledge to Action (K2A); Centers for Disease Control (CDC); Chronic Disease Prevention; translation

for stimulating ownership and involvement. The use of media as a resource for creating awareness and addressing politicians and the public directly was given considerable attention by several policy articles [24, 38–40].

Local planning and action was a continuous theme across studies, however emphasized considerably more often in studies related to program implementation, where it proved to be the most often mentioned facilitator. Action-oriented implementation and long-term sustainability of health promoting programs depended quite heavily on the engagement of local stakeholders [22, 29, 35]. Engaging local stakeholders allowed for subsequent planning and action to be context sensitive, which proved invaluable. Effectively and cooperatively engaging the local community meant not just including but empowering these stakeholders by focusing on building local capacity and allowing end-users and

affected groups to assume a position of power and leadership very early on and over time. This procedure relied not just on one-off interviews or meetings but including the voices of local leaders and marginalized groups throughout the entire planning, decision-making, and action process. The development of resiliency and empowerment, as opposed to efficiency, was highlighted in several articles [9, 26, 41–44]. Identification of local stakeholders proved sometimes to be very difficult as the definition of 'local' varied from person to person and from place to place. Some defined 'local' geographically (i.e. city or state boundaries, a housing community, etc.) while others defined 'local' demographically (i.e. race, gender, income-levels, etc.). Taking time to investigate these differences and agree on an effective and inclusionary definition of 'local' proved, in some cases, to be very important, as it can mean the





difference between inclusion or further exclusion of marginalized groups and end-users [45].

Leadership and guidance proved to be a highly influential factor in both the development of policy and the implementation of programs that contributed to the capacity of local governments to improve public health at the local level. Those in a position of leadership improved chances for positively influencing local public health when committing to consistent and reliable advocacy and practical support of agreed upon goals and objectives. To a somewhat lesser extent, a knowledgeable leader with good communication skills, a democratic leadership style, and an innovative and visionary perspective proved to be beneficial. In some cases, a leader who could offer strong administrative support improved chances for achieving policy or program objectives.

Trust emerged as an important theme across articles, predominantly in regards to program implementation. Although discussed as an important theme and a necessary precondition for many of the most critical facilitators, such as the agreement of goals and objectives and collaboration, little focus was given to practical development of trust within a particular setting. Multiple articles ( $n = 16$ ) mentioned, however, that the use of established relationships should be a priority and that fostering and maintaining high quality relationships appeared to improve when focus was on creating and conserving mutual respect, equity, and power-sharing [16, 18, 27, 34, 35, 37, 41, 42, 46–48].

The availability of resources was a common theme across settings. Without the proper resources, achieving objectives and increasing the longevity of concrete action suffered. Although various resources were discussed, financial capital was by far given the most weight, with human capital also playing an important role. Obtaining adequate and proper resources proved to be difficult in many settings due to the competition for resources and the prioritizing of these resources in other areas. Arguing for the allocation of resources towards health promotion proved to be a challenge. Several articles ( $n = 5$ ) mentioned that projects and policies benefitted from using and sharing existing resources [9, 16, 24, 29, 31] particularly financial. Sharing existing resources decreased resource pressure, allowing for an accumulation of, and consequently an availability of, resources that would not have been obtainable to the various stakeholders had they not shared resources around a common goal. Although present in some articles, relatively few ( $n = 2$ ) discussed political readiness as an important element in resource acquisition and support of policies or programs.

The use of a dynamic and flexible approach was recognized equally amongst both policy development and program implementation. The sustainability and effectiveness of a linear planning and action sequence (with a definitive start and end point) was heavily questioned. Instead, a dynamic, cyclical methodology was favored for its innate capacity to evolve as social,

political, and environmental circumstances changed [24, 28, 29, 42]. Planning and implementing regular evaluation allowed for experience-based learning to guide this process.

The use and understanding of time was discussed frequently as an important element in facilitating health promoting action. When a long-term, realistic timeframe was adopted for planning and implementation, chances of achieving objectives increased. Although generally not favored, when short-term time frames were used, tangible results were difficult to measure or outright unattainable. This often led to frustration and a general lack of confidence in health promoting action from various stakeholders and decision-makers [36, 42].

Chances for achieving policy or program objectives increased when involved politicians and practitioners possessed a good theoretical understanding of their role as health promoters, as well as the necessary skills to set this philosophy into action. In terms of program implementation, this involved training staff before and during the program, if needed, as well as ensuring that all relevant stakeholders understand and assume ownership for their role as advocates for health in the community [32, 37, 41, 49].

## Discussion

While health promoting policies and programs at the national level are demonstrating potential, due in large part to the use of the SDoH as a guiding framework, policies and programs at the local level are still struggling to build capacity and achieve desired outcomes [6, 14, 21, 22]. This study therefore set out to investigate existing scientific knowledge and experience on the development and implementation of health promoting policies and programs at the local level. The results of this study illustrate that successfully achieving outcomes and building capacity at the local level is facilitated by various factors. Collaborative decision making, agreement of objectives and goals, local planning and action, effective leadership and guidance, creating and maintaining trust between stakeholders, the availability of adequate resources, the use of a dynamic approach, a realistic and long-term timeframe, and the presence of knowledgeable and trained staff were discussed as particularly important facilitators. The results of this study confirm findings by Shareck et al., demonstrating that understanding health promotion within its broader complex, organizational context is a crucial step towards successful action [9]. The following discussion will therefore focus on 1) how the results of this study improve our understanding of health promotion at the local level and 2) how this understanding may be used to improve the organizational capacity of concrete action on the SDoH at the local level.

## How action at the national level compares with action at the local level – what we know

At the national and international levels, various policy documents contain clear guidelines for developing and implementing concrete action on the SDoH. These documents stress the importance of intersectoral action (“building consensus on goals and policies across sectors”), focusing on structural determinants, tackling inequalities in power, money, and resources, and bringing critical issues to national and international attention. In order to accomplish these objectives, recommendations focus on improving daily living conditions, encouraging participation and support from civil society and public groups, regularly measuring and evaluating, and long-term planning [1, 6, 10, 13]. The present study establishes that much of the current literature supports that action at the local level is heavily influenced by similar factors.

Work by Dooris illustrates the complexity of the multi-stakeholder approach forming the basis for ‘whole-systems’ health promotion at the local level [18]. As has been demonstrated at the national level, the use of a multidisciplinary team representing all relevant stakeholders and sectors of society at all stages in the decision-making process proves to be highly significant for building capacity and achieving outcomes of health promotion at the local level. Similar to existing national guidelines, work by Metzler underpins the results of the current study, emphasizing the importance of participation and inclusion of the local community, civil society, and end-users [36]. In addition, Corburn et al. demonstrates that action at the local level improves significantly when these groups are empowered to take early and continuous ownership of decision-making processes [48]. Similar to national guidelines, Laverack and Labonte have established that focusing on eliminating inequalities through the sharing of power and available resources encourages community development (i.e. capacity building) [35]. One may argue that the elimination of inequalities through the sharing of power and resources contributes to building trust between stakeholders and improves collaboration.

Indeed, Axelsson and Axelsson describe a similar process through which successful and sustainable ‘inter-organisational collaboration’ develops [50]. In the first, ‘forming stage’, relevant actors are assembled and effective communication is established. The agreement of common goals and objectives occurs in the second, ‘storming stage’. The ‘norming stage’ then consists of building and sustaining trust – explained as a significantly important facilitator for encouraging and sustaining collaboration. Though time-consuming and often difficult, the significance of the storming and norming stages for local action on the SDoH has been well-established by the work of Frahsa et al. and is reinforced

by the results of this study [34]. The forth, and final, stage is the 'performing stage,' where action on goals and objectives occurs.

The time and facilitation of factors needed for these actions to develop and evolve, however, challenges the traditional nature of static, linear public health projects. Instead, research at both the national and local levels, including work by both Frahsa et al. and Glanz and Bishop, establishes that a dynamic approach to development and implementation of programs and policies with a population-level focus, prepared for and capable of adapting to changes over time, facilitates long-term sustainability and effectiveness [28, 34]. Although often challenging due to political pressure and conflicting interests, projects and policies at the local level must therefore be designed with similar, long-term timeframes as those developed at the national level [32].

Although given less attention by national guidelines, Hendriks et al. discusses the significance of committed, talented leadership as well as trained and capable staff in facilitating concrete local action on health promotion [51]. Given that staff, and in particular, leadership is generally responsible for creating and sustaining the cultural and organizational structure of many factors that facilitate building capacity or achieving outcomes, this is to be expected. Larsen et al. reveal the importance of integrating policies and projects into the culture and daily activities of organizations across sectors and at various levels in a local context [24]. Although our results imply that relatively little knowledge for implementing this task at the local level has been organized, at the national level, entire reports are dedicated to the integration and implementation of what has been deemed Health in All Policies.

Our results seem to suggest that policies and programs at the local level are dependent on many of the same factors facilitating national and international level capacity building and outcome achievement with a focus on improving public health. Local politicians and practitioners are therefore required to not only design and implement policies and programs in much the same manner as those at the national and international levels, but are also required to possess the skills and knowledge required to execute this type of work. However, the fact that action on the social determinants of health has gained traction at the national and international levels but struggles to use the same guidelines and strategies at the local level [5, 6, 14, 21, 22], implies that a disparity exists between how these resources and this knowledge are used between various levels and within various contexts.

#### **Improving concrete action at the local level – what we know and what is needed**

A number of policy documents are responsible for setting the foundation for concrete action on the SDoH.

These documents contain clear guidelines for agenda setting and recommendations for action. In their current form, however, they are limited in their ability to organize and implement concrete bottom-up (i.e. local) action [52]. Because the success of health promoting policies and programs at both the national and local levels appear to be dependent on many of the same factors, accurately identifying how promoting action at the local level differs from action at the national level may prove difficult.

Existing research establishes that best practice in public health should be grounded in the combination of practitioner experience, user-based experience, and available research evidence [53]. Our findings, however, appear to reinforce the existence of a gap between research and practice, where current knowledge is underutilized during the development and implementation of concrete policy and action [6, 11]. In many cases, as is the case within many of the Nordic countries, this gap is particularly apparent at the local level where local governments have the responsibility of implementing national agendas, but are free to autonomously set priorities and make decisions [21, 54]. Cacari-Stone et al. suggest that this gap is supported by cultural issues at the research level, where social scientists fail to adequately engage in the political process through, for example, media, the local community, and directly with politicians [38]. Storm et al., on the other hand, discuss cultural issues at the political level as the primary driver, with politicians often making decisions based on personal priorities and generally viewing proactive projects and policies, such as those of health promotion, as unnecessary, added work [15]. Larsen et al. reinforce findings from Whitelaw et al. describing a process by which insufficient support, in the form of minimal financial resources, weak political support, and low competence, allows competing forces, rather than research, to dominate the decision-making process [20, 24]. Findings by Lillefjell et al. indicate that insufficient competence of policy-makers and practitioners at the local level results in a significant barrier to knowledge-based action, potentially contributing to the lack of support discussed by both Larsen et al. and Whitelaw et al. [21]. Relevant work by Baum strengthens this theory, demonstrating that the complexity of understanding action on the SDoH often leads to confusion between policy-makers and practitioners and, therefore, ineffective or insufficient action [52].

The argument could be made that increasing the knowledge and competency, for developing and implementing concrete health promoting action, of policy-makers and practitioners at the local level has the potential to strengthen financial resources and political support. The organization of the SDoH, and corresponding principles

and guidelines, had a similar effect on national and international agendas, contributing to a wider understanding and acceptance by practitioners, politicians, and the general public and eventually supporting a movement [6]. The SDoH, and corresponding documents, have created an understandable and applicable, research-based framework that has increased awareness and integration of health promotion by various national and international policy-makers [5, 52]. Consequently, creating a similar framework that “fits with the contemporary political context” [21], increasing the competence of local practitioners and policy-makers, and creating a common language, for the development and implementation of effective action on the SDoH may prove to be similarly influential [1, 5, 10].

The results of this study offer a potential focus for the development and implementation of health promoting policies and programs at the local level. The facilitators identified in this study have the potential to aid in the creation of a common language for local level health promotion. It may then be possible to develop a framework, supplementing that which currently exists at the national and international levels, with the potential to serve as a template for development and implementation of health promoting policy and programs at the local level.

### Limitations

A recognized limitation of scoping reviews is the inclusion of articles with little control for design or quality. Contrary to systematic reviews, scoping reviews generally do not account for methodological limitations of the included studies and may therefore include studies of poor quality or design. The strength of the scoping review, however, lies in its ability to examine the available literature on a broad topic and include a large amount of information. Although systematized, it should also be noted that the process of choosing and organizing keywords, transcription of included studies, and the identification of common themes is somewhat open to subjective interpretation. Reliable systematization of this process is difficult and can therefore lead to slight variations in results. In spite of these limitations, we believe that the results of this study have the potential to significantly improve our understanding of facilitating concrete health promoting action at the local level and contribute to the progress of both research and practice.

### Conclusion

Health promotion and concrete action on the SDoH at the national and international levels has shown potential over the preceding decades, however concrete action at the local level is lagging behind. The systemic, ecological nature of this work contributes to a complexity that

proves difficult to navigate. Our results, however, indicate that clear and consistent facilitators have been identified by research and practice for improving policy development and program implementation at the local level. These facilitators, in many cases, are very similar to those outlined by guiding documents and recommendations set by leading organizations, such as the WHO, for related work at the national and international levels. Local policy makers and practitioners are therefore expected, and required, to possess similar – and sometimes additional – skills, knowledge, and competence as that of national and international policy-makers and practitioners. However, evidence suggests that this is rarely the case and that local policy makers and practitioners often don't possess, or lack access to, necessary skills and knowledge, with various causes contributing to this gap in knowledge-based practice at the local level. Although power struggles and cultural differences often make policy development and program implementation difficult, creating a framework at the local level similar to that found at the national and international levels may contribute to increasing the competence of local practitioners and policy-makers. As a consequence, this may create a common language necessary for a foundation from which it is possible to build capacity and achieve outcomes at the local level [19–21, 52]. The results of this study offer a starting point for organizing a knowledge-base for local action on the SDoH and may potentially contribute to the development of such a framework.

### Ethics and consent information

No human subjects were used by any of the authors or during any part of this study and therefore no ethical or consent issues need reporting.

### Appendix 1: Articles included, after controlling for inclusion and exclusion criteria, in the data collection and analysis of this study

#### *Policy articles:*

1. Annor, S. and P. Allen. Why is it difficult to promote public mental health? A study of policy implementation at local level. *J Public Ment Health*. 2009;7:4:17-29.
2. Axelsson, R. and S. B. Axelsson. Integration and collaboration in public health—a conceptual framework. *Int J Health Plan M*. 2006;21:1:75-88.
3. Batras, D., et al. Organizational change theory: implications for health promotion practice. *Health Promot Int*. 2014.
4. Berkeley, D. and J. Springett. From rhetoric to reality: Barriers faced by Health For All initiatives. *Soc Sci Med*. 2006;63:1:179-88.
5. Brownson, R. C., et al. Translating epidemiology into policy to prevent childhood obesity: the case for

promoting physical activity in school settings. *Ann Epidemiol.* 2010;20:6:436-44.

6. Cacari-Stone, L., et al. The promise of community-based participatory research for health equity: a conceptual model for bridging evidence with policy. *Am J Public Health.* 2014;104:9:1615-23.

7. Corburn, J., et al. Health in All Urban Policy: city services through the prism of health. *J Urban Health.* 2014;91:4:623-36.

8. Frahsa, A., et al. Enabling the powerful? Participatory action research with local policymakers and professionals for physical activity promotion with women in difficult life situations. *Health Promot Int.* 2014;29:1:171-84.

9. Hendriks, A.-M., et al. Local government officials' views on intersectoral collaboration within their organization – A qualitative exploration. *Health Policy and Technol.* 2014.

10. Jansen, M. W., et al. Public health: disconnections between policy, practice and research. *Health Res Policy Syst.* 2010;8:37.

11. Jansson, E., et al. National public health policy in a local context—implementation in two Swedish municipalities. *Health Policy.* 2011;103:2-3:219-27.

12. Jilcott, S., et al. Applying the RE-AIM framework to assess the public health impact of policy change. *Ann Behav Med.* 2007;34:2:105-14.

13. Kreuter, M. W., et al. Evaluating community-based collaborative mechanisms: Implications for practitioners. *Health Promot Pract.* 2000;1:1:49-63.

14. Larsen, M., et al. Intersectoral action for health: the experience of a Danish municipality. *Scand J Public Health.* 2014;42:7:649-57.

15. Laverack, G. and R. Labonte. A planning framework for community empowerment goals within health promotion. *Health Policy Plann.* 2000;15:3:255-62.

16. Naaldenberg, J., et al. Elaborating on systems thinking in health promotion practice. *Glob Health Promot.* 2009;16:1:39-47.

17. Ollila, E. Health in all policies: from rhetoric to action. *Scand J Public Health.* 2011;39:6:11-8.

18. Peters, D., et al. Manifestations of integrated public health policy in Dutch municipalities. *Health Promot Int.* 2014.

19. Raphael, D. Challenges to promoting health in the modern welfare state: The case of the Nordic nations. *Scand J Public Health.* 2014;42:1:7-17.

20. Schilling, J. M., et al. Connecting active living research and public policy: transdisciplinary research and policy interventions to increase physical activity. *J Public Health Pol.* 2009;S1-S15.

21. Skutle, A., et al. A community-based prevention program in western Norway: Organisation and progression model. *Addict Behav.* 2002;27:6:977-88.

22. Steenbakkers, M., et al. Challenging Health in All Policies, an action research study in Dutch municipalities. *Health Policy.* 2012;105:2-3:288-95.

23. Storm, I., et al. Opportunities to reduce health inequalities by 'Health in All Policies' in the Netherlands: An explorative study on the national level. *Health Policy.* 2011;103:2:130-40.

24. Swanson, R. C., et al. Rethinking health systems strengthening: key systems thinking tools and strategies for transformational change. *Health Policy Plann.* 2012;27 Suppl 4:iv54-61.

#### *Implementation articles:*

25. Austin, G., et al. Translating research to practice: using the RE-AIM framework to examine an evidence-based physical activity intervention in primary school settings. *Health Promot Pract.* 2011.

26. Barry, M. M. Researching the implementation of community mental health promotion programs. *Health Promotion J Austr.* 2007;18:3:240-46.

27. Bloch, P., et al. Revitalizing the setting approach—supersettings for sustainable impact in community health promotion. *Int J Behav Nutr Phys Act.* 2014;11:1:118.

28. Chappell, N., et al. Multilevel community health promotion: How can we make it work? *Community Dev J.* 2006;41:3:352-66.

29. Dooris, M. Joining up settings for health: a valuable investment for strategic partnerships? *Crit Public Health.* 2004;14:1:49-61.

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32. Glanz, K. and D. B. Bishop. The role of behavioral science theory in development and implementation of public health interventions. *Annu Rev Public Health.* 2010;31:399-418.

33. Israel, B. A., et al. Community-based participatory research: lessons learned from the Centers for Children's Environmental Health and Disease Prevention Research. *Environ Health Persp.* 2005;146:3-71.

34. Jansson, E. V. and P. E. Tillgren. Health promotion at local level: a case study of content, organization and development in four Swedish municipalities. *BMC Public Health.* 2010;10:1.

35. Juneau, C.-E., et al. Evidence-based health promotion: an emerging field. *Glob Health Promot.* 2011;18:1:79-89.

36. Kegler, M. C., et al. The role of community context in planning and implementing community-based health promotion projects. *Eval Program Plann.* 2011;34:3:246-53.

37. Koelen, M. A., et al. What is needed for coordinated action for health? *Fam Pract.* 2008;25 Suppl 1:i25-i31.

38. Kok, M. O., et al. Practitioner opinions on health promotion interventions that work: Opening the 'black box' of a linear evidence-based approach. *Soc Sci Med.* 2012;74:5:715-23.

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40. Krieger, J., et al. Using community-based participatory research to address social determinants of health: lessons learned from Seattle Partners for Healthy Communities. *Health Educ Behav.* 2002;29:3:361-82.

41. Layde, P. M., et al. A model to translate evidence-based interventions into community practice. *Am J Public Health.* 2012;102:4:617-24.

42. Matheson, A., et al. Complexity, evaluation and the effectiveness of community-based interventions to reduce health inequalities. *Health Promot J Austr.* 2009;20:3:221-26.

43. Metzler, M. M., et al. Addressing urban health in Detroit, New York City, and Seattle through community-based participatory research partnerships. *Am J Public Health.* 2003;93:5:803-11.

44. Minkler, M. Using Participatory Action Research to build Healthy Communities. *Public Health Rep.* 2000;115:2-3:191.

45. Minkler, M. Community-based research partnerships: challenges and opportunities. *J Urban Health.* 2005;82:ii3-ii12.

46. Poland, B., et al. Settings for health promotion: an analytic framework to guide intervention design and implementation. *Health Promot Pract.* 2009;10:4:505-16.

47. Rohrbach, L. A., et al. TYPE II translation transporting prevention interventions from research to real-world settings. *Eval Health Prof.* 2006;29:3:302-33.

48. Shareck, M., et al. Reducing social inequities in health through settings-related interventions – a conceptual framework. *Glob Health Promot.* 2013;20:2:39-52.

49. Sogoric, S., et al. A naturalistic inquiry on the impact of interventions aiming to improve health and the quality of life in the community. *Soc Sci Med.* 2005;60:1:153-64.

50. Wallerstein, N. and B. Duran. Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. *Am J Public Health.* 2010;100:S1:40-6.

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#### Competing interests

The authors declare that they have no competing interests.

#### Authors' contributions

DW was responsible for data collection, data analysis, and is the main author of this manuscript. ML and EM conceived of the study and guided its development and design. ML and EM also contributed with continuous input, editing, and revision of the final manuscript. All authors read and approved the final manuscript.

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