

Improving cross-sector collaborations in place-based population health projects

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ABSTRACT

Objectives: The objective of this study is to develop a practice-orientated partnership framework that can enable effective population health collaborations in rural areas, and to gain ground insights on the role and policies of the Department of Families, Fairness and Housing (DFFH) in administering population health projects.

Study design: Rapid evidence review and case study interviews with stakeholders.

Methods: The framework development started with a rapid review to identify evidence-based practices on collaboration for population health stakeholders. Best-practices from DFFH's policy document for place-based projects were also incorporated into the framework. After a preliminary draft of the framework was ready, semi-structured interviews were conducted with stakeholders to seek practitioner insights to validate the framework and contextualise it to local needs.

Results: Inputs from the stakeholder interviews were organised into two categories: "Inputs for framework" which contained responses that improved the framework, and "inputs for DFFH" which contained insights on the role and policies of DFFH in administering population health projects.

Conclusions: With its list of actionable activities and enablers organised into logical project phases, the framework provides a practical and intuitive guide that can help stakeholders navigate through complex place-based population health projects. The inputs for DFFH provided the department with valuable ground insights into the dynamics of cross-sector collaborations for further reflection about their roles and policies. Through the consultative interview process which meaningfully engaged key stakeholders, a level of understanding and support for the framework was gained, which would encourage future implementations of place-based population health projects.

1. Introduction

Cross-sector partnerships and collaborations are important in population health promotion, as more positive outcomes can be achieved working together than by partners working on their own [1]. Also, the complex interplay of health, social, and environmental determinants within a place (or setting), requires various cross-sector organisations to work together and deliver population health approaches that are feasible in the local context [2,3]. Thus the principle of collaboration is an important consideration and underpins the quality of partnership dynamics and outcomes. To deliver high-quality place-based population health projects, working in partnerships is necessary.

Besides engaging partners from other sectors, place-based

partnerships usually involves identifying opportunities for collaboration, negotiating agendas and different interests, and promoting synergy [1]. This highlights another key facet of cross-sector collaboration, that is aligning the vision and goals among various partners. However, this is by no means a straight-forward process, as health and welfare systems consist of multiple service providers and various professional disciplinary groups, and have been built on differentiation and specialisation [4,5]. As a result, siloed activity planning and fragmented, disjointed care occur, leading to lower levels of collaboration and lower quality place-based population health projects [6–8]. Given the effort and resources required for population health projects, this represents a non-optimal outcome and generates perceptions among partners and funders that population health projects are challenging and fraught with

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difficulties. This then leads to hesitation among stakeholders to participate in and fund such cross-sectoral projects. Therefore, in the absence of established integrated population health approaches, organisations need to voluntarily cooperate and collaborate with one another to achieve integrated service delivery [9], but this requires knowledge and skills to facilitate effective partnerships across sectors [1]. Further compounding the challenge to collaborate is that in rural regions, due to large distances to services and lack of adequate personnel and resources, this generates more barriers to working in partnerships [10,11]. A framework that is not contextualised to the rural context via engagement with local stakeholders who understand the local constraints would not be feasible.

To encourage its partners (located in rural and remote areas) to undertake population health projects, the health and human services authority of Australia (Department of Families, Fairness and Housing [DFFH]) embarked on an initiative to develop a practice-orientated framework that could enable place-based stakeholders to partner and collaborate effectively, in order to deliver high-quality population health projects in the rural context.

The DFFH had previously published its own policy document on conducting place-based projects [12], informed by published literature, grey literature, and internal policy and strategic frameworks, to provide a high-level structure for place-based work, with approaches and concepts that could be applied flexibly to specific place-based projects. In the policy document, there were four phases to a place-based population health project:

1. Exploration phase: building readiness for change
2. Development phase: creating the foundations for change
3. Growth/Maturity phase: making change happen
4. Release phase: reflection and learning

Besides a practice-orientated framework to guide practitioners and professionals in conducting a place-based project, DFFH also required the framework to be consistent with the concepts outlined in their policy document. Specifically, the guide should list the relevant partnership activities that are required and the associated enablers for these activities for each of the four phases of a place-based project.

The aim of this study is to develop a framework which can serve as a practical to-do guide that enables partners and stakeholders to conduct complex place-based population health projects, and to seek ground feedback on the roles and policies of DFFH in administering population health projects. To our knowledge, this study addresses a knowledge gap for a practical and intuitive collaboration framework (with a clear list of actionable activities and enablers) that is feasible in the rural context, where there are additional barriers to partnering. The study process involved conducting a rapid review to identify evidence-based practices, extracting best-practices from the DFFH policy document, and engaging stakeholders to seek their expert inputs and opinions to validate and contextualise the framework.

Table 1
Concepts and terms used for database searching.

Partnership	Population Health
Intersectoral Collaboration [MH] OR Delivery of Health Care, Integrated [MH] OR Quality Improvement [MH]	Population Health [MH] OR Population Health Management [MH]
Search terms applied: Intersectoral Collaboration [MH] OR Delivery of Health Care, Integrated [MH] OR Quality Improvement [MH] AND Population Health [MH] OR Population Health Management [MH]	

2. Methods

2.1. Study Design

The framework was developed over the following two steps, commencing with a rapid review of published research evidence, followed by a series of stakeholder interviews to ensure the framework aligned with the contextual needs of end users.

2.2. Step 1. Rapid evidence review and review of DFFH policy document

A rapid review was conducted to search for evidence-based practices to inform the framework development. Two search concepts “partnership” and “population health” were applied. For each search concept, the related controlled indexing terms of database PubMed (MeSH [MH]: Medical Subject Headings) were used to identify studies related to the search concepts. This provides the broadest possible and yet sufficiently targeted search approach. Table 1 details the search concepts and MeSH terms used to identify relevant studies. The PubMed database was used to search for the relevant studies, as PubMed is a biomedical database that is well-suited for evidence synthesis and searching this database would yield the most relevant studies [13].

The search identified 293 studies, and the titles and abstracts of all these were subsequently screened for relevance to the study aim, using inclusion criteria such as quality improvement studies of population health initiatives, studies on population health projects with lessons learnt, and studies that described experiences of population health collaborations. After excluding non-relevant studies, 15 studies were eligible for further screening, whereby the full-text of each study was downloaded and examined. Additional citation searching was conducted, and this yielded a further 14 studies. Altogether 29 studies [1–3, 9,14–38] were included in the review. The PRISMA [39] flow diagram indicating the flow of studies through the various stages of identification and screening is reported in Fig. 1.

Evidence-based practices (i.e. lessons learnt, enablers, and facilitators) for optimal cross-sector collaboration were extracted from the included studies into the framework and organised into the four phases of a place-based project. Best-practices from the DFFH policy document were also extracted and incorporated into the framework. From this, the initial draft of the framework was prepared. After presenting to DFFH on the draft framework, approval was obtained to proceed to the next step of case study interviews with stakeholders.

2.3. Step 2. Stakeholder interviews

Semi-structured questions were posed to 16 individual stakeholders to obtain improvement responses for the framework, and to seek insights that relate to the role and policies of DFFH regarding population health projects. These stakeholders represented the key service providers, councils, community organisations, and state authorities who were active in the local geographical area for the provision of population health services, such as health services, human services, accommodation, and educational services.

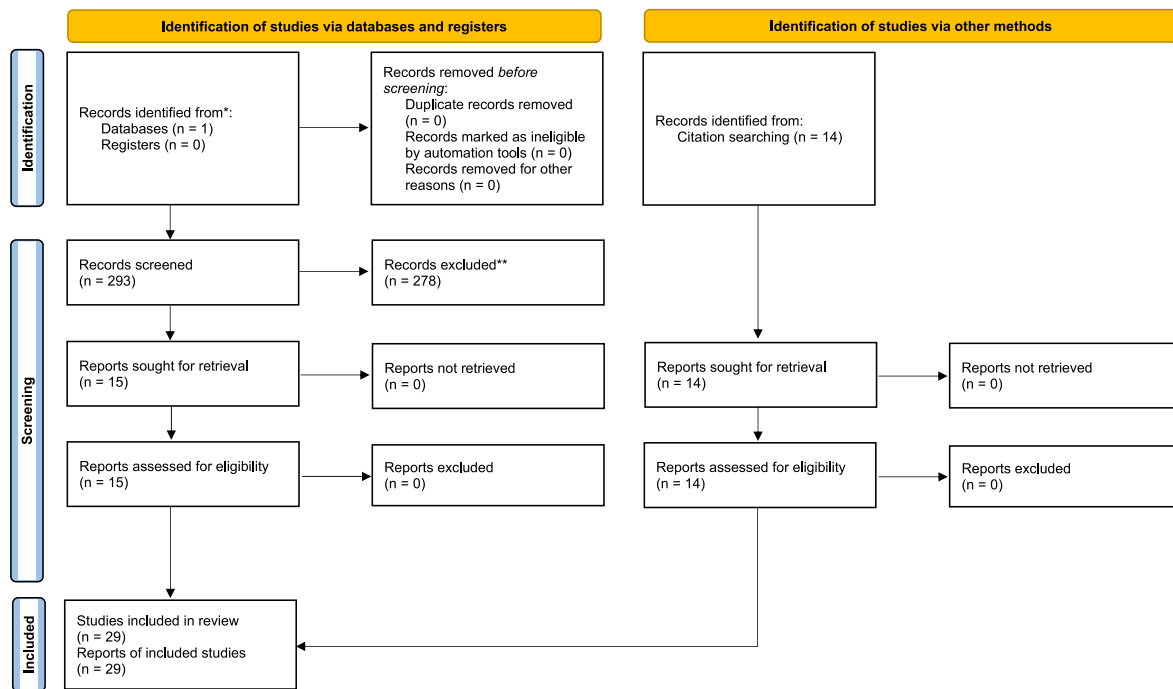


Fig. 1. PRISMA 2020 flow diagram [39].

For each of the four phases of a place-based project, the same three questions were asked: “Are the stated activities relevant for this phase?“, “Are the enablers relevant for this phase?“, and “Any further comments?“. The stakeholder engagement was conducted via MS Teams Meeting software (©Microsoft Corporation, Redmond, USA) over two 1-hour sessions with each stakeholder. In the first session, the first two phases (Exploration and Development) were addressed, and in the second session the next two phases (Growth/Maturity and Release) were addressed. Meeting notes were recorded and analysed using descriptive analysis method to identify categories and themes [40–42].

3. Results

The stakeholder responses obtained were organised into two categories: “inputs for framework” and “inputs for DFFH”. “Inputs for framework” contains responses that directly relate to improving the framework, while “inputs for DFFH” contains insights that relate to the role and policies of DFFH regarding population health projects. The findings of these two categories are described as follows.

3.1. Inputs for framework

During the stakeholder engagement process, a total of 35 improvement responses were identified. Most of these responses further clarified the meaning and context of the practices in the draft framework and led to revisions of the draft framework. Supplementary File 1 documents the revisions made and maps out the specific improvement responses that the revisions were based on. Table 2 details the 35 improvement responses obtained.

Fig. 2 shows the finalised framework after the aforementioned development process, where the recommended activities and the associated enablers for these activities are listed for each of the four phases of a place-based project. These activities and enablers aim to support stakeholders to navigate through complex cross-sector projects and align stakeholder actions to achieve collaborative high-quality population health projects in a phase by phase manner.

3.2. Inputs for DFFH

During the interviews, when asked “Any further comments?“, stakeholders provided various comments on the role and policies of DFFH in administering population health projects. Table 3 shows the comments received from stakeholders, organised into themes of:

1. Role of DFFH in population health projects
2. Structure and guidelines of DFFH funding
3. Funding support for pre-project scoping activities
4. Lack of stakeholder expertise to analyse and interpret evaluation data
5. Stakeholders recognise benefits of a partnership broker

4. Discussion

The study findings are discussed in two parts. First, the findings pertaining to the framework are discussed, followed by discussion of findings on the role and policies of DFFH. The framework developed is novel in that it details the vital to-do activities and associated enablers required for a successful collaboration, and is built upon in-depth evidence from existing studies and customized to suit the local operating context via extensive consultations with local expert stakeholders, thus improving the ability of stakeholders to collaborate with one another.

4.1. Findings pertaining to the framework

The framework serves as a practical guide for effective and integrated community action among population health partners when undertaking complex cross-sector population health projects. With its list of actionable activities and enablers organised into logical project phases, the framework provides an intuitive and practice-orientated guide that can help stakeholders navigate through complex place-based population health projects.

Within the “Exploration Phase”, the emphasis is on scoping out the population health issue to be addressed. Here, activities and enablers that are necessary to gain an understanding of the health issue are listed. For example, conducting evidence search and synthesis, consulting a

Table 2
Improvement responses obtained from stakeholders.

Exploration Phase	Development Phase	Growth/Maturity (Adoption) Phase	Release (Evaluation) Phase
<p><u>Activities</u></p> <p>1) to involve “on the ground/operational” members</p> <p>2) need some form of management commitment</p> <p>3) principles of working: flexible ‘living document’</p> <p>4) include: to identify partners, understanding current partnership structures</p> <p>5) there’s a core team in place to drive consultations</p> <p>6) it takes time (14–18 months); i.e. not to rush</p> <p><u>Enablers</u></p> <p>7) add administrative skills (e.g. minutes taking)</p> <p>8) community engagement skills: to identify right participants who are representative of community</p> <p>9) use non “clinical” terms in population health, instead of ‘trials’ use ‘pilots’</p> <p><u>Partners (to be customised)</u></p> <p>- No further inputs</p>	<p><u>Activities</u></p> <p>10) consider rural factors</p> <p>11) remove “champion”</p> <p>12) participants/ organisations drop in & out: i.e. consistency/continuity in representation (working group)</p> <p>13) neutral backbone role</p> <p>14) continuous progress updates</p> <p>15) arbitrator to decide on conflicts/conflict management: role of governance team</p> <p><u>Enablers</u></p> <p>16) use ‘relationships’ instead of ‘connections’</p> <p>17) importance of engaging Aboriginal Elders</p> <p>18) open-sharing of data</p> <p><u>Partners (to be customised)</u></p> <p>19) add manpower/ workforce planning organisations</p>	<p><u>Activities</u></p> <p>20) instead of “patients”, add “clients/ patients”</p> <p>21) achieving project milestones (include under MOU)</p> <p>22) communication: translate to different languages</p> <p>23) consider transitional impacts (e.g. client relational changes) during transition of services</p> <p>24) Include project risk assessment under ‘Assess implications/risks’</p> <p>25) “Reaffirm” vision instead of “if not done earlier”</p> <p><u>Enablers</u></p> <p>26) have constant feedback/ communication</p> <p>27) learn to receive negative feedback in a positive manner, be prepared to be vulnerable</p> <p>28) explore IT integration early on</p> <p><u>Partners (to be customised)</u></p> <p>29) add cultural/ population assistance partners: e.g. refugee help organisations</p>	<p><u>Activities</u></p> <p>30) look at both high-level and operational measures</p> <p>31) include qualitative indicators</p> <p>32) start evaluation discussion earlier at ‘Development’ stage</p> <p>33) present in visual dashboard formats</p> <p>34) flexible/adaptive indicators, adopt a flexible evaluation mindset</p> <p>35) a working group structure is needed for ‘Evaluation’ stage</p> <p><u>Enablers</u></p> <p>- No further inputs</p> <p><u>Partners (to be customised)</u></p> <p>- No further inputs</p>

wider segment of community to validate findings, and conducting pilots/trials to gain locally relevant data and knowledge. Additionally, under this phase, fostering partnerships is another key emphasis, and so activities and enablers that facilitate partnerships such as identifying the right partners and deepening partner relationships are listed. Among these items, there are also activities and enablers which are deemed to be necessary across all phases, such as establishing a shared vision and having an open, collaborative, and respectful mindset. After the segments on activities and enablers, there is a third segment on partners. This partner segment is to be customised based on the nature and scope of the population health projects. Some common types of partners have been pre-listed, and it is expected that conversations around the activities and enablers will help to identify further relevant partners.

Under “Development Phase”, the emphasis is on developing practice guidelines and service delivery plans, which is more translational in nature. In this phase, data/evidence identified during the prior exploration phase should be translated into locally feasible practices and service plans. Here, it is envisioned that more “grass-root” and “coal facing” staff will be included to address this translational development aspect. It is important to retain some core working group members from prior exploration phase in order to maintain continuity of knowledge and understanding. Also, other developmental considerations such as determining an adequate budget, setting clear roles and goals via partnership agreements, and establishing a governance structure for shared decision-making are included. Some important enablers that are necessary for this phase are: ability to change/experiment, a culture of data sharing, and regular communication among project members. Equally important is also to strategically align project goals with funding organisations to ensure funding security.

Under “Growth/Maturity (Adoption) Phase”, the emphasis is on developing an implementation plan to realise the prior developed guidelines and service plans into practice on the ground. In this phase, activities relate to the “how” of making change happen, such as addressing adoption factors (motivation and capacity of staff, coordination of processes and workflows, and data integration), securing long-term funding and resources, and formulating a communications plan to disseminate to internal and external audiences. Some important

enablers are availability of project management & organisational skills, allocation of sufficient time for implementation, and recognition that implementation could be messy. It is to note that there is an interconnection between “Development Phase” and “Growth/Maturity (Adoption) Phase”. Depending on the scope of the project, these two phases could either be two distinct phases or one single phase. For example, if the project is smaller in scope involving the setup of one or two service elements among a few partners then the development and adoption phases could be merged. However, if the scope is larger involving multiple service elements across several partners, then the two distinct phases will delineate the necessary activities and enablers to better support conducting a larger project with wider scope. Another interconnection between “Development” and “Growth/Maturity (Adoption)” phases is that limitations to adoption (e.g. ground practice realities) could arise and necessitate changes to the prior developed guidelines and service plans. Hence it is important to keep an open mind and be flexible and adaptive.

Under “Release (Evaluation) Phase”, the emphasis is on evaluating the performance of the population health project and identifying areas of improvement. Important activities are developing a project evaluation plan (addressing outcomes and indicators to measure), communicating evaluation findings to various audiences in ways that suit them, and drilling down indicators to individual unit/staff in order to recognise individuals who make significant contributions. Key enablers are a culture of data sharing and open collaboration to facilitate transparent evaluation, and the ability to receive negative feedback in a positive manner. When improvement ideas have been identified, this will move the project back to the “Exploration Phase”, where the ideas will be further explored and scoped out, subsequently continuing to the development, adoption, and evaluation phases, and the whole cycle starts again.

In terms of carrying out actual activities to setup the project, this should occur after the “Release (Evaluation) Phase”, as by then the project would have been thoroughly examined and planned out across all the four phases. However, if time compels, setup activities could possibly commence after the “Growth/Maturity (Adoption) Phase”. In this case, while project setup is progressing, “Release (Evaluation)



Fig. 2. Framework to enable collaborative, high-quality population health projects.

Phase” is conducted in parallel. This approach, while faster, will require more effort from project members to manage two sets of activities. Also, another potential shortfall is that some evaluation indicators might require changes to the prior developed implementation plan (e.g. changes to IT integration aspects in order to collect relevant data to measure an indicator).

One more point to note is the need for a stable funding organisation across the whole lifecycle of a population health project. As population health outcomes can take time to materialise, stable political support to create a positive partnership environment is important [2,14]. This is reflected in the horizontal blue bar underpinning across all the four phases.

4.2. Findings on DFFH role and policies

In place-based population health projects, stakeholders would like to see DFFH act as a co-partner who is able to work together with them as

an equal, and who is also able to act as an advocate to clear internal governmental barriers. This reflects a shift from the traditional role of a project funder with supervisory oversight to that of a partner with equal voice and responsibility as other stakeholders. At the same time, stakeholders see DFFH as an administrative lead, in that they look to DFFH to provide training, resources, and data to support projects. DFFH, being the funder, is also naturally the lead for contract governance. The dual roles (that of a co-partner and a project lead) shows the changing and growing expectations that stakeholders have. On one hand, DFFH has to participate as an equal partner with joint accountability for the project, but on the other hand it has to take the lead to support projects and manage contracts. This dual expectation of stakeholders means that DFFH has to find a balance between being a partner and being a lead, which calls for nuanced stakeholder engagement skills.

In terms of funding structure, stakeholders see the need for flexible guidelines, which are able to adapt to the fluctuating context of population health projects, so that funding would not be impacted. For

Table 3
Comments received from stakeholders on the role and policies of DFFH.

Theme 1: Role of DFFH in population health projects
<ul style="list-style-type: none"> - DFFH to work as partners, to change internal processes to support collaborations/partnerships - role as a partner is to advocate internally the needs of other partners, to clear barriers - to listen (not just have an agenda/mindset) - come onboard as an equal partner - have a clear role: funder or partner - offer training modules in areas of partnership skills, social determinants, systems change, understanding local data, and nature of placed-based projects - provide access to data
Theme 2: Structure and guidelines of DFFH funding
<ul style="list-style-type: none"> - need for changes to funding structure & guidelines - have a flexible funding structure (instead of starting applications again when some project indicators are not met) - have transparent and fair funding allocation (funds are allocated to unsuitable operators with no reach to local consumers, or allocated to high profile organisations for better media publicity) - funding to foster collaborations and fund time to develop partnerships - lack of trust among partners (avoid competitive funding) - identify population-level health outcomes in contract (not just service targets) - laborious reporting that is disproportionate to funding level - nuances in local needs that do not match funding themes of DFFH - have follow-throughs of initiatives - continuity of funding - there is a gap in philanthropic funding
Theme 3: Funding support for pre-project scoping activities
<ul style="list-style-type: none"> - have funding support for project pre-scoping activities, such as: <ul style="list-style-type: none"> • gaining knowledge of community • understanding community roles and leaders • identifying, recruiting and engaging community members • gathering stakeholders and developing stakeholder connections • engaging CEOs/senior levels of stakeholder organisations (to inform them about the proposed project and potential future impacts & commitments) - funding for resources and staff time to develop projects/proposals
Theme 4: Lack of stakeholder expertise to analyse and interpret evaluation data
<ul style="list-style-type: none"> - need data analysis and evaluation skills - lack of capacity to collect and analyse data - lack of data evaluation skills, e.g. qualitative analysis skills - need neutral expertise to analyse and interpret data (to address sensitive data and partnership relational aspects)
Theme 5: Stakeholders recognise benefits of a partnership broker
<ul style="list-style-type: none"> - it is important to assess health of partnerships - need regular check-ins on partnership status, have partnership health checks - have a "partnership broker" who has knowledge of power dynamics/equity - a neutral organisation/umpire to facilitate partnerships - a partnership broker is important and there is a continual need for it in projects - 'partnership broker' training is useful, worthwhile to continue it (training also offers a platform to get to know other partners) - partnership broker training could address the following: being understanding of contribution levels of partners, avoid being over demanding (which could lead to departure of partners)

example, some project indicators may need to be revised as new information arises, but this would lead to restrictions on funding, which would then impact the project. Another response to note is that there is an observation among stakeholders that higher-profile organisations are more able to obtain funding, in light of the better media exposure. In view of this, DFFH might need to pay attention to media communications regarding the evaluation and award of funds, to emphasize the transparent and fair allocation of its funding mechanisms. Administratively, stakeholders ask for contract targets that better reflect population-level health outcomes, rather than targets that measure service delivery operations. Another point to note is that as population health projects are place-based in nature, funding should address the needs of local community settings, rather than addressing pre-determined funding themes that might not be relevant to the local setting. One further feedback is the follow-throughs of initiatives, and related to this, the continuity of funding. Stakeholders ask for stability in both project direction and funding, that support is provided for a sufficient period. As population health outcomes take time to develop, changing project and funding directions before results occur might be counterproductive. Stakeholders also mentioned that there was a gap in philanthropic funding, which reflects a consideration to tap into other sources of project funding. Given the high resource needs to enable

complex population health projects, a diversification of funding across philanthropic organisations and the public sector would help to reduce the financial load and risks of funders.

Population health projects require cross-sectoral collaborations, and this means that stakeholders will need to build connections to organisations and community sectors that are outside the usual sphere of their working relationships. It requires time and resources to identify not just the right partner, but also the right person(s) in the organisation/community to convince them of the benefits of the proposed project. Hence stakeholders are asking DFFH to support such pre-project activities to foster partnerships and build relationships.

It is important to have an in-depth scoping of population health issues in order to understand root causes and identify effective solutions. It is also equally important to be able to measure and evaluate the project to determine if desired outcomes are achieved. As population health projects are complex in nature, involving several partners who are conducting various different types of activities to deliver an integrated service, collecting the right data and correctly interpreting the data to gain useful intelligence require advanced data analytic skills. Such data analytic skills typically reside in commercial providers or research organisations. As most stakeholders are operational organisations, they would have limited access to such capacity and

would require external support to evaluate projects. Another aspect is that the data skills should come from a neutral independent third party, as some data could have negative implications for a stakeholder and requires objectivity to interpret it.

With multiple cross-sector stakeholders collaborating together to address a complex issue, it is likely that miscommunication will occur at times, despite the best of intentions. To address this, the presence of a partnership broker would help to bring about positive partnership dynamics. The broker should be adequately skilled to be a neutral and objective facilitator. As population health projects takes time, the broker will also have to be continually involved to monitor the partnerships status. Prior to the development of the framework, DFFH has conducted a 'partnership broker' training for the stakeholders and there was general feedback that they found the training useful and that it was worthwhile to continue it. Such continued training will serve to further deepen partnering capacity among the stakeholders.

4.3. Limitations

The framework was developed in consultation with practitioners who represented the organisations and providers who were dominantly active in the area, and providers with smaller practices were not included due to limited interview resources. This might have skewed the insights obtained towards these more central stakeholders. Nevertheless, with a broad base of 16 stakeholders across various different sectors included in the study, the framework would have incorporated the most representative aspects of collaboration dynamics that are present in the area.

5. Conclusion

With its list of actionable activities and enablers organised into logical project phases, the framework provides a practical and intuitive guide that can help stakeholders navigate through complex place-based population health projects. The feedback from stakeholders also provided several thought-provoking insights on the role and funding structure of policy makers. Working at the coalface of partnering, these insights offer an important view into the ground realities of cross-sector collaborations. The changing and growing expectations of stakeholders offers policy makers the possibility to examine its policies to meet the evolving context in which it operates. While promising, it brings challenges to policy makers to balance their dual roles of being a co-partner and a governing authority. However, if policy makers are able to find equilibrium between these two roles, it will generate a positive environment where population health projects can thrive, bringing system wide benefits to its community members.

Ethical approval

Secondary analysis of data was conducted for the review of published research evidence and the DFFH policy document which is also publicly available. The stakeholders consulted were part of an engagement group that had been established by DFFH, where consent of these participants had been sought prior by DFFH. As no personal or identifiable patient data was collected and the study was a quality improvement initiative of DFFH, ethics approval was not required [43]. Nevertheless, ethical principles of conduct were still applied, and no data was collected unless participants consented.

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Contributorship

KL and CL contributed to the writing. All authors have read and commented on the results and conclusions in the manuscript and have given written agreement of their authorship. KL is the corresponding author of the article. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted.

Declaration of competing interest

Besides the DFFH funding, all authors declare that there is no support from any other organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work; and no other relationships or activities that could appear to have influenced the submitted work.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.puhip.2022.100285>.

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