Health Promotion International, 2020, 1–12
doi: 10.1093/heapro/daaa128
Article

Perceptions of co-designing health promotion interventions with Indigenous communities in New Zealand

Truely Harding [1,*], John G. Oetzel [1], Jeff Foote[2], and Maria Hepi[3]

[1]School of Management and Marketing, University of Waikato, Hamilton, New Zealand, [2]Department of Management, University of Otago, Dunedin, New Zealand and [3]Institute of Environmental Science and Research LTD, Wellington, New Zealand

*Corresponding author. E-mail: truely.harding@gmail.com

Summary

Health inequities among Indigenous and non-Indigenous communities are well documented and the research literature includes robust discussions about innovative ways to reduce inequities including co-design. Co-designing health promotion interventions with Indigenous communities presents many benefits and challenges for researchers, health professionals and communities involved in the process. The purpose of this study was to identify the facilitators and barriers of co-designing a health promotion intervention with Māori communities. Additionally, this study considers a specific Māori co-design framework, He Pikinga Waiora (HPW). HPW is a participatory approach to creating interventions emphasizing community engagement, systems thinking and centred on Kaupapa Māori (an approach grounded in Māori worldviews). The research design for this study was Kaupapa Māori. Participants ($n = 19$) in this study were stakeholders in the New Zealand health sector. Participants were interviewed using an in-depth, semi-structured protocol. Thematic analysis was employed to analyse the data. Facilitators for co-designing health promotion interventions with Māori communities were collaboration and community voice. Barriers identified were mismanaged expectations and research constraints. Finally, facilitators for the HPW framework included providing clear guidelines and being grounded in Māori perspectives, while barriers included limited concrete case studies, jargon and questions about sustainability. Collaboration and inclusion of community voice supports the development of more effective co-design health promotion interventions within Māori communities which may address health inequities. The HPW framework offers clear guidelines and Māori perspectives which may assist in the development of effective co-design health promotion interventions, although areas for improvement were suggested.

Key words: co-design, community-based participatory research, health promotion interventions, He Pikinga Waiora Implementation Framework, indigenous

INTRODUCTION

Despite ongoing investment into evidence-based health promotion interventions to reduce health inequities (Cooksey, 2006), substantial differences in health conditions continue to exist between Indigenous and non-Indigenous communities (Anderson *et al.*, 2016). To address inequities, many Indigenous groups advocate for the inclusion of Indigenous health perspectives, values and traditions in the health system along with having power and autonomy to determine how health promotion interventions are implemented (Durie, 2004b). Such advocacy is consistent with health promotion goals to understand the diverse factors that influence individual and community health behaviours (e.g. cultural values and traditions, language, beliefs and key relationships) and utilizing them effectively to design, implement and translate health promotion interventions (DiClemente *et al.*, 2009).

In New Zealand, there is a sustained interest to reduce the health inequities between Māori (Indigenous people) and non-Māori. From as early as 2000, the health sector has openly acknowledged the cultural traditions of Māori as a key element of health promotion (King, 2000). Furthermore, successive governments have increased their efforts to evaluate communication strategies regarding health promotion to reduce health inequities for Māori (Bramley *et al.*, 2005). These efforts are acknowledged and yet there are still inequities that need to be addressed (Ministry of Health, 2013). Co-design is an oft-advocated approach to enable Māori partners to (co-)lead the conceptualization, design, implementation and interpretation of research outcomes related to health promotion interventions (Durie, 2004b).

Co-design approaches have a developing evidence base for producing positive health outcomes and reductions in health inequities, particularly in ethnic minority and vulnerable communities (O'Mara-Eves *et al.*, 2015; Ortiz *et al.*, 2020). Co-design includes the perspectives of the community members, practitioners and other stakeholders to work collaboratively to create, implement and evaluate projects (Boyd *et al.*, 2012). Co-design is a broad classification that has variants such as participatory health research (Wright, 2006), community-based participatory research (Wallerstein *et al.*, 2018) and tribal participatory research (Fisher and Ball, 2003). Co-design is a common label in New Zealand to describe this type of research (Boyd *et al.*, 2012). More specifically for Māori, Kaupapa Māori methodology challenges the dominance of the privileged Western worldview, and has a collective approach to benefit all the research participants and their collective goals within a Māori setting (Smith, 1997). Kaupapa Māori is an approach that centres mātauranga (Māori knowledge) and tikanga (cultural protocols) in all aspects of the research process. It is generally seen as a 'by Māori for Māori' that emphasizes action-oriented approaches that provide community benefit (Smith, 1997).

While co-design has strong advocates in New Zealand and frequent use by Kaupapa Māori researchers and health professionals (Te Morenga *et al.*, 2018), it has not gained widespread use in the wider health system (Oetzel *et al.*, 2017); however, there is growing interest in it as an approach to address health inequities (Wallerstein *et al.*, 2018). There are also challenges in doing co-design well; e.g. the length of time to create a health promotion intervention (Wallerstein *et al.*, 2018). Furthermore, there is a gap in research exploring the facilitators and barriers of co-designing health promotion interventions with Māori communities.

In addition to exploring the perceived facilitators and barriers of co-design with Māori communities, this study examines a recently developed framework for co-design that is grounded in Kaupapa Māori methodology. The He Pikinga Waiora (HPW) (enhancing wellbeing) Implementation Framework (Oetzel *et al.*, 2017) is a theoretical framework outlining key principles for developing and implementing health promotion interventions with Indigenous communities. HPW centres Kaupapa Māori and integrates four key elements from the international literature: culture-centred approach (CCA), community engagement (CE), systems thinking (ST) and integrated knowledge translation (IKT). These four elements are reflective of Kaupapa Māori research as they address the imbalance of power, reaffirm the importance of Māori knowledge and customs and advocate for greater community participation (Smith, 1997).

The CCA provides opportunities for the 'voice' of disenfranchised communities, and recognizes the ways that structures contribute to produce health inequities (Dutta, 2007). The CCA is achieved in part by ensuring the community members are empowered to define health promotion problems and solutions alongside health professionals and researchers through a mutually respectful process. Such respect is supported through a process of reflexivity identifying issues of privilege to share power in the health promotion process. The CCA empowers Māori self-determination, challenges power imbalances and transforms the health promotion processes by encouraging greater community voice at all levels (Mane, 2009).

CE is the process of working with communities during health promotion and is seen to range on a continuum from organization led to shared leadership and

community-driven promotion (Yuen *et al.*, 2015). High levels of CE are reflected through shared decision-making and communication among researchers and community members which helps with sustainability, capacity building and long-term health outcomes (Wallerstein *et al.*, 2018). High levels of CE are strongly supported by Indigenous scholars (Tipene-Leach *et al.*, 2013).

ST helps to address the complexity of the local contexts, the variety of levels and the determinants of health problems (Frerichs *et al.*, 2016). It allows for new ways of thinking for researchers, practitioners and community members through considering different perspectives and relationships between people and various facets of the health system (Frerichs *et al.*, 2016). ST also acknowledges holistic perspectives towards health and examines the inter-relationships of the various parts that need to be understood within a larger context (Smith, 1997). The use of ST in this framework can improve the transition from theory to practice of health promotion by understanding these various relationships in the health system (Wilkinson *et al.*, 2018).

IKT emphasizes co-design and co-production with end users in developing and implementing an intervention for the purpose of transferring knowledge and enhancing sustainability (Grimshaw *et al.*, 2012). End users are the people who will use research findings and facilitate the translation from research to practice such as clinicians, policy makers, tribal leaders and systems administrators (Lavis, 2006). IKT involves the researchers and end users working in partnership to ensure there is shared ownership, and that any barriers to implementation and translation can be addressed early in the design process (Grimshaw *et al.*, 2012). For Indigenous communities especially, IKT also needs to ensure that the community benefits from the health promotion intervention, and that it is reflective of the community's traditions and knowledge (Durie, 2004a).

Thus, this study aims to explore the perspectives of health professionals and researchers in New Zealand about facilitators and barriers of co-design with Māori communities. This study also examines the advantages and disadvantages of the HPW framework when co-designing a health promotion intervention. Health professionals (e.g. allied health workers, community health workers, clinicians, health managers) and researchers are key to the development and implementation of health promotion interventions for addressing inequities (Bramley *et al.*, 2005). These professionals have experience with the health system and thus their perspectives about co-design are important for addressing inequities. We address three specific research questions to achieve these aims:

(**RQ1**) What are the facilitators of co-designing a health promotion intervention with Māori communities?

(**RQ2**) What are the barriers of co-designing a health promotion intervention with Māori communities?

(**RQ3**) What are the advantages and disadvantages of the HPW framework for implementing a health promotion intervention with Māori communities?

METHODS

The research design for this study was framed by Kaupapa Māori. The research processes were guided by a Māori worldview with the aim of providing beneficial outcomes for Māori communities. Open-ended interviews were used from an interpretive perspective to emphasize participant voices.

Participants and setting

The sampling criteria for participants in this study were stakeholders who were researchers or health professionals who have interest or influence related to health improvement for Māori communities. Inclusion criteria was experience in providing or researching health promotion interventions with Māori communities. Previous engagement with the HPW framework was not included in the criteria for the first nine interviews. However, the 10 participants in the follow-up interviews did have previous engagement with the framework. Recruitment was through snowball sampling as it uses interpersonal relationships and connections between people to reach out to other people who may have been overlooked (Goodman, 1961) and is consistent with Kaupapa Māori. Contact was made with the initial participants via email; those who responded and were interviewed then also provided connections to others who could be considered for the study.

Nineteen people were interviewed for this project. The demographic characteristics include: (i) 15 female and 4 male; (ii) 12 Māori and 7 non-Māori; (iii) 9 researchers, 4 CEOs/general managers of Māori Health organizations, 3 clinicians from Māori Health organizations, 2 community health workers and 1 manager of a general health organization. Participants came from various communities across the North Island with one from the South Island. Researchers are included in this study because they work in multiple health contexts and various points in the system whereas health professionals often work in a single context.

Data collection

Semi-structured interviews were employed for this study as they explore the perceptions and opinions of participants regarding complex issues (Barriball and While, 1994). This approach best suited this study as it focused on drawing out participant's knowledge and experiences with co-design and the HPW framework. Interviews were conducted face-to-face, over the phone and online video. Ten of the interviews conducted were over the phone, or online, to accommodate the schedules of the participants. Interviews conducted in these spaces are more convenient and flexible, and the ethical issues and processes are similar to interviews conducted face to face (Janghorban *et al.*, 2014). Interviews were recorded by the interviewers and transcribed by two reputable audio transcribing services. Each participant signed an informed consent form acknowledging that they agreed to the terms of the research. The study was approved by Waikato Management School at the University of Waikato which includes general and culturally specific research ethics protocols (WMS 15/202).

The data collection occurred in two stages. The nine initial interviews explored the facilitators and barriers of developing a Māori implementation science platform and were conducted by one of the co-authors. This interview guide was pre-tested and focused on developing a unique approach to including a Māori worldview into health promotion (Supplementary file S1). Questions explored key issues for developing sustainable efforts towards health promotion interventions, facilitators and barriers of these efforts and whether a unique approach was needed for Māori. We explored general principles assuming that co-design would be a key element for participants. In fact, analysis of these nine interviews illustrated that co-design was a key contributing factor. Therefore, we decided to develop a new interview guide and focused on the facilitators and barriers in co-designing Māori health promotion interventions, with a particular focus on the HPW framework. After pre-testing, this interview guides a further 10 interviews were conducted by the lead author with the new interview guide. The new interview guide focused on key findings in the initial interviews which were perceptions of co-design, experience with co-design and the evaluation of the HPW framework (Supplementary file S2). The nine initial interviews were not re-done with the revised interview guide as participants identified co-design as a key element and had provided sufficient data for the analysis. We felt the initial interviews and responses provided rationale for developing a more focused interview guide for future interviews. Thus, the nine initial interviews were an 'open approach' and the follow-up interviews were a 'focussed approach'. All interviews were conducted in English with some Māori included around greetings.

Data analysis

Thematic analysis was used to analyse the data (Braun and Clarke, 2006). Thematic analysis is appropriate for this study as it is a flexible approach that has been used in Kaupapa Māori studies in previous research (e.g. Te Karu *et al.*, 2013). Specifically, thematic analysis facilitates centring Māori perspectives and worldviews while analysing the data. Each transcription was coded by the lead author, who is Māori, and synthesized to create common themes. Specifically, the analysis began with a line-by-line open coding approach. Then, the open codes were reviewed to identify themes through a process of constant comparison and review of content. The themes and supporting quotes were reviewed, revised and confirmed by the other authors.

RESULTS

The results are organized around the research questions. Table 1 presents a summary of the themes and subthemes and an exemplar quote. Pseudonyms are used for all quotes.

Facilitators of effective co-design

The first RQ explored the facilitators of effective co-design. Two key themes were uncovered: collaboration and community voice.

Collaboration

The experience participants had with co-design influenced how they interacted and perceived it. For them co-design is a 'buzzword' and describes a range of participatory experiences. Many participants described experiences with projects that they felt used 'authentic' co-design processes. They shared that collaboration is the base for a good co-design process. Hariata, a Māori researcher, shared:

> It's the idea of having the people on board who to be honest have the most knowledge or understanding about what's needed to address that particular health issue. It requires a facilitator who understands what co-design actually is, but it requires people living with those health conditions, their whānau, and the on the ground workers in that area.

Hariata identified that in the co-design process, collaboration is including all relevant parties in the development and implementation of the intervention. In

Table 1: Exemplar quotes and description of key themes and sub-themes

Theme/sub-theme	Description	Quotes
RQ1—facilitators		
Collaboration	Demonstrates an approach that encourages learning and collaboration for everyone involved	'So instead of the Ministry coming along with a big prescription, it's been much more of a partnership, you know, where we're at the table with them but we're kind of learning with them.'—Chris
Community voice		
Autonomy	Allows the communities to identify and provide a solution for what they believe to be the health issue	'If we're truly talking about co-design. . .it has to be Māori led and has to be Māori driven, and Māori voices have to be the ones that are privileged in all of those discussions, and all of the action that takes place from it.'—Lisa
Involvement	Ensures that the community had just as much contribution in the co-design process as the researchers and health organizations	'The other benefit is that you might identify things that you saw were important, but the community doesn't. . . don't waste time or money chasing something that there's not a lot of demand for'—Tom
Leadership	Provides community members the opportunity to lead and ensure community benefit	'I think that it's (important)having that one person that's key. I mean, if that person can't relate to the people then it's a waste of time and a waste of energy.'—Jordan
RQ2—barriers		
Mismanaged expectations		
Inauthentic co-design	A fashionable label to entice communities into working with research, with the appearance of having full consultation on the project.	I don't think the DHB or the Ministry really understand what we do. . . they don't understand kind of a Whānau Ora (extended family wellbeing) approach. . .if you start talking to them around Kaupapa Māori. . .they just wouldn't see the value in that. —Deb
Under delivering/over promising	Having unreasonable/unattainable goals and not following through with what is promised.	'In fact, one of the worse things. . .. was to bring expectations up too high, and they would expect more than what we could deliver'—May
Research constraints		
Jargon	Clinical terminology and research jargon are an obstacle in creating engagement with communities.	'It's finding those messages to engage people. . .it's probably going to be community or audience-specific'.—Richard
Māori vs. Western approach	Conflicting views on co-design tend to lead to Western approaches dominating Māori narratives, even in Māori communities.	'So what our challenge is. . . how do we move them (researchers/health professionals) from that very biomedical focus of doing the research just for the research towards "How will this actually make a difference for people and how can I contribute to that difference?"' Heather
Funding	Terms of funding need to allow for more sustainable health interventions/evaluations for Māori/indigenous communities	'So from a funding point of view, we start to need to think about integrating research programme development and evaluation funding in ways that isn't actually done in New Zealand at the moment.'—Richard

(continued)

Table 1: (Continued)

Theme/sub-theme	Description	Quotes
RQ3—HPW framework		
Advantages		
Placing Māori knowledge at the forefront	Highlights the importance of 'community voice' and 'cultured centered approach'	'I just think that the more we have frameworks which are intentionally developed from a kaupapa Māori frame, the better'—Lisa
Provides guidance	Provides guidance in working with Māori communities, naming what many already do	'In some ways it can help articulate what we do. It's a framework to pin our practice on. . .I think that it does capture, kind of to me, what kaupapa Māori research should include anyway.'—Petra
Multipurpose	The framework can be used to design, evaluate, and trouble shoot health interventions	'It can mean different things for different people and it can be used in different ways, and I think it's the flexibility of it, which makes it quite powerful.'—Peter
Disadvantages		
Need more case studies	Case studies would provide more guidance on how to physically carry out the use of the framework	'Having some examples of that really practical day-to-day operational, and then how you can use it with the funder or the decision maker, and again having those perspectives from the provider level.'—Maddie
Jargon	The language used in the framework creates barriers to understanding the meaning/vision/goal	'Initially I just thought the framework needed. . . there's some loose terminology in there, like 'end user' is not a common language.'—Trent
Sustainability	Highlighting how using the framework can create sustainable interventions	'How do we turn this into a sustainable intervention that creates inter-generational change?. . . They're designed for one point in time.'—Trent

support, Vicky, a researcher in public service across government agencies, offered:

> I think in terms of developing interventions, you need to be really mindful of that balance between everyone. . . take into consideration those differences and build it into your intervention.

The participants highlighted the importance of collaboration between the professional and the community; each party brings a unique aspect that is facilitated by collaboration. For the participants, collaboration meant being equal partners with shared decision-making and mutual influence on the project.

Community voice

This theme relates to ensuring that the mana (integrity) of the community is always intact and is at the forefront of the co-design process. Participants identified that community voice facilitates an effective co-design process because it improves the quality of the intervention. Community voice is marked by three sub-themes: autonomy, involvement and community leadership.

Participants believed that the solutions provided needed to be determined by the community to provide a more sustainable outcome; in other words, they have Tino rangatiratanga (autonomy). Māori researcher Petra, discussed the benefits for communities when they are involved in the co-design process: 'The benefits from it (co-design) for people, are they feel like they've got some control over how the service will look and what it will bring to their communities'. Petra raised autonomy as being important in allowing the community to contribute to all the decisions being made and allowing the study to be community directed and community led.

Participants explained that community involvement facilitated the co-design process to ensure the community had as much input as the researchers and health organizations. Jordan, a general manager at a Māori organization, was asked about the receptiveness of Māori to implement health promotion interventions and

replied: 'If they're a part of it: designing, co-designing, very receptive. They're a lot more receptive especially if they're part of the co-design. It's empowering them to make decisions that they think are best for themselves'. Jordan noted that the involvement for the community enhances their experience in co-designing with other non-community members.

Participants also identified community leadership as critical for allowing better co-design of the health promotion intervention. One of the participants, Faye, a general manager for a health organization shared in response to what helps to facilitate co-design with communities: 'we need to actually get the community leaders to help champion that to encourage to people to come along'. Faye highlighted the importance of the community leadership roles when trying to encourage the community to get involved in the intervention. Community leaders become a bridge between the implementers and the community to ensure that there is mutual respect and understanding.

In sum, the two facilitators are collaboration and community voice. Collaboration is a facilitator because it integrates the different worldviews during the co-design process. Community voice is a facilitator as it ensures autonomy, involvement and community leadership by putting community ideas at the forefront.

Barriers for co-design

The second RQ focussed on the barriers of co-design. There were two themes: mismanaged expectations and research constraints.

Mismanaged expectations

This theme highlighted the importance of the researchers' and health professionals' interactions with the community to create appropriate expectations when using a co-design approach. Two sub-themes emerged: inauthentic co-design and over promising/under delivering. Inauthentic co-design was described by the participants as using co-design as a fashionable label to entice communities into working with the implementation team. The intervention would have the appearance of having full participation on the project, when in fact it did not include participatory aspects. Jane, a researcher, shared an experience she had when implementing a health promotion intervention with a community and health professionals:

> The thing that pisses me of the most is people writing about co-design and you just know they didn't do it. They just thought they did because they put an advisor on their team or something.

For Jane, the inclusion of an advisor is insufficient to have effective co-design. Alongside other participants, she identified that inauthentic co-design reflects a clash of different goals and visions between the community and the implementers; the community wants to be included as partners throughout the process, whereas the implementers are looking for quick consultation about what they are doing.

Another barrier for participants was over promising and under delivering to the community. Participants identified that when you over promise it creates false hope within the community which can negatively affect the engagement from the community. A professor/researcher in public health, Tom, acknowledged the challenges when co-designing health promotion interventions with communities and the concerns around raising expectations:

> We came up with a whole lot of recommendations that were probably overambitious, which is partly why not a lot got done. So, you raise the expectations in the community about what you could do, but then whether that can be achievable is always the challenge, isn't it?

For Tom, under delivering to the community can impact the trust built between the community and co-design team which not only affects the current relationships, but the future relationships too.

Research constraints

That nature of research and the constraints of funding also serves as a barrier for effective co-design. Both researchers and health professional participants identified three constraints: jargon, Māori vs. Western approach and funding.

The use of medical terminology and research jargon was identified as creating confusion and disinterest within the community. Jargon specifically addresses the communication barriers between the researcher and health professional and the community. The researchers and health professionals often used a lot of jargon in their messages and their sharing of knowledge. Mahina, a Māori health organization manager, was asked what characteristics would address a communication issue. She responded: 'The challenges are for clinicians to be able to leave their professional language at the door, and be able to talk in general terms, so that whānau understand what they're on about'. For Mahina, using terminology the communities are familiar with would allow for more effective communication.

Participants identified that Māori vs. Western approaches differ in many ways in relation to health. Māori approaches were described as often focused on

the collective and are holistic, while Western approaches were described as often focused on the individual and the physical. Participants believed Western approaches dominated Māori narratives leading to conflict views about co-design. Faye explained:

> Māori approaches are not validated in the same way that it should be and that's because science is so influenced by that whole western paradigm.

Faye and others noted that when co-designing with Māori communities, the challenge is prioritizing the community's approach to enhance the overall outcome of the co-design approach and project.

Funding constraints were mentioned by many of the participants as an ongoing barrier for the sustainable aspect of co-designing a health promotion intervention with communities. Funding constraints includes length of contracts and who controls the funding. Deb, general manager for a Māori health provider, was asked if she thinks there is a need for a unique approach to developing solutions that work for Māori and she replied:

> For too long it's everything we've done has been driven by the government and by contract that comes through the government. . .sometimes you can have something going really good, a programme or project or something and then the DHB, or the Ministry or the government agencies get hold of it and then they start taking control of it and then suddenly it's completely different to what you were doing.

Deb focused on the barrier of funding being controlled by others particularly when the funders begin to dictate the direction of the programme to abide by their guidelines. Deb felt that such control inhibited communities desire to sustain a health promotion intervention.

In sum, the two barriers for co-designing interventions with Māori communities are managing community expectations and working within research constraints. Expectations can be raised to a high level for a community when they think they will be able to co-design an intervention. Making sure the process is authentic and not over promising (and then under delivering) can help manage those expectations. Furthermore, researchers and communities have to work within the confinements of research. While they cannot change the terms of funding easily, they can work to make sure that Māori perspectives are included and that the partnership is relatively jargon free.

HPW framework and co-design

The third RQ explored the advantages and disadvantages of the HPW framework as an approach for effective co-design of health promotion interventions with Māori communities. Participants identified three advantages and three disadvantages.

Advantages

The three advantages included placing Māori mātauranga (knowledge) at the forefront, providing guidance and multipurpose. Participants acknowledged that the HPW framework emphasizes culture-centred knowledge, and ensures community voice when co-designing with Māori communities. May, a community health worker, shared her impressions of the framework: 'It's self-determinate, and it's Indigenous; it's based on core cultural values, and you go from there, so it's a good framework, but it's a Kaupapa Māori framework'. May and other participants shared that the research conducted from this framework could privilege the Māori/community voice.

Participants also noted that HPW provides guidance on how to carry out specific tasks ensuring that key aspects in the co-design process are fulfilled. Mahina was asked how she would use the HPW framework, she replied:

> To me it's a model. Yeah, a model is a set of principles that guide your process, and has some boundaries and scope around it, and you've got some key areas that you want to group things in, just to get order and logic and keep you on task.

Participants like Mahina saw this framework as particularly important for researchers who endeavour to work with Māori communities who lack experience in doing so. Participants further highlighted that some of HPW principles are providing names for what many are already doing when working with Māori communities and thus it resonates with the guidance they would offer.

Participants spoke of how versatile the HPW framework can be; some spoke of its potential to be used to assist in the design or the evaluation of a health promotion intervention, while others spoke of its use as a tool to translate research to practice. Trent, a community health worker for a DHB, shared how he perceived the HPW framework to be a good evaluation tool: 'This is awesome for like a process evaluation. This framework is epic for process evaluation in term[s] of how the implementation went'. Participants identified that the HPW framework has multiple functions that help meet various needs of researchers, health professionals and communities working in a co-design space. This theme highlights that the framework is flexible so that it does

not limit the users' perspective on how it should be used or when to use it.

Disadvantages

The three disadvantages were the need for more case studies, jargon and sustainability. The first disadvantage was limited evidence of the use of the framework. Hariata, was asked what she thought of the HPW framework and replied: 'The evidence; you know you've got community engagement and this kind of systems thinking, and it's targeting at levels. So what is the evidence behind what you're trying to develop?' Hariata highlighted that the evidence behind the framework is key to ensuring the users believe that the principles in HPW will provide positive outcomes. Participants felt the lack of resources or case studies on how to use the framework may inhibit the use of HPW.

Participants identified a disadvantage of the terminology used in the framework. The language used had the potential to create barriers to understanding the framework. Jane provided her perspective on some of the language used: 'Yeah, it doesn't invite. If you don't know that language, if you're not immersed already in that language and in that style of presentation and stuff; there's nothing in there that allows you to get in and make it yours'. This theme recognizes that the framework has some jargon included that is specific to researchers; community members involved in the co-design approach may find the language difficult to understand and therefore a barrier.

The final disadvantage relates to sustainability of interventions for the communities. Participants noted that it is important to include how the co-design process of creating an intervention will have sustainable outcomes. They believed that in order for the framework to assist in this area more guidance is needed. Maddie, shared her feedback on the framework: 'Is it cost affective? Can it be sustained? Those sorts of things aren't in there. I think that's another issue for many Māori providers; is that it comes in and out. It might be working but it's dropped'. For Maddie, the sustainability of interventions is critical and she is looking for greater evidence that the framework can lead to sustainability.

In sum, participants saw advantages of the framework in putting Māori knowledge at the forefront, providing guidance and being multi-functional. Thus, they see potential for this framework as being a facilitator for a co-design approach. At the same time, there are some challenges in needing to have more evidence of its effectiveness. Furthermore, the jargon that is included needs clarification to be an effective framework for communities. Finally, the framework needs improvements in the sustainability aspects of implementing a health promotion intervention with Māori communities.

DISCUSSION

This study aimed to explore the facilitators and barriers towards co-design of health promotion interventions with Māori communities identified by health professionals and researchers in New Zealand. This study also aimed to explore the implications of the HPW framework when co-designing a health promotion intervention. This section discusses the findings in relation to the extant literature and identifies key implications of the findings.

The facilitators for co-design in this study were collaboration and community voice. Collaboration supports communities who historically have been excluded in the discussions and design of community health promotion interventions (Mosavel *et al.*, 2005). Community voice facilitates authentic co-design as it brings the unique perspectives from community members that researchers, or health professionals, may have overlooked (Simonds and Christopher, 2013). For researchers, health professionals, and community partners, collaboration and community voice ensure that everyone involved in the co-design process has a clear understanding of the goals, vision and implementation processes of the health promotion intervention (Wallerstein *et al.*, 2018). Putting community ideas at the centre of a co-design process, and ensuring they are acknowledged and developed is a key facilitating aspect of co-design (Wallerstein and Duran, 2010). The themes highlighted the integral role community members play in creating a beneficial health promotion intervention. When the community feel they have shared ownership of the intervention, it can lead to sustainable health promotion interventions and outcomes.

The barriers of co-design in this study were mismanaged expectations and research constraints. Mismanaged expectations reflect how organizations can raise the expectations of the community by being inauthentic in their co-design processes or 'over promising' and 'under delivering' the health promotion effort that has been stipulated. These expectations are consistent with previous research illustrating that poorly managed co-design processes can have negative outcomes for Indigenous communities (Wallerstein and Duran, 2010). For example, inauthentic co-design can cause frustration and distrust amongst the core designing team (Lucero *et al.*, 2018). Also, in co-designing a health promotion intervention within the field of research, there are

always constraints that the community and wider co-design team must address. Collaborative partnerships are logistically complex, and given the competing values of communities, health organizations and researchers, challenges and conflicts may arise (Wallerstein *et al.*, 2018). The constraints of funding and mixing western and Māori perspectives creates additional challenges to creating an authentic co-design intervention (Durie, 2004b; Wallerstein *et al.*, 2018). These barriers highlighted that co-designing health promotion interventions can be chaotic and exhausting for those working with the communities, and the community members themselves.

The HPW framework was seen by participants as having both advantages and disadvantages as a tool for co-design. A positive aspect of it is that it puts Māori knowledge at the forefront and acknowledges the uniqueness of a Māori world view, consistent with prior research (Smith, 1999). This is significant as HPW becomes a guide for researchers who are unfamiliar with an authentic co-design process when working with Māori; it is a framework that is relevant to a Māori group by prioritizing Māori values, traditions, practices and language (Prout, 2012). Moving forward participants identified that more evidence was needed to support that the framework is workable and to demonstrate how it can be used in different situations. There is a growing body of evidence for the HPW framework although it is still in its infancy, so future research is needed to validate the effectiveness of the framework (Harding and Oetzel, 2019; Oetzel *et al.*, 2017).

Co-design, and related participatory approaches, is a popular approach for health promotion interventions, particularly with Māori communities (Durie, 2004a; Wise *et al.*, 2012). This study has implications for health promotion interventions as it addresses key facilitators and barriers to co-design from the perspective of health professionals and researchers. In particular, it identified the concerns of inauthentic co-design and the need to have engaged community voices. It highlighted the importance of community involvement throughout the co-design process with the potential to achieve more sustainable health promotional outcomes. Finally, this study offers some support for the HPW framework as providing a guide for authentic co-design, although more evidence and clarification of jargon will be needed. Future studies should focus on the perception of the community towards co-designing health promotion interventions; these studies should aim to determine if similar facilitators and barriers are identified. Such research would provide more evidence of co-design being a preferable option for engaging with Māori communities.

A limitation of this study is that there were two different structures of interviews designed to further explore co-design. However, the interviews did provide corroboration as there were similar themes. Another limitation is that the majority of the participants interviewed had experience in co-design. Therefore, the voices of those whose research or practice does not involve co-design processes may not be fully represented in this study. Finally, as this is an exploratory study, it has focused on the themes associated with co-design and not the specific processes.

CONCLUSION

In conclusion, co-design approaches have evidence of their effectiveness in addressing health inequities for Indigenous communities. However, there is limited use of co-design in designing health promotion interventions in New Zealand. When co-designing a health promotion intervention with Māori communities it is important to ensure intentions and expectations are communicated effectively between all parties. Furthermore, collaboration between all parties empowers community voice allowing for equal input into the implementation of the health promotion intervention. This study identifies that the HPW Implementation Framework shows potential for improving the design and implementation of health promotion interventions with Māori communities.

SUPPLEMENTARY MATERIAL

Supplementary material is available at *Health Promotion International* online.

FUNDING

Funding was received from the Ministry of Business, Innovation and Employment (NZ) Healthier Lives National Science Challenge (PI Nina Scott, HL-T1CR-D 13058/1 SUB1320). The authors maintain sole responsibility for the research design, data collection, data analysis and interpretation of the findings.

REFERENCES

Anderson, I., Robson, B., Connolly, M., Al-Yaman, F., Bjertness, E., King, A. *et al.* (2016) Indigenous and tribal peoples' health (The Lancet–Lowitja Institute Global Collaboration): a population study. *The Lancet*, **388**, 131–157.

Barriball, L. and While, A. (1994) Collecting data using a semi-structured interview: a discussion paper. *Journal of Advanced Nursing*, **19**, 328–335.

Boyd, H., Mullin, B. and Old, A. (2012) Improving healthcare through the use of co-design. *The New Zealand Medical Journal*, **125**, 1357.

Bramley, D., Hebert, P., Tuzzio, L. and Chassin, M. (2005) Disparities in indigenous health: a cross-country comparison between New Zealand and the United States. *American Journal of Public Health*, **95**, 844–850.

Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, **3**, 77–101.

Cooksey, D. (2006) *A Review of UK Health Research Funding*. The Stationery Office, London, UK.

DiClemente, R. J., Crosby, R. A. and Kegler, M. C. (2009) *Emerging Theories in Health Promotion Practice and Research*. John Wiley & Sons, San Francisco, CA.

Durie, M. (2004a) An indigenous model of health promotion. *Health Promotion Journal of Australia*, **15**, 181–185.

Durie, M. (2004b) Understanding health and illness: research at the interface between science and indigenous knowledge. *International Journal of Epidemiology*, **33**, 1138–1143.

Dutta, M. J. (2007) Communicating about culture and health: theorizing culture-centered and cultural sensitivity approaches. *Communication Theory*, **17**, 304–328.

Fisher, P. and Ball, T. (2003) Tribal participatory research: mechanisms of a collaborative model. *American Journal of Community Psychology*, **32**, 207–216.

Frerichs, L., Lich, K., Dave, G. and Corbie-Smith, G. (2016) Integrating systems science and community-based participatory research to achieve health equity. *American Journal of Public Health*, **106**, 215–222.

Goodman, L. (1961) Snowball sampling. *The Annals of Mathematical Statistics*, **32**, 148–170.

Grimshaw, J., Eccles, M., Lavis, J., Hill, S. and Squires, J. (2012) Knowledge translation of research findings. *Implementation Science*, **7**, 50.

Harding, T. and Oetzel, J. (2019) Implementation effectiveness of health interventions for Indigenous communities: a systematic review. *Implementation Science*, **14**, 76.

Janghorban, R., Roudsari, R. L. and Taghipour, A. (2014) Skype interviewing: the new generation of online synchronous interview in qualitative research. *International Journal of Qualitative Studies on Health and Well-Being*, **9**, 24152.

King, A. (2000) *The New Zealand Health Strategy*. Ministry of Health, Wellington. https://www.health.govt.nz/system/files/documents/publications/newzealandhealthstrategy.pdf (last accessed 12 November 2020).

Ministry of Health. (2013) *Health Loss in New Zealand: A Report from the New Zealand Burden of Diseases, Injuries and Risk Factors Study, 2006-2016, Wellington, New Zealand*. https://www.health.govt.nz/system/files/documents/publications/health-loss-in-new-zealand-1990-2013-aug16.pdf (last accessed 12 November 2020).

Lavis, J. (2006) Research, public policymaking, and knowledge-translation processes: Canadian efforts to build bridges. *The Journal of Continuing Education in Health Professionals*, **26**, 37–45.

Lucero, J., Wright, K. and Reese, A. (2018) Trust development in CBPR partnerships. In Wallerstein N., Duran B., Oetzel J. and Minkler, M. (eds), *Community-Based Participatory Research for Health: Advancing Social and Health Equity*, 3rd edition. Jossey-Bass, San Francisco, pp. 61–71.

Mane, J. (2009) Kaupapa Māori. A community approach. *MAI Review*, **3**, 1.

Mosavel, M., Simon, C., Van Stade, D. and Buchbinder, M. (2005) Community-based participatory research (CBPR) in South Africa: engaging multiple constituents to shape the research question. *Social Science & Medicine*, **61**, 2577–2587.

O'Mara-Eves, A., Brunton, G., Oliver, S., Kavanagh, J., Jamal, F. and Thomas, J. (2015) The effectiveness of community engagement in public health interventions for disadvantaged groups: a meta-analysis. *BMC Public Health*, **15**, 129.

Oetzel, J., Scott, N., Hudson, M., Masters-Awatere, B., Rarere, M., Foote, J. *et al.* (2017) Implementation framework for chronic disease intervention effectiveness in Māori and other indigenous communities. *Globalization and Health*, **13**, 69.

Ortiz, K., Nash, J., Shea, L., Oetzel, J., Garoutte, J., Sanchez-Youngman, S. *et al.* (2020) Partnerships, processes, and outcomes: a health equity-focused scoping meta-review of community-engaged scholarship. *Annual Review of Public Health*, **41**, 177–199.

Prout, S. (2012) Indigenous wellbeing frameworks in Australia and the quest for quantification. *Social Indicators Research*, **109**, 317–336.

Simonds, V. and Christopher, S. (2013) Adapting Western research methods to indigenous ways of knowing. *American Journal of Public Health*, **103**, 2185–2192.

Smith, G. H. (1997) *The Development of Kaupapa Maori: Theory and Praxis*. Unpublished PhD thesis, University of Auckland, Auckland NZL. Available: https://researchspace.auckland.ac.nz/handle/2292/623 (last accessed 12 November 2020).

Smith, L. (1999) *Decolonising Methodologies: Research and Indigenous Peoples*. Zed Books Ltd, London.

Te Karu, L., Bryant, L. and Elley, C. R. (2013) Maori experiences and perceptions of gout and its treatment: a Kaupapa Maori qualitative study. *Journal of Primary Health Care*, **5**, 214–222.

Te Morenga, L., Pekepo, C., Corrigan, C., Matoe, L., Mules, R., Goodwin, D. *et al.* (2018) Co-designing an mHealth tool in the New Zealand Māori community with a "Kaupapa Māori" approach. *AlterNative: An International Journal of Indigenous Peoples*, **14**, 90–99.

Tipene-Leach, D. C., Coppell, K. J., Abel, S., Pāhau, H. L. R., Ehau, T. and Mann, J. I. (2013) Ngāti and healthy:

translating diabetes prevention evidence into community action. *Ethnicity & Health*, **18**, 402–414.

Wallerstein, N. and Duran, B. (2010) Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. *American Journal of Public Health*, **100**, S40–S46.

Wallerstein, N., Duran, B., Oetzel, J. G. and Minkler, M. (eds) (2018) *Community-Based Participatory Research for Health: Advancing Social and Health Equity*, 3rd edition. Jossey-Bass, San Francisco.

Wilkinson, J., Goff, M., Rusoja, E., Hanson, C. and Swanson, R. (2018) The application of systems thinking concepts, methods, and tools to global health practices: an analysis of case studies. *Journal of Evaluation in Clinical Practice*, **24**, 607–618.

Wise, M., Massi, L., Rose, M., Nancarrow, H., Conigrave, K., Bauman, A. *et al.* (2012) Developing and implementing a state-wide Aboriginal health promotion program: the process and factors influencing successful delivery. *Health Promotion Journal of Australia*, **23**, 25–29.

Wright, K. B. (2006) Researching Internet-based populations: advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, **10**, DOI:10.1111/j.1083-6101.2005.

Yuen, T., Park, A., Seifer, S. and Payne-Sturges, D. (2015) A systematic review of community engagement in the US Environmental Protection Agency's extramural research solicitations: implications for research funders. *American Journal of Public Health*, **105**, e44–e52.