



# A Systematic Review of Key Factors in the Effectiveness of Multisector Alliances in the Public Health Domain

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## Abstract

**Objective:** The purpose of this systematic literature review is to assess the factors associated with synergistic multisector alliances in the public health domain.

**Data Source:** Articles in PubMed, CINAHL, Scopus, and Google Scholar between March 2009 and February 2019 were searched.

**Study Inclusion and Exclusion Criteria:** Included alliances had a public health and behavioral focus, were from the public or private sector, and were multipartner and multisector, and from high-income countries. Public health research alliances were included, but clinical research alliances were excluded.

**Data Extraction:** Data extraction included alliance description, alliance domain, country, single or multiple alliances, and the sectors included in the alliance. Two theoretical frameworks were used in data extraction.

**Data Synthesis:** Data were coded according to 28 factors representing antecedents, management, and evaluation (Parent and Harvey model) and 3 output-specific factors (Bergen model).

**Results:** A final 24 papers were included, of which 58% contained synergistic alliances. While almost all factors reportedly enabled synergy, some factors were more frequently associated with synergistic alliances, including clear purpose and positive coordination, information sharing, and evaluation of project outcomes. Complexity within some factors was also reported.

**Conclusion:** The theoretical models were supported by the data. Public health alliances would likely benefit from incorporating factors identified as beneficial for synergy and from carefully considering the management of complex factors.

## Keywords

alliance, collaboration, multisector partnerships, synergy, evaluation, health promotion, public health and literature review

## Objective

The objective of this review is to provide evidence on how to create and maintain synergistic public health alliances. A synergistic alliance is greater than the sum of its parts, members achieve more together than they could do as individuals.<sup>1</sup> The necessity of this review was prompted by the creation of a strategic alliance to increase children's vegetable intake.<sup>2</sup>

An alliance is a form of partnership including two or more organizations, also commonly referred to as a coalition, network, consortium, or collaboration.<sup>1</sup> It is evident in available literature that alliances addressing public health are popular globally and are commonly used to connect diverse stakeholders with a mutual goal.<sup>1,3-9</sup> Alliances of this nature may include members from private and public health, government, academia, advocacy, and industry.<sup>1,3-9</sup>

A search of recent literature identified previous reviews in the public health alliance domain (excluding commercial partnership models) and models potentially suitable for

a theoretical framework. Although numerous literature reviews were identified, there were several limitations to their application, including lack of quality control,<sup>4,9</sup> restriction to one region,<sup>5,10</sup> lacking variety of stakeholders,<sup>7</sup> restricted focus of the alliances (eg, focused solely on physical activity),<sup>6</sup> and small sample size.<sup>8,11</sup>

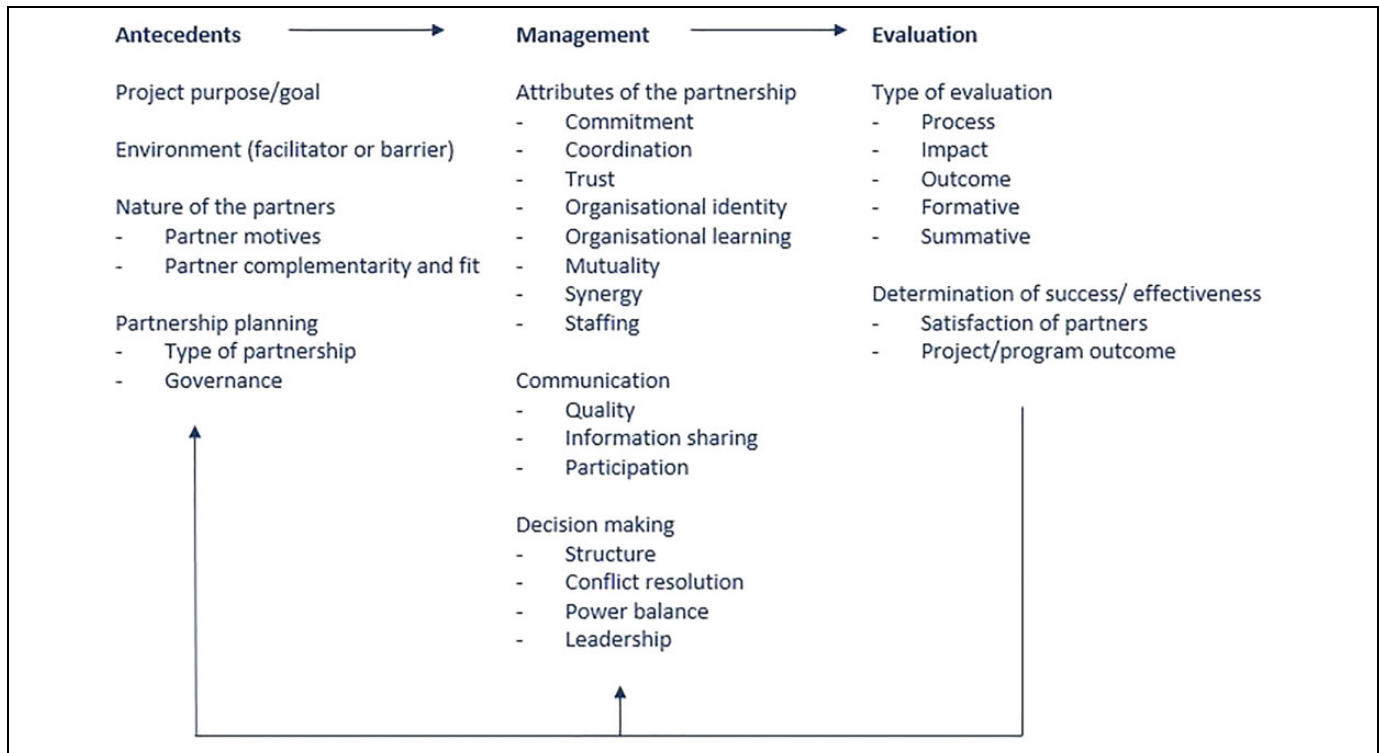
As none of the previous reviews suited the current objectives, a clear need for the current review was identified. Assessing the models for alliance evaluation, it was identified that many models lacked theoretical robustness due to limited evidence from application and many did not include

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**Figure 1.** Adaptation of Parent and Harvey model for sport and physical activity community-based partnerships.<sup>1,6</sup> See Appendix A for definitions of each partnership attribute.

multisector partnerships. A synthesis of the available models concluded that a hybrid of the Parent & Harvey model (see adaptation in Figure 1)<sup>1</sup> and the assessment of outputs from the Bergen model<sup>3,9</sup> was most suitable for purpose. The Parent & Harvey model was originally developed to assess alliances in the physical activity and sport domain. The apparent lack of conflict between private commercial interests (and sponsorship) and public health outcomes in the physical activity domain is analogous to the current vegetable domain. The Bergen model categorizes alliances into one of three output categories: synergistic (a greater or more productive outcome than could be achieved individually), additive (members achieve no more together than they would working individually), or antagonistic (members achieve less together than they would individually).<sup>3</sup>

This article reviews the evidence for creating a synergistic public health alliance grounded in the Parent and Harvey, and Bergen models. The results of this review are applicable to a broad range of alliances in the public health domain.

**Methods**

**Data Sources**

The search was conducted in PubMed, CINAHL, Scopus, and Google Scholar (Google Scholar limited to first 200 results). A search of the published peer-reviewed literature was conducted between February and March 2019. Search terms were defined to retrieve academic papers describing the

**Table 1.** Literature Review Search Terms.<sup>a</sup>

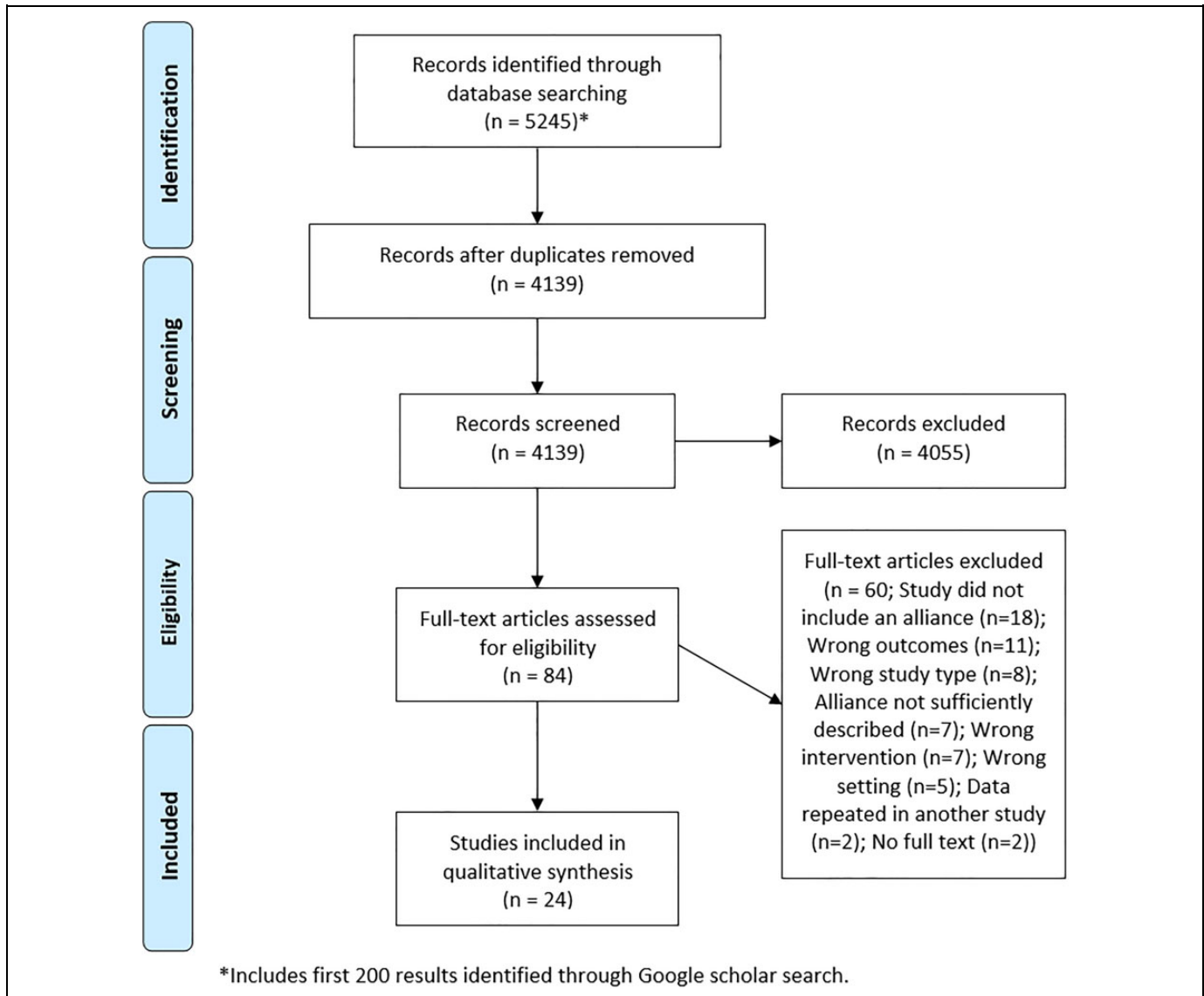
Search theme	Search terms
Health	Health promotion, Disease management, Health policy, Preventative health, Preventive health, Preventative healthcare, Preventive healthcare, Preventative medicine, Preventive medicine, Upstream health, Public health, Community health, Health planning
Alliance	Alliance, Collaboration, Partnership, Coalition, Coordinated action, Information sharing, Knowledge sharing, Information broker, Allies, Participatory approaches, Working group, Community networks, Health planning organizations, Health planning organizations
Strategy	Strategy, Framework, Plan, Approach
Effectiveness	Success, Successful, Best practice, Good practice, Effective, Effectiveness, Efficacious, Effectual, Productive, Constructive, Fruitful, Functional

<sup>a</sup>Journal-specific mesh terms were applied.

development, management, or evaluation of public health-focused alliances (see Table 1). Preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines were followed (see Figure 2 for PRISMA checklist).

**Inclusion and Exclusion Criteria**

The inclusion criteria defined alliances with a public health focus and a behavioral focus, from the public or private sector



**Figure 2.** Preferred reporting items for systematic reviews and meta-analyses (PRISMA) diagram.

and in high-income countries. Alliances had to be multipartner and multisector (i.e., minimum of 3 partners and 3 sectors). Alliances were defined as such to exclude two-way partnerships, as the focus was to determine which factors encouraged synergy in larger multistakeholder alliances. Community-Academic Partnerships for public health interventions were included, those for clinical research (i.e., practice-based research networks) were excluded (see Appendix A for full criteria).

### Data Extraction

The initial search retrieved a total of 5245 papers, reduced to 4139 once duplicates were removed. The papers underwent title and abstract screening, before 84 full-text articles were assessed for eligibility and finally 24 papers were included for review (see Figure 2 for PRISMA diagram). Data were

extracted by two coders who double-coded 20% of the literature to establish consistency, before adjusting the strategy to individually code and check the remaining papers.

### Data Synthesis

The data were coded in line with the Parent and Harvey Partnership model,<sup>1</sup> and the Bergen model was used to code outputs.<sup>3,9</sup> The Parent and Harvey model describes alliances based on 28 factors within the categories of antecedents, management, and evaluation. Papers were coded as either positive (factor present and functioning well), negative (factor present and functioning poorly), positive and negative, neutral (factor present but functionality unclear), or not reported.

The Bergen model provides three output categories: synergistic, additive, or antagonistic. Where outputs were evident, papers were coded accordingly.

**Table 2.** Coalition Domain for Each Alliance.

Coalition domain	n	%
Healthy lifestyle	5	21
Physical activity	4	17
Chronic disease prevention or management	3	13
Nutrition	3	13
Childhood obesity	2	8
Cancer prevention and management	1	4
Children's health	1	4
Fetal alcohol syndrome prevention and management	1	4
Health literacy	1	4
Healthy pregnancy and mothers	1	4
Smoking cessation	1	4
Sport injury prevention	1	4

## Results

Of the 24 papers, the majority were from the United States (67%), four (17%) from Canada, two (8%) from Australia, and two (8%) from Europe. The majority of the papers (79%) focused on a single alliance, two (8%) papers focused on multiple alliances with the same goal (e.g., an analysis of several alliances for increased physical activity) and three (13%) papers contained multiple alliances with the same goal and funding source (e.g., a national program which funded state-based alliances with individualized strategies).

The alliances included varied stakeholders. Alliances typically included a representative of research, community, and government, but extended to the following: private and public health organizations, academia, education, business/industry, community organizations, government and nongovernment departments, for-profit and not-for-profit organizations, and service providers such as mental health clinicians.

The most common alliance domains were healthy lifestyle (21%), physical activity (17%), chronic disease prevention or management (13%), nutrition (13%), childhood obesity (8%), and several singular domains (see Table 2). Successful alliances were distributed across a range of domains.

## Model Attributes

Alliance outcomes reported were heterogeneous with no clear or common primary outcome, with most authors reporting some positive outcome; therefore, "outcomes" as a measure of categorizing success was not useful as a comparator. Additionally, the longevity of an alliance is dependent on both reaching alliance goals and partnership satisfaction. Only 37% of studies reported partner satisfaction, so another method was required to determine the alliance success. Therefore, the Bergen model of defining success (synergy) was used to determine which alliances were structured in a way that would lead to the highest likelihood of success.

In accordance with the Bergen model alliance outputs, fourteen (58%) papers included synergistic alliances, two (8%) were additive, none were antagonistic, and eight (33%) did not report the output in sufficient detail to be coded (see Appendix B for output

definitions). There are insufficient data to make recommendations based on the two alliances with additive results, and we are unable to draw conclusions on the effectiveness of the uncategorized alliances (however, results for all papers are provided in Appendix C). The results presented below indicate which alliance attributes are common in synergistic alliances and can be used to guide the creation and management of public health alliances.

## Antecedents

**Project purpose.** All synergistic alliances had a clear project purpose, which guided team members to work toward a common goal (Table 3). For example,

"promoting healthy lifestyles of those who live, work and visit Monroe County through community events, programs, and policies."<sup>12</sup>

The model identifies the value of a flexible purpose, which was evident in several alliances, for example, an alliance with smaller localized teams was given flexibility to develop community-relevant programs.<sup>13</sup>

Some alliances created a goal prior to inviting members, while others worked as a group to define the alliance purpose. As having a clear project purpose was a consistent attribute of successful alliances, the notion of a flexible process personalized to the alliance is supported.

**Environment.** An analysis of the general and task (context-specific) environments was a key antecedent to an effective alliance. Ten (71%) of the synergistic alliances identified both barriers and facilitators, whereas 3 (21%) only reported facilitators. Common facilitators included receiving funding,<sup>14-21</sup> alignment with political policies or goals,<sup>15,18,21,22</sup> and pre-established relationships between organizations or individuals in the alliance.<sup>16,18,21</sup> Common barriers included members travelling long distances for meetings,<sup>13,14</sup> limited funding or resources,<sup>14,15,17,18,22-26</sup> and changes in politics/policies.<sup>15,17</sup> The economic environment, including alliance funding, was mentioned most frequently. The economic environment often acted as both a facilitator and barrier within one setting. Funding is evidently integral to the success of an alliance.

"Good project management in maintaining this engagement and some seed corn funding also enabled people to put their ideas into practice which gave sufficient "quick wins" to keep the partnership interested."<sup>17</sup>

The breadth of environmental facilitators and barriers is more evident in some papers compared to others. This indicates that it is possible the environmental factors are underreported, particularly in the three papers that presented no barriers.

**Nature of the partners.** Positive partner motives were frequently reported (71%), while partner complementarity and fit were largely underreported (64%), with only five (36%) reporting positive complementarity or fit. The alliances with positive

**Table 3.** Attributes of Synergistic Alliances.

	Positive		Negative		Positive + negative		Neutral		Not reported	
	n	%	n	%	n	%	n	%	n	%
<b>Antecedents</b>										
Clear project purpose	14	100	0	0	0	0	0	0	0	0
<b>Environment</b>										
Facilitators and barriers	3	21	0	0	10	71	0	0	1	7
<b>Nature of the partners</b>										
Partner motives	10	71	0	0	1	7	0	0	3	21
Partner complementarity and fit	5	36	0	0	0	0	0	0	9	64
<b>Partnership planning</b>										
Governance	10	71	0	0	0	0	0	0	4	29
<b>Management</b>										
<b>Attributes of the partnership</b>										
Commitment	10	71	2	14	0	0	0	0	2	14
Coordination	11	79	1	7	0	0	0	0	2	14
Trust	9	64	0	0	2	14	0	0	3	21
Organizational identity	9	64	1	7	1	7	0	0	3	21
Organizational learning	7	50	0	0	0	0	0	0	7	50
Mutuality	9	64	0	0	1	7	0	0	4	29
Synergy	8	57	0	0	0	0	0	0	6	43
Staffing	9	64	1	7	4	29	0	0	0	0
<b>Communication</b>										
Communication quality	9	64	1	7	3	21	0	0	1	7
Information sharing	11	79	1	7	2	14	0	0	0	0
Participation	9	64	0	0	1	7	0	0	4	29
<b>Decision-making</b>										
Structure	9	64	0	0	1	7	0	0	4	29
Conflict resolution	8	57	1	7	1	7	0	0	4	29
Power balance	7	50	2	14	0	0	0	0	5	36
Leadership	10	71	1	7	1	7	0	0	2	14
<b>Evaluation</b>										
<b>Determination of success/evaluation</b>										
Satisfaction of partners	5	36	1	7	0	0	0	0	8	57
Project/program outcome	13	93	0	0	0	0	0	0	1	7

partner motives frequently reported clear actions taken to ensure aligned motives.

“...partners developed partnership principles to determine how they would work together and an action plan to define the objectives, action steps to design, implement and evaluate the chosen interventions; and the outcomes of interest.”<sup>14</sup>

Future studies should report on organizations complementarity and fit to determine whether public health alliances need to strategically choose partners based on each organization's strategy and culture.

**Partnership planning.** The type of partnership used by synergistic alliances varied (Table 4). Three (13%) synergistic alliances used top-down management approaches, seven (29%) used an intermediate structure, whereby members may provide input on the alliance, but there is a clear leadership structure, one (4%) alliance used a bottom-up approach, and three (13%) did not report the structure. Parent and Harvey state that the intermediate partnership is the ideal type of partnership for alliance success.<sup>1</sup> However, further evidence is

**Table 4.** Type of Partnerships in Synergistic Alliances.

	Top-down		Intermediate		Bottom-up		Unclear	
	n	%	n	%	n	%	n	%
<b>Partnership planning</b>								
Type of partnership	3	13	7	29	1	4	3	13

needed to determine whether this is consistent and practical for all successful public health alliances.

Most synergistic alliances reported a positive governance structure (71%), with the remainder not reporting on governance (29%). It was common for alliances to include a governing body or steering committee. This may assist in providing clear leadership for alliances and should be considered when designing the structure of an alliance.

### Management

**Attributes of the partnership.** The Parent and Harvey model includes eight management attributes

(Table 3). Synergistic alliances tended to report positive attributes.

The majority of synergistic alliances reported that members were committed (71%). Alliance commitment was facilitated through a range of strategies, including partners signing contracts to state their role in the alliance,<sup>13,21,23</sup> ensuring a common motive,<sup>15</sup> shared leadership,<sup>14</sup> and enthusiastic members.<sup>17,25</sup> Issues around commitment centered around continuity of interest and willingness to commit:

“Interest in participation by members of the research team waxed and waned depending upon the stage of the project and the compatibility of the research stage with academic and practice interests.”<sup>18</sup>

Most synergistic alliances also had high levels of coordination (79%), achieved through strategies such as establishing clear roles for each partner<sup>13,24,25</sup> and input from all parties on meeting times, locations, and structure.<sup>14</sup>

“We recommend that other rural regional partnerships discuss how partners want to be engaged and what they value early in the partnership process.”<sup>14</sup>

Synergistic alliances also tended to have the positive attributes of trust between members (64%), clear organizational identity (64%), and mutual dependence between members (64%).

Almost one-third (29%) of synergistic papers reporting both positive and negative staffing attributes, for example,

“Most also agreed that the partners had the necessary skills for collaborative action; administrative, communication, and decision-making structure of the partnership was as simple as possible; and that the relevant managers in each organization supported the partnership . . . [However] Several respondents indicated confusion around why some participants—particularly those outside the direct sporting sector—were part of the partnership.”<sup>22</sup>

Staffing had the second highest rate of positive and negative attributes, second only to environmental facilitators and barriers. It is likely that this is attributable to the complexity of staffing and large potential to impact on alliance functioning. It is a recommendation of this review that future alliances provide adequate planning and management to ensure positive staffing. The attributes of “organizational learning” and “synergy” were infrequently reported (50% and 57% reported, respectively).

**Communication.** Overall, communication was positively reported, with over 3-quarters of the synergistic papers reporting positive information sharing (79%), communication quality (64%), and participation (64%). Quality communication occurred during and between meetings. It was facilitated by creating time for one-on-one communication and networking,<sup>14,19</sup> having capacity-building activities to “break down silos,”<sup>16</sup> and circulating agendas before meetings.<sup>22</sup>

Information sharing was facilitated by structured reporting processes via e-mail, text messages, events, or meetings.<sup>14-17,19,20,24-26</sup>

Communication quality was commonly rated as positive and negative (21%), indicating greater complexity within this factor and the potential for it to be successful in some ways while falling short in other ways. Alliances may benefit from focusing on high-quality communication across all areas (eg, online and in-person, internally and externally facing).

Interestingly, as well as being commonly rated as positive and negative, information sharing and staffing were the only two attributes that were 100% reported, further highlighting that alliances consider these as particularly important. It is possible that other factors have similar complexities but were underrepresented in the results because their ambiguity prevented them being coded as positive and negative.

**Decision-making.** Most synergistic papers reported positive decision-making regarding *structure* (64%), *conflict resolution* (57%), *power balance* (50%), and *leadership* (71%). Some papers reported setting up structures or agreements to support positive power balance.

“Key elements described in the participation agreement included partner representation in decision-making, meetings, administration of the grant, project funding, communication, a noncompete clause, conflict resolution, participation in projects, relevant industry guidelines, and project duration.”<sup>23</sup>

Key themes around positive leadership commonly included a leader (or leaders) who took responsibility, provided management, fostered engagement and openness, established a culture of mutual accountability and benefit, and were dynamic, empowering, and enthusiastic.<sup>10,13,15-17</sup> It is recommended that future alliances strive to deliver these qualities in their leadership.

**Evaluation.** The Parent and Harvey model includes five methods of evaluation (Table 5). The most commonly used was *process evaluation* (29%), followed by *impact* (21%), *outcome* (17%), and *formative evaluation* (13%; see Table A1). None of the papers included a *summative evaluation*. While some of the papers classified as “additive” and “unclear” did not report on evaluation, all the synergistic papers reported some form of evaluation. Evaluations can provide critical feedback about the processes and satisfaction of partners in the alliance, as well as provide evidence for continued funding.

“[The alliance] undertook a formative evaluation of the partnership by an external resource providing an invaluable midcourse adjustment of the overall project.”<sup>23</sup>

Another indicator of evaluation within the Parent and Harvey model is the *determination of success or effectiveness*. *Satisfaction of partners* was not highly reported (57% not reported), and only 36% of synergistic papers reported that partners were satisfied.

**Table 5.** Evaluations Used in Synergistic Alliances.

Evaluation	Present		Not present		Neutral (recommendation made only)	
	n	%	n	%	n	%
	Type of evaluation					
Process	7	29	7	29	0	0
Impact	5	21	9	38	0	0
Outcome	4	17	10	42	0	0
Formative	3	13	11	46	0	0
Summative	0	0	14	58	0	0

Promisingly, 93% of synergistic alliances reported that they achieved their project outcome, with 1 (7%) paper not reporting the project outcome success. This suggests a high correlation between synergistic alliances and successful outcomes of alliances, highlighting the importance of creating a working environment that supports synergy.

### Limitations

**Study design.** The alliances in this sample had diverse goals, structures, environments (geographically or politically), and evaluation techniques, which made data analysis challenging. It was not always clear whether long-term alliance goals were met, which limited the ability to conclude that alignment with the factors in the model leads to successful alliance outcomes. Therefore, this article highlights the key features required to make an alliance synergistic; however, there may be additional elements required to make the outcomes of the alliance successful. This means that the factors discussed are necessary but may not be sufficient for success.

Further to this, the papers used a variety of models to assess alliance effectiveness (eg, CBPR, RE-AIM, and DISC), meaning that some key concepts did not have an equivalent attribute in the Parent and Harvey model, despite their relevance.

There was also variation in study quality. Most papers clearly defined a data collection process that included surveys or focus group interviews, appropriately sampling a wide variety of alliance members. However, some papers failed to adequately describe their methodology; therefore, it was unclear whether member feedback was collected. Other alliances only surveyed the governing body, which may have led to positively biased results if the data were collected from a limited sample of highly engaged members.

Reporting bias is likely, as papers may have focused on successful alliance attributes, rather than attributes that were lacking or perceived as barriers. Publication bias is also possible, as successful alliances may have been more likely to be published, or to seek publication. In turn, this may have limited insights on antagonistic or additive alliances. Although this

review provides an overview of the factors contributing to successful synergistic alliances, future reviews would benefit from analysis of negative attributes and barriers faced in unsuccessful alliances.

**Model.** Although the included alliances mapped well to the Parent and Harvey partnership model, there were several areas of partnership functioning that were not well represented. The model did not capture sustainability and forward planning, which featured in several alliances as a facilitator to success.<sup>18</sup> As such, an alliance may feature many of the factors outlined in the model but still lack the aptitude for success, or in this context, long-lasting behavioral changes.

Relationship building and efforts to foster a sense of community, belonging, or connection was also a theme across several alliances,<sup>27</sup> and although the elements of relationship building fit within the attributes *leadership* or *trust*, it was not represented by a clear factor. Introduction of relationship building as a factor could also extend to social skills development, social networking, and team building.<sup>10</sup>

There was also a substantial emphasis on funding and access to resources in most of the included literature. Although the model captures this under facilitators and barriers, a separate and defined factor would emphasize the imperative role of funding.

As with other structural models, the authors are required to judge the level of intuition or definitiveness used in identifying factors to code. There are several factors within the Parent and Harvey model that may have been under-coded as it was not explicit in the text. For example, partner complimentary and fit was coded six times (25%); however, many papers included stakeholders from a wide range of settings and it is likely the stakeholders were sought in effort to draw different skills, knowledge, roles, and power to the alliance. The model would benefit from defining the factors to pick up on such nuances, for example, membership from at least three sectors (such as medical, government, and industry) being indicative of partner complimentary and fit. Another example is organizational learning. Some papers had clear progression, evolution, adaption to circumstances, and change over time, but it was not always explicitly acknowledged as organizational learning.

Finally, this article was limited to models for alliance evaluation and did not investigate other factors that are also likely to be important in creating successful alliances, such as stakeholder mapping,<sup>28</sup> and understanding the culture in which stakeholders operate.<sup>29</sup>

### Conclusions

The results indicate that synergistic alliances tended to have one or more of the following attributes: clear project purpose, effective coordination and information sharing, aligning partner motives, clear governance structures,

committed partners, and effective leadership for making decisions. Although we cannot assume cause and effect, we recommend that these factors are prioritized when creating an alliance.

Reports on future alliances should consider alliance outputs, partner complementarity and fit, organizational learning, conflict resolution, and satisfaction of partners as they were underreported in the studies identified in this review. Reporting comprehensive evaluations on the alliance projects was also limited.

The objective of this review was to provide evidence on how to create and maintain successful public health alliances. The application of the Parent and Harvey model to 24 papers documenting public health alliances across a range of domains found evidence that all attributes in the model are likely to be critical. The heavy emphasis on funding and access to resources in most of the literature indicates that considering funding as a separate and individual factor would be valuable in an analysis.

The Parent and Harvey model did not capture all factors influencing the success of the alliances. Those omitted were sustainability and forward planning, relationship building, and efforts to foster a sense of community, belonging, or connection. Although captured partially in the model (leadership and trust), relationship building as a separate factor should be considered with possible extension to social skill development, social networking, and team building.<sup>10</sup> Thus, it is possible for alliances to feature many factors from within the model and simultaneously be lacking in other factors, which lead to lasting influence on success. Future studies should continue to expand on the Parent and Harvey model to ensure that it is a comprehensive model for capturing and describing successful alliances.

## Appendix A

**Table A1.** Inclusion and Exclusion Criteria.

	Inclusion criteria	Exclusion criteria
Population	<ul style="list-style-type: none"> <li>● Health alliances with the purpose of public health for humans</li> <li>● Health alliances with a focus on behavior</li> <li>● Alliances in the <i>public or private</i> health sector</li> <li>● <i>Global, multinational, and local</i> alliances</li> <li>● <i>High-income countries</i></li> <li>● Alliances between public health groups and primary care networks (private sector)</li> <li>● Multipartner alliances (from more than 1 sector, eg, not all NGOs or schools)</li> </ul>	<ul style="list-style-type: none"> <li>● <i>Nonhealth</i> alliances (eg, industry)</li> <li>● <i>Commercial</i> alliances</li> <li>● <i>Cross-discipline</i> professional alliances (eg, medical professionals and social workers)</li> <li>● Primary care (all health practitioners who do consults with individuals from the public)</li> <li>● Low- and middle-income countries</li> <li>● Alliances targeting minority groups (eg, minority ethnic groups, income, institutionalized adults, military)</li> <li>● Response/responsive alliances (eg, disaster relief)</li> <li>● Partnerships with only 2 stakeholders (or a central stakeholder with multiple individual partnerships)</li> <li>● Alliances within one sector (eg, hospital to hospital, public health department to public health department).</li> <li>● WHO collaborations</li> </ul>

(continued)

### So What? (Implications for Health Promotion Practitioners and Researchers)

#### What is already known on this topic?

Previous systematic literature reviews partially assessed the success factors of public health alliances; however, they were limited due to lack of generalizability to health alliances in different countries and domains. The Parent and Harvey model<sup>1</sup> has demonstrated validity in analyzing physical activity and sport alliance success but had not been applied to other public health areas.<sup>6</sup>

#### What does this article add?

This review found that the Parent and Harvey model could be successfully applied to a broad range of public health alliances, outside the sports domain. Furthermore, this review used the Bergen model to define alliances as synergistic, antagonistic, or additive<sup>3,9</sup> and thus provided a unique examination of the Parent and Harvey model in the context of alliance outputs.

#### What are the implications for health promotion practice or research?

The results demonstrate that almost all factors in the Parent and Harvey model play a key role in creating and sustaining a synergistic alliance. The findings further demonstrated that several factors, including clear project purpose, effective coordination and information sharing, aligning partner motives, clear governance structures, committed partners, and effective leadership for making decisions are most prominent in synergistic alliances. Alliances for health promotion can benefit from selectively prioritizing certain elements key to a success synergistic alliance.



**Table A1.** (continued)

	Inclusion criteria	Exclusion criteria
Intervention	<ul style="list-style-type: none"> <li>• <i>Development or management of alliances</i></li> <li>• <i>Evaluation of alliances</i></li> <li>• <i>Features, frameworks, and strategies of alliances</i></li> <li>• <i>Policy</i></li> <li>• <i>Community academic partnerships for public health interventions</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Alliances between nonprofessionals (eg, among community members)</i></li> <li>• <i>Networks with or without a central collaborator (eg, stakeholders delivering separate interventions in various settings)</i></li> <li>• <i>Clinical trials and other irrelevant study types</i></li> <li>• <i>Medical practice or service provision (eg, multiple stakeholders working together to improve a mental health service)</i></li> <li>• <i>Disease management for individuals</i></li> <li>• <i>Focus on disaster relief or acute events</i></li> <li>• <i>Community academic partnership papers for clinical research (practice-based research networks)</i></li> </ul>
Comparison Outcome	<ul style="list-style-type: none"> <li>• NA</li> <li>• <i>Development, management, and evaluation techniques of alliances</i></li> <li>• <i>Techniques of successful alliances</i></li> <li>• <i>Techniques of unsuccessful alliances</i></li> <li>• <i>Outcomes should focus on the strategies to create a successful or unsuccessful alliance rather than the outcomes of the projects.</i></li> </ul>	<ul style="list-style-type: none"> <li>• NA</li> <li>• <i>Outcomes of randomized controlled trials</i></li> </ul>
Other	<ul style="list-style-type: none"> <li>• <i>Time frame of 10 years (2009-2019)</i></li> <li>• <i>English-language articles</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>No full-text available</i></li> <li>• <i>Non-English papers</i></li> <li>• <i>Literature reviews</i></li> <li>• <i>Commentaries/opinion pieces</i></li> <li>• <i>Editorials</i></li> <li>• <i>Essays</i></li> <li>• <i>Conference abstracts</i></li> </ul>

Abbreviations: NA, not applicable; NGO, nongovernmental organization; WHO, World Health Organization.

## Appendix B

**Table B1.** Attribute Definitions as Defined by the Coders, Using the Original Descriptions From the Models.

Attribute	Definition
Antecedents	
Clear project purpose	The project purpose is clearly defined either at the start of the alliance or developed over time.
Environment	
Facilitators and barriers	Facilitators and barriers within the alliance or broader environment. These can include political, demographic, economic, sociocultural, legal, ecological, technological facilitators and barriers.
Nature of the partners	
Partner motives	The motive is what drives the organizations to join the alliance. Motives are commonly economic or for social gain.
Partner complementarity and fit	The degree to which the organizations complement each other's skills sets and achieve what could not be done individually.
Partnership planning	
Type of partnership	There are 3 main types of partnership: <ol style="list-style-type: none"> <li>1. The institutionalized or bureaucratic partnership (top-down), where power is at the top of the organization;</li> <li>2. The decentralized or field partnership (bottom-up), where power is in the hands of the users, with the creation of a network or horizontal relationships being more important than vertical relationships;</li> <li>3. The intermediate or concerted partnership, which is thought to be the ideal type as it sits between the 2 opposing types of institutional and decentralized partnerships.</li> </ol>
Governance	Governance refers to who has control over or the guiding influence over the alliance.

(continued)

**Table B1.** (continued)

Attribute	Definition
<b>Management</b>	
Attributes of the partnership	
Commitment	The willingness of members to contribute to the alliance.
Coordination	The presence of clear boundaries for tasks and each member contribution.
Trust	Understanding that a partner's word is dependable and that partners will fulfill obligations in the alliance.
Organizational identity	The core values, the mission, and the ideals of an organization (alliance), which should relate to the nature of each partner in the organization.
Organizational learning	The changes that occur with an organization and alliance during the period of the alliance and whether it is considered/recorded by the partners.
Mutuality	The respective rights of each member and their responsibilities to the other members. Mutuality includes major commitments by all members to the goals and objectives of the alliance.
Synergy	The degree to which alliances collaborative process successfully combines its participants' perspectives, knowledge, and skills.
Staffing	Whether the alliance has the appropriate human resources, especially in the qualities needed for the task and the role of the alliance manager.
<b>Communication</b>	
Communication quality	Quality communication is timely, accurate, adequate, complete, and credible and requires honesty and open lines of communication.
Information sharing	The extent to which communication between members occurs.
Participation	Participation in goal setting and joint planning.
<b>Decision-making</b>	
Structure	Structure refers to having appropriate decision-making structures in place and being flexible to change the structure if required. The decision-making structure should build trust, empower the partners, strengthen relationships, and enable sustainability of the relationship.
Conflict resolution	Possessing the appropriate techniques to resolve conflicts when they arise.
Power balance	Power over activities and decisions are divided among the alliance members.
Leadership	The alliance has a clearly defined leader or leadership team who take responsibility for the alliance; inspire and motivate others; empower partners; develop a common language within the alliance; foster respect, trust, inclusiveness, and openness; create an environment accepting of differing opinions; resolve conflict; combine partner perspectives, resources, and skills; and help partners to see things differently, be innovative and creative.
<b>Evaluation</b>	
Type of evaluation	
Process	Ongoing evaluation of results.
Impact	Evaluation of short-term effects of a program/project—on knowledge, attitudes, and behaviors of the target population.
Outcome	Extent to which the alliance evaluated and achieved its long-term objectives.
Formative	Immediate feedback provided during an activity (helps improve/refine the project).
Summative	Showcasing the alliance's results at the end of the project or program.
<b>Determination of success/evaluation</b>	
Satisfaction of partners	Whether partners were satisfied with their relationships with other partners.
Project/program outcome	Evaluating the outcomes of the program, and whether objectives were met.
<b>Output</b>	
Additive results	Neutral—The outcome of the alliance was no more positive or productive than the sum of efforts from the individuals.
Synergy	Positive—The outcome of the alliance was more positive/productive than any partner could have achieved by themselves.
Antagonistic results	Negative—The alliance achieved less than each individual could have achieved on their own, eg, the alliance led to a loss of partner time, enthusiasm, trust, or financial resources.

## Appendix C

Results From Studies of All Outputs Included in the review (Synergistic, Additive, and Not Reported).

**Table C1.** Attributes of Alliances Included in Review.

	Positive		Negative		Positive and negative		Neutral		Not reported	
	n	%	n	%	n	%	n	%	n	%
<b>Antecedents</b>										
Clear project purpose	22	92	2	8	0	0	0	0	0	0
<b>Environment</b>										
Facilitators and barriers	4	17	2	8	15	63	1	4	2	8
<b>Nature of the partners</b>										
Partner motives	14	58	0	0	2	8	2	8	6	25
Partner complementarity and fit	6	25	0	0	0	0	0	0	18	75
<b>Partnership planning</b>										
Governance	14	58	0	0	1	4	0	0	9	38
<b>Management</b>										
<b>Attributes of the partnership</b>										
Commitment	14	58	3	13	2	8	1	4	4	17
Coordination	14	58	2	8	3	13	1	4	4	17
Trust	12	50	0	0	2	8	1	4	9	38
Organizational identity	14	58	1	4	2	8	1	4	6	25
Organizational learning	10	42	0	0	0	0	0	0	14	58
Mutuality	11	46	0	0	2	8	1	4	10	42
Synergy	12	50	1	4	0	0	1	4	10	42
Staffing	12	50	2	8	9	38	1	4	0	0
<b>Communication</b>										
Communication quality	14	58	1	4	4	17	1	4	4	17
Information sharing	15	63	1	4	6	25	1	4	1	4
Participation	13	54	0	0	3	13	1	4	7	29
<b>Decision-making</b>										
Structure	11	46	1	4	5	21	1	4	6	25
Conflict resolution	9	38	1	4	1	4	1	4	12	50
Power balance	13	54	2	8	0	0	0	0	9	38
Leadership	14	58	2	8	4	17	1	4	3	13
<b>Evaluation</b>										
<b>Determination of success/ evaluation</b>										
Satisfaction of partners	8	33	1	4	0	0	0	0	15	63
Project/ program outcome	16	67	0	0	3	13	0	0	5	21

**Table C2.** Type of Partnership in Alliances Included in Review.

	Top-down		Intermediate		Bottom-up		Unclear	
	n	%	n	%	n	%	n	%
<b>Partnership planning</b>								
Type of partnership	8	33	8	33	2	8	6	25

**Table C3.** Type of Evaluation Completed by Alliances Included in the Review.

Evaluation	Present		Not present		Neutral (recommendation made only)	
	n	%	n	%	n	%
Type of evaluation						
Process	12	50	11	46	1	4
Impact	8	33	15	63	1	4
Outcome	8	33	15	63	1	4
Formative	4	17	20	83	0	0
Summative	0	0	23	96	1	4

**Table C4.** Type of Outcome for Alliances Included in Review.

Output	Additive results		Synergy		Antagonistic results		Unclear	
	n	%	n	%	n	%	n	%
Output	2	8	14	58	0	0	8	33

### Authors' Note

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