Providers’ Perspectives of Sustainability in Nutrition Wellness Programmes in the Porirua Community

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Abstract

Background: Low socioeconomic status (SES) communities in New Zealand (NZ) bear a disproportionately high burden of nutrition-related non-communicable disease (NCD) (1). The Māori population in New Zealand is one of the ethnic groups which suffers high deprivation and is heavily burdened by complications of overweight, obesity, cardiovascular disease and diabetes (2, 3). Public and private sector organisations, including government, are implementing programmes within communities to improve the health and well-being of New Zealanders. For these programmes to have a lasting positive impact on health outcomes, programmes need to be planned, developed, delivered and evaluated using best-practice evidence-based sustainability frameworks. Involving community members in the planning, development and delivery of community health programmes is recognised as an effective strategy. However, programme providers need a range of inputs to achieve their public health-related goals. Primary health, corporate, social enterprise and non-government organisations also make a major contribution to improving the health of communities. With the current economic climate increasing pressure on budgets and greater public interest and scrutiny of health investment decisions, understanding how to support sustainable programmes is essential.

Objective: The aim of this study was to investigate programme providers’ perspectives of the major enablers and barriers to the long-term sustainability and effectiveness of community-based nutrition wellness programmes, and to determine whether an existing evidence-based sustainability assessment tool is applicable for use in a low SES NZ community.

Design: This study used qualitative methods to understand providers’ perspectives of the factors that influence the sustainability of their Porirua region based programmes. At the time of this study Porirua had high levels of deprivation as classified by the New Zealand Index of Deprivation, this made it an appropriate region to target (4). A grounded theory approach was used to assess the fit of an existing model to the recruited programmes. A total of 23 programme providers were recruited from 21 programmes. Semi-structured, face-to-face and telephone interviews exploring factors influencing sustainability were conducted with each programme
provider. All interviews were recorded and transcribed verbatim. Data from the written transcripts were analysed using general inductive analysis. NVivo 11 Qualitative Data Analysis Software was used to organise the data into nine main themes and linked sub-themes.

**Results:** The results report nine major factors impacting on the sustainability and effectiveness of community-based nutrition wellness programmes in Porirua. Three key factors which developed from the data appear to have the largest impact on programme sustainability. These are partnerships, funding stability and community engagement. The remaining six factors were identified as important, however, were interlinked with the three key factors and with each other, and therefore do not represent major independent influencing factors.

**Conclusion:** The major factors influencing the sustainability of formal and informal community-based nutrition programmes in Porirua, align with factors identified in the literature. All domains of the Program Sustainability Assessment Tool (PSAT) are relevant in lower SES NZ communities. However, an additional factor and a hierarchical ordering of factors are recommended to enable the tool to be used effectively in NZ. These recommendations are presented as a modified programme sustainability assessment framework relevant for use in lower SES NZ communities.
Preface

This study was requested by the CEO of Allied Health NZ, a society representing allied health professionals in NZ. The project proposal was prepared by Dr Penny Field, the candidate’s lead supervisor, and Dr Louise Mainvil, the candidate’s secondary supervisor. The primary researcher for this project was Erin Adams, a Master of Dietetics student at the University of Otago. Both academic supervisors provided guidance to the researcher in designing the overall study, developing research objectives and presenting the findings. As the lead academic supervisor, Dr Penny Field also oversaw the process for obtaining ethical approval, Māori consultation approval, participant recruitment, data collection, and analysis. Weekly Skype meetings were held by the primary researcher and Dr Field to ensure the research project was progressing and being conducted appropriately.

The primary researcher was responsible for:

- Reviewing literature relevant to the long-term sustainability and effectiveness of community nutrition wellness initiatives.
- Preparing the Ethics Category B application, which was submitted for approval by Dr Penny Field to the University of Otago Human Ethics Committee.
- Preparing the first draft of the Māori Consultation application, which was submitted for approval by Dr Penny Field to the Ngāi Tahu Research Consultation Committee.
- Arranging and managing contact with key community informants before the recruitment process began. These key informants were used to identify potential study participants, using a snowball sampling approach.
- Developing a semi-structured interview informed by the literature, with guidance from Dr Penny Field.
- Organising, collecting and transcribing verbatim twenty-three programme providers’ interviews.
- Coding and theme development from all twenty-three interviews, using general inductive analysis.
- Full thesis write-up, with guidance from Dr Penny Field.
Acknowledgements

I would like to express my deepest and most sincere gratitude to Dr Penny Field. I am not sure what I would have done without your ongoing support and constant reassurance throughout this process. Dr Louise Mainvil you have also provided an invaluable perspective to this study, your wisdom and enthusiasm were always much appreciated.

To my participants, I could not have done this without you. Thank you for letting me into your programmes and opening up to me. I can only hope that my research will benefit you and your successors.

To the MDiet class of 2016, each and every one of you made this journey what it has become, and what a journey it’s been. I look forward to working with you, catching up with you and keeping in touch for many years to come. A special shout-out must go to my wee Alex, you are a ray of sunshine, the laughs you have provided throughout this semester has made studying by myself in Wellington much more bearable.

Huge thanks must go to my family and friends around the country and overseas who have encouraged me and cheered me on every step of the way. Aunty Pauline, thank you for taking time out of your busy schedule to help me! And George, you may not think you did much, but trust me, hearing your voice was something I looked forward to every day.

And lastly, to my dearest family. I have finally made it. What a year this has been. Lauren, thank you for always being both a welcome distraction and a supporter when I needed it most. Mum, you are an absolute champion, you have kept me going on my good days and my bad. Your persistence at making me get up in the morning can only be described as admirable. Dad, I couldn’t be happier to be a chip off the old block. The evening naps and weekends I stole from you to help me with my thesis I’ll never be able to repay, but I hope seeing the outcome will make it all worth it. I will never have the words to properly sum up the support, encouragement, discipline and laughs you have all provided me with this year and throughout my university career. I couldn’t have asked for a more perfect way to complete my final year at university, back at home with Geri cuddled on my lap. From the bottom of my heart, I appreciate you more than you’ll ever know. I hope I have made you proud.
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<th>Full Form</th>
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<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>CBPR</td>
<td>Community-based participatory research</td>
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<td>CEO</td>
<td>Chief Executive Officer</td>
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<tr>
<td>CHI</td>
<td>Consolidates, Holistic Framework, Interactive</td>
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<td>CLDP</td>
<td>Community-led development programme</td>
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<td>DHB</td>
<td>District Health Board</td>
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<td>HEHA</td>
<td>Healthy Eating Health Action</td>
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<tr>
<td>ILO</td>
<td>International Labour Organization</td>
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<td>MoH</td>
<td>Ministry of Health</td>
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<td>NCD</td>
<td>Non-communicable disease</td>
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<tr>
<td>NGO</td>
<td>Non-government organisation</td>
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<td>NPAN</td>
<td>National Plan of Action for Nutrition</td>
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<td>NZ</td>
<td>New Zealand</td>
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<td>NZDep2013</td>
<td>New Zealand Index of Deprivation</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>PHO</td>
<td>Primary Health Organisation</td>
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<tr>
<td>PSAT</td>
<td>Program Sustainability Assessment Tool</td>
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<tr>
<td>SES</td>
<td>Socioeconomic Status</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Chapter 1
Introduction

Obesity is estimated to cost the NZ healthcare system over $600 million annually (5). Figures from the 2014/15 Ministry of Health survey indicate that 31% of New Zealanders are obese (1). As body mass index (BMI) increases, the risk of non-communicable diseases such as diabetes also raises, placing a large financial burden on the healthcare system (6). Investment in obesity prevention strategies is reported to be more cost-effective than investment in treatment strategies (7). Māori and Pasifika have higher proportions of obesity (46.5% and 67% respectively) than the general NZ population (29.9%) and Ministry of Health data show that obesity rates are higher in populations in socioeconomically disadvantaged areas (1, 3). Therefore, interventions targeting low SES populations need to be effective and sustainable.

When considering health-related problems as far reaching as obesity, the spotlight is on the government for leadership to improve the health of the most disadvantaged New Zealanders (8, 9). It is now well recognised that the communities and environments we live in contribute to our health and wellbeing (10). This environment is impacted by local business, corporate organisations, government, non-government organisations and individuals. While acknowledging personal choice and responsibility have a role to play, these key stakeholders have an important role in creating an environment which is supportive of health and well-being.

Public health programmes addressing these nutritional health-related problems are important in educating communities, changing behaviour and helping to create supportive environments. However, many health and human service programmes struggle to be sustainable long term; this often leads to poor use of limited resources, including financial resources, and limits the benefits communities could gain from these programmes (11).

With increasing awareness of the advantages of building sustainable health and human service programmes, there is a growing implementation and dissemination science literature on factors influencing sustainability (11-20). This research base will enable government and social organisations to more appropriately consider how to develop and assess programme capacity in order
to ensure robust health and human service programmes are being funded. This will result in the limited resources available being used more effectively, and will also result in communities gaining benefit from programmes that are proven to work.

This study was proposed by the CEO of Allied Health NZ who recognised the importance of building a sustainable, effective community-based health workforce. This study aims to explore the major factors impacting the long-term sustainability and effectiveness of community-based nutrition wellness programmes in Porirua. This thesis will present a review of the background literature, methodology and methods used and the findings from thematic analysis of the data, to answer two research questions:

1. What do programme providers perceive as the major enablers and barriers impacting their programmes ability to be sustainable and effective long-term?

2. How do the identified major factors align with current literature regarding sustainability, and how can current frameworks be adapted to be applicable in a lower SES NZ context?

Currently, there is limited research in the NZ or internationally exploring the factors impacting on long-term sustainability and effectiveness of community-based nutrition wellness programmes. There are no studies exploring this in low SES communities. The results of this study will contribute to the public health nutrition programme sustainability literature. The results will be useful for community programme developers, funders, policy makers and health workforce planners to encourage development and funding of programmes which are sustainable long-term.
Chapter 2

Literature Review

The role of community-based nutrition initiatives and their effect on health and nutrition wellness is increasingly recognised in academic literature and by the lay public. There is a growing discussion about the most effective approach to developing, running and evaluating health and human services programmes in order to have a lasting positive impact on individual, community and population health. The primary aim of this literature review is to identify the major factors which impact effective and sustainable nutrition-related programme delivery and evaluation and discuss their relevance to socioeconomically disadvantaged communities. Current and past initiatives in NZ and the social determinants of health that affect more disadvantaged groups in the NZ population will also be reviewed.

This literature review is focussed primarily on programmes which are run in the community that have a nutrition-related goal. Although there are many interpretations of the definition of “programme”, for the purposes of this thesis a nutrition wellness programme is defined as “a programme, service or initiative which includes a nutrition wellness goal and is developed by large-scale organisations, local initiatives run by health/wellness professionals, or grassroots programmes championed by members of the community”. It excludes exclusively government-run programmes, corporate strategies to improve employee wellness or hospital-based initiatives.

2.1 Literature review methods

The literature reviewed was obtained by systematic searches of five databases; Web of Science, ProQuest, Ovid, Informit and Google Scholar. Google was used to find grey literature, particularly Government agency and industry documents. Search terms included, in various combinations: nutrition; food security; socioeconomic status; health; public health programme; sustainability; institutionalisation; and routinization. Articles were limited to full-text available, English articles. Reference lists were also used to find relevant literature.
Literature relevant to NZ was found in online journals and online organisation documents. However, there was no NZ research available on the sustainability of programmes, so international literature only was used for this section.

Literature reviewed included empirical studies where original data or analysis were presented, as well as non-empirical papers such as review papers and tool development. Key factors impacting sustainability were identified in the literature through identification of sustainability frameworks and studies directly analysing programme sustainability.

**2.2 What influences nutrition wellness at the community level?**

Nutrition is a major contributor to health. Diet has been implicated in many non-communicable diseases (3, 21). The social determinants of health are conditions within the environment which affect health, wellbeing and quality of life. This literature review and thesis will focus on the factors of the social determinants which have a direct impact on nutrition wellness such as the social and community context, and the neighbourhood and built environment.

The social determinants of health capture a well-recognised range of factors which influence health status, this includes the nutritional status and the quality-of-life for individuals and populations (22). Social determinants include: economic stability; education; health and health care; neighbourhood and built environment; and social and community contexts (22). In 2010, the Robert Wood Johnson Foundation, USA, summarised the social determinants of health as “where we live, learn, work and play” (23). This new user-friendly portrayal has been adopted by government-funded organisations in health-based initiatives such as Australia’s Healthy Together Victoria campaign, and NZ’s Healthy Families NZ Initiative (24, 25).

In relation to the social and community context influencing nutrition wellness, the Ottawa Charter (WHO 1986) encourages change towards better health among not only the health system but at an individual, community and government level. The Ottawa Charter is a highly influential public health planning framework developed to encourage action to achieve “Health for All” by 2000 and beyond (10). Health priority action areas defined by the Ottawa Charter are: build healthy public policy; create supportive environments; strengthen community action; develop personal skills; and re-orient health services (26). The Ottawa Charter encourages government, professional, social and
volunteer groups to mediate between their interests for a common pursuit of improved health (10). It encourages health promotion strategies to be adapted to different social, cultural and economic contexts and to be tailored to the local community. Programmes which collaborate with others, empower the community, and adapt to maintain their services have a greater chance of positively impacting nutrition wellness at the community level (27, 28). These factors are particularly important in areas of high deprivation which typically, as is the case in NZ, have higher rates of chronic disease, low food security and poorer overall wellbeing (1).

Food security is a strong determinant of nutrition wellness. It is considered as a factor under the domain of “neighbourhood and built environment” in the social determinants of health (22). From a nutrition perspective, higher rates of nutrition-related chronic disease, particularly in low SES communities, are partly attributed to low food security (29-31). An environment that is unsupportive of healthy food choices confounds the ability of individuals, families and groups to make healthy choices. Having low food security is reflected in a community’s ability to access and afford nutritious food.

Carter et al. supports a widely accepted definition of food insecurity as “a lack of assured access to sufficiently nutritious food” (26, 32). The 2008/09 NZ Adult Nutrition Survey, reported 7.3% of the population defined themselves as having low food security, and 16% of Māori households reported low food security (33). Communities with a high score on the New Zealand Index of Deprivation (NZDep2013) are known to be more likely to be food insecure (33). The index gives a deprivation score for each area in NZ, with the score ranging from 1 (least deprived) to 10 (most deprived). Food insecurity is positively associated with obesity and related NCD (30). Higher rates of food insecurity in Māori and Pasifika populations are a reflection of inequality related to the social determinants of health (30, 31). An example of this is in Porirua, NZ in which 39% of its population live in the “most deprived” socioeconomic deprivation quintile (34). This is in contrast to a neighbouring city, Wellington, with 6% of its population in this quintile (34).

From the literature reviewed above it is clear that the major influences on nutrition wellness at the community level are the social determinants of health, the environment, and food security. Population groups of lower-SES typically have higher levels of food insecurity and poorer health
outcomes than groups with higher SES. Therefore, it can be concluded that effective nutrition wellness interventions will have the capacity to target these three influencing factors.

2.3 **Background of past and present nutrition wellness initiatives in New Zealand**

New Zealand has a history of attempts to tackle nutrition related NCD. However, few initiatives have survived changing political priorities (35). NZ’s first National Nutrition Policy was launched in 1992 (21). This policy focussed on making healthy food choices a more accessible option. In 1994, the short-lived NZ Public Health Commission presented to the then Minister of Health a National Plan of Action for Nutrition (NPAN) as a ten-year strategic plan (36). The plan targeted three areas: food security, improving food quality and safety, and promoting appropriate diets and healthy lifestyles. This plan highlighted the need for greater support of a workforce of health professionals, nutrition experts, and volunteers to undertake appropriate food and nutrition education. This recommendation recognised the major role of this workforce in promoting health in the community (36).

Te Hotu Manawa Māori Kai Totika me Whakapakari Tinana is one of the initiatives that materialised from NPAN (29). The focus of this continuing initiative is Māori community development, including training community members in appropriate nutrition messages so they can educate their community. This type of community-based training approach has been shown to be a positive determinant of programme adoption by high-needs communities (27, 29).

In 2004, Healthy Eating Healthy Action (HEHA), a major but short-lived national nutrition wellness programme was implemented by the Ministry of Health under a Labour-led centre-left government (37). The programme involved an integrated approach to nutrition, healthy weight, and physical activity. A key domain of HEHA was training the workforce appropriately, and of including representatives from high-needs population groups in the workforce. NPAN and HEHA supported the use of an already skilled workforce, and of upskilling members of high-needs community groups, to implement evidence-based best practice programmes and initiatives (36, 37). In 2008, the change to a National Party centre-right government resulted in a change in national priorities, and large public health nutrition strategies were discontinued, including NPAN and HEHA (35). In subsequent years, rising levels of food insecurity and obesity rates have occurred throughout NZ (3, 38).
In 2015, another initiative called Healthy Families NZ was introduced by the Ministry of Health to support health-promoting environments in low SES communities (24). Healthy Families NZ chose ten community groups who have an interest in improving the health of their community. These groups were given the responsibility to create change in their communities. The Healthy Families NZ initiative does highlight the importance of partnerships and establishing supportive environments with the help of community members, and public and private organisations who work in these communities.

In light of recent government initiatives such as Healthy Families NZ, it is timely to consider what major influencing factors may affect the long-term sustainability and effectiveness of newly developed or current community-based interventions. Literature in this area provides researchers, funding organisations, and health workforce planners with a more informed understanding of how to create and maintain sustainable, effective programmes which will benefit the health of the community.

2.4 What are critical success factors for community-based nutrition wellness programmes in socioeconomically disadvantaged communities?

2.4.1 Sustainability

The first major factor evident from the literature impacting community-based nutrition wellness programmes in lower SES communities is the ability of providers to build sustainable programmes. The definition of sustainability varies within the public health and implementation science literatures. However, there appears to be agreement that sustainability means “the continuation of programme activities in order to provide ongoing benefits to the target group” (14). Sustainability in the context of health and human services considers the capacity for programmes to be successful in achieving long-term positive health outcomes. The majority of studies, however, focus on the sustainability of programmes implemented or developed by researchers (13). Lyon et al. argue for sustainability to be a planned outcome, rather than a goal measured at the end (39).
Program Sustainability Assessment Tool

In response to the growing literature and the need for a useable tool to assess a programme’s capacity for sustainability, The Centre for Public Health Systems Science at Washington University developed the Program Sustainability Assessment Tool (PSAT) (17). This tool was developed and validated from an earlier Program Sustainability Framework (16). The PSAT highlights eight domains influencing sustainability as described in Figure 1. The tool was developed for use in all types of public health programmes. The tool is available as a paper or online resource (sustaintool.org) for programmes to use to rate their capacity for sustainability. The online and paper tool guides the user through a series of 40 questions covering the eight domains shown in Figure 1 (11). For each question participants are asked to rate their programme from 1 (to little or no extent) to 7 (to a great extent) (11).

In the 1980s Green et al. described the Poverty Cycle of Health Education (40). This cycle summarises how limited educational input into health education leads to the impact of the intervention being unknown, the outcome being undetected, and inadequate support being provided, which perpetuates the cycle (40). Green et al strongly advocates evaluation of programmes to break this cycle. Chelimsky supports evaluation as an important aspect of improving sustainability in programmes (15). Evaluation is a domain defined in the PSAT and is supported by this literature (15, 40, 41).

<table>
<thead>
<tr>
<th>Domain</th>
<th>Definition</th>
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<tr>
<td>Political Support</td>
<td>Having a supportive internal and external climate for your program</td>
</tr>
<tr>
<td>Funding Stability</td>
<td>Establishing a consistent financial base for your program</td>
</tr>
<tr>
<td>Partnerships</td>
<td>Cultivating connections between your program and its stakeholders</td>
</tr>
<tr>
<td>Organizational Capacity</td>
<td>Having the internal support and resources needed to effectively manage your program</td>
</tr>
<tr>
<td>Program Evaluation</td>
<td>Assessing your program to inform planning and document results</td>
</tr>
<tr>
<td>Program Adaptation</td>
<td>Taking actions that adapt your program to ensure its ongoing effectiveness</td>
</tr>
<tr>
<td>Communications</td>
<td>Strategic communication with stakeholders and the public about your program</td>
</tr>
<tr>
<td>Strategic Planning</td>
<td>Using processes that guide your program's directions, goals, and strategies</td>
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Figure 1. The eight domains of the PSAT (10)

Scheirer (2013) suggests, however, that it is inappropriate to apply the same PSAT sustainability factors to all types of programme settings (18). For example, community-based interventions will be influenced by different factors compared to broad scale population-change interventions which may lead to having better overall sustainability scores than state-wide programmes (17, 18). Sustainability
in community-based interventions appears to be positively influenced by well-established partnerships during funding; administrative support; programme champions; well-aligned funding and programme goals; institutionalisation of financial resources and ongoing training of implementers (18, 28).

Gaining long-term funding through agreed use of money and robust funder-supplier relationships, is recognised by Pluye et al. as a key factor in programme sustainability (42). Funding stability is one domain in the PSAT. Institutionalisation is considered as an end goal of funding, when defined as a set of activities that become embedded in an organisation, supporting the long-term stabilisation of resources (17, 18).

Top level investment in the social and health sector has been recommended in a recent joint report by the World Health Organization (WHO), International Labour Organization (ILO) and Organisation for Economic Co-operation and Development (OECD). The report recommends that health systems which currently focus on clinical specialities need to refocus towards prevention and primary care. Supporting community-based programmes in underserved areas is highlighted specifically (43). In addition, multiple avenues of investment are recommended to encourage sustained programmes (19). Investment through multiple routes decreases the vulnerability of being funded through one source (19). To achieve these new funding arrangements the WHO/ILO/OECD report recommend policy level change, which Errington supports as a promoter of sustainability (14). This joint report supports the two domains in the PSAT; policy level changes in environmental support, and stability of funding as domains of the tool.

**Other factors impacting sustainability**

Luke et al. and others maintain that a programme’s sustainability is dependent on how mature the programme is, and whether it can be adaptable to change (17, 20). It is important that programmes gain this maturity, as immediate and short-term benefits may not predict long-term health outcomes. This is certainly the case with community nutrition programmes where adaptations born of maturity has a more nuanced meaning than programme adaptation in the PSAT.

As the social determinants of health highlight, it is important to consider programme sustainability in the context of the social environment in which a programme is being implemented. It may, therefore, be important to consider sustainability differently between community-based interventions and
policy-level interventions (18). Consideration of intervention type is not considered in the PSAT; this may be necessary given the broad range of intervention types that exist. As lower SES communities have the highest rates of morbidity and mortality, considering how to address the specific problems associated with how to keep community members motivated to return is a key issue (44).

Programmes which target lower SES communities have the added pressure of encouraging ongoing attendance by participants who are dealing with a range of challenges across the lower levels of Maslow’s Hierarchy of Needs (45). This could compromise their ability to participate in health-promoting programmes. Programmes in higher SES communities are not reported to be affected by these social context factors, enabling them to achieve better results. Participants in higher SES communities, therefore, gain more from the programme, which causes a widening of inequalities between socioeconomic classes. Lyon et al. report that communities who have lower SES and lower education than the general population also have lower attendance rates because of a higher likelihood of “disruptive events” (e.g. violence, health problems) occurring in participants lives (39). Other target group related factors including less formal education and lower SES were identified by Rogers as predictors of participant discontinuance, which can impact a programme’s ability to continue long-term (46).

A conceptual framework developed by Scheirer et al. (2011) (Figure 2) provides a contrasting approach but supports many of the domains defined in the PSAT (28). This framework summarises the two way relationship between variables which are part of the social, policy and financial environment (28). It hypothesises that financial support, for example, does not mean a programme will be sustainable, however, it is a major influence when considered alongside the social and policy environment.
2.4.2 Delivery

The second major factor impacting community-based nutrition wellness programmes, which emerged from the literature, is the way that programmes are delivered to the community.

Targeted programme development and delivery are of particular importance in NZ as health and human service programmes should align with the three principles of the Treaty of Waitangi (partnership, protection, and participation). This is so as to help decrease current cultural and ethnic disparities in health related to Māori (47). Tailored programme delivery, particularly in lower SES communities, is likely to improve community engagement and, therefore, better health outcomes as a result of the programme. Tailored programme delivery is supported by both the Community Action Model, and Community-Based Participatory Research (CBPR) (27, 48).

Henwood (2007) highlights the need for programmes to recognise indigenous culture and utilise it in programme planning and delivery. For example, Korikori a Iwi, an NZ government led initiative uses a “train-the-trainer” approach to support change within the community (29, 49). Cultural targeting of community-health programmes for Māori is through the use of the Te Pae Mahutonga framework used in the Korikori a Iwi project (49). Use of this framework demonstrates potential for grounding current public health initiatives in Māori focused public health frameworks. Te Pae Mahutonga represents key issues for Māori health promotion, which include Mauriora (access to Te Ao Māori), Waiora (environmental protection e.g. spiritual), Toiora (healthy lifestyles) and Te Oranga (participation in society/wellbeing), Nga Manukura (Leadership) and Te Mana Whakahaere (Autonomy) (50).
In the NZ setting, Wilson et al. trained community workers to deliver the Healthy Eating Healthy Living Project to refugee communities (51). Although data collection was based on informal feedback from communities, there is an indication that community members valued the programme, and other communities were interested in implementing it (51).

**Community groups and volunteer organisations**

The concept of using people from the community to deliver a more effective programme is an emerging concept in community development literature. Harris et al. (2015) highlight the way community-based peer support can positively influence the health literacy of community members, as shown in Figure 3 (52). Peer-support workers when utilised not only in the training aspect but also in the programme development stage, are shown to positively impact health literacy of participants, which enhances the likelihood of positively impacting their health.

![Figure 3. How equity context enables Peer Supporters to implement an effective support programme (51)](image)

Supporting a workforce of community groups and voluntary organisations to run community-based nutrition wellness programmes has also been shown to be an effective and practical strategy in communities in England (53). Recently the NZ government reported the community and voluntary sector is one of its most valuable sectors, both financially and socially (54). The latest figures from non-profit institutions indicate that the value of labour that the community and voluntary sector contributed was estimated at $9.4 billion (4.4%) of NZ’s gross domestic product (55). The NZ
government has acknowledged the importance of engaging the community and volunteer sector with the recently announced Community-Led Development Programme. This programme partners the NZ government with communities to “achieve their aspirations, build on their strengths, encourage wide community engagement, enhance local leadership and establish sustainable, measurable action plans” (56).

### 2.4.3 Effectiveness

The third major factor emerging from the literature, impacting community-based nutrition wellness programmes, is the programme’s ability to achieve its desired goals. An important determinant of whether a programme is effective or not is the way it is developed, implemented and evaluated (27). Effectiveness also considers how well a programme correctly addresses the needs of its target audience. There is a range of approaches and tools commonly used to assess effectiveness. Four common methods are:

1. Evaluation of participants’ knowledge/outcome is an important evaluation tool. Dollahite et al. used a pre/post-education questionnaire and evaluated the outcome measures of nutrition-related behaviour change (57). Multiple studies use tools such as these to evaluate programme objectives and focus on the improved knowledge of the participants rather than environmental change.

2. Community-based participatory research (CBPR) incorporates community engagement in research to effectively tailor interventions to communities (48). Strategies of CBPR include: engaging community stakeholders; incorporating cultural world-views; using collaboration to determine outcomes valuable to the community; sustaining programmes through the development of the community; and creating equal partnerships and mutual benefits from the programme. This approach may be most appropriate for high-needs communities who may be difficult to both access and target. Kamanda et al. (2013) assessed the use of CBPR in a high-needs community in sub-Saharan Africa (58). They concluded that the CBPR approach is effective and could have positive impacts on vulnerable populations. However, Kamanda highlighted the importance of being familiar with the culture and customs of the target population. Durie strongly supports this approach of considering and working with different cultures, particularly Māori (58, 59)
The CHI (Consolidates, Holistic Framework, Interactive) model, Durie (1993) is a cultural audit model for assessing how individual health and human service programmes affect Māori health, and whether the programme takes into account Māori beliefs and traditions (60). The CHI Model has three major goal categories for a programme to aim to achieve: Māori development, health gains for Māori, and Māori cultural values and beliefs. Working with and targeting different cultures is of particular importance in low SES NZ contexts when developing and evaluating programmes for ethnicities such as Māori, Pasifika or other minority ethnic groups. Respected members of Māori communities such as kaumatua, local community leaders and church leaders are such people who are important to collaborate with due to the respect they have within their community, this relationship is suggested to impact programme effectiveness positively (61, 62).

3. Another well-regarded approach to enhance effectiveness is the use of ‘The Community Action Model’ by Lavery et al. (27). This 5-step process is used by programme developers to create a programme which addresses the social determinants of health at an environmental level, rather than an “individual lifestyle changes” level (27).

4. A related citizen-engagement approach deliberately seeks community input on perceived needs and the best ways to address them. This is in contrast to developing programmes that are expert-led which may not meet the needs of the community as effectively (63). Getting the community to voice their ideas during strategic planning enables a programme to target community-led goals better and create programmes that the community wants, is willing to participate in, and therefore contributes to the effectiveness of the intervention.

A NZ study evaluating a long-running MoH funded obesity prevention programme in primary schools highlighted the long-term cost benefits related to improved quality and length of life and, therefore, cost savings to the NZ health system (64). The results indicate that physical activity and nutrition programme would be cost-effective from a health treatment perspective (64). Undertaking this type of evaluation strengthens applications for ongoing funding. A stable funding source is one of the PSAT domains (17). This type of evaluation requires a significant amount of time and resources and is unrealistic to expect small community groups to undertake. In contrast, Green questions whether institutionalisation should be an explicit goal; or whether the focus should be on
developing the community’s skills and confidence to lead themselves (65). As this view reflects the Ottawa Charters ‘working together’ priority it suggests that community engagement and empowerment are important indicators for funders to consider.

2.5 Summary

The literature reviewed above provides insight into the major factors affecting effective and sustainable programme delivery and evaluation of nutrition-related health and human service programmes, with a particular focus on low SES NZ communities. The major influencing factors on nutrition wellness are the social determinants of health particularly the social and community context, and the neighbourhood and built environment. This takes into account the impact of the social environment, and also how food security can impact nutrition wellness. One current government initiative, Healthy Families NZ is aimed at targeting the social determinants of health, where we live, learn, work and play to improve health outcomes of New Zealanders.

Critical success factors identified in the literature include a programme’s ability to: sustain programme activities until the desired outcome is achieved; be responsive to the characteristics of a community and deliver the programme with a culturally targeted approach and utilise community members in the delivery; and become mature by continuing to develop, evaluate and adapt to ensure effectiveness is achieved. Incorporating evidence-informed sustainability factors, along with culturally targeted frameworks such as Te Pae Mahutonga will help develop and support more effective nutrition wellness programmes for low SES communities in NZ (27, 49, 50, 52).

The PSAT is useful for helping programmes and funders identify factors that may influence their sustainability and hence effectiveness. Despite their usefulness, neither the PSAT nor similar frameworks have been used or evaluated by NZ nutrition wellness programmes. Schierer et al.’s framework indicated the relationship between factors is important (28). To the best of the researcher’s knowledge, no framework prioritises sustainability factors.

Effective programmes in low SES communities are a high priority for NZ. Porirua is well recognised as a high needs, low SES city with 39% of its population living in areas defined in the “most deprived” quintile (34). This is in contrast to the national average of 20% in the “most deprived” quintile (34). Within the Capital and Coast DHB region, 80% of those defined by NZDep2013 as
having a score of 8.1-10, and 100% of the areas with a score of 10 were within the Porirua boundaries (4). The ethnically diverse Porirua population includes 19.6% Māori, 24.6% Pasifika, 6% Asian and 60% European (66).

The Porirua community is highly suitable for research to identify factors influencing the sustainability of existing nutrition wellness programmes, and how well the PSAT tool aligns with these factors.
Chapter 3

Objective Statement

Providers’ perspectives of the major factors impacting long-term sustainability and effectiveness of community-based nutrition wellness programmes in NZ are currently not known. Building sustainable nutrition wellness programmes is essential for the health of all New Zealanders, so further investigation into the perspective of community providers regarding the major factors impacting their community-based nutrition programmes is warranted.

To advance understanding of, and support for, community-based nutrition wellness programme sustainability, it is necessary to examine how relevant an international programme sustainability assessment framework is for programmes in lower SES NZ communities.

Research Objectives

- To investigate, analyse and report providers’ perspectives of the major factors which impact long-term sustainability and effectiveness of community-based nutrition wellness programmes in a lower SES NZ community

- To identify how relevant the PSAT domains are to programmes in a lower SES NZ community

- To explore whether there are additional factors relevant to programmes in a lower SES NZ community which impact programme sustainability and effectiveness
Chapter 4
Methods and Participants

4.1 Methodology

4.1.1 Qualitative Research Approach

The aim of this research study was to use an existing model to help identify the major factors which affect the sustainability of community-based nutrition programmes in Porirua. When processes or models such as the PSAT are evaluated in real world settings, qualitative research is widely regarded as the best approach to use (67-69). Qualitative research enables the researcher to understand meaning and perception of the research participants’ interview data in relation to the study objectives (67). The process of qualitative research summarised by Bryman in Figure 3 was followed in this study (69).

![Figure 4. Steps of Qualitative Research (69)]

Qualitative Research Strategies

Three major qualitative research strategies are ethnography, grounded theory and phenomenology. Grounded theory was the research strategy used to guide this study as it aimed to generate a theory out of the data and to test pre-existing theories (69). Grounded theory-informed processes develop theory from data which is representative of the data (67).
Methods of Non-Probability Sampling

From the three main types of non-probability sampling (convenience sampling, snowball sampling and quota sampling) snowball sampling was chosen as it increases the number of contacts available to the researcher than would be available by other methods (70). As neither the researcher nor her supervisors had prior experience in the Porirua community, five initial contacts were used to identify potential study participants.

Data Sources and Collection

While qualitative data can be collected in a number of different ways, face-to-face semi-structured interviews, semi-structured telephone interviews and observation, were used in this study (67, 71). Face-to-face semi-structured interviews allow the interview to be guided, but provide flexibility to probe deeper into areas of interest related to the research questions. Semi-structured telephone interviews have the same focus and flexibility as face-to-face interviews, however, telephone interviews have been found to produce shorter, less detailed data. Also, the researcher is unable to respond to behavioural body language cues which may impact the flow of the interview and the data collected from it (71). Observation allows the researcher to gather data on the environment, people, processes and activities at the given location. Observation may lead to a greater understanding of the patterns and meanings which arise from interview transcript data (67).

Data Analysis

The grounded theory framework used in this study determined the use of thematic analysis (67, 68).

In thematic analysis, the researcher plays an active role in identifying, analysing and reporting themes which develop from the data (68). The Braun and Clarke thematic analysis method involves i) collecting interview transcripts, ii) coding data into themes and sub-themes, and iii) interpreting themes and sub-themes for final data analysis (68). Themes are important inter-related characteristics in the data which reflect a meaning or pattern about the research question. The relative importance of the theme is determined by researcher judgement (68).

In thematic analysis, two different approaches can be used for data analysis (68, 72). Inductive analysis develops themes from the actual content of the data. In contrast, themes using deductive analysis are directed by pre-existing concepts (68). Both approaches were used in this study as the
researcher aimed to understand providers’ perspectives and determine the applicability of the PSAT model and how it could be adapted to represent additional factors influencing programme sustainability in Porirua.

4.1.2 Study Design

The study design presented in Figure 5 illustrates the application of a grounded theory approach to test and develop theory in a contemporary real-world setting. Purposeful snowball sampling enabled a reliable contact list from which to recruit participants. Semi-structured face-to-face interviews allowed the researcher to probe for detail in a flexible manner. The general inductive analysis was used to understand participant’s perspective of factors which impact the sustainability of their community-based nutrition wellness programmes. The themes arising from this data provide a deep insight into the research questions and recommended adaptations to the PSAT model.

Figure 5. Study design showing qualitative methods

4.2 Data Collection Methods

4.2.1 Ethical approval

As this research involved human participants, ethical approval was sought and granted by the University of Otago Human Ethics Committee under Category B ethics, before the commencement of the study (Appendix A).

During recruitment, potential participants were provided with an information sheet (Appendix B) and an invitation to participate. Participants who accepted the invitation were then sent a consent form via email (Appendix C). The information sheet and consent form made participants aware of their rights in taking part in this research study, that their participation was entirely voluntary and that they
could remove themselves from the study at any time. Regarding confidentiality, the information sheet stated that although interviewees would not be identified personally, the programmes which they represent would be identified. Participants were also made aware that data from the interviews would be retained and securely stored for five years at the University of Otago, Dunedin. Data would only be accessible during this time to the researcher and the named academic supervisors.

Participants were informed both in writing before the interview and verbally at the commencement of the face-to-face interviews that the interviews would be recorded and the data would be transcribed by the interviewer.

Māori consultation approval was sought as the results of this study will be important to Māori health. An application outlining how Māori would be included in this study was approved by the Ngāi Tahu Research Consultation Committee (Appendix D). The committee requested a copy of the research findings, and also dissemination of results to Māori programmes involved in this study.

At the completion of each of the interviews, a bag of fruit and vegetables was offered as a token of appreciation for participating in this study (See Appendix E).

### 4.2.2 Participants and Recruitment

The researcher sought participants who were involved in organising or facilitating community-based nutrition wellness programmes. Programmes were defined as “an activity or service run in the Porirua community that has a food/nutrition-related focus”. For this study, any food/nutrition-related programme, service or community initiative is referred to as a “programme”. Eligibility criteria included programmes which: promoted nutrition-related health messages; improved community members’ physical access to nutritious food; or educated community members through gardening or cooking to improve their food literacy. The NZ Index of Deprivation was used to identify suburbs within the boundaries of Porirua which had a Deprivation Score of 8.1-10.0 (Highest level of deprivation) (4). Suburbs with a deprivation score lower than 8.1 such as Whitby encompassing Adventure, Endeavour, and Discovery were excluded (4). Participants were deemed eligible if they were able to meet with the interviewer at a scheduled agreed time; and agreed to the terms of participation outlined in the provided consent form. Exclusion criteria included programmes run
through/ by a DHB Hospital and those that focussed exclusively on exercise or another lifestyle intervention.

The researcher’s supervisors provided the names of five key community informants at the beginning of the study: a senior community dietitian; a manager from a PHO; a manager from a district health board public health unit; a member of the Porirua City Council; and an external project advisor (CEO Allied Health NZ). The researcher personally contacted, and met with each of the key informants to develop an initial snowball list detailing every programme that they were aware of, along with contact details of programme providers.

The 33 identified programmes were ordered by relevance to nutrition and wellness, based on researcher judgement against the criteria above. Thirty-three programme providers were then contacted personally by the researcher in descending order on a prioritised master list. Recruitment occurred via email over the space of two weeks, 28 July 2016 – 11 August 2016. In cases where the programme provider declined, the next programme on the list was contacted.

Table 1 Participants recruited by programme type and interview method

<table>
<thead>
<tr>
<th>Programme type</th>
<th>Contacted</th>
<th>Declined</th>
<th>Non-responder</th>
<th>Telephone interview</th>
<th>Face-to-face interview</th>
<th>Interviewees</th>
<th>Programme type represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formally structured programme</td>
<td>20</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>15</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Informally structured programme</td>
<td>13</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>22</td>
<td>23</td>
<td>21</td>
</tr>
</tbody>
</table>

The initial email introduced the researcher and the project, explained why their programme was chosen and asked if they would be interested in receiving more information on recruitment into the study. When potential interviewees responded to this email indicating their interest, they were provided with the participant information sheet (Appendix B) and asked when it would be convenient to meet with them for the interview. When there was no response to the email within five working days, a follow-up telephone call was made. A final sample of 23 participants from 21
programmes was recruited and interviewed. The programme type and interview method are presented in Table 1.

4.2.3 Data collection

Semi-structured Interview

Initially, a questionnaire was developed by formulating questions which explored each domain in the written and online versions of the PSAT (17, 73). Once the questionnaire was completed the researcher conducted two pilot tests: one with another student researcher, and one with a community dietitian in Lower Hutt, Wellington. Feedback from the pilot tests resulted in adjustments to question structure and flow. The aim of the pilot test was to determine how well the open-ended questions were understood, prompted discussion and encouraged informative answers.

The final ten-item semi-structured questionnaire included questions based on the eight major category headings in the PSAT as well as additional questions about sustainability and effectiveness to gain further understanding of the interviewees’ perspectives on these issues. A semi-structured interview approach enabled the interviewer to use conversation to probe for further understanding of a topic (74).

Participant Interview

Each interview was expected to take approximately one hour. The interviews were either face-to-face at the site of the programme or in a nearby agreed location, or by telephone. All interviews were recorded on an Android smartphone using the inbuilt Voice Recorder App. Interviews were played back using Express Scribe Transcription Software\(^1\) and transcribed verbatim by the researcher. Only details about the programme which participants organised/facilitated were recorded.

Observational Data

It was intended that observational data would be collected about programme facilities and environment, in order to capture aspects of the programme that were not picked up on in the interview data. However, observational data were not collected at the majority of locations as the

\(^1\) NCH Software
diversity of interview settings, and inability to observe all of the programmes in action meant the data would not adequately represent community nutrition programmes in Porirua.

4.2.4 Data Analysis

A general inductive thematic analysis approach was used by the researcher to analyse interview data (68). The researcher personally transcribed all transcripts which enabled her to become familiar with all the data before categorising themes and sub-themes developed from the data. These were then interpreted to determine whether the PSAT was relevant for use in a lower-SES community in the NZ context. Data was analysed soon after each interview, allowing data to be collected until analysis indicated saturation had occurred. Saturation took place when data extracts became repetitive and confirmed patterns of previous data.

Thematic analysis

Using the Braun and Clarke general inductive approach, inductive and deductive thematic analysis was utilised to provide depth and validity for understanding the data (68). The seven steps of thematic analysis undertaken in this study, shown in Figure 6 are detailed below:

Step 1 – Transcribe the interviews: The recorded interviews were downloaded onto a laptop and played back using Express Scribe Transcription Software\(^2\). This software was chosen as it enabled the researcher to use hotkeys on the keyboard to more easily speed up, slow down, rewind and fast forward to streamline the transcription process. The recorded interviews were transcribed verbatim into a Microsoft Word 2016 document. The transcriptions were stored in a password protected folder on the researcher’s laptop, and also on a USB stick for backup purposes.

Step 2 – Get familiar with the data: After transcription was completed a hard copy of each document was printed out. The researcher read each interview multiple times to gain familiarity with the content to ensure the following steps encompassed themes across all of the data.

\(^2\) NCH Software
Step 3 - Generate initial codes in NVivo11 - All transcripts were separately uploaded onto the NVivo 11 Qualitative Data Analysis Software. This software enabled the researcher to collate relevant quotes into different documents for each code and sub-code that developed from the data.

Step 4 – Search for themes: Each of the transcripts were analysed separately, and all quotations deemed relevant by the researcher were coded. Transcript data which was not deemed relevant by the researcher was not coded. The analysis was done using both a “bottom-up” deductive analysis and “top-down” inductive analysis approach. The deductive analysis was used to determine how relevant the PSAT domains are within a low SES NZ community. Inductive analysis was used to identify factors that are not included as domains in the PSAT but which are important factors to consider when looking into the factors affecting sustainability in this community.

Step 5 – Review themes: Once codes and sub-codes were created from all transcripts, themes were generated and examined. Due to the nature of thematic analysis, researcher bias which is influenced by personal understanding and prior experience cannot be ruled out. Therefore, reviewing themes in detail ensured that the actual perspective of the interviewees was captured as effectively as possible, decreasing the effect of the researcher’s perception of the meaning of the data.

Step 6 – Define and name themes: A central organising concept summarised the essence of what each theme was about and was used to give coherent, meaningful definitions of the main themes identified.

Step 7 – Produce report of themes: Once the key themes were identified these were organised by the perceived impact on sustainability. These are presented in Chapter 5 Results.

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3 QSR International
4.2.5 Validity and Reliability

Validity

Specific strategies were used in this research to ensure validity. Conducting semi-structured interviews with questions which were based on an existing well-researched model ensured rich data were able to be collected. Also, a detailed account of the methodology used is provided above which will enable other researchers to replicate this study in other communities.

Reliability

Multiple readings of all of the transcripts improved the reliability of this study because it enabled the researcher to be immersed in the data and ensure consistency of results.

While the impact of researcher bias cannot be measured or completely discounted, discussions about interview data, major codes and sub-codes with both the primary supervisor and secondary supervisor aimed to reduce this potential bias. Coding with another researcher was not undertaken as Braun and Clarke claim that this approach does not produce “better” data (68).
Chapter 5

Results

This chapter presents the findings from all twenty-three interviews which sought to identify the major enablers and barriers affecting long-term sustainability and effectiveness of community-based nutrition programmes in Porirua. Themes which developed from the interviews were categorised using general inductive analysis (11, 68). Nine overarching themes appear to capture significant factors perceived as affecting the long-term sustainability of programmes in Porirua. Eight of these themes were deduced based on the PSAT (11). One additional theme (community engagement) developed from the interview data. The nine themes are partnerships; funding stability; community engagement; environmental support; organisational capacity/workforce; programme evaluation; programme adaptation; communications; and strategic planning.

The main findings are presented under these nine theme headings and include reflections on how these themes are interlinked. Sub-themes help to explain major themes and enable a clearer understanding of how each theme influences the longer-term sustainability and effectiveness of the programmes. Interviewees’ quotations will not identify the interviewee or the programme about which they are speaking.

For this research, it became apparent that for members of this community there are “formal” programmes which are delivered by multi-structured organisations and include paid staff, as well as volunteers. There are also “informal” programmes which are grassroots programmes started by community members responding to a perceived need in their community. Many informal programmes reported relying solely on volunteer support.

5.1 Partnerships

All interviewees reported that partnerships have a significant influence on the ability of a programme to operate at its most efficient. Partnerships are a major domain in the PSAT (11) where they are defined as being meaningful connections between programmes and their professional or public stakeholders (11). Participants shared this understanding of partnerships, highlighting the common goal that a programme and its stakeholders want to see achieved. For Porirua programme providers’
partnerships comprised several sub-themes. These included financial, tangible resources (such as gaining an ongoing discount for a product or sharing resources), intangible (in-kind) resources (halls, equipment, expertise) and community member partnerships.

Based on analysis of interviewees’ responses, aspects of partnerships that are important for the interviewees were financial partnerships; tangible resource partnerships; intangible resource partnerships; and formal community partnerships.

**Financial Partners**

The majority of interviewees from both formal and informal programmes reported that having a relationship with a financial partner was a major enabler impacting the long-term sustainability and effectiveness of their programme. In some, but not all cases this financial partnership was the major determinant of programme sustainability.

“Some of the schools have been on it for ten years and its part of their culture...It would be difficult for the schools to find a sustainable source of income to pay for this programme if the funding was not there.”

Some informal programmes, however, were not reliant on financial partnerships to run.

“We don’t apply for grants because we know it’s quite tight out there... so we fundraise it...We had a raffle... movie nights ... We’re not set up like a normal charity. We don’t have a donor base...so if we don’t raise enough money it goes on our personal mortgage.”

The vulnerability surrounding financial partnerships, and the learnings from past funding cuts have made programme providers in Porirua more aware of the importance of the community taking ownership of the programme. This spreads and minimises any financial risk from financial partnerships being disestablished, so the programme is more likely to be able to continue.

“Once funding got cut for HEHA that was it...What we learnt from that is that actually we have to empower our communities to take responsibility for their own programmes, and we can...be there as a support if they need us.”
**Tangible resource partnerships**

Informal programmes often relied on tangible resource partnerships. These partnerships supported the programme by offering/ providing materials (e.g. gardening equipment, food) at a discount or no charge, or offering use of resources (e.g. vehicles, kitchen, freezer space, meeting rooms). Informal programmes reported relying more heavily on this type of support, stating that without it the programme would struggle to run effectively. Due to funding being highly competitive, developing partnerships that are not based on funding was beneficial for informal programmes.

“I contacted the city council, and they were totally behind it, I asked if we could have money, and they laughed. They said they can’t supply money, but they can supply resources and help”

With so many programmes operating in Porirua at the same time, the difficulty and competition to attract and maintain partnerships were reported as a key challenge by several grassroots programmes.

“We’ve found we can’t get anything just given to us, whereas I know…in other areas…for example, a local dairy supply gives them all of the dairy ingredients for free. We haven’t found that. There is a lot of need here. It’s competitive.”

**Intangible resource partnerships**

Intangible resource partnerships are where expertise or time is offered or shared. These partnerships were identified as important by the majority of programmes. Formal programmes also reported sharing expertise which helped them to work together more efficiently.

“It's about not duplicating resources, not duplicating work. We're all in it for the same outcome, so we might as well work together.”

Informal programmes reported considerable benefit from people sharing their time with the programme to improve its function or efficiency.

“Definitely, if you were to calculate the goodwill cost and the volunteer cost if we were to charge and if we were to claim our time, we would have been closed a long time ago.”
**Formal community partnership**

Formal community partnerships were particularly important where programmes wanted feedback or input into new services. A number of the programmes had formal community advisory groups which were made up of an array of local stakeholders. This enabled the programme to develop their strategic plans based on what the community wanted. Programmes which utilised formal community partnerships reported fewer difficulties than their counterparts with getting the community engaged in the programme. This also helped increase the programmes' awareness in the community.

“If the community say they want it this way or that way, then there is an ownership there, that’s how we get to report back - “You said in our community forum” ...It’s giving it back to them, just as we are accountable to the community, they are also accountable to us.”

**5.2 Funding Stability**

Funding stability is defined in the PSAT as consistent funding, and the ability to make long-term plans based on this (11). Funding stability can be influenced by type/length of funding, the amount funded, and the source of funding. From comments made it was clear that the stability of programme funding had a direct impact on the long-term sustainability and effectiveness of both formal and informal programmes.

**Source of funding**

The sources of funding can be categorised into: corporate; government; private; or community fundraising.

Funding for programmes run by corporate organisations reported fewer concerns about ongoing funding. This was due to corporate organisations’ prioritising programme funding to support the communities they are a part of.

“It was one of those natural partnerships that walked out of conversations around wanting to give back to the community and support kids where they could, and that’s where they saw that need.”
Central and local government funding was a major source of funding for many programmes. Without this support, regardless of the impact of the type of funding, these programmes reported they would not survive.

“If funding was cut the service could be cut...it’s a real reality.”

Programmes which ran on community fundraising reported that building trust and relationships with organisations and individuals willing to donate or pay a small fee for resources or time, hugely reduced programme running costs and enabled them to provide services on very small budgets.

“We don’t operate on a lot of cash. We operate on 55 grand per year”

Type and length of funding

Interviewees reported that the type of funding had a major impact on a programmes’ long-term sustainability and effectiveness. The types of funding can be categorised into: seed funding; contract funding; philanthropic funding; and community fundraising.

Seed funding was identified as being used by a few of the grassroots programmes. It was described as being advantageous for developing a programme in its early stages. However, the long-term support and ability to gain further funding from other sources was limited and was identified as an ongoing concern for these programmes.

“They’ve had to sign me up as a full-time employee with the idea that I could be made redundant at any time because the money will run out.”

A sub-theme which developed for several health-sector funded groups was that contract-based funding limited their ability to demonstrate their effectiveness and impact which affected opportunities to secure ongoing funding. This was particularly the case where funding was based on short-term outcome measures.

“It’s very difficult to measure outcomes. In fact, you pretty much can’t. You can’t really measure your impact in an objective way...That’s one of the ways that it’s hard to push for more funding. How do you measure effectiveness?”

All non-health programmes in this study who had government contract agreements were funded for periods of at least two years or more, which enabled more long-term planning and evaluation.

“Government investment has been since 2013; it is a 5-year contract.”
Philanthropic funding, particularly for social enterprise, had been received by a few programmes. The interviewees reported that this funding source gave the programme flexibility to carry out the programme the way that they wanted.

“Most of our funding for the past 5 or 6 years...has come from philanthropic sources. We are way too risky for government...it gives us a lot more freedom to really explore what is going on out there and what could be the solutions.”

Informal organisations who utilised community fundraising had to rely heavily on the input of their staff and volunteers to secure money. Money secured through fundraising was often small one-off payments but collectively was sufficient to run programmes year-to-year.

“All of our volunteers do all of the fundraising, so we haven’t aligned ourselves with any corporates or anything...grassroots kind of movie nights, bake sales, that kind of thing.”

Adequacy of funding

All formal health service programmes such as PHO’s reported having enough money to achieve their agreed contract targets. However, it was suggested that contract agreements did not generally provide enough long-term support to achieve key long-term health changes.

“Usually the amount of money that they've got on offer is inadequate to actually achieve what we really need to achieve.”

Due to the limited overall pool of money, a number of interviewees found collaborating and sharing resources with other formal and informal programmes was the best way to improve their programme.

“Our service is very limited in funds, and so being able to coexist with somebody else and actually pool our resources is very, very useful.”

Funding stability effects on programmes

The impact funding stability had on programmes was multi-dimensional, affecting many areas and many people. It was reported that this directly affected staff members’ job security, impacted the vulnerability of the programme, and limited their ability to plan for the future.

“It's a problem actually, not being able to plan for the future. They've got a month's notice that they can give us...actually, my own personal satisfaction of knowing that I've got a job is kind of threatened.”

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As well as this, competition for funding was motivating programmes to work together, to prevent competing against each other for limited funding.

“The DHB has encouraged community organisations and PHOs to collaborate…but not everybody wants to collaborate…our similarities are that we all want to help the population, but actually we’re driven by competing forces.”

Building a relationship with the community and gaining their trust was a priority for programmes. However, a number of interviewees identified that short term contract agreements impacted their ability to gain continuity and develop sufficient trust within the community.

“When I first started…a number of people said, “how long will you be here for?” and ”When will this programme stop?” because that’s what people had seen in the past…that’s what one-year funding drives.”

5.3 Community Engagement

Community engagement is an additional theme which developed from the data and was not a domain of the PSAT. Community engagement is defined as individuals in a community actively engaging in roles such as governance, promotion or assisting delivery, or by participating in the programme. For the majority of interviewees, the engagement of community members in either the planning or delivery phase was a major enabler to the programmes’ sustainability.

Planning

For a number of programmes, having community members take an active role in the planning phase meant their programmes were more likely to be sustained over time. A small number of informal programmes reported the importance of educating the community about their programme, to decrease their reliance on large funding organisations.

“I think there is huge potential for this community…to be learning more about partnership…You can’t rely on the government particularly in the current global economy to sustain anything beyond five years. You have to come up with a new way of making sure that it will be sustained.”
For a quarter of the programmes, it was found that it was important to deliberately plan their programme and deliver it in a way that the community could learn from, and replicate themselves.

“The ideal is that we would come in and help out schools where we can, and they will want to be sustainable within themselves so that we can walk away and know that they are able to get the community to come in and help and support that.”

**Delivery**

For both grassroots informal programmes and formal programmes, a major enabler was community members’ volunteering to help with the delivery of the programme.

“Volunteers are major enablers, having people wanting to contribute and be part of the community to do a good thing. Without the volunteers, we would be screwed.”

However, around half of the grassroots, informal programmes reported that they were not able to get enough volunteers.

“If we could get another twenty or thirty volunteers that were interested…we’ve got a wait list now…it’s just that we don’t have the manpower.”

**External factors influencing engagement**

One of the barriers identified which was thought to affect long-term sustainability was attracting community members to attend and engage with the programme.

“We don’t personally need funding, I just need more people signing up.”

Interviewees believed that societal factors might affect the ability of community members in Porirua to participate in programmes.

“There are so many other issues aside from education that the teachers and the school are dealing with…They have a lot of other issues that perhaps other schools don't have, which makes them a bit more time poor…I don't think it would necessarily happen if we didn't do that.”
5.4 Environmental Support

Environmental support is defined in the PSAT as having supportive elements within or outside of the organisation (11). Environmental support does not include partnerships, but encompasses how programme champions can help achieve programme goals, and also how current political, cultural and community priorities and the economic climate impact the programme.

Programme champions

A few programmes with less secure funding and more reliance on volunteers reported having a programme champion who was the driving force. Programme champions within Porirua were identified as leaders of and advocates for programmes who are prepared to take on an additional personal burden to aid the programme in achieving its goals. Programme champions were major enablers driving the success of these programmes. These types of advocates were useful for general support and raising the profile of programmes, however, they often took on a large personal burden.

“We sold our house, we sold everything to put into this. I don’t think people know that.”

Public support

A number of interviewees recognised the impact of community support and advocacy. Getting the community to help drive the change was an important factor in getting greater national and local government and media attention.

“I always thought...that if you produced the evidence through evidence-based practice and research that that would convince governments they needed to change...but no it doesn’t...you do need communities to get more on board to drive the change.”

When the community felt ownership and had a high level of involvement in both formal and informal programmes, this support enabled programmes to survive during adversity.

“When we had the fire, it was the people that come to these classes, the volunteers, that came to the rescue to help us in the cleaning up. Loyalty is a big thing.”
Political Influence

Government priorities had a large impact on how programmes run and what they were trying to achieve. Many of the health-focused programmes reported that government priorities were both an enabler and a barrier to their sustainability and effectiveness.

For government-funded programmes, when government targets change, this trickles down to DHB’s, PHOs, non-government organisations (NGO) and the community. When past government initiatives (such as HEHA) were disestablished, the impact was widespread, both on programme providers and also on the ability of the health sector to continue training the community workforce in nutrition.

“When HEHA was really active a lot of the organisations came forward for training in nutrition, and when that went out the demand or need identified by an organisation to support their employees went down.”

Government level support is perceived to be a powerful enabler of positive change.

“To make big change you do need government buy-in. If government said you need to have healthy food in schools, in hospitals, in council facilities, that would be incredibly powerful.”

5.5 Organisational Capacity, Workforce

Organisational capacity is defined as the resources needed to effectively manage the programme (11). This included number of people, resources available to the programme, and what skills would be beneficial to reach the programme goals.

Human resource

Informal grassroots programmes within the Porirua region had a large reliance on volunteers. Volunteers were used for programme management, planning, delivery and evaluation.

“We are completely volunteer run, even the managers are volunteers...right the way up the chain.”
For the majority of informal grassroots programmes, the skills which were important were broad and all encompassing. No specific skill set or training was reported to be required for these programmes as there were a wide range of different needs in community organisations.

“We have 40 volunteers... I don’t think there’s any skill that we couldn’t use”

A skilled volunteer workforce, however, was also reported as being highly advantageous.

“One of the things that has really helped with this work is the fact that we can say that we're... specialists from the DHB. I think that gives us a lot more kudos.”

Formal programmes with paid staff typically reported that their staff numbers were adequate and it appeared that they wouldn’t currently benefit from more staff due to organisational priorities.

“It's not a case of we've got more money, we'd get more staff... It would be a case of actually looking at, what are the outcomes we’re trying to achieve? and, what do we need to put in place to achieve those outcomes?”

Physical resources

A major barrier to improving organisational capacity was the lack of funding to gain physical and non-frontline resources. Not being able to improve the infrastructure was raised as a limiting factor for long-term effectiveness and sustainability.

“There's no point having more staff for something that's not sustainable... it's really important to include background services in that... transport... security... having some rooms to see people in..... There's a whole lot of infrastructure.”

5.6 Strategic planning

Strategic planning involves the processes that direct and guide programme goals and objectives (11). The majority of programmes reported having strategic plans. However, the type of plan and use varied between programmes.
Structured processes

All of the formal programmes had a strategic plan. These plans were often developed with input from members of the community who were part of a planning team.

“We have a company planning day every year. From that planning day your next 12 months of improvement projects are developed. You decide what’s meant to be turned over and how you are going to measure it.”

Less structured processes

Around half of the informal grassroots programmes also had a strategic plan. However, adherence and implementation was not rigorous as the plan did not always accommodate their rapidly changing environment.

“Our strategic plan is only for two years. The problem with our strategic plan is we set it for two years, and within six months it’s all out of date.”

Programme vision

The vision of the programme frequently aligned with the use of strategic planning. Informal programmes with an unstructured vision typically did not prioritise strategic planning.

“We don’t have a long-term vision because we are very reactive and we are all over the place.”

In contrast, programmes with a clearly articulated vision typically had a clear, well-developed strategic plan.

“We have a five-year plan about what we do and what we want to become”.

5.7 Programme Evaluation

Programme evaluation is defined as the process used to understand programme activities and outcomes. Evaluation can be done formally or informally by collecting quantitative and/or qualitative data from a range of stakeholders to monitor and understand programme development and activities (11). All programmes included some informal or formal evaluation. Formal evaluation involved surveys, strategic planning days, community and stakeholder feedback and monitoring of outcomes. Informal evaluation was reported to involve providers’ observations of how the programme was going and casual conversation with community members or participants.
**Formal evaluation**

A clear sub-theme for formal programmes was how the lack of funding or contract constraints affected a programme’s ability to evaluate effectively long-term, or whether they evaluated their activities at all.

“Some form of evaluation needs to be built in, and because our service is very small...we don't have the capacity...to do evaluation because we're so busy actually delivering on what we need to deliver.”

However, there was a clear recognition of the value of more evaluation to prove effectiveness and using the results to improve the current service provided.

“That’s the beauty of doing evaluations. If things aren’t working and you don’t know why, it might help you find out why. People are starting to do it more now, and ask for it more now, e.g. asking where is the evaluation, or when are you going to build that in?”

Where funding was not a constraint and evaluation was carried out, this benefitted a programme’s ability to adapt and improve.

“I think it’s really important that we evaluate everything that we're doing and make sure that we are achieving what we want to achieve.”

**Informal evaluation/feedback**

Informal evaluation was undertaken by all programmes. However, some used informal evaluation as their only evaluation measure. This included looking at attendance numbers and general satisfaction feedback from participants.

“We'll do some basic evaluation...before and after, e.g. how many vegetables can you name? How many vegetables do you eat in a week?”

A small number of the informal programmes which conducted informal evaluation reported concerns with undertaking formal evaluation because they felt it was not their place.

“I’m uneasy about evaluation. I know that’s the business way, we stand by what we do”
5.8 Programme Adaptation

In the PSAT, programme adaptation is defined as a programme’s ability to adapt and improve for the benefit of the programme participants (11). Aspects of programme adaptation that are major factors for the programmes were:

**Funding**

Funding was identified as both a barrier and enabler to programme adaptation. As reported above, if a programme does not have sufficient funding they are not likely to have the evaluation tools to inform changes, which limits their ability to adapt.

“In a particular case that I’m thinking of evaluation was really good because it showed that there were a few issues that weren’t clearly obvious.”

A small number of formal programmes reported not having enough funding to conduct the research-based evaluation. They reported utilising lower-cost options such as community planning days which enabled them to interact with the community and find out what the community wanted from the programme.

“our survey is face-to-face...we project the four questions that we want them to answer and what we do is then break off into community ethnic groups... So, that’s our survey. It’s a very fast turnaround because we get results on the day.”

**Organisational Capacity**

A number of formal and informal programmes noted that they have limited capacity to adapt due to either the structure of their organisation, the expertise able to deal with programme growth or getting enough people to engage and volunteer.

“I don’t really want it to grow bigger...at the moment it’s a lot.”
5.9 Communication

Communication is defined in the PSAT as the range of strategies used to raise the profile, inform and engage with funders, the public, and programme stakeholders (11). Both strategic and instrumental communications were seen as beneficial for programmes. Formal and informal programmes both identified that they need to put more focus into communications in the future. Communication channels such as social media, newspaper articles, and newsletters were identified as useful ways for programmes to communicate with the public and other key stakeholders.

Strategic communication

Some informal programmes used social media and print communication as strategies to boost their public profile to gain financial and/or resource support.

“When we got in the paper...people said we want to help out, we can’t give money but can I give my time”

However, for some other informal and formal programmes, direct communication was much more effective in this community.

“It certainly seemed to make a difference, that face-to-face communication, as opposed to sending pieces of paper home or trying to email or phoning people.”

Instrumental communication

Instrumental communication refers to making information about programme activities and achieved goals accessible to: key stakeholders; general public; and target groups. This was reported as useful by a few informal grassroots programmes. Instrumental communication was used as a way of informally communicating to stakeholders, showing them what their money or resources were being used for.

“We have a Facebook page. Every week we open up a photo album and in it is an audit trail...also so our donors can see where their donations are going to.”
Chapter 6
Discussion and Conclusion

Previously, providers’ perception of the factors affecting long-term sustainability and effectiveness of their nutrition-related wellness programmes in NZ were unknown. This project used a qualitative approach to explore these factors in lower SES nutrition wellness services in Porirua City, NZ. Also, this study examined the application of the programme sustainability assessment tool (PSAT) in a lower SES, NZ-specific context. Unlike usual applications of the PSAT, this study did not measure the sustainability capacity of programmes in Porirua; rather its aim was to identify whether the domains defined in the PSAT applied to Porirua and whether there were additional domains to consider. An intended outcome of this research is to map the nutrition wellness related programmes in Porirua, including their workforce profile (Appendix F and Appendix G).

Building sustainability capacity in health and human service programmes is an important issue. Unsustainable programmes can waste money and resources and damage trust between the community and programme planners. Most importantly, unsustainable programmes will negatively impact the potential health and social benefits for the socially, economically disadvantaged community members the programmes aim to assist. Programmes which receive a starter fund or agree to short-term funding contracts (usually from the government or private funders), must be able to adapt to survive in a competitive funding environment after the initial funding is no longer available (18). Sustainability planning is particularly important for lower SES communities such as Porirua, with high rates of non-communicable disease (76), where sustainable interventions could significantly improve health and wellness.

This research found providers perceived three major issues impacted on their long-term sustainability and effectiveness. These are partnerships, funding stability and community engagement which are discussed separately below. Additional factors which play an important but lesser role are also discussed in relation to the PSAT model. Recommendations for adaptation of the PSAT for use in NZ will then be presented.
6.1 Major factors identified

6.1.1 Partnerships

The study results reveal that partnerships between supporters and providers can be highly vulnerable, impacting on programmes’ long-term sustainability. Even partnerships which have spanned multiple years appear to be vulnerable to changing political or financial circumstances. There appears to be a disconnection between the theoretical models promoting best-practice, government statements which promote partnerships, and the ability of community programmes’ providers to create and maintain a number of different types of reciprocally beneficial partnerships (11, 16-18, 54, 56).

One important finding is that partnerships improve resourcing and expertise. This is important as it enables longer-term sustainability and effectiveness of both formal and informal programmes. Calhoun et al. agree with this finding which serves to highlight how strong partnerships enhance a programme’s ability “to weather challenges” (11). As more vulnerable partnerships struggled to operate, this finding supports the inclusion of partnerships as a domain heading when using the PSAT in NZ.

The study results uncovered that in Porirua, there are also barriers which arise from these partnerships. One key barrier is how having one primary funding partnership makes programmes entirely reliant on this partnership continuing. Programmes are at the mercy of political decisions and the funders’ perception of the importance of the programme, which is particularly seen in government health sector partnerships. Government-corporate partnerships, where funding is through more than one avenue, appear to be less vulnerable. This study did not analyse the reasons for this difference. However, it supports the findings of one study which found multiple financial partnerships enhance sustainable financing (19).

The importance of institutionalised well-established funding partnerships for community-based interventions is reinforced by Scheirer and Rush (18, 64). While confirming their findings, the current study found other types of partnerships were more important. Formal community partnerships and intangible resource partnerships appear to be essential for formal programme sustainability, more so than tangible resource partnerships. Formal community partnerships involving community representation on advisory groups or programme development days were
particularly important for strategic planning, evaluation, programme adaptation and also relationship building. As community partnerships improve, the ability to create and deliver effective targeted local programmes improves (61). This finding supports Johnson et al.’s conclusion that programmes are unlikely to be sustainable if they do not meet the needs of the intended audience (20).

The earlier disestablishment of the community health promotion initiative, HEHA, were found to have had a substantial negative impact on the Porirua community due to funding cuts. Discontinued partnerships resulting in a loss of trust impacts the relationships between the community, programme providers and government. Community providers learnt that strategic planning that focussed on empowering the community to adopt their initiatives to ensure their continuance is important to buffer their vulnerability. Lapelle et al. also found similar impacts of time-limited contract-based partnerships in relation to short-term research interventions (12).

Informal programmes appear to be even more vulnerable to these factors. While benefitting from short-term financial partners, their sustainability is enhanced more by intangible resource partnerships (the exchange of services), and tangible resource partnerships (the exchange of goods). This appears to be a novel finding, for although partnerships are recognised as an enabler for sustainability, no studies directly examine the impact on the sustainability of different types of partnerships.

Another barrier is how the disbursement of government funds between organisations and programmes creates a competitiveness between programmes to gain these partnerships. It was found that programme providers tend to limit the amount they work together, particularly when they are competing for the same funding.

6.1.2 Funding Stability

The current study found that source and length of funding arrangement and the amount funded strongly influence sustainability of formal and informal programmes. These results support funding stability as an important category when using the PSAT in NZ. It is important to note that although there was an expressed desire and awareness of the need for programmes to be financially sustainable, the funding arrangements of the majority of programmes prevented them from having the time or the resources to secure long-term funding.
The PSAT includes five measures of funding stability: economic climate; policies aimed at ensuring sustained funding; a variety of funding sources; flexible and stable funding; and sustained funding (73). The results of this study highlight the impact of each of these factors on long-term sustainability. Therefore, it is reasonable to assume that these factors also apply to lower SES communities in NZ.

A strong factor influencing primarily formal programmes was the constraints imposed by short-term contract funding. The negative impact of short-term contract funding had several elements. Firstly, it impaired a programme’s ability to evaluate its long-term impact; this is of particular importance as short-term outcome measures may not accurately report wider indicators of effectiveness, nor capture the cultural relevance so essential to delivering effective programmes in NZ (49). Providers perceived that if contracts were longer and therefore evaluation spanned a longer time, the evaluation would more accurately indicate the impact of their programmes.

One interesting finding is the heavy reliance informal programmes have on community engagement and goodwill for fundraising, and less reliance on contract-based funding. The PSAT recognises the role of programme champions as a domain of environmental support, and for programmes in Porirua, programme champions appear to have a vital and specific role when funding is perceived as unstable (17, 73). While some providers acknowledged that this is an unstable source of funding, for many their volunteer workforce and strong community partnerships counterbalanced this. In particular, informal programmes were not typically affected by contract agreements requiring evaluation. This finding is relevant given the recent statement by the Honourable Jo Goodhew, Minister of Community and Voluntary Sector which championed the work of volunteers within NZ, and highlighted the importance of having a strong volunteer workforce (54).

6.1.3 Community Engagement

The role of community engagement is a unique finding. Although not a domain in the PSAT, it is a key factor developed from data analysis. From this study, community engagement is defined as the level of active engagement by providers to increase the profile and level of community support for their organisation. It also includes community members active participation in the programme as participants. Providers highlighted how community engagement has a major impact on their long-
term sustainability and effectiveness. In this lower-SES community, this is well illustrated by the fundraising example discussed above. The social determinants of health and the Ottawa Charter frameworks, in particular, emphasise the importance of community action (10, 22, 23). Empowering communities and encouraging participation are well recognised as key factors in improving population health.

Community engagement was an important sustainability factor for all programmes. In particular, this engagement had a positive contribution to planning processes as discussed under Partnerships above. While others have demonstrated the importance of engaging community members in evaluation activities the results of this study highlight how another type of community engagement enables programmes to be delivered which were lower cost and more accessible to community members (48, 61, 77).

Nutrition wellness programmes in Porirua which created a sense of community and belonging perceived community engagement as a major enabler to their long-term sustainability and effectiveness. This finding extends Harris’s (2015) work on peer supporters by showing that community engagement in all aspects of a programme has multidimensional benefits (52). This suggests that improving community engagement, particularly in lower SES communities, requires much greater recognition in improving the sustainability of community-based nutrition wellness programmes.

Communication strategies are a particularly important aspect of engagement, as effective communication, targeting issues that are community priorities boosted both participant numbers, and a willingness to volunteer. Programmes which struggle with appropriate communication also appear to struggle with engaging the community.

Programmes which build a sense of community and participation are of particular benefit to a community such as Porirua. They reflect a responsive targeted delivery which helps counterbalance external factors influencing engagement. For example where participants’ ability to participate is hindered by their focus on meeting their most immediate needs as described in Maslow’s Hierarchy of Needs (45).
6.1.4 Other influences on sustainability

Another six factors developed from the data all exert a strong influence on the sustainability of programmes in Porirua. These are: environmental support; organisational capacity/workforce; programme evaluation; programme adaptation; communications; and strategic planning. These factors align directly with domains in the PSAT model and, therefore, appear relevant to a lower SES community in NZ. Analysis of results indicates, however, that when considering each of these six factors independently, a smaller effect on long-term sustainability and effectiveness is seen compared to the three key factors discussed previously.

As all of the factors are dynamic and interchangeable it is important to consider them in this context, and their significance as part of the overall picture. Figure 7 below shows the relationships between all factors and the centrality of the three key factors shown in the gold boxes. The arrows indicate dependence on other factors. One way arrows highlight that one factor is dependent on the other factor, two-way arrows indicate that the two factors at either end impact each other.

![Interrelated factors determining sustainability of nutrition wellness programmes in Porirua City – Providers’ Perspectives](image)

First, the two main additional factors which are environmental support and organisational capacity will be discussed separately. This will be followed by the other factors and the influence of all factors on programme sustainability.
Environmental support reflects how sustainability is influenced by having programme champions, supportive government policies and grassroots support. When, however, (as Fig. 7 illustrates), programmes lack community engagement and or robust partnerships and their strategic planning is weak, sustainability capacity will be negatively affected.

Organisational capacity and workforce adequacy influence sustainability through whether a programme has appropriate staff numbers, how suitably trained the staff are for their roles, and whether there is adequate infrastructure and skill capacity to sustain more paid and volunteer staff. Study findings clearly demonstrate that providers do not perceive a need for more trained staff, but if additional funding were available, they would get greater benefit from investing in infrastructure and evaluation measures. This perception arises from the vulnerability and competitiveness surrounding funding. If programmes have adequate resourcing and support, they would be in a more stable position to upskill current staff for their role, and take on new staff, however, due to current funding strategies, this is not the case.

The recent WHO/ILO/OECD joint report, argues top-level investment in the health workforce is a cost effective strategy for health systems and economies (43). This report is an important acknowledgement that investing in and building the health workforce will improve the productivity of the population, reduce the increasing demand for health services and be an economically viable investment. The returns on investment in health are estimated at 9 to 1 (43). As the volunteer workforce is large in the Porirua community, this workforce needs to be recognised as an important part of the health workforce. When the workforce is considered holistically, including volunteers, this suggests long-term investment in programmes build the sustainability of community-based nutrition wellness programmes in areas such as Porirua, and will have benefits for the health system, economy, community and individuals.

Strategic planning, programme evaluation, programme adaptation and communications are all important and interlink with the three key factors, and three other additional factors. The findings on enduring partnerships providing programmes with the capacity to survive in challenging times reinforces Luke et al. and Johnson et al. view that mature programmes are better able to adapt (17, 20). Among other factors, programmes that can adapt to a changing environment and changing needs
will be better equipped for sustainable programme development (17, 20). The way all factors interlink and reinforce each other supports and enhances the use of all the PSAT domains when reviewing programmes in lower SES NZ communities.

In addition, the study findings highlight the importance of programme structure when considering sustainability. Although not a domain of the PSAT, analysis of the results indicates that formal and informal programmes each have different major influencing factors. Scheirer’s work supports this finding, however, a detailed analysis is beyond the scope of this discussion. Consideration of programme structure is suggested in the recommendations for future research (18).

### 6.2 Poverty Cycle of Programme Sustainability

A key implication of the findings of this study is the impact of a “poverty cycle” on the sustainability of nutrition wellness programmes in Porirua. This cycle in Figure 8 below, is an adaptation of Green’s Poverty Cycle of Health Education (40).

![Poverty Cycle of Programme Sustainability](image-url)

Figure 8. Poverty cycle of programme sustainability

The poverty cycle of programme sustainability highlights the ongoing impact on nutrition wellness programmes of health workforce planners, and funders not considering all aspects of sustainability with new programme development or future funding arrangements. Breaking the poverty cycle of nutrition wellness programme sustainability in NZ’s lower SES communities will have a direct impact on the long-term effectiveness of all programmes.
6.3 Strengths and limitations

The following strengths and limitations of this study should be taken into account when interpreting the findings presented here.

6.3.1 Strengths

This study investigated the major factors perceived by programme providers as having an effect on their long-term sustainability and effectiveness and assessed the relevance of the PSAT to a lower SES community in NZ. The PSAT is a well-established model and provided a credible, evidence-based framework for the study. Sustainability is currently a topical issue in implementation science, for funders and providers. This study provides a timely contribution to current knowledge by applying a novel approach to a high needs community.

Despite one programme declining, and eight non-responding, 74% of the identified programme providers who met inclusion criteria were recruited to the study. By meeting with five key informers with knowledge of the local community programmes before recruitment, this ensured a comprehensive identification of potential programmes. There was also a balance of informal and formal programmes recruited, although, this was not a planned recruitment strategy.

The study design utilised the literature review to inform semi-structured interview questions which were tested with key-informants. Pre-testing of interview questions ensured the questions were relevant, appropriate and based on current literature. The qualitative nature of this study also allowed for a level of in-depth analysis which would have been unable to be achieved using quantitative methodology.

6.3.2 Limitations

A limitation of this study is that the interview data represents the opinion of interviewees at the time of the interviews, and cannot be extrapolated to represent the views of others. As well as this, due to time constraints, the study was limited to nutrition wellness-related services. As there is typically a cross-over between nutrition and physical activity programmes, it would have been beneficial to include physical activity programmes as this would have provided a broader insight into programmes with different goals.
Although this research did not record data on programme participants, it was clear that most programmes targeted Māori and Pasifika, or “high-risk” groups. As these groups are a minority within NZ, these results may not be generalizable to the entire NZ population.

6.4 The Adams Pyramid of Programme Sustainability (APPS) for community nutrition wellness programmes

Based on the results of this study an adaptation of the PSAT is proposed for use in lower SES NZ communities. Use of the proposed programme sustainability assessment tool APPS (Figure 9), in programme planning and development within NZ, would benefit both funding bodies and communities. The hierarchy of interdependent factors aligns with the perceived impact of each of the factors on programme sustainability and effectiveness. The results of this research indicate that planning to improve sustainability capacity requires greater consideration of building enduring partnerships, ensuring funding stability and targeting community engagement. After these three main factors, have been considered, the six other factors in the model must be considered to provide a robust assessment of sustainability capacity.

Figure 9. The Adams Pyramid of Programme Sustainability (APPS) for community nutrition wellness programmes
6.5 Recommendations for further research

As this research produced an adapted tool for sustainability planning, APPS, the tool would be strengthened by future research assessing the application of the APPS tool to other NZ and international communities. Further development of the APPS tool could occur through expanding study inclusion criteria to include physical activity programmes to assess whether enablers and barriers to long-term sustainability are similar to or different in these programmes. As the major influencing factors for community-based nutrition programmes are largely influenced by programme structure, this complicates comparison between community-based nutrition programmes and population health strategies and other types of interventions. Therefore, it is recommended that future research distinguishes which type of programme(s) is assessed regarding sustainability in order to ensure a robust literature base is developed. In addition, identifying more specifically the relative contribution of each of the areas of sustainability warrants further examination.

6.6 Conclusion

This study illustrates that the PSAT provides a sound basis to examine the sustainability of community nutrition programmes. However modifying the tool to assess the sustainability of nutrition wellness programmes in a lower SES community in NZ is worthy of further investigation. The proposed APPS model may be generalisable to other lower SES communities within NZ. It is unclear, however, whether the APPS would be applicable outside of the NZ context.

The current domains of the PSAT are not weighted in regards to their impact on lower SES communities. This is, however, not a criticism of the tool, but a consideration towards a more targeted assessment of sustainability capacity. The modified tool presented here would provide programmes, within this context, with targeted guidelines to build their sustainability capacity. It would be of benefit for the modified tool to be further researched to support its practical application.

Due to the current vulnerability of government based partnerships, effort should be directed at improving this, particularly in the NZ context. The analysis presented here highlights how important it is for the government to be aware of the impact a time-limited contract will have long-term, once this partnership has ended, and to devise ways to counteract this from the outset.
Health workforce planners and funding organisations should be encouraged by this research to consider sustainability when implementing new programmes or choosing to fund them. With ever-increasing budget pressures, alongside greater scrutiny of investment decisions, more targeted consideration for long term sustainability and appropriate allocation of funds is a desirable and practical goal.
Chapter 7
Application of Research to Dietetic Practice

Public health and community-based dietitians, in particular, have an important role to play in providing evidence-based nutrition wellness advice at population, community and individual levels. If more holistic supports are provided to community-based programmes, including programmes involving dietitians, they would have an improved ability to plan, evaluate and adapt, to become more sustainable and effective. If adopted nationwide, this could have a positive impact particularly on the health of the most vulnerable New Zealanders.

These findings highlight the need for the dietetic profession to champion evidence-based research in not only clinical settings but also when developing public health programmes. Dietitians involved in community-based nutrition programmes from the community level, through to policy and funding levels, need to ensure that sustainability is a planned outcome. Having a culture of recycling community-based nutrition programmes creates distrust between new programmes and community members.

This study provides valuable evidence on the complexity of factors which impact sustainability and effectiveness in nutrition wellness programmes in a lower SES NZ community. The findings and recommendations of this research can be used by dietitians, public health researchers and professionals, and funding organisations who help support and develop community-based nutrition wellness programmes. It is hoped that the insights from this research will improve the planning, development, evaluation and adaptation of community-based nutrition wellness programmes. Additionally, this research offers specific recommendations for lower SES NZ communities in which dietitians’ work. This will provide a specific contextual understanding of how to develop sustainable, effective programmes.
References

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List of Appendices

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Appendix A

Category B Ethics Approval

Dr P Field
Dietetics Training Programme
University of Otago House
Auckland

8 August 2016

Dear Dr Field,

I am writing to confirm for you the status of your proposal entitled “Providers’ perspectives of sustainability in nutrition wellness programs in the Porirua community”, which was originally received on July 27, 2016. The Human Ethics Committee’s reference number for this proposal is D16/254.

The above application was Category B and had therefore been considered within the Department or School. The outcome was subsequently reviewed by the University of Otago Human Ethics Committee. The outcome of that consideration was that the proposal was approved.

Approval is for up to three years from the date of HOD approval. If this project has not been completed within three years of this date, re-approval must be requested. If the nature, consent, location, procedures or personnel of your approved application change, please advise me in writing.

Yours sincerely,

Mr Gary Witte
Manager, Academic Committees
Tel: 479 8256
Email: gary.witte@otago.ac.nz
Appendix B

Participant Information Sheet

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

What is the Aim of the Project?

This project aims to identify all nutrition wellness programs in the Porirua community and use this information to create a database. As far as we know there is no comprehensive record of these services. We are interested in meeting with service providers to learn about the factors that contribute to the sustainability of your service. These may include funding, staff and changing community needs, and other factors that impact on long term effectiveness.

This project is being undertaken as part of the requirements for Erin Adams’ Master of Dietetics degree.

What Types of Participants are being sought?

Participants will be the organisers or facilitators of a local community nutrition wellness or exercise related program with knowledge of the programs participants, program goals, staff and funding.

The type of nutrition wellness programme is unrestricted with the aim of having a broad range of programmes recruited.

Participants are not being sought from programs run through the DHB hospital as these are excluded from this study.

Participants will be given a summary of findings at the conclusion of the study.

What will Participants be asked to do?

Should you agree to take part in this project, you will be asked to meet with the researcher Erin Adams for either one-on-one or in as part of a group discussion. One-on-one meetings will take approximately one hour, group discussions will take no more than two hours.

You will be asked where practicable to hold this meeting at the location where your nutrition wellness or exercise service is delivered.
Please be aware that you may decide not to take part in the project without any disadvantage to yourself.

What Data or Information will be collected and what use will be made of it?

Interview data will be collected using a smart phone recording function, then transcribed by the researcher. The interview will explore the following factors – Political Support, funding, partnerships, organizational capacity, program evaluation, program adaptation, communications, strategic planning and interviewee’s views of the dominant influences on service effectiveness and sustainability.

Although every effort will be made to protect the identity of individual participants, organisations will be identified.

The data collected will be securely stored in such a way that only those mentioned below will be able to gain access to it. Data obtained as a result of the research will be retained for at least 3 years in secure storage. Any personal information held on the participants [such as contact details, digital records, and transcribed interview notes] may be destroyed at the completion of the research even though the data derived from the research will, in most cases, be kept for much longer or possibly indefinitely.

The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve your anonymity.

Can Participants change their mind and withdraw from the project?

You may withdraw from participation in the project at any time without any disadvantage to yourself. This project involves an open-questioning technique. The general line of questioning includes program goals, participants, funding sources, sustainability. The precise nature of the questions that will be asked have not been determined in advance, but will depend on the way in which the interview develops. Consequently, although the Department of Human Nutrition is aware of the general areas to be explored in the interview, the Committee has not been able to review the precise questions to be used.

In the event that the line of questioning does develop in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s).

Can Participants change their mind and withdraw from the project?

You may withdraw from participation in the project at any time and without any disadvantage to yourself.
What if Participants have any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact either:-

_Erin Adams_ and _Dr Penny Field_

Student Researcher and Project Supervisor, Senior Lecturer

Department of Human Nutrition and Department of Human Nutrition

Telephone Number: 021-118-0174 and University Telephone Number: 034797956

Email Address: adaer749@student.otago.ac.nz and Email Address: penny.field@otago.ac.nz

This study has been approved by the Department stated above. However, if you have any concerns about the ethical conduct of the research you may contact the University of Otago Human Ethics Committee through the Human Ethics Committee Administrator (ph 03 479-8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.
Appendix C

Consent Form for Participants

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:-

1. My participation in the project is entirely voluntary;

2. I am free to withdraw from the project at any time without any disadvantage;

3. Personal identifying information [digital recordings], will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for at least five years.

4. This project involves an open-questioning technique. The general line of questioning includes programme goals, participants, funding sources and sustainability. The precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops and that in the event that the line of questioning develops in such a way that I feel hesitant or uncomfortable I may decline to answer any particular question(s) and/or may withdraw from the project without any disadvantage of any kind.

5. Although every effort will be made to protect the identity of individual participants, organisations will be identified.

6. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve my anonymity.

I agree to take part in this project.

............................................................ ............................................................
(Signature of participant) (Date)

............................................................
(Printed Name)
Appendix D

Māori Consultation Committee Recommendation

Tuesday, 02 August 2016.

Dr Penelope Field,
Department of Human Nutrition - Dietetic Training Programme,
DUNEDIN.

Tēnā Koe Dr Penelope Field,

Stocktake of nutrition wellness services in Purirua

The Ngāi Tahu Research Consultation Committee (the committee) met on Tuesday, 02 August 2016 to discuss your research proposition.

By way of introduction, this response from The Committee is provided as part of the Memorandum of Understanding between Te Rūnanga o Ngāi Tahu and the University. In the statement of principles of the memorandum it states "Ngāi Tahu acknowledges that the consultation process outline in this policy provides no power of veto by Ngāi Tahu to research undertaken at the University of Otago". As such, this response is not "approval" or "mandate" for the research, rather it is a mandated response from a Ngāi Tahu appointed committee. This process is part of a number of requirements for researchers to undertake and does not cover other issues relating to ethics, including methodology they are separate requirements with other committees, for example the Human Ethics Committee, etc.

Within the context of the Policy for Research Consultation with Māori, the Committee base consultation on that defined by Justice McGechan:

"Consultation does not mean negotiation or agreement. It means: setting out a proposal not fully decided upon; adequately informing a party about relevant information upon which the proposal is based; listening to what the others have to say with an open mind (in that there is room to be persuaded against the proposal); undertaking that task in a genuine and not cosmetic manner. Reaching a decision that may or may not alter the original proposal."

The Committee considers the research to be of importance to Māori health.

The Committee notes and comments that ethnicity data is to be collected as part of the research project and recommends the use of the questions on self-identified ethnicity and descent, these questions are contained in the latest census.

The Committee encourages contact with Bridget Robson of Te Rūpā Rangahau Hauora A Eru Pōmare regarding the relationship the University of Otago has with Ta Ora.

The Committee suggests dissemination of the research findings to Māori health organisations regarding this study.
We wish you every success in your research and the committee also requests a copy of the research findings.

This letter of suggestion, recommendation and advice is current for an 18 month period from Tuesday, 02 August 2016 to 2 February 2018.

Nāhaku noa, nā

Mark Brunton
Kaiwhakahaere Rangahau Māori
Research Manager Māori
Research Division
Te Whare Wānanga o Otago
Ph: +64 3 479 8738
Email: mark.brunton@otago.ac.nz
Web: www.otago.ac.nz
Appendix E

Token of appreciation for Research Participants
Appendix F

Map of relationships between programmes and major funders in Porirua
Appendix G

Area of programme focus

- Social Responsibility
  - Fruit in Schools
  - Kickstart Breakfast
  - Charities
    - Kiwi Community Assistance
    - Kai for Kids
    - Titahi Bay Fruit and Vege Co-op
    - Porirua Fruit and Vege Co-op

- Social Support
  - Wesley Community Action
  - Ekalesia Faapotopotoga Kerisiano Samoa
  - Porirua Schools Garden Scheme
  - Garden to Table
  - Grow Project
  - Te Rito Garden
  - Pacific Heartbeat
  - Regional Public Health
  - Healthy Futures
  - Primary Health Organisations
    - Well Health
    - Ora Toa
    - Pacific Health Services
    - Compass Health

- Health/Nutrition
  - Funding from government/council
  - Charitable funding