Basic Criteria, Models, and Indicators of Intersectoral Collaboration in Health Promotion: A Scoping Study

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Research article

Keywords: Intersectoral collaboration, health promotion, scoping review, model, indicator, criteria

DOI: https://doi.org/10.21203/rs.2.23281/v1

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Abstract

Background: The healthcare sector has a small share in community health, and other sectors are actively involved in this domain. Therefore, only by a collective and collaborative action can health promotion interventions be properly implemented. In order to have intersectoral collaboration in the domain of healthcare, basic criteria are required as an operational guide for the successful implementation of such collaborations. A specific framework is also required so that the programs can be properly implemented accordingly. After the implementation, the success or failure of the collaborative action will be determined by assessing the effectiveness of the actions taken using an appropriate assessment system (e.g., indicators). In this study, the basic criteria, models, and indicators of intersectoral collaboration in health promotion were investigated to facilitate the implementation of collaboration. Methods: This scoping review was conducted using datasets of Embase, Web of Science, Scopus, and PubMed, and search engines of Google, Google Scholar, and ProQuest. Original articles, review articles, and reports were included in this study. In terms of subject, articles which referred to the basic criteria, models, or indicators of intersectoral collaboration in health promotion were included. Results: A total of 52 studies were included in the final analysis, and 32 codes in three categories (micro, meso, and macro) were obtained. Micro-level intersectoral collaboration criteria had the highest frequency. Among the models used in the reviewed studies, social network analysis (SNA), Diagnosis of Sustainable Collaboration (DISC), Bergen, and logic models had the highest frequency in health promotion. Among the indicators studied, the number of participants and the level of collaboration as well as its sustainability were the most frequent indicators. Conclusion: The findings identified the most important and widely used criteria, models, and indicators of intersectoral collaboration in health promotion which can be useful for decision-makers and planners in the domain of health promotion, in designing, implementing, and evaluating collaborative programs.

Background

Various population health approaches are available, including health promotion, disease prevention, and disease treatment. The health promotion approach is applied without patient identification, encompasses the entire population, makes individuals resilient, and creates environments that support the community health (1).

Health promotion as an action requires cooperation and investment for achieving a common goal, and as a process prepares health prerequisites such as peace, shelter, education, food, income, sustainable ecosystems, sustainable resources, and social justice and equity through public policy-making (2). Therefore, health promotion should be considered as a collective action which focuses on empowering people to have control over their health determinants (3).

Intersectoral collaboration as a collaborative action has entered the domain of health through the Alma Ata Declaration in Kazakhstan in 1978. This declaration referred to the provision of comprehensive health services while considering economic and social issues (4). In 1980, Ottawa Declaration explained further
need for more intersectoral actions to achieve better health outcomes. After the introduction of the concept of social determinants of health in 1990, efforts to develop intersectoral collaboration were expanded. Also, by holding a conference on intersectoral actions by the World Health Organization (WHO) in 1997 and Bangkok's declaration in 2000, the need for collaboration between various sectors for health promotion was further emphasized.

For this purpose, a number of European countries attempting to implement intersectoral collaboration faced some problems. As a result, in 2006, the European Union (EU) proposed "Health in All Policies" (HiAP) as a guide for developing, implementing, and evaluating intersectoral policies (5).

There are several definitions of intersectoral collaboration; it can be defined as a consultative and purposeful communication with the collaboration of the government, non-governmental sector, various businesses, communities, universities, policy-makers, managers, and stakeholders at the local, national, and international levels, which is often associated with terms such as participation, teamwork, networking, coordination, and coalitions (6). Several studies have been conducted on intersectoral collaboration among health sectors. A systematic review conducted in different regions of Australia, Canada, Ireland, and New Zealand showed that most areas have emphasized the importance of intersectoral activities, particularly in education, occupation, housing, justice, medicine, health, and old-age services (7).

The Public Health Act (2000) in Quebec (Canada) obliged all institutions and organizations to consult with the Minister of Health and Social Services before setting the rules or regulations, which had a significant effect on health, because it helped the Ministry of Health to provide necessary supports for the development of public health policies by the assessment of effective factors outside the health sector (8). The Healthy City and Healthy Schools project proposed by the Ministry of Health of New Zealand is an intersectoral activity among various organizations (4).

In terms of health promotion, several studies have been published as original articles or review studies, including a study by Seaton et al. (2018). The discrepancies between the results of the study of Seaton et al. (2018) and the present study can be due to their focus on determining effective factors in the collaboration, study period (2001–2015), the studied databases (MEDLINE, CINAHL, ScienceDirect, and Psych INFO), and the research questions (9).

Another review conducted by Corbin et al. (2018) analyzed the results of studies which investigated supportive and inhibitive factors for collaboration in the promotion of health through the Bergen model. However, there are some differences between this study and the present study in terms of the study period (2007–2015), some of the studied databases (CINAHL, ERIC, MEDLINE, and Psych INFO), and the research questions (10).

The review of literature showed that numerous studies have focused on intersectoral collaboration. To take effective collaborative efforts for health promotion, it seems that appropriate criteria, model, framework, and proper assessment indicators are needed. Since the aims of a scoping review are to
investigate the scope and subject area of a field, summarize the findings of studies, and determine the gap in the existing literature on a subject (11), the present study examined the basic criteria, models, and indicators of intersectoral collaboration in health promotion to facilitate the implementation of collaboration in this field more logically.

**Methods**

This scoping review was conducted using Arksey and O’Malley framework (2005) with five stages (definition of research questions, identification of the related studies, selection of the studies, tabulating the selected studies, and the collection, summarization, and reporting of results) (11). According to the main research question, three category keywords, including intersectoral collaboration and its different spectra, health promotion and its related dimensions, and model, index, and criteria (and their equivalents) were explored in Web of Science, PubMed, Scopus, and Embase databases. In addition, the Google Scholar, Google, and ProQuest databases were also explored for up to the first 200 cases.

Attempts were made to select the most relevant keywords; for this purpose, the keywords used in the related reviews and some keywords proposed by one of the authors (B-D) who is an expert on intersectoral collaboration in Iran were used.

(Search result in Embase database for example:

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(("intersectoral collaboration'/exp OR 'intersectoral collaboration') OR (intersectoral AND ('coordination'/exp OR coordination)) OR (intersectoral AND ('cooperation'/exp OR cooperation)) OR (intersectoral AND ('interaction'/exp OR interaction)) OR (intersectoral AND ('partnership'/exp OR partnership)) OR (intersectoral AND ('linkage'/exp OR linkage)) OR ('joint'/exp OR joint) AND ('activity'/exp OR activity)) OR networking) AND (('model'/exp OR 'model') OR ('indicators'/exp OR indicators) OR metrics OR indices OR ('index'/exp OR index) OR scales OR measures) AND ('sensitization'/exp OR 'sensitization') OR campaign OR ('advocacy'/exp OR advocacy) OR negotiation OR ('health promotion'/exp OR 'health promotion'))). (Additional file1-search strategy)
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**Inclusion/Exclusion Criteria**

Original articles, review articles, and reports on health promotion published by the WHO which were written in English and reviewed regardless of time constraints were included. In terms of subject, articles examining the basic criteria, models, or indicators of intersectoral collaboration in health promotion were included (date of search: May 7, 2019).

Studies on the challenges and opportunities for intersectoral collaboration in the domain of health and those on services other than promotion services (disease prevention, treatment, and rehabilitation) as well as editorials, commentaries, and letters were excluded.

In order to ensure that the related studies were not lost from the beginning of the study until the time of writing the article, an alert was defined for each database to inform the researcher if a new article was
published in the scope of the study. The alert for the main databases was controlled until the preparation of the final version of the article.

**Extraction of Results**

In the first step, the results of the search in various databases were entered into Endnote X7 software. In the second step, the first screening was performed independently by two authors. After reading the title and abstract of the articles, the related studies that met the inclusion criteria were identified, and their full text was downloaded. In the second screening, the articles selected from the previous stage were marked with five stars (much-related articles) in Endnote. Papers whose inclusion was not decided upon were marked with four stars, and other suspicious items with three stars. The third author reviewed the three- and four-star articles and determined their status.

The intersectoral collaboration criteria were manually and thematically extracted. In this analysis, six steps were followed:

1. Studying the full text of all articles to become familiar with the data
2. Initial encoding of the data
3. Identifying themes for codes that had a common field
4. Reviewing and modifying the themes
5. Naming the themes
6. Providing the extracted themes (10).

In the final step, studies were thoroughly and deeply restudied, and the title and year of the study, study area, type of study, and the criteria and models mentioned in the study were summarized (Additional file 2: Summary of included studies). At this stage, in order to ensure that all articles retrieved from the study databases were analyzed, the selected study were manually reference-checked, and related articles were added to the previous articles. After entering the details of the studies into Excel, descriptive characteristics of the studies were reported as percentage and frequency.

**Results**

**Search results**

After an initial search of the studies, 9842 articles were obtained. However, after removal of duplicates, 4943 articles remained, and the abstract of 404 articles met the inclusion criteria. After obtaining the full text of the articles from the first screening, 52 articles met the inclusion criteria. The results obtained from the assessment of the articles and those obtained from the search in the other sites showed that a total of 52 articles were included (Figure 1).

**Descriptive characteristics of studies**
The studies included in the present study were mostly qualitative studies conducted in 2015 in countries such as the USA, the Netherlands, and Canada. The main scope of the studies was public health (27 articles), mental health (six articles), school health (six articles), water and food health (three articles), and physical activity (three articles) (Figure 2).

**Results of the extraction of criteria, models, and indicators**

Analysis of the criteria mentioned in the 52 articles for intersectoral collaboration for health promotion showed that the main criteria included comprehensive support (political, organizational, and motivational) (17 articles), engaging various participants, boundary spanner leadership/direction (16 articles), shared goals and structure of communication (formal and informal, quality of communication, proximity of communication, etc.) (14 articles), sharing knowledge and information (13 articles), financial and non-financial resources (12 articles), education and capacity building and having a shared vision (10 articles), sociopolitical contexts, communication clarity, and communication monitoring (nine articles), and task management (determination of and creating a balance between roles and activities) (eight articles).

In this study, in order to facilitate the understanding of the criteria and their implementation, all of the criteria repeated in the studies were categorized into three levels of micro, meso, and macro (12, 13).

Micro-level is a level in which actors are important. At the meso-level, issues such as strengthening management and leadership, trust-building, and shared understanding of problems are considered. At this level, there are criteria that can be defined at organizational culture levels; this level refers to the government actions and structures. Some criteria, including the establishment of a win-win situation for sectors' contributors, the use of clear-cut rules, the establishment of sustainable intersectoral mechanisms, the use of funding and financing to support intersectoral actions, ensuring adequate resources for monitoring the implementation of the program, establishment of clear and measurable objectives, monitoring and evaluation to ensure responsiveness are proposed at this level. The third level is the macro level. At this level, some criteria such as structure, organization, market, government, and governmental measures are taken into account. The main motivator at this level is politics, which can be defined as a legal issue or a statement of values and principles related to goals, by individuals, communities, or societies (14-16).

Based on the analysis, 32 basic criteria were categorized into three main categories of micro, meso, and macro (Tables 1 and 2).

Assessment of the applied models revealed that there was a fairly good variation in studies. The applied models were: DISC (17-20), Bergen (11, 14), Himelman (15), network analysis (16), social network analysis (10, 21), act for life collaboration continuum (22), Tukman (23), collective impact approach (24), system analysis (25), and logic (26, 27).

**Discussion**
Micro-level

The results showed that 39.4% of the criteria investigated in the studies were at the micro-level, and dimensions of the boundary spanner direction and leadership, communication structure, and knowledge and information sharing were the most frequently used criteria in this area. The micro-level criteria are summarized as follows:

**Boundary spanner direction and leadership:** The features of a boundary spanner leader include the ability to manage boundaries (knowledge sharing and understanding of different perspectives), creation of a shared context (resources’ integration and mobilization by defining a shared vision and values), discovery of new boundaries (creation of creative ideas) (34), and the ability to discover and use new opportunities and resolve intersectoral conflicts. They can play a coaching role (collaboration strengthening), supportive role (establishment of vertical communication in the collaborative network), and executive role (system performance management) (35).

**Task management and rules balance:** Adjustment and balance of the roles as well as their clarity can enhance responsiveness and create more synergy. Undefined structures, undetermined timing, and unspecified roles will have an adverse effect on the effectiveness of collaborative actions (13); the weak management of tasks (e.g., ambiguity in roles, lack of formal agreements, and lack of assessment methods) in a health promotion program in Canada made participation in physical activity plans difficult (37).

**Capacity building and education:** Human resources is a crucial point in capacity building because in most cases, stakeholders have not received formal education in intersectoral collaboration (38), have differences in educational background, education levels, and current and future responsibilities of stakeholders (39). Building sustainable capacity in this area requires long-term commitment and strong leadership (40). Thakur et al. (2009) proposed key strategies for the prevention and control of non-invasive diseases, capacity building, monitoring, health promotion, and advocacy (41). Van den et al. (2010) also identified four components of the collaborative network (the capacity for identifying organizations and groups related to health promotion and the capacity for delivery program), knowledge sharing (the capacity to develop health promotion programs), problem solving (the ability to work with others for solving problems), and infrastructure (the capability for the development of financial and human resources) as the indicators of community capacity in promoting health (32).

**Conflict management:** During the collaboration process, contributors may experience some forms of mental or operational conflicts; in some cases, it has been reported that these conflicts are due to the lack of face-to-face communication, and in some cases, due to funding financial problems (25). Having different goals, values, and resources may create different understandings of contributors and lead to conflicts among them (42). Some contributors have been able to overcome these differences by using their shared vision and collaborative strategies (25).
Trust building among contributors: Trust-building mechanisms must be in place from the beginning of the collaboration and continue throughout the collaboration process (10). Den Hartog et al. (2014) showed that having contributors and sufficient financial resources is vital to building trust for the collaboration of various sectors (43). Burgess (2015) also reported that a profound understanding of the different performances of the organizations and their culture is essential for trust-building and engagement (22). The benefits of trust-building in shared actions is the reduction of insecurity and risk (44).

Clarity: All intersectoral actions must be performed clearly and based on the interests and needs of the contributors (45) because clear guidelines ensure clarity and collaboration and prevent unilateral decisions (11). Other indicators of clarity include the existence of rules and procedures, methods for selecting leaders, the formation of related committees, and so on (39).

Formal and informal communication structures: The communication structure refers to the ways through which the collaborator transfers information to and from their communication network (10). Open and face-to-face communication can be used to build trust-based relationships with other sectors (47, 48). Effective communication will only be achieved by building trust between various governmental and non-governmental organizations, holding regular meetings, and allocating sufficient time to it (49).

A positive experience of collaboration/the desire to continue the collaboration, and sustainability in the collaboration: Sustainability in collaboration is defined as the gradual development of a sustainable collaboration (20). If collaborators have a positive experience of their previous collaborative process, they will need less energy to make internal changes and will feel more support for policies affecting them, which will eventually help them create a sustainable collaborative process (18).

Knowledge and information sharing: The development and sharing of information and knowledge about how resources are allocated and used as well as identification and provision of information about successful and unsuccessful experiences of institutions can be effective in making the communication clearer (50). Also, sharing information and effective communication have been effective in reducing disagreement and other forms of conflict between different sectors (51).

Providing an opportunity for dialogue: Understanding the mission, goals, and culture of other sectors is possible through the creation of a common language (31, 33). Evidence suggests that when organizations face problems, they first examine them from their own perspective and organizational mission (31). Therefore, it is important to have a common perspective and common language with different collaborators in order to achieve a common goal (52).

Understanding the culture of collaborative organizations: Collaboration in health promotion involves individuals from various occupational and organizational groups, each with a special understanding of the nature of the problem and its solution, according to their culture (53). These differences can affect collaborative performance, and Child and Faulkner (1998) have identified cultural conflicts as the most important factors in defeating coalitions (54).
**Meso-level**

The results showed that about 24.7% of the studied criteria were at the meso-level. The engagement of different collaborators in the collaboration process, provision of resources, and monitoring the relationship between collaborators had respectively the highest frequency. Briefly, the criteria at meso-level are described below:

**Engagement of different collaborators:** Engagement of committed and strong contributors, especially those with practical experience (4, 55) and an appropriate level of responsibility (those who can make necessary decisions or activate mechanisms in their organization) (56) is of great importance in the success of intersectoral collaboration. For this purpose, a clear definition of contributors, the inclusion/exclusion criteria, and acceptance criteria should be provided (57).

**Monitoring:** Having logical, accurate, and timely communication is important in multilateral collaboration. The condition for good communication is expressed as having high-quality, continuous, informative, and impressive communication (42). Therefore, monitoring contributors' perceptions of the collaboration can provide valuable information on how to adjust relationships. Also, the assessment of the quality of collaboration at different levels is essential for predicting future problems and responding to existing problems (10).

**Consideration of common interests:** The WHO has introduced several administrative steps for intersectoral actions, including the identification of the interest points of various actors as well as considering their conflicts and competition (13). In this case, providing an accurate definition of the type of benefits and potential risks on the path of collaboration, the agreement on how to use the assets (intellectual property, logos, brand, etc.), identification of the mechanisms supporting the interests of each contributor, and the use of strategies reducing conflicts of interest are recommended (57).

**Responsiveness:** According to the citizens’ and non-governmental actors’ expectations, governments should be accountable for their political decisions on the intersectoral actions in the health area (4). Some studies have also introduced clarity in the accountability or responsibility chain as a facilitator in the intersectoral collaboration (7, 8, and 59).

**Provision resources:** Another necessary component of the intersectoral collaboration is the use of common financial resources or the provision of a separate resource for actions in these areas (4, 38). Resources include money, materials, and equipment (10), and methods used for making decisions on financial affairs, mechanisms, and tools that are used to ensure financial integrity should be determined (57).

**Efficiency:** It has been defined as the achievement of the greatest success in the collaborative process. Factors such as having clear-cut goals, matching mission-strategy and goals, and having a commitment to intersectoral collaboration have been known to be effective in achieving efficiency (44). In the study of
June et al. (2008), efficiency – how resources and time are used by the contributors – was a significant predictor of synergy (36, 37).

**Research:** The use of scientific evidence is effective in the implementation of intersectoral actions. A study conducted in South Australia investigated health strategy in all policies and showed that the implementation of intersectoral policies can be facilitated by conducting cost-effectiveness studies, providing scientific evidence of the impact of the implementation of this policy, and reducing financial burden resulting from the collaboration of non-governmental sector (31).

**Indicator definition:** Research has shown the importance of using a common measurement system to ensure the consistency of results and responsiveness of various contributors (49). Kang (2016) examined the intersectoral collaboration for physical activity using two categories of indicators (minimum and standard) to assess the program (60). Sanchez et al. (2015) also adopted a number of output indicators, such as the number of shared intersectoral projects and the number of implemented/improved programs/services to respond to the performance of health councils in improving health in New Mexico (27).

**Time allocation:** The development of communication requires time, preparation, and supportive structures (55). The allocation of sufficient time for negotiations between different actors can be effective in establishing a win-win strategy for the engaged parties (31). Chomic (2007) also pointed out the importance of allocating sufficient time to the development of collaboration and creation of a collaborative culture among sectors (61).

**Having a formal intersectoral committee:** Establishment of a formal intersectoral committee and collaboration of different groups, especially those with practical experience in this field, can help facilitate collaborative communication (55). The creation of such formal structures supporting collaboration is considered as the basis of collaborations (49). The success of a team depends on the specialty, freedom of action, and legitimacy of its members, enabling them to effectively act in different sectors (31).

**Macro-level**

The results indicated that about 34% of the intersectoral collaboration criteria evaluated in the studies were at the macro-level, and comprehensive supports (political, organizational, and motivational), sharing goals, and shared vision, had respectively the highest frequency in the studies. The criteria at the macro-level are described as follows:

**Sociopolitical context:** It refers to the external environment where collaboration takes place (10). Environmental factors affecting health, which may be organizational, sociopolitical, economic, or environmental, are usually beyond the role of health ministries (40). The effects of socioeconomic factors on the intersectoral collaboration in health include increased awareness of the effective social determinants on health in order to have a better understanding of health, provision of clear political support and commitment to intersectoral actions at high levels, the use of electoral and general pressures
to shape the political agenda for intersectoral actions, and the use of national and local media to report the success of intersectoral actions (12).

**Organizational commitment**: It is defined as the degree to which contributors believe that collaboration is useful to the community and themselves, and it will increase the investment of individuals in the collaboration (28). Having an organizational commitment to the resources and human resources engaged in the collaboration, shared decision making (44), and increased investment in resources over time, can increase the organizational commitment of various actors. Freely expressing the actors' perspectives in decision-making and their sense of pride towards the future achievements of the collective action play an important role in increasing organizational commitment (62).

**Mission, vision, goals, and values**: A clear expression of the vision, mission, and goals of collaboration and consideration of the goals of collaboration with the interests of contributors are among important issues that should be taken into account in intersectoral collaboration (57). Creating a long-term perspective from the beginning of and during the collaboration process is necessary to create a shared perception (42).

The goals of collaboration should not be opposite of the contributors' authorities (10), but must be predetermined, accessible, measurable, and understandable for all actors through a common language (44). A shared understanding of the values, interests, culture, mission, goals, and vision of collaborative organizations in establishing the win-win situation in intersectoral actions is another necessary component of collaboration and is used as a motivator for creating a positive experience of collaboration.

**Comprehensive support**: The strong relationship with political leaders and executives is essential for supporting intersectoral actions. Since contributors in intersectoral actions in the health area are presented with different roles such as agents of change, leader, contributor or supporter, in order to have a sustainable collaboration, they all need to see the collaboration process as a bilateral and beneficial action as well as fair action in terms of the distribution of rewards (4).

Also, since the process of intersectoral collaboration often requires a new structure, and accordingly, new resources, adequate financial support for these efforts must be provided (64). In a study by Molnar (2016) in Sweden, Quebec, and South Australia, it was indicated that financial incentives could act as a facilitator for the implementation of the health program in all policies (31).

**Official and legal agreement**: The Health Ministry of New Zealand (2008) reported that some factors such as having an agreement (formal/informal), resources' adequacy (financial/human), strong communication, planned actions, and monitoring the outcomes of collaboration (65) are essential for intersectoral actions in the healthcare domain. The existence of clear rules and policies in the intersectoral collaboration is useful for choosing challenging goals (18).
Power: Power may have positive (sharing power) or negative (abuse of power) effects on collaborative actions (66). Various studies reported the importance of sharing power in intersectoral actions (67, 68). Jones and Barry (2018) identified power as the only predictor of trust among contributors; it means that by sharing power, trust-based communication will be created (69). The perception of equal power will also be useful in disciplining the negotiations in collaborative engagements (42).

Planning and specific decision-making mechanisms: In intersectoral planning, priority should be given to issues that have added value. A clear expression of decision-making mechanisms and reporting system of decision-makers (57) as well as attention to the necessary conditions (clarity of responsibilities and clear picture of authority) are among factors that should be considered in the intersectoral planning and decision-making since, in the absence of appropriate conditions, effective outcomes will not be achieved (51).

Use of local structures/media: Engagement of individuals can be influenced by the national and local policies affecting goals or the collaborative action. A favorable sociopolitical context is of great importance in creating sustainable financial conditions for collaboration (28). The role of the media in influencing public policies and public opinion is crucial, but less attention has been paid to intersectoral studies (4). In a study by Larsen et al. (2014), local media were used as a tool for sharing information on intersectoral collaboration policy in health (70); therefore, the use of such tools is effective in illustrating and introducing collaborative actions.

According to the findings of this study, the frequency of criteria expressed at the micro-level was higher than those expressed at the other levels, which may indicate the importance of the criteria at this level in the establishment of sustainable and effective intersectoral collaboration. Overall, the results of this study were consistent with those of other studies, with the difference that, in this study, the basic criteria for intersectoral collaboration in the area of health promotion were categorized, and related models and indicators were identified.

Limitations

One of the limitations of this study was that the quality of studies was not assessed, although it is not necessary to evaluate the quality of scoping reviews. The quality of the studies was not evaluated in order not to miss the models and indicators in this domain. Another limitation of this study was that only studies with basic criteria for intersectoral collaboration in the domain of health or those with a specific model or index were included in the study, so studies that investigated challenges, barriers, strategies, or those with a similar subject might have been missed, which could be justified according to the main objectives of this study. The other limitation was the evaluation of the most common criteria in the scope of this study, so some criteria that were not repeated in other studies might have been excluded from this study.

Conclusion
In this study, the basic criteria, models, and indicators for intersectoral collaboration in the domain of health promotion were identified and categorized, thus helping planners and decision-makers to use the criteria identified at the beginning of the shared actions and develop more effective and lasting collaboration. These models and indicators can also be applied to assess achievements. According to the results which indicated the diversity of criteria, models, and indicators in the domain of intersectoral collaboration, it is recommended that a common framework be provided for the investigation of this issue in the domain of health promotion with its specific criteria and indicators for evaluation.

**Declarations**

**Ethics approval and consent to participate:** Not applicable.

**Consent to publish:** Not applicable

**Availability of Data and Materials:** The studies analyzed during the current research are available from the corresponding author on reasonable request.

**Competing Interest:** No declared

**Funding:** NO

**Ethics approval and consent to participate:** Not applicable.

**Authors Contribution:** All authors read and approved the final version of the article and contributed equally.

**Acknowledgment:** Not applicable.

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**Additional Files**

“Additional file 1” Table of search strategy (docx)

“Additional file 2” Table of data extraction of 52 study (xls).

“Additional file 3” Table of extracted codes with its references (docx)

**Figures**

![Flowchart of PRISMA process](Image)

**Figure 1**

PRISMA(docx)
Figure 2

Characteristics of the Studies Included (docx)
Figure 3

Frequency of Criteria Expressed in the Studies (docx)

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- excel52extractedstudy.xlsx
- SearchStrategy.docx
- ADDFILE3.docx