

Ensuring networks work well: Development of a self-evaluation tool for network quality in community health promotion

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ABSTRACT

Networks are an essential component of community-based health research. Community-based networks require a high degree of collaboration, and the quality of this collaboration is a key factor for intervention success. As such, it is important to measure collaboration quality through network evaluation. Established tools, such as social network analysis, primarily measure connections between network members as opposed to network quality. Additionally, only few tools developed for this purpose are used in practice. This paper describes the process of developing a network assessment tool to measure the quality of network collaboration in practice. To this end, we collaborated with practice partners from a community-based health promotion network and the community health service. We adopted a mixed-methods approach consisting of a literature review and a needs assessment involving practical experts in Germany. On this basis, we developed a new network evaluation tool, the Self-Evaluation Tool for Network Quality Assessment by Practitioners in Community Health Promotion (SNAP-HP), in cyclic-iterative collaboration with our practice partners. The next steps include piloting, evaluating, and adapting the SNAP-HP for final open access.

KEYWORDS: community-based health promotion, prevention, community networks, network evaluation, evaluation model

BACKGROUND

A growing body of evidence suggests that health research efforts, such as noncommunicable disease prevention, are more successful in creating and promoting healthy environments when entire communities are involved.¹ Community-based approaches reach a higher number of people of all ages, education levels, and social statuses.^{1,2} Networks appear to be an essential component of these interventions and are characterized by the voluntary association of individuals and institutions to form a coalition for the complementary achievement of goals and a vision to reach synergy.^{3,4} The interdisciplinary nature of networks often poses a major challenge to successful cooperation, as achieving sustainable goals depends on the quality of the collaboration.⁵⁻⁷ Various approaches, such as community-based participatory research (CBPR)⁸ and the multifaceted network assessment tool,⁵ have defined specific quality criteria for successful networks. These criteria include consistent intentions; diverse, multidisciplinary, and nonhierarchical structures with a clear distribution of roles; transparent, collaborative, and participative processes; long-term goals; and a continuous readiness to learn, adapt, and improve. In addition, evaluation measures may help networks to detect barriers to and facilitators of their goals and to adapt and optimize their structures and processes in response to the results.⁶ However, examining the efficiency and sustainability of a network presents a unique challenge due to its complexity.³ So far, few scientifically based methods measure network quality.

A well-established tool in the field of community health promotion is the social network analysis (SNA),⁹ which identifies network members, relationships, and the intensity and density of these relationships.¹⁰ SNA focuses mainly on social structures, such as the relationships between network members, and primarily considers the density of connections.^{4,11,12} Although useful online tools, such as the PARTNER tool,¹³ are available to

support the implementation of SNA, they are rarely used in the field.¹⁴ This may be because SNA only examines connections among network members and not network collaboration quality. Many other tools entail the use of qualitative or mixed methods, both of which require significant time and personnel.^{9,15,16} For example, Stock et al.⁶ used the multifaceted network assessment instrument to evaluate the German working group Health Promoting Universities (German HPU network). In addition to document analysis, they conducted expert interviews (90 minutes each) and a survey of network members (n = 216; response n = 33; 15.5%). Although the authors described the approach as supportive and helpful, the procedure was complex and time-consuming. Moreover, the research focused on a preselected group of university members; in community networks, the landscape of actors is often more heterogeneous.

Therefore, this study aimed to develop a low-threshold instrument to analyze community networks using few resources by drawing on scientific knowledge and practical experience. This paper describes the process of developing a new network evaluation instrument.

METHODS

The instrument was developed within the StuPs project: a school- and community-based participatory approach for promoting physical activity in children and their families, which aims to close the gap between science and practice by implementing a participatory and interdisciplinary multicomponent approach in two socially deprived areas in Cologne (North Rhine-Westphalia, Germany).¹⁷ Within this project, the need for a network evaluation emerged. Therefore, the development of a suitable instrument was initiated with the support and expertise of the academic partner of the StuPs project, the Academy for Public Health in Düsseldorf (AÖGW). In order to integrate further expertise from network practice into the

development process, additional experts from the community health sector were recruited to support the process (see Steps 1–3). Therefore, the AÖGW recruited community health workers from various German cities. Furthermore, we included two deputies from a community-based network in Marburg, Hessen, namely the Promoting Health, Strengthening Care (PHSC) network (author’s translation; “Gesundheit fördern—Versorgung stärken”). During this early stage of the relatively young PHSC network, there was a strong interest in high quality collaboration, and thus an interest in developing a suitable network evaluation tool to measure this quality. The exact tasks and roles of the partners are described in detail in the following sections. They all had a natural interest in the emergence of a network evaluation instrument, but no conflicts of interest occurred. Human Ethics Research Committee ethics approval was obtained from the Ethics Commission of the German Sport University Cologne (136/2019), which examines studies in consideration of the Declaration of Helsinki.

To design the new instrument, we used a mixed-methods, theory-based approach. Figure 1 depicts our three-stage process. Based on the literature, we developed our theory and designed the development process in cyclic-iterative collaboration with the practical partners described below. To this end, we conducted a literature review (Step 1) and a needs assessment (Step 2). The outcomes are presented below as “Lessons Learned” and led to the development of a new instrument (Step 3). We describe the derivation of this development process in the results section of this paper.

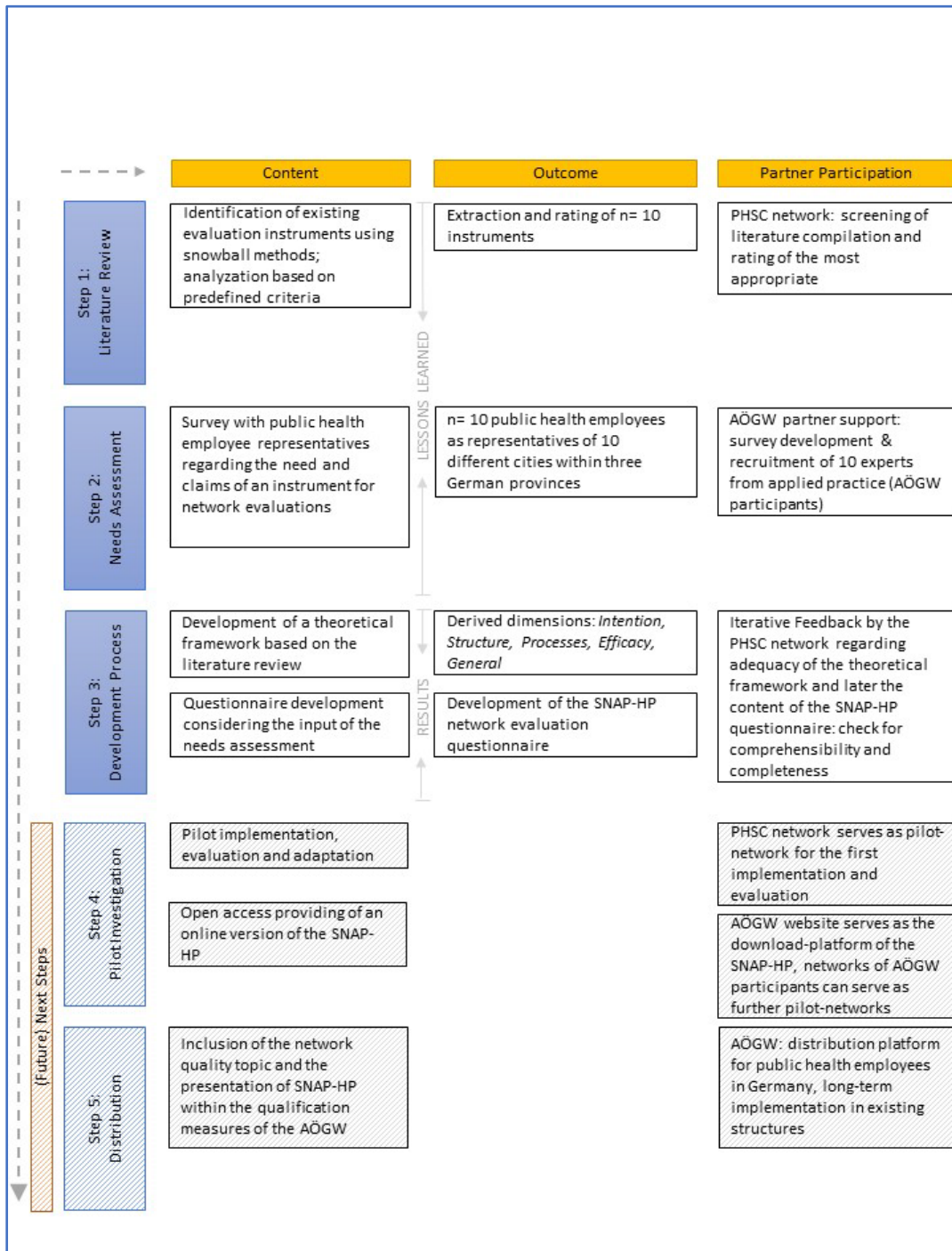


Figure 1. Flowchart of the conceptual framework to develop the new network assessment instrument for community health promotion networks.

Partnerships

Community-based network

The city of Marburg's PHSC network was founded to develop health promotion, disease prevention, and medical care measures to improve citizens' health and quality of life across the life span. The basis of this network is to establish structures for good cooperation following the CBPR criteria. It is managed by a core team, and an advisory board oversees these processes. The PHSC advisory board includes members of the community, politicians, representatives from medical institutions, the University of Marburg, sports clubs, and other stakeholders.

At this point in our research, we had not worked with the network but were acquainted with several of its public health professionals, and our common interest led to the integration of two PHSC deputies into our project to follow the development of our instrument closely as stakeholders. We presented the results of the various development steps and discussed these with the PHSC deputies regularly. They provided active feedback on the design, relevant issues, lessons learned, and planned implementation. Based on this, we developed the structure of the questionnaire for the instrument, which was again presented to and discussed with the whole PHSC advisory board in order to be approved for the intended use within their network. The subsequent development steps were carried out on the basis of this feedback. Furthermore, this project will be a basis for future professional exchange, and the network will use the developed questionnaire.

Community health workers

The AÖGW is a public educational institution conducting applied research and offering education, training, and continuing education for public health service employees. In addition

to the StuPs project, we are jointly conducting the qualification measure "Community Health Moderation." In relation to the development of the new instrument, the AÖGW serves as an academic partner and supported us by recruiting 13 experts from applied practice, 10 of whom participated. All of them are employees of community health services. As such, they represent multiple community health promotion efforts or have initiated the establishment of corresponding networks, so they appropriately reflect our target group.

They took part by completing a survey on conducting network evaluations in practice. In addition, the AÖGW academic partners will continue to be involved in the project, especially in the planned next steps of the pilot investigation, which involve using the AÖGW as a platform for the provision of the instrument, contact with the target group, and the initial nationwide distribution.

Conceptual Framework

Step 1: Literature review

A literature review was conducted to identify existing evaluation tools for the analysis of networks in health promotion contexts. We used the following keywords in various combinations in PubMed, LIVIVO, and Google Scholar databases: "network analysis," "health promotion" OR "public health," "assessment" OR "instrument," "evaluation," "Netzwerkanalyse," "Netzwerkevaluation," "Evaluation gesundheitsfördernder Netzwerke," and "Evaluation von Netzwerken zur Prävention". The search results were supplemented using the snowball method: scanning the references in the identified literature and including already known models.

Methods and approaches were included if they (i) focused on the evaluation of health promotion or prevention projects, programs, and interventions appropriate to transfer content to network evaluation; (ii) focused on network evaluations and analysis independent of the target setting; (iii) were suitable for self-evaluation; or (iv) contained quantitative methods or mixed methods, including the use of questionnaires. Methods and approaches were excluded if they (i) were not applicable to the network level; (ii) were not suitable for self-evaluation; or (iii) required financial resources for the evaluators.

The selected instruments were analyzed based on predefined criteria: purpose, setting/orientation, method/description, and assessment design. We discussed the literature with the PHSC network deputies, and together we decided which approaches from the templates might be suitable for use in the new instrument. Feedback on the previous models was also used to formulate key criteria against which we could assess the suitability of each instrument for our purposes.

Lessons learned in Step 1

We identified 10 evaluation strategies and tools that met our inclusion criteria and labeled them A–J. We analyzed these according to our predefined criteria and summarized them in Table 1. The members of the PHSC network recommended tools (I) and (J) for practical application due to their easy-to-replicate structures and the ability to visualize the results. However, we adapted the content of these tools to incorporate the network criteria met by tools (F), (G), and (H). Next, we identified the tools that fit each of the key criteria:

- The tool is oriented toward networks. (Tools F, G, I)

- The tool includes quality criteria for network dynamics. (Tools F, G, H)
- The tool builds upon a comprehensive network model. (Tools F and G)
- The results from this tool provide high comparability. (Tools E, I, J)
- The tool enables a vivid visualization of the results. (Tools E and I)

Table 1: Results of the literature search.

Step 2: Needs assessment

With support from AÖGW, we developed a questionnaire to assess the existence of and need for a new network evaluation instrument. We then used this questionnaire to survey the AÖGW participants.

The questionnaire asked participants about the following: (i) their experience with existing tools; (ii) why evaluations had not yet been conducted; (iii) the likelihood that they would use a tool with open-access availability; and (iv) which criteria a tool needed to fulfill to be chosen and which criteria could improve its practical application and feasibility. Questions were either dichotomous or open-ended. Dichotomous responses were counted using frequency distribution, while open-ended responses were categorized and analyzed qualitatively. Responses were clustered using qualitative content analysis.¹⁸ All 10 AÖGW participants completed the survey. Based on the survey results, we expanded the key criteria formulated in Step 1 and reevaluated the selected literature. On this basis, we refined the aspects of each analyzed instrument that should be included in our new instrument.

Lessons learned in Step 2

The analysis revealed the need for suitable instruments for the practicable evaluation of community health promotion networks. Although AÖGW participants reported being aware of evaluations as a key factor for success, they stated that such evaluations are often not carried out due to a lack of resources, including insufficient planning, finances, time, and personnel. Their answers are summarized below.

- i) *Experience with existing tools:* None of the 10 participants had ever conducted a network evaluation or been part of an evaluation measure.
- ii) *Reasons evaluations have not been conducted so far:* Participants mentioned an absence of priority, the young stage of the network, and personal reasons such as lack of experience or time.
- iii) *Likelihood of using a tool with open-access availability:* Nine out of 10 participants indicated that they would conduct an evaluation if there was an appropriate open-access tool, citing the goals of improving network quality, gaining knowledge about the network, fulfilling personal interests, and ensuring satisfaction among network players. The only reason given for not conducting an open-access evaluation was that the workload would be too high.
- iv) *Criteria a tool must fulfill to be chosen and that could improve practical application and feasibility:* Participants mentioned ease of use, clarity, rapid results, and simple data management, as well as flexibility, less time required, and minimal financial and personnel resources. They also cited the opportunity to optimize processes using the tool, comparability, comprehensive analysis, systematic analysis and rating, and player accessibility.

The criteria formulated in Step 1 were therefore expanded as follows (see Table 1):

- The tool is multidimensionally oriented. (Tools A, B, C, G, I)
- The tool provides a checklist/guideline to develop evaluation measures. (Tools A and B)
- The tool provides a framework to help plan and evaluate different types of measures. (Tool C)
- The tool provides content or structural input for the formulation of statements or construction of a questionnaire. (Tool E)
- The tool is ready to use for evaluations (that is, the tool does not require extensive effort to implement). (Tools E, I, J)
- The application of the tool requires little time in terms of conducting an evaluation. (Tools I, J)
- The tool enables easy results/data management. (Tools E, I, J)

Considering the assigned criteria, we classified the instruments into four categories, based on how the tools are applied in the development of our instrument (see Table 1):

- I. Tools that provide checklists or guidance for developing general evaluation measures; these provided structure for instrument development. (Tools A, B, C)
- II. Tools that assess community capacity for prevention and public health interventions; these provided content ideas for instrument development. (Tools D and E)
- III. Tools that evaluate networks or provide detailed quality criteria for network tasks but do not contain ready-to-use instruments; these provided content ideas for instrument development. (Tools F, G, H)
- IV. Tools intended to evaluate networks; these provided structural inspiration. (Tools I and J)

Step 3: Development process

From the results of Steps 1 and 2, we designed the basic structure of the instrument, consisting of five sub-areas/dimensions. For better comprehensibility, we formulated an intention and indicators for each dimension. In turn, for each individual indicator, we formulated statements that could be evaluated, thereby making the quality of the indicators and dimensions measurable. Subsequently, a score was developed to evaluate the network quality.

The PHSC network supported this step by providing iterative feedback at an advisory board meeting. We presented the instrument's structural framework, including question format and outcome visualization, in addition to discussing its suitability. In addition, the content orientation was addressed and discussed. Based on this group discussion, the first draft of a questionnaire including dimensions and statements was prepared and sent back to the PHSC network to check for comprehensibility and completeness. Their comments were considered in the finalization of the questionnaire.

RESULTS of Step 3

Definition of "network"

The following definition was formulated based on the CBPR guidelines⁸ and the quality criteria for networks formulated by Brößkamp-Stone⁵:

A "network" is a voluntary association of different coalition partners, such as institutions and individuals, who combine forces for the achievement of common goals and

visions. The individual network partners are legally and economically independent. The aim of the network is to achieve synergy through the use of complementary skills to increase development and level of performance and accelerate problem-solving.

Questionnaire structure

The underlying structure was modeled on evaluation tools (E) and (I), as recommended by the PHSC network advisory board. The questionnaire takes the form of statements to be rated on a five-point Likert scale, because such results can be visually presented in the form of a spider chart.

Content

To fill the structure with content, we considered tools (F), (G), and (I) in particular, as these provide detailed network models describing network collaboration using dimensions. From these, we derived the dimensions “intention,” “structures,” “processes,” and “efficacy,” with subordinate indicators as shown in Table 2, and to these we added a “general” dimension. Following tool (E), we formulated a short statement of intent for each dimension to ensure a consistent understanding of the underlying idea. The statements were formulated following tools (D), (F), (G), (I), and (J). All of these tools include questions or statements to be rated in relation to each tool’s specific aims. With guidance from our practice partners, we selected individual questions and statements to be included in the questionnaire. These statements are not included here, as the questionnaire must first be tested in the field. Upon completion of this, we will use factor analysis to examine the statements for reliability and significance.

Table 2. *Dimensions of the new network evaluation instrument with their respective intent formulations and indicators.*

Considering the practical guidance and recommendations of the PHSC network, we assigned open-ended questions to each indicator, inviting both qualitative and ranked responses, which could then be clustered (see Figure 2):

“List the three most important aspects influencing your agreement or disagreement with the aforementioned statements.”

To investigate change over time, we added a dichotomous question in combination with an open-ended question for each indicator:

“Have there been any changes regarding [name of the indicator in question] retrospectively? (yes/no) If any changes have occurred, list the three most important ones.”

These structural and content considerations led to the development of the questionnaire. An example of the structure can be seen via the short excerpt in Figure 2.

Exemplary extract from the SNAP-HP questionnaire

STRUCTURE

A network lives through the association of different actors from different sectors and settings. The extent of the network's interdisciplinarity and qualifications greatly impact the quality of the cooperation and thus the result. In addition to the creation of a central coordination point, this requires rules regarding participation, division of work, and self-regulation.

Please indicate the extent to which the following statements apply to the actor landscape.

	not at all applicable	somewhat not applicable	partly applicable	somewhat applicable	fully applicable	not assessable
	[0]	[1]	[2]	[3]	[4]	[5]
The network size is appropriate relative to the given human resources and competencies (capacity).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Network members know each other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Responsibilities were assigned to network members based on strengths and qualifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[...]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

List the three most important aspects influencing your a) agreement or b) disagreement with the aforementioned statements.

a) 1. _____
 2. _____
 3. _____

b) 1. _____
 2. _____
 3. _____

Have there been any changes regarding the actor landscape retrospectively?

Yes / No

If any changes have occurred, list the three most important ones.

1. _____
 2. _____
 3. _____

Figure 2. Exemplary extract from the SNAP-HP questionnaire.

Analysis

To create a spider chart from the results of the new evaluation tool, scores can be calculated from the five-point Likert scale and allocated as percentages based on the aim of each dimension or indicator. The maximum possible score for each dimension or indicator serves as the dividend, and the actual score within the completed questionnaires per dimension or indicator serves as the divisor. The quotient of these values, multiplied by 100, indicates the quality of the dimension or indicator as a percentage. All questionnaires within a network can be evaluated by calculating average values. Quality can be visualized as described above at the dimensional level in the form of a spider chart (Figure 3A) or the indicator level in the form of a bar chart (Figure 3B).

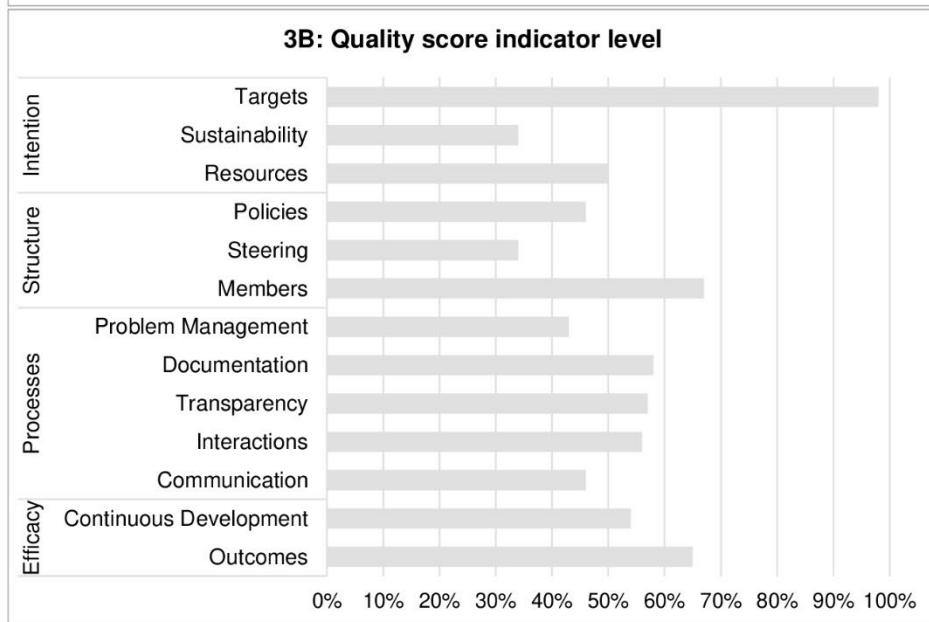
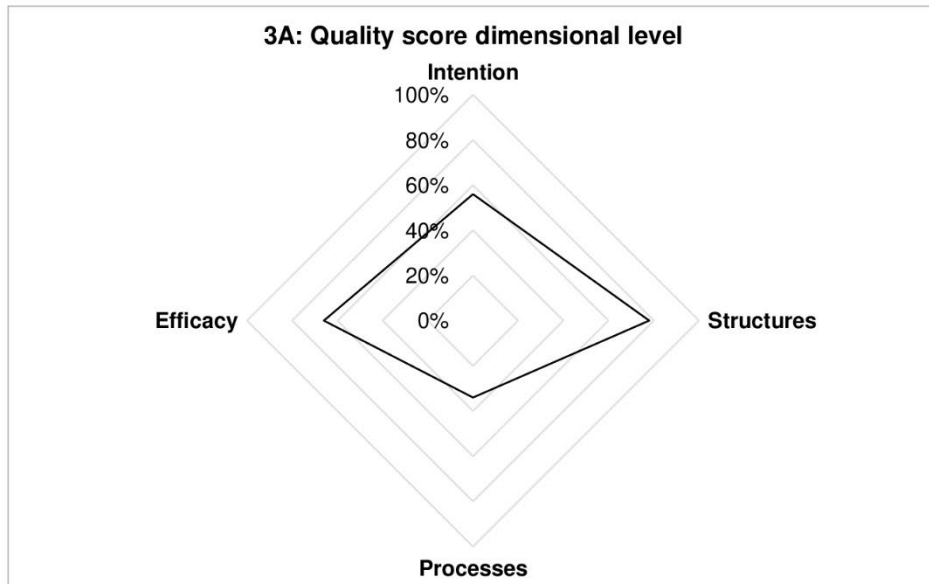


Figure 3. Outcome example of SNAP-HP. 3A: dimensional level, visualized using a spider chart (according to Gajo et al. 2013¹⁹), and 3B: indicator level, visualized using a bar chart; fictive scores.

In addition, the open-ended questions can be clustered hierarchically according to the number of mentions. Further, the answers to these questions form the basis for the adaptation of processes within specific dimensions or indicators to increase network quality. This additional information offers a clear classification of network quality at different levels and serves as an indirect recommendation of changes and adjustments.

Finalization and name

The new evaluation tool was finalized and named the Self-Evaluation Tool for Network Quality Assessment by Practitioners in Community Health Promotion (SNAP-HP).

STRENGTHS AND LIMITATIONS

One notable strength of the SNAP-HP is its development based on proven tools, which we extended to meet the specific requirements of the target end-users, namely health-promoting networks in the community context. In addition, the use of a participatory approach that integrates an existing community health network and community health workers is another strength of this project. The considerable experience of the project's academic partners also proved advantageous in the development of the SNAP-HP questionnaire. Due to the subject matter, conflicts of interest can be largely disregarded. However, the project is limited in that

only one network and 10 participants from other community networks participated in the pilot survey. Nonetheless, experiences from different provinces and communities were covered through the inclusion of partners from various locations, allowing the creation of a first draft of the instrument. However, this is not a substitute for testing the feasibility of the final instrument within existing networks. In addition to feasibility, the informative value of the instrument must also be tested, as our aim is not only to map the quality of community health promotion networks, but also to be able to make improvements on the basis of the findings. In our next steps, we must also consider whether and how a transfer to other settings and, above all, to other countries in Europe or the USA, for example, is possible.

CONCLUSION AND NEXT STEPS

We developed the SNAP-HP questionnaire to evaluate the quality of community networks. Our approach was literature-based and involved close participatory and cyclic-iterative exchange with practical experts and representatives from a community-based public health network.. As a result, it represents a promising tool that encourages community health service practitioners to use evaluations to examine the quality of their networks.

Our next step is to deploy the SNAP-HP to the PHSC, networks of AÖGW participants, and the StuPs project in order to test its feasibility and informative value in practice. The results will be evaluated in the same way as described above, by examining the statements using factor analysis to bundle similar statements, if necessary, and to streamline and further optimize the questionnaire. After successful piloting and final adaptation of the SNAP-HP, it will be made available online and be publicly accessible, including an evaluation matrix for dissemination. The AÖGW online platform will be used for this purpose. In addition, the

topic of network evaluation or the application of the SNAP-HP will be integrated as a modular component into the training paths of the AÖGW. Furthermore, the use of a common evaluation tool facilitates comparison between networks regarding successful network operation or the comparison of evaluation results to achieve optimized network operation in the context of health promotion over the long term.

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Table 1. Results of the literature review.

	Tool	Author	Purpose	Setting/Alignment	Method/Description	Evaluation Design	Key Criteria for Inclusion
I. Tools that provide checklists or guidance for developing general evaluation measures—provided structure for instrument development.							
A	CIPP-Checklist	Stufflebeam, 2007 ²⁰	Guidelines for evaluators and customers to support the development of evaluations	Projects for health promotion and prevention	Checklist to support the evaluation of different measures based on the key domains: context, input, process, and product evaluation	No suggested design; mainly helps in developing evaluation designs	- Provides a checklist/guideline to develop evaluation measures - Multidimensionally oriented
B	Quint-Essenz	Health promotion Switzerland, since 2000; Ackermann et al., 2009 ²¹	Quality management in health promotion and prevention	Projects and programs for health promotion and prevention	Website offers a project management tool based on 24 quality criteria allocated to six domains; provides information on how to plan, organize, manage, evaluate, and validate health promotion projects and programs; provides an evaluation sheet for quality criteria in health promotion	No suggested design; mainly supports by developing evaluation designs	- Provides a checklist/guideline to develop evaluation measures - Multidimensionally oriented
C	RE-AIM	Glasgow et al. 1999 ²² , 2006 ^{22,23}	Support for planning and evaluating different types of programs, practices, policies, and environmental changes	Initiatives intended to produce public health impact	Framework with questions on five dimensions (reach, effectiveness, adoption, implementation, sustainment) that are helpful in planning and evaluating different interventions	No suggested design	- Provides a framework to help plan and evaluate different types of measures - Multidimensionally oriented
II. Tools that assess community capacity for prevention and public health interventions—provided content ideas for instrument development.							
D	Community capacity index (CCI)	Laverac & Labonte, 2001a ²⁴ , 2001b ²⁵	Measurement of community capacity for sustainable development of capabilities,	Communities, various settings	Evaluation sheet including nine dimensions (participation, leadership, organizational structures, problem assessment, resource mobilization, asking	Net chart to visualize the nine dimensions	- Content input for statement formulation

		Laverack, 2008 ²⁶	resources, and permanent engagement for health promotion		“why?”, links with others, the role of the outside agents, program management). According to each dimension, five statements are formulated; corresponding ones should be marked. Results are intended to be discussed in a group setting; the target and the required resources will be formulated		
E	Capacity development in community districts (Kapazitätsentwicklung im Quartier) (KEQ)	Nickel et al., 2013 ²⁷	Self-evaluation of capacity building in community districts based on the community capacity index and adapted to German conditions	Setting-based health promotion approaches	Standardized questionnaire with five dimensions (citizen participation, responsible local leadership, existing resources, networking and cooperation, healthcare), with subordinate statements to be evaluated on a five-point Likert scale	Calculation of mean values for each dimension and visualization via net chart	<ul style="list-style-type: none"> - Content input for the formulation of statements - Structural input for the construction of a questionnaire instrument - The tool is ready to use for evaluations (Less time is required to conduct an evaluation with this tool) - High comparability - Easy result/data management - Vivid visualization of results
III. Tools that evaluate networks or provide detailed quality criteria for network tasks but do not contain ready-to-use instruments—provided content ideas for instrument development.							
F	Multifaceted network assessment instrument	Bröskamp-Stone 2004 ⁵	Network evaluation	Networks in various settings	Holistic network model as a theoretical basis for network evaluations via document analysis; expert interviews; survey of network members via questionnaire oriented on the model	No explicit suggestion	<ul style="list-style-type: none"> - Includes quality criteria for network dynamics - Builds upon a comprehensive network model
G	A proposed conceptual framework for assessing the functioning and effectiveness of networks in the	Dietscher 2017 ²⁸	Network evaluation	National and regional health-promoting hospitals and health departments	Holistic network model as the theoretical basis for network evaluations via questionnaire dissemination and interviews, building upon model (F); divided into four dimensions (network	No explicit suggestions	<ul style="list-style-type: none"> - Includes quality criteria for network dynamics - Builds upon a comprehensive network model - Multidimensionally oriented

	settings approach of promotion				structures, network processes, network effects)		
H	Community-based participatory research (CBPR)	Israel et al. 1998 ⁸	Explores causes of health problems; develops strategies for action; empowers the target group; builds capacity at the target location	Community networks for public health	Includes eight formulated key principles for successful network dynamics in communities as a guideline	None	- Includes quality criteria for network dynamics
IV. Tools intended to evaluate networks—provided structural inspiration.							
I	Network evaluation: a guideline for the evaluation of cooperation within networks (Netzwerkevaluierung – ein Leitfaden zur Bewertung von Kooperation in Netzwerken)	German Corporation for International Cooperation (GIZ): Gajo et al., 2013 ¹⁹	Evaluation of cooperation within networks, divided into six dimensions	Networks in various settings	Standardized questionnaire based on six dimensions (target system, members, control, interaction, value, sustainability); a checklist is used to assign statements to each of these dimensions, which are to be evaluated on a five-point Likert scale	Visualization of the quality of the dimensions within a net chart	<ul style="list-style-type: none"> - Relation to networks - Ready-to-use evaluation tool (Less time is required to conduct an evaluation with this tool) - High comparability - Multidimensionally oriented - Easy result/data management - Vivid visualization of results
J	Goal attainment scaling (GAS)	Schaefer & Kolip 2015 ²⁹ according to Kiresuk & Sherman 1968 ³⁰	Evaluation of the degree of achievement of previously self-defined objectives; improvement of planning and process quality	Health promotion networks	Formulation of project-based goals following the SMART criteria (specific, measurable, achievable, reasonable, time-bound), with dependent items to operationalize the goal; rating of these scales with a GAS scheme via a five-point Likert scale, participative under consideration of representatives of the project's target group	Suggestion to build a score for each item	<ul style="list-style-type: none"> - Ready-to-use evaluation tool (Less time required in conducting an evaluation with this tool) - High comparability - Easy result/data management

Table 2. Dimensions of the new network evaluation instrument with their respective intention formulation and indicators

Dimension	Dimension Intention	Indicators	Statements
General	To gain a comprehensive picture of the network, it is imperative to record who undertakes each task and who has been assigned each role. In addition, specifying each member's professional background allows us to describe in detail the interdisciplinary composition of the network.	<ul style="list-style-type: none"> - Role in the network - Professional qualifications 	Not shown
Network Intention	A successful network requires uniform visions and goals, which should be equally known to all players. To achieve these goals, especially in the long-term, the network must have sufficient resources to consistently work toward their desired outcomes and promote longevity.	<ul style="list-style-type: none"> - Vision - Targets - Sustainability - Resources 	
Structures	A network lives through the association of different actors from different sectors and settings. The extent of the network's interdisciplinarity and qualifications greatly impact the quality of the cooperation and thus the result. In addition to the creation of a central coordination point, this requires rules regarding participation, division of work, and self-regulation.	<ul style="list-style-type: none"> - Members - Steering - Policies 	
Processes	Transparent and uniform processes are key features of well-functioning networks. One prerequisite for this is that all players participate equally, interacting and communicating with each other. Uniform handling of stumbling blocks and problems is indispensable, as is the detailed documentation of all processes.	<ul style="list-style-type: none"> - Communication (internal & external) - Interactions - Transparency - Documentation - Problem Management 	
Efficacy	Efficacy is one way to measure the quality of a network. On one hand, the continuous development of network structures and processes plays a role here, and these must be strengthened and secured in the long term. On the other hand, it is important to measure the implementation and further development of measures and structures in the community.	<ul style="list-style-type: none"> - Continuous development (network structures & processes) - Outcomes (development of structures & measures) 	