Self-assessment tool for cross-sectoral health promotion

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Abstract. Finding sustainable solutions to complex health and well-being problems requires cross-sectoral cooperation. The Healthy Boost project, funded by the EU Baltic Sea Programme (2019-2021), together with 14 partners from seven countries, created a model and tools for enhancing cross-sectoral cooperation. The Self-Assessment Tool (SA) presented in this article was co-created and validated to enable different city sectors to identify their current state of cross-sectoral co-operation to promote urban health and well-being. Based on pilot self-assessment data, significant differences within and between cities exist, as regards their engagement in cross-sectoral cooperation. The most noticeable challenges were the ability to coordinate cross-sectoral cooperation, the lack of common cross-sectoral tools, communication, and resources. Based on the pilot feedback, the revised digital and matrix-based SA tool was developed. The revised SA tool provides both numerical and descriptive, verbal feedback on the state of cooperation between the city sectors. The revised SA tool has been made available to users in several languages and is intended for all professionals in different sectors of cities.

1 Introduction

Development of better methods and tools improves the evaluation of cross-sectoral cooperation and strengthens the building of stronger evidence-based health promotion policies and actions. Health promotion occurs under certain conditions. On the other hand, by promoting human health and well-being, we can shape the world around us. Health promotion allows us to respond to changing circumstances, but also to anticipate them and build sustainable and healthy tomorrow by discovering proactive solutions today. Different phases require different actions and necessary up-to-date information on the state of cooperation in the city. This article reports on the development and validation of the cross-sectoral cooperation Self-Assessment tool (SA tool). This tool simply provides a method for collecting assessments of cross-sectoral cooperation from professionals in different urban areas, that can serve as a guide for deciding on common urban health strategies and actions. The work is implemented in the framework of the EU co-funded project Healthy Boost–Urban Labs for Better Health for All in the Baltic Sea Region –Boosting cross-sectoral cooperation for health and well-being in the cities (2019-2021) [1].

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Health sector is unable to address health and well-being challenges on its own because a multitude of factors has intersecting impacts on health [2]. Cross-sectoral cooperation in health promotion can be an important way to contribute to a new kind of holistic and active health promotion tackling multiple determinants in municipalities together with different sectors, entrepreneurs, citizens, employees, and local and global developers in the city. As recognized in the United Nations 2030 Agenda for Sustainable Development [3] and in Health 2020 [4], the European health policy, engaging sectors beyond health, requires new and improved approaches to the governance of health and well-being. Cross-sectoral cooperation refers here to cooperation between different city administrative fields such as health and well-being, urban planning, transport, education, social care, sport and culture. Cooperation for promoting health and well-being is also needed between cities and partners from private and third sectors as well as from non-health sectors.

Health promotion as an operating environment. Research [5] has summarised many advantages for taking a cross-sectoral approach to health and well-being, such as better use of resources, reduced duplication of services, better ability to address the issues outside of the health sector finding effective solutions to complex problems, a possibility to implement new ways to address health inequalities, and the development of sustainable solutions. Therefore, the traditional status, when participants share little consensus on either cooperative strategies or operations, calls for actions to enable transformation from traditional approach towards cross-sectoral cooperation (Fig. 1). Cooperative ways to work across administrative boundaries were developed within the Healthy Boost project environments, aiming to create mutually beneficial health and well-being in cities and municipalities. Cooperative environment is expected to enhance options for participation of different stakeholders in the city, provided that financial support, resources and tools are also allocated to support cross-sectoral actions. By cooperating across sectors, wider results can be achieved by promoting policies that are better interconnected and mutually supportive and, at the same time, conflicts between different policies may be reduced [6].

Health promotion pilot interventions of the Healthy Boost project focused widely on prevention of NCDs (non-communicable diseases), since the burden of unhealthy lifestyles is a well-recognized challenge in the cities of the Baltic Sea Region (BSR) as well. The different intervention areas of Healthy Boost pilot interventions varied, including the promotion of sustainable mobility (Klaipeda); sustainable catering in pre-schools and schools (Jelgava); building the strategy for cooperation between the municipality and NGOs (Poznan); and building the concept for improving healthy habits and physical activity of the city residents (Tartu, Pskov and Cherepovets); increasing inclusion and equity of elderly people in the participatory budgeting process (Helsinki); integrating the municipal program of prevention and health protection of children in pre-school age (Suwałki) and creating a concept of increased participation of people from marginalized districts in the decision making in health (Turku). These interventions were identified as triggers for the launch of cross-sectoral cooperation activities in the cities. They provided information and evidence on cooperation, including self-assessment data for cross-sectoral cooperation and data for the development of a cross-sectoral cooperation model. The development of a model is thoroughly reported in the first SHW conference publication [7].

Health promotion as a process. According to policy analyses in the field of health promotion, political support for cross-sectoral cooperation already exists. The following three elements were identified by WHO European Regional office and its external research team [2] as the most frequent triggers for initiating multi-sectoral and inter-sectoral action: (i) high-level political support from ministers and ministries responsible for health and well-being, (ii) engagement of WHO, and (iii) introduction of data and evidence. The message of policy analyses could also be interpreted so that authorities seem to have a central role for initiating inter-sectoral actions carried out in different countries and their
municipalities. Lack of coordination and short-term decision-making have been identified as major obstacles for cross-sectoral cooperation and for the creation of supportive administration [5]. As cross-cutting activity itself is seldom a direct responsibility of any sector, resources specifically allocated for cross-sectoral cooperation are often scarce. According to policy analysis made by Juha Mikkonen [5] reviews and empirical evaluations have clearly indicated a need for more systematic and rigorous evaluation of cross-sectoral initiatives. Considering that previous empirical research on cooperation in community context relates primarily to project contexts, there are only a few validated cooperation assessment scales in the research literature. Therefore, it also is rather difficult to formulate a comprehensive, research-based view on how cross-sectoral health promotion processes and actions have been implemented in practice.

<table>
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<th>Health promotion as an operating environment</th>
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<td>Promoting health and well-being within each sector</td>
<td>Health promotion does not recognize administrative boundaries. Working closely together across sectors creates mutually beneficial health and well-being.</td>
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| Health promotion as a process | Health promotion is a ready-made service produced by each individual sector and service provider | Health promotion is produced in a collaborative network that incorporates the meanings given to services by different producers and local people. It focuses holistically on lifestyles, and what residents feel and do, both individually and as members of community. |

| Health promotion as an experience | Residents are passive consumers | Residents are active participants in health promotion together with other relevant actors. |

**Figure 1.** Moving from traditional towards transformative, cross-sectoral approach in health promotion.

*Health promotion as an experience.* Taking people and their experiences into account as clients and actors is on the health promotion agenda. However, new resident-driven goals, such as broader, cross-sectoral customer orientation and comprehensive customer support for lifestyle changes often conflict with more traditional and sector-specific goals and activities. The lack of cross-sectoral cooperation may lead to silos and fragmented customer experiences. Residents’ experiences cover many aspects of their well-being and are affected by cross-sectoral activities. Therefore, they could act as a catalyst for cross-sectoral cooperation and a new way to operate. The ability to change strategic thinking and approaches to health promotion in such a way that cross-sectoral cooperation also permeates customer-driven work distinguishes novel strategies and practices from previous sector-specific approaches [2]. Resident involvement makes it possible to strengthen the ethics of services while promoting their effectiveness and quality. Supporting resident involvement is a value and a way of promoting urban health. Its second dimension is customer orientation. The needs of residents cannot be based on a customer-oriented strategy alone. Strategies should also be based on up-to-date information and actual research of the state of the city strategies and actions. Self-assessment tools offer an applicable, easy to use and affordable method for professionals and administrations to start
their own internal self-assessment of the state of cross-sectoral cooperation and decision-making in the city organisation.

2 Developing and validating a self-assessment tool

2.1 Aim, materials and methods

The aim was to develop a scaled self-assessment tool for assessing cross-sectoral cooperation in urban health context. The pilot version of the SA questionnaire was co-created during the first Healthy Boost project’s implementation period (2019) offering a starting point for the cross-sectoral cooperation model as well. The development and validation of the SA questionnaire toward an SA tool used a three-phase method involving the development of the SA questionnaire items, a pilot assessment of city partners in nine cities and validation by panels of HB project partners and specialists in a sequential manner. Each sequential phase developed the tool towards a validated and revised digital SA tool produced in the last phase. This chapter focuses on the validation process and the findings of cross-sectoral cooperation in nine pilot cities of the HB project. The next chapter describes the digitalised and revised SA tool for cross-sectoral cooperation developed as a result of the validating process.

The first task in the process of developing the SA tool was a review of current literature to establish how the concept of cross-sectoral cooperation had been used and measured in existing instruments and the instruments closely related to this concept. The literature offered many practical tips for how to build partnerships across sectors as well as for partnership analysis. It also guided us to discover the determinants and factors linked with cooperation across sectors but taking place most often in the context of hospitals and health care institutions [8]. We did not find any self-assessment measurement that would have been extensively tested for validity and reliability in the context of cross-sectoral cooperation for health and well-being. The focus of measurement had often been on the individual competence of staff to promote the health of citizens. Our self-reported assessment aimed to elicit the individuals’ assessment of the dominant organisational cooperation approach and capability at the city level, not the individual cooperation competence of the respondent.

After creating an initial structure and items based on literature, the SA tool went through the first validation phase of being evaluated by partners and specialists of the HB project. The feedback offered by the HB partner panel guided us to revise some bureaucratic and complicated language as well as vague and abstract terms. The importance of working with very clear and easy-to-grasp descriptions and language of the SA tool was emphasized. After this phase, the SA tool comprised the two main factors identified and transformed into statements. These became the items of the self-assessment scale including strategic approach (variables S1-16) and operative approach (variables O1-27).

In the SA questionnaire, the respondents were first asked to conduct self-assessment related to their strategic approach for promoting health and well-being in their city organisation. This included the mission, values, motivation, objectives, partner resources, activities and the directions of the actions and management. The respondents rated their level of agreement or disagreement with each of the 17 statements by using a 5-point ordinal Likert-type scale 1 Strongly disagree, 2 Disagree, 3 Don’t disagree or agree, 4 Agree, 5 Strongly agree. Second, they were asked to conduct self-assessment focusing on the cross-sectoral cooperative actions and processes taking place in the daily work practices of their city. Actions, such as identifying opportunities for cooperation, engaging partners from other sectors, mediating different interests, leading and promoting synergy,
communicating, interacting and evaluating the outcomes were assessed. The focus of the 27 
operative actions was on how often or systematically a city organisation takes these 
cooperative actions into account in promoting health and well-being in the city, evaluated 
by a 5-point Likert-type scale: 1 Never, 2 Rarely, 3 Occasionally, 4 Often, 5 Always.

Next, face validity was verified through city pilots by assessing whether the tool truly 
measured cross-sectoral cooperation in the context of urban health and health promotion.

Google forms questionnaires for all the cities were created and translated into the native 
languages of the city participants to avoid possible respondents drop-out or 
misunderstanding of the questions and statements due to language. The city coordinators 
distributed the SA questionnaires in their respective cities. The city coordinator of Tartu 
conducted their pilot in English. The data received by the questionnaire was combined into 
one Excel database and then turned into SPSS data. The quantitative data was analysed by 
using SPSS version 27. Descriptive statistics (percentages, frequencies, means, and 
standard deviation) served to characterise the sample.

2.2 Results of Pilot SA

Self-assessment offered an empirical base to evaluate and reflect where the pilot cities and 
municipalities are in their cross-sectoral cooperation aiming to promote health and well-
being of citizens. Here the focus is on the development of the SA tool rather than on the 
results themselves, which have been published for the pilot cities and reported in the HB 
publication [9].

Altogether 329 staff members from nine pilot cities and their different city sectors 
assessed their cross-sectoral cooperation by using the SA questionnaire. The majority of 
respondents were female (79%). The city-based analysis of self-assessments will be 
published anonymously because the pilot did not intend to rank the test cities in any way. 
The number of respondents from cities varied between 16 and 37 respondents, the highest 
number of one city being 114 respondents [10]. The majority of city respondents 
represented highly educated staff having a master’s degree (52%) or higher education 
(40%). The respondents had also high status in the city organisation as a head (23%), as 
senior specialist or manager (47%) or professional workers (20%), or other position in the 
organisation (10%). The administrative sector of recipients was most often the city 
administration or the social and health sector or education. However, there was a high city-
based variation among these background factors among respondents.

The theoretical understanding of the two-dimensional SA measurement was assessed 
through exploratory factor analysis and computed as sum variables to measure their internal 
consistency of items. The SA measurement was statistically reliable in both strategic and 
operational dimensions of cooperation, indicated by the Cronbach’s alpha reliability 
coefficient (Table 1). Factor analysis was not very useful to shorten the SA tool after all 42 
items in factors appeared to be statistically worthy of retention.

| Table 1. Testing the internal consistency of the SA tool factors (n = 329). |
|----------------------|----------|----------|----------------|
| Factors             | Mean     | Variance | Number of items | Cronbach’s alpha |
| Strategies          | 3.60     | .514     | 16              | 0.888             |
| Operative actions   | 3.40     | .546     | 27              | 0.978             |

Next, the cooperation values of pilot cities were positioned on the four-field paradigm 
model to obtain a holistic picture of their strategic and operative approach towards cross-
sectoral cooperation. Positioning of the pilot cities is based on the sum of their means of 
strategy and operative action variables indicating values from high (5) to low status (1) in
their cross-sectoral cooperation based on the respondents’ self-assessment in the pilot cities. Surprisingly, nearly all nine cities were positioned as cooperative actors in their strategies and actions as indicated in Fig. 2. However, a detailed examination of the results also revealed differences in the results of the cities and determinants explaining them. As seen in Fig. 2, there was a general tendency for assessing strategic cooperation approach higher compared to cooperation in operative actions, which tells that it is important to measure these as different dimensions. In practice, this means that it is not enough to have a strategic plan, but the impact of practical measures must also be assessed.

![Figure 2](image)

**Figure 2.** Position of cities in the four-field of cross-sectoral cooperation. Self-assessed operational actions compared to strategic approach by sum mean values (lowest 1-5 highest) in each of the nine cities.

On the local policy agenda, cooperation across sectors was considered very important. More than 60% of all respondents assessed cross-sectoral cooperation to be very important in the field of health promotion in their own city. ANOVA test indicated, however, that significant differences actually existed in the variance between cities on how the importance (1not at all–4 very important) of cooperation was evaluated by the respondents in the strategic cooperation $F = 42.10, p = .000$ (df 3,325) and in operative cooperation $F = 32.80, p = .000$ (df 3,325) of each city. The ANOVA F test provides a method for calculating the amount of variability present around the means of 2 or more groups. The differences between the nine cities were statistically significant in the state of cross-sectoral cooperation also when comparing their strategic cooperation $F = 4.44, p = .000$ (df 8, 320) and their operational activity $F = 8.54, p = .000$ (df 8, 320) as well as differences between the countries in their strategic cooperation $F = 6.35, p = .000$ (df 5, 323) and their operational activity $F = 11.31, p = .000$ (df 5, 323). The respondent’s administrative background and position in the organisation were also significant background factors affecting self-assessment.

Cooperation was rated as highest, for example, in the partnership building issues described in the following statements: “All sectors are considered as potential actors in cooperation for promoting health and well-being”; and “Cooperation goes beyond the city
administration including NGOs, enterprises as well as other public organisations”. In operative actions, the cooperation actions were often assessed “to be beneficial for all partners”. According to the self-assessments, local communities and residents were assessed to participate in actions that promote health and well-being. The biggest challenges for cooperating across sectors in the cities were strategic coordination and systematic identification of the community needs for health promotion. The lack of human and financial resources to work together was assessed to be the biggest obstacle for operative cooperation, as well as unclear communication between different partners involved in cross-sectoral cooperation. The cooperative actions were less systematic than expected in the strategic approach, indicating significant differences. The variation among respondents’ assessments was high within the cities as well. That led to a cautious conclusion about existing gaps in coordination and communication of cross-sectoral work within city-based health promotion.

Generally, the local respondents seem to have quite limited options to be able to assess the state of cooperation across sectors and therefore, cross-sectoral cooperation is very hard to increase and develop. The data matrix showed that there was a high frequency to use “Neither agree nor disagree” option in the self-assessment, it being highest in the following strategic statements: “The needs for cooperation among partners are presented clearly” (45%); “We have guidelines and tools for cross-sectoral cooperation “(44%) and “The objectives for promoting health and well-being across sectors are well coordinated” (44%). Some written feedback comments provided explanations for this such as “People surely want to cooperate, but they don’t know well enough how to do it.” and “Many things have been recognized, a systematic and concrete roadmap - but it is not in use, at least not generally”. The responses also indicated sector-based ‘mandate’ thinking.

The results also indicated some weakness in the match between a target group and the SA tool used in the data collection. While the pilot respondents had some problems in responding to the items, they did also suggest some changes for greater clarity and concreteness in the statements. An easy-to-use tool was most often highlighted as a feature of the self-assessment tool also from the side of the HB project panel. The members of the HB panel had also noticed in their cities that pilot respondents had difficulties to interpret the results of the state of cross-sectoral cooperation offered in numeral form in tables and figures [9]. They suggested a focused and city-based verbal feedback in addition to numerical results. Results also raised the question that self-assessment responses may have a misconception about social desirability, suggesting a tendency to respond in ways that are considered more appropriate or socially acceptable to others and to one’s own city. Although we used an anonymous SA questionnaire, the cities and countries of the respondents were identified, which could cause a sense of competition between the cities and countries of the HB project. An option to benchmark one’s own results to those of others could be added because comparison also creates a positive competitive situation for the development of cooperation.

3 A revised and digitalised SA tool

The final aim of the validation process was to develop a reliable self-assessment tool which is easy to use by all professionals, such as managers, leaders, experts, civil servants and practitioners, from different sectors of cities. In this phase of validation, the pilot SA feedback was reviewed to enable the final refinement of the SA tool. The relevant wordings were reviewed, and the 42-item SA tool was shortened to 27 items. The 5-point Likert scale was changed to a 6-point scale asking the respondents to rate the state of cross-sectoral cooperation in their city on a scale of ‘very well’ to ‘very poorly’ complemented by a ‘cannot say’ option. The SA tool was also expected to offer concrete guidance on how to
take steps forward in developing cross-sectoral cooperation in a city. As a summary, an SA evaluation matrix was created including 162 cells of options for reflective and guiding responses according to 6 (scale) x 27 items used in the SA tool.

The feedback report summarises the results and provides a detailed, statement-based description of the assessed city’s capacity for cross-sectoral cooperation, based on each assessment. The report also outlines the steps the respondents could take in their respective cities to improve cross-sectoral cooperation. Recommendations on how to improve cooperation across sectors in a city are based on the evidence found to be the prerequisites for effective cross-sectoral work in health promotion. The SA tool is introduced in the outputs of the HB project platform with a link to start self-assessment of cross-sectoral cooperation in your own city [10]. SA can be conducted in all 24 official languages of the EU, and also in many other languages used outside Europe offered by the Google translation programme. It can be completed anonymously but there is a question of the city where you evaluate the state of cross-sectoral cooperation for urban health. The electronic evaluation form takes approximately 5 minutes to complete. Once the form has been submitted, the anonymous results can be viewed in a digital form on the Healthy Boost platform. In the feedback, the respondents will also find comparative benchmarking information related to their assessment, both according to all assessments made in a respondent’s city and country, and in relation to all assessments altogether made in other cities and countries. The assessor can also send the link to their colleagues in their own city or in other cities to increase the possibility for benchmarking.

By identifying the strengths and weaknesses in cooperation, based on assessment, the city can build capacity for cross-sectoral cooperation, which is the current strategy for future sustainable urban development. This self-assessment (SA) provides a tool for the cities to assess their current commitment to cross-sectoral cooperation in the city or to highlight the strengths and obstacles to active multidisciplinary cooperation, as well as to monitor change by following the summary of self-assessment results available and making comparisons and benchmarking with other cities and countries.

4 Conclusions

The main aim of the Healthy Boost project was to contribute to sustainable development of the BSR cities and social well-being of city residents through improved, more innovative, effective and integrated cross-sectoral urban policies. As cooperation is an important factor in producing urban health and well-being in a sustainable and resource-effective way, the study within the HB framework developed and validated an SA tool for cross-sectoral cooperation. The SA tool offers a method for gathering information about the state of cross-sectoral cooperation in the field of urban health to facilitate decision-making in the process and highlight the lack of cooperation towards the needs of health promotion across sectors. The needs have to be established so that cooperation can be developed and cooperation gaps identified in the urban contexts, for better promotion of health and well-being of residents. The validated SA tool is easy to use in different languages and it offers immediate feedback of the results of each individual self-assessment, and an option for comparing the results of others at the city level and country level. The evidence supporting the content validity of the SA tool was based on literature review and on the judgements of the HB expert groups. Face validity was verified through pilots by assessing whether the tool truly measured cross-sectoral cooperation in the context of urban health and health promotion.

Evidence-based boosting of cooperation across sectors in health promotion practices in the future depends on systematic evaluation of these practices. The literature review highlighted the need to create a valid and reliable tool to assess cross-sectoral cooperation.
This tool is already usable in urban cross-sectoral cooperation contexts even though we have to wait to obtain more comprehensive data to analyse the results of the revised SA tool used in a digital form. Thus, there are limitations since the empirical validation of the tool has been conducted with a limited number of city participants. Therefore, we recommend that the tool should be tested with large participant groups in a city context. This could increase understanding of the state of cross-sectoral cooperation focused on health promotion issues as assessed by those participating in the promotion of urban health.

In addition, a Model for Cross-Sectoral Cooperation, Training Material as well as Collections of Good Practices and Co-Creative Workshops Examples produced by the Healthy Boost project and pilot cities are available, to be used in cross-sectoral cooperation. The aims in the wider context are (i) to enhance co-creation and enabling citizens’ participation in planning of the policies for health and well-being, (ii) to improve cross-sectoral cooperation in the BSR cities in order to enable city administrations to provide integrated policies for better citizens’ health and well-being and (iii) enhancing innovativeness of BSR city administrations to better respond to complex current and future challenges of health and well-being in the municipalities [11].

The SA tool is co-created and validated as part of the Healthy Boost project, co-financed by the European Regional Development Fund through the Interreg Baltic Sea Programme (https://www.healthyboost.eu/). We would like to thank all our project partners for contributing to co-creation of the revised SA tool as a part of Healthy Boost Family tools: our expert partners from Riga Stradins University (Latvia), who developed the model to support cross-sectoral cooperative processes and linked them to the SA tool, lead partner from the city of Turku (Finland), and the following representatives from municipalities who have tested and offered valuable feedback: city municipalities of Tartu (Estonia), Helsinki (Finland), Jelgava (Latvia), Suwałki and Poznan (Poland), Klaipeda (Lithuania), and Association of Healthy Cities, Districts and Villages (Russia). We would also like to thank Lithuanian University of Health Sciences (Lithuania), Science Park Tehnopoli (Estonia), Nofer Institute of Occupational Medicine (Poland), and Västerbotten County Council (Sweden) for their inspiring work.

References

5. J. Mikkonen (2018), Intersectoral Action for Health: Challenges, Opportunities, and Future Directions in the WHO European Region. A Dissertation submitted to the Faculty of Graduate Studies in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy Graduate Program in Health, York University Toronto, Ontario


