



Evaluation of the East Porirua Fruit & Vegetable Co-op Pilot

MAY - DECEMBER 2014

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acknowledgement to Canterbury
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District Health Board
Te Pōwhiri Hauora o Wairarapa

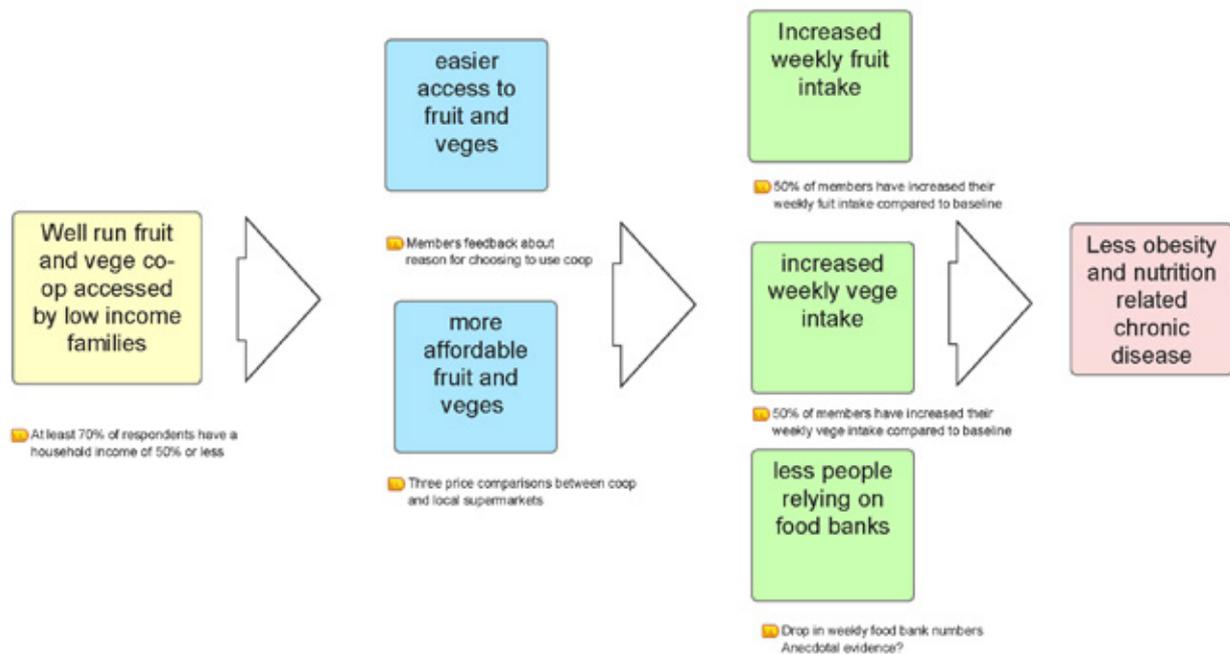
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EXECUTIVE SUMMARY

The East Porirua Fruit and Vegetable Co-op Pilot (The Co-op Pilot) ran from May to December 2014 as a partnership project between Wesley Community Action Cannons Creek and Regional Public Health. The aim of the Co-op Pilot was to increase the consumption of fruit and vegetables in the Eastern Porirua suburbs and provide a more socially acceptable, empowering and sustainable alternative to access cheap food than frequent use of community pantries (run by our partner organisations Wesley Community Action and The Salvation Army). Learning from colleagues who had successfully run this specific Fruit and Vegetable Co-op model in Christchurch our pilot was designed to address barriers to eating healthy food in East Porirua specifically through addressing cost (buying directly from the produce markets) and transport (providing fruits and vegetables within walking distance). The purpose of piloting the model was to assess the appropriateness of the model for Wellington communities (for a description of the project model see the Project Brief in Appendix 8.)

From a broader public health perspective in the programme logic developed for the pilot evaluation we identified well run fruit and vegetable co-operatives accessible to low income families as a potential pathway for increasing fruit and vegetable intakes and decreasing obesity and nutrition related disease.



What we wanted to achieve through the pilot project, what we assessed to measure our achievement and the pilot evaluation outcomes are summarised in the table below in *Table 1*.

Table 1

What we wanted	What we looked for	What we found	
To reach low income families	At least 7 out of 10 people in our survey with a household income of \$50,000 or less	94% of people accessing the co-op have annual household incomes below \$70,000 and 29% had household incomes below \$20,000.	✓
To make it easier to get fruit and vegetables	The reasons people gave for joining Where people were coming from	At the start: 1 in 3 people said they joined the co-op to save money About 1 in 5 said they joined the co-op because it was close to where they live Changes 12 months on: Slightly less people were saying they joined the co-op because it was close to where they lived, but the map shows less people were coming from further away.	?
To offer cheaper fruit and vegetables	Our fruit and vegetables being cheaper than the supermarket (price checks)	Three price checks (winter, spring, summer) throughout the pilot showed our fruit and vegetables to be much cheaper (ranging from ½ as much to ¼ of the cost) of the same produce purchased in local supermarkets	✓
People to eat more fruit and vegetables	People saying they are eating more vegetables at the end of the pilot (50% increase)	We looked at how many people were eating both 3 or more servings of vegetables a day and two or more servings of fruit a day (the Ministry of Health recommended amount of fruit and vegetables). In the pre-questionnaire 33% met the guidelines, but in the post questionnaire 62% met the guidelines (this increase was statistically significant).	✓
Less people using the food pantries for emergency food supplies	Anecdotal evidence from our food pantry partners that demand had decreased	We did not have any measure to assess the impact of the co-op on the food pantries as we did not ask any questions about use of the food pantries.	?

BACKGROUND

East Porirua has been described as a ‘food swamp’ where food outlets selling a high proportion of unhealthy foods, such as convenience stores and takeaway shops, are common compared to other local areas¹. There are also no low cost food outlets selling a wider variety of healthy food options (such as a Farmers’ Market or a Supermarket) in East Porirua, making access to affordable healthy food a challenge for local residents. The population in East Porirua is predominantly Pacific, Māori and low income families. These populations make up a disproportionate amount of those suffering from obesity and nutrition related chronic disease, making East Porirua a priority area for Regional Public Health.

How it came about

RPH was made aware of the of the ‘Christchurch Healthy Eating Co-op’ from public health colleagues at Community and Public Health at Canterbury DHB. The Christchurch Co-op has been running since 2011 and was developed in response to the earthquake, to support lower decile suburbs access to affordable, healthy food. The Co-op was a joint initiative between Christchurch Cathedral and Community and Public Health. The Co-op is designed to reduce consumption barriers through creating competitive pricing and removing transport costs. At the end of 2013 Regional Public Health suggested the model to Wesley Community Action (WCA) who were looking for a new model for assisting frequent users of their foodbank service. WCA flew to Christchurch and visited the ‘Christchurch Healthy Eating Co-op’ to see how the co-operative works. The aim of the East Porirua Fruit and Vegetable Co-operative Pilot (The Co-op) was to use this model to increase the consumption of fruit and vegetables in the Eastern Porirua suburbs In May 2014 Wesley Community Action (with the support of Regional Public Health) began a pilot project modelled on the ‘Christchurch Healthy Eating Co-op’. The pilot project ran until December 2014.

¹ Woodham, C. (2005). Food desert or food swamp. An in-depth exploration of neighbourhood food environments in Eastern Porirua and Whitby.

KEY FINDINGS FROM THE EAST PORIRUA FRUIT AND VEGETABLE CO-OP PILOT EVALUATION

The pilot was evaluated by way of a 'pre' and 'post' pilot survey through paper based questionnaires. Supplementary information was collected via follow up phone calls with a sample of co-op members who ordered two or less times from the Fruit and Vege Co-op; and three price comparisons with local supermarkets at two, four and six months. The focus of the evaluation was to assess if the Fruit and Vegetable Co-op Pilot was able to address the key issues of affordability and accessibility to fruit and vegetables for the residents of East Porirua. Seventy two questionnaires were completed for the 'pre' pilot survey (out of an initial membership group of around 95); forty 'post' pilot questionnaires were completed out of a total membership group of around 120.

Respondent Residence

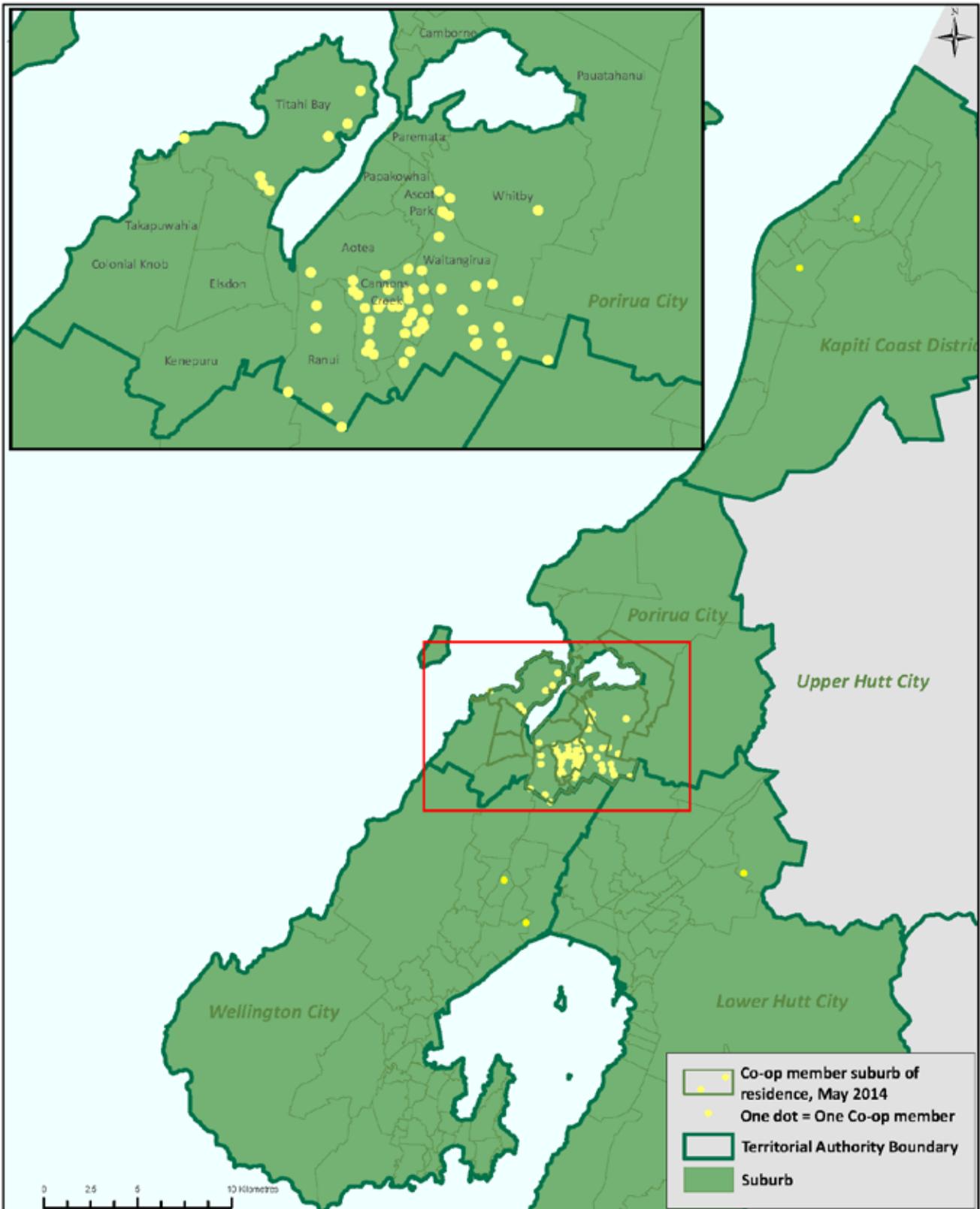
There was no selection criteria used for people joining the East Porirua Fruit and Vegetable Co-op Pilot. The intention of the pilot was two fold. Questions were included about the suburb of residence of respondents so we could assess how effectively we were meeting our target demographics. The following two maps show that in the 'pre' pilot survey respondents represented a broader geographic demographic (including suburbs with a higher average SES) than the 'post' pilot survey where the respondents came broadly from a geographic area closer to our target demographics. This may have been because over time the burden of travelling a long way to pick up fresh, cheap fruit and vegetables was seen to outweigh the benefits.

Suburb

- 41.18% of respondents to the pre questionnaire noted living in Cannons Creek with a further 25% living in Waitangirua
- 29.73% of respondents to the post questionnaire noted living in Cannons Creek with a further 18.92% living in Waitangirua
- 25% of respondents to the pre questionnaire and 45.95% of respondents to the post questionnaire lived in the wider Porirua area outside of the Eastern Porirua suburbs.²

² The key findings below provide a summary of the analysis of 'pre' and 'post' pilot surveys. Please note the differences in fruit and vegetable intakes 'pre' and 'post' pilot are statistically significant.

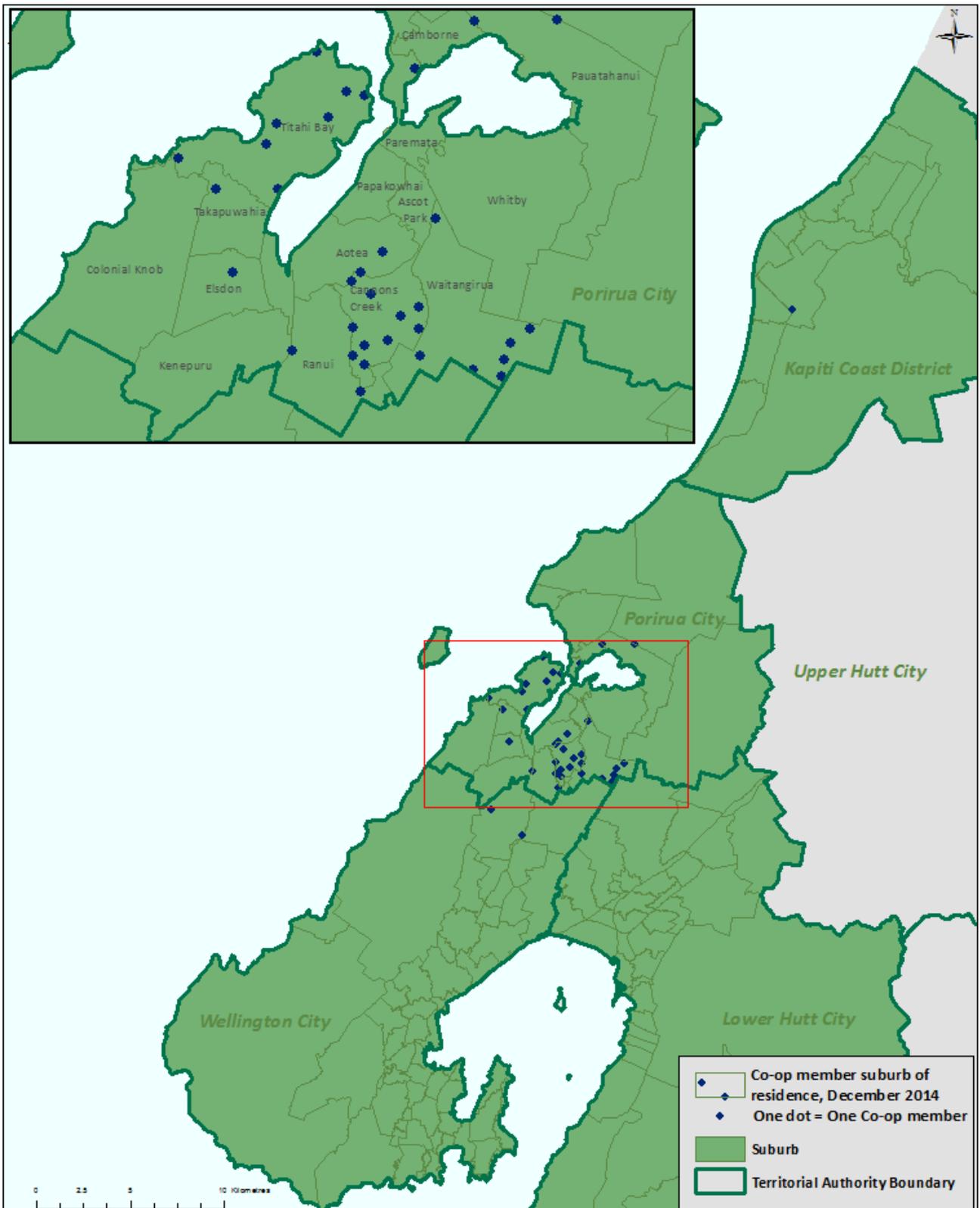
Number of Co-op members taking part in the Porirua Fruit and Vege Co-op Pilot by suburb of residence, May 2014



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Date Published: 4/05/2015
Melissa Parke

Number of Co-op members taking part in the Porirua Fruit and Vege Co-op Pilot by suburb of residence, December 2014



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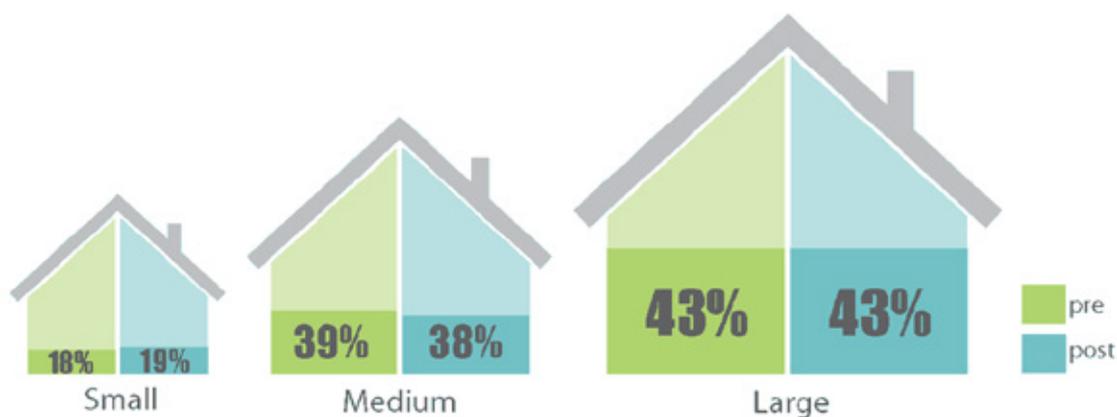
Respondent Profile

Age

- The age distribution for members of the co-op who answered the pre and post questionnaires ranged from 20 to 74. There was no real change in distribution from the pre- to the post- survey. However we did not ask any questions in the survey about the age profile of other household members so are unable to see if there were any changes in the age profile of those who received the fruit and vegetables and we could therefore not draw any age related conclusions e.g. about how many children benefited from improved access to fruit and vegetables during the East Porirua Fruit and Vegetable Co-op Pilot. This may be a useful area to explore in further detail in any future evaluations.

Household size

- 17.91% of respondents to the pre questionnaire had small households (1-2 members), 38.81% had medium households (3-4 members), 43.28% had large households (5 or more members)
- 18.92% of respondents to the post questionnaire had small households (1-2 members), 37.87% had medium households (3-4) and 43.34% had large households (5 or more members).

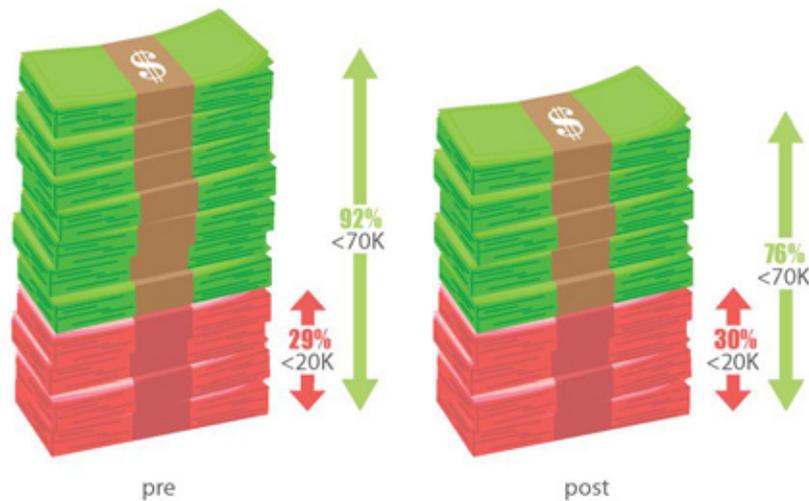


Pre and post survey findings of people who had small (1-2 members), medium (3-4 members) and large (5 or more members) households.

Household size did not change from the pre to post survey findings but we can see that we continued to attract mostly medium or large households with 43% have more than five members. Combined with a consistent finding of very low household incomes (as detailed below) it is fair to assume the pilot programme was able to effectively target households where food security and food stress were likely to be a frequent issue. Anecdotal reports from participants included feedback that the co-op was very helpful over winter as it meant there was less pressure to choose between food and heating.

Income

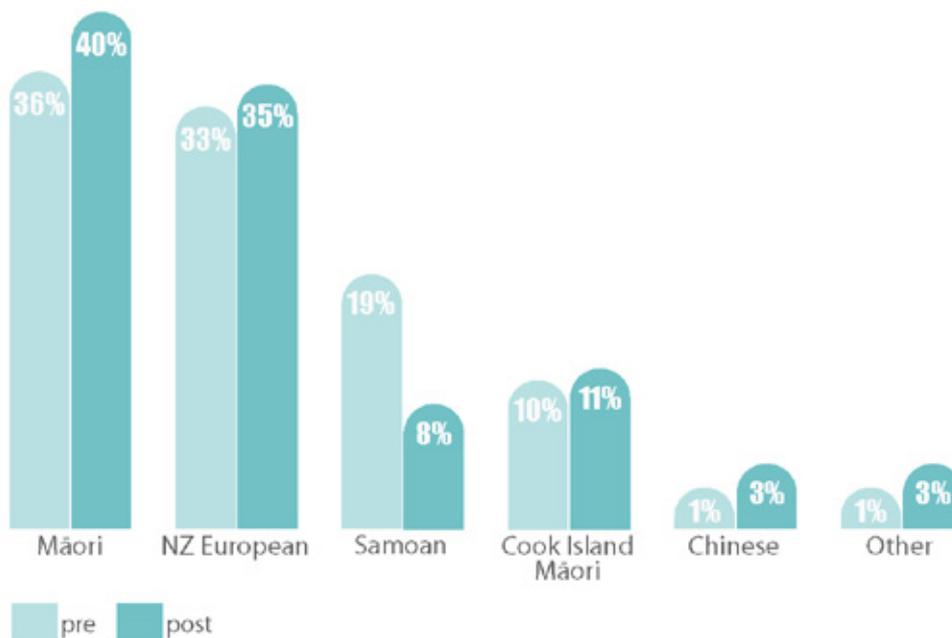
- 29.03% of respondents to the pre questionnaire and 29.73% of respondents to the post questionnaire noted having an annual household income of \$20,000 or less.
- 91.94% of respondents to the pre questionnaire and 75.68% of the respondents of the post questionnaire noted having an annual household income of less than \$70,000 (this compares with the median annual household income of the PCC of \$69,000.)



Ethnicity

For the ethnicity question respondents could nominate three ethnic groups. Based on the first ethnic group nominated:

- In the pre questionnaire 35.71% of respondents identified as Māori, 32.86% as New Zealand European, 18.57% as Samoan, 10% as Cook Island Māori, 1.43% Chinese and 1.43% Other.
- In the post questionnaire 40.54% of respondents identified as Māori, 35.14% as New Zealand European, 10.81% as Cook Island Māori, 8.11% as Samoan, 2.7% as Tokelauan and 2.7% as Chinese.



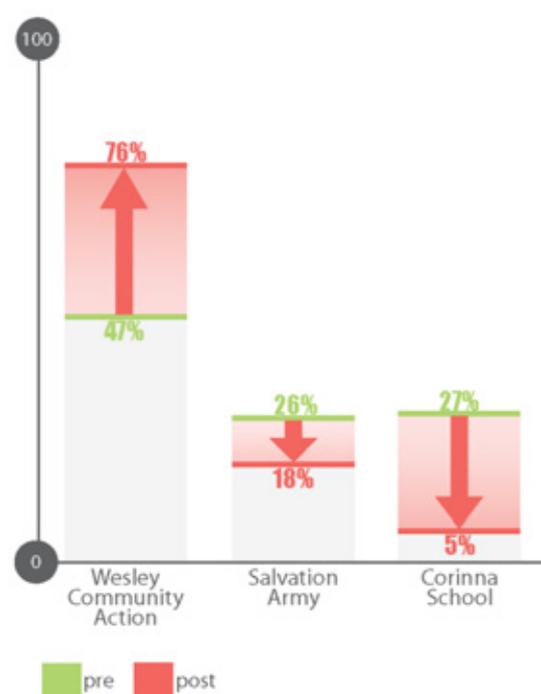
We had a large decrease in the number of Samoan participants between the pre and the post survey, even though we know Porirua has a very high percentage of Pacific Island residents. This may have reflected the choice of fruits and vegetables supplied during the pilot. There are two small grocers' stores in Cannon's Creek who provide quite a range of fruits and vegetables popular in Pacific Island cuisine such as taro, green bananas and pineapple. We made a conscious decision not to supply these through the fruit and vegetable co-operative as our aim was to increase the overall amount of fruit and vegetables available in the community, not to go into competition with local providers. The participant rates of the other ethnic groups we measured are more reflective of the overall make up of the Eastern Porirua community.

Co-ordinator, distribution hub

For the East Porirua Fruit and Vegetable Co-op pilot we had three different distribution hubs where people could order and pick up their fruit and vegetables from.

- 46.58% of respondents to the pre questionnaire noted Wesley Community Action as the distribution hub they ordered their fruits and vegetables through. This compares with 76.32% of respondents to the post questionnaire
- 26.03% of respondents to the pre questionnaire noted the Salvation Army as the distribution hub they ordered their fruits and vegetables through. This compares with 18.42% of respondents to the post questionnaire
- 27.48% of respondents to the pre questionnaire noted Corinna School as the distribution hub they ordered their fruit and veges through compared with 5.26% of respondents to the post questionnaire

Pre and post survey findings of distribution hubs that respondents ordered their fruit and vegetables through



As the pilot progressed there was a lot of discussion in the community about the Co-op (e.g. on Facebook – see Appendix 6) and the registrations at Wesley Community Action continued to grow, however the on-going orders through Corinna School dropped dramatically. Anecdotal feedback from the school Principal was that although in the early weeks of the pilot parents came into the school to collect their fruit and vegetable as the pilot progressed more and more of them asked their children to carry their fruit and vegetables with them on the way home from school. Together the bag of fruits and the bag of vegetables weigh 7 to 8 kilograms. It may be that this contributed to the drop off in orders to the co-op coming from the school.

Findings

Post survey only question – how long involved in the co-op and how often fruit and vegetables were ordered

Throughout the pilot membership of the co-op increased (up to 190 orders in December 2014) and most people continued to order weekly on an on-going basis, paying for the next weeks order on pick up. We heard anecdotally that the order was too much for single people or elderly couples so some people opted to purchase only every second week. Some of our larger whānau also began order several (up to 7) orders regularly. This showed that people were able to alter their orders to meet their needs despite our not being able to alter the size of each order for logistical reasons.

- 91.89% of respondents to the post questionnaire ordered weekly from the fruit and vegetable co-op. 2.7% ordered monthly and 5.41% ordered fortnightly.
- 28.95% of respondents were involved in the co-op for greater than 5 months, 26.32% of respondents were involved for 3-5 months, 28.95% for 1-3 months and 15.79% for less than one month.

Fruit and vegetable servings

One of the most exciting findings from the comparison of pre and post pilot surveys was the dramatic increase in daily consumption of fruits and vegetable. The surveys were voluntary and anonymous though so the within person change is unknown. However we did check to see if an increased intake of fruit was in fact offset by a decreased intake of vegetables and visa versa. We found that this was not the case but there was in fact a consistent increase in intake of both fruits and vegetables across all respondents.

- 35.62% of respondents to the pre questionnaire noted having a high fruit intake (3 or more servings per day) and 64.38% of respondents noted having a low fruit intake (2 or less servings per day).
- 63.16% of respondents to the post questionnaire noted have a high fruit intake (3 or more servings per day) and 36.84% noted have a low fruit intake (2 or less servings per day).
- 40.28% of respondents to the pre questionnaire noted having a high vegetable intake (3 or more servings per day) and 59.72% noted having a low vegetable intake (2 or less servings per day).
- 64.10% of respondents to the post questionnaire noted having high a high vegetable intake (3 or more servings a day) and 35.90% noted having a low vegetable intake (2 or less servings per day).

We looked at how many people were eating **both** 3 or more servings of vegetables a day **and** two or more servings of fruit a day (the Ministry of Health recommended amount of fruit and vegetables). In the pre-questionnaire 33% met the guidelines, but in the post questionnaire 62% met the guidelines (a statistically significant increase).

Pre and post survey findings of respondents having a high fruit and vegetable intake (2 or more servings of fruit and 3 or more servings of vegetables).



Questions about the range of fruit and vegetables people had previously not tried also showed us that the fruit and vegetable co-op was having an impact on the variety of fruits and vegetables being consumed not just the quantity. This is also an important finding from a nutritional adequacy perspective.

Why join the fruit and vege co-op

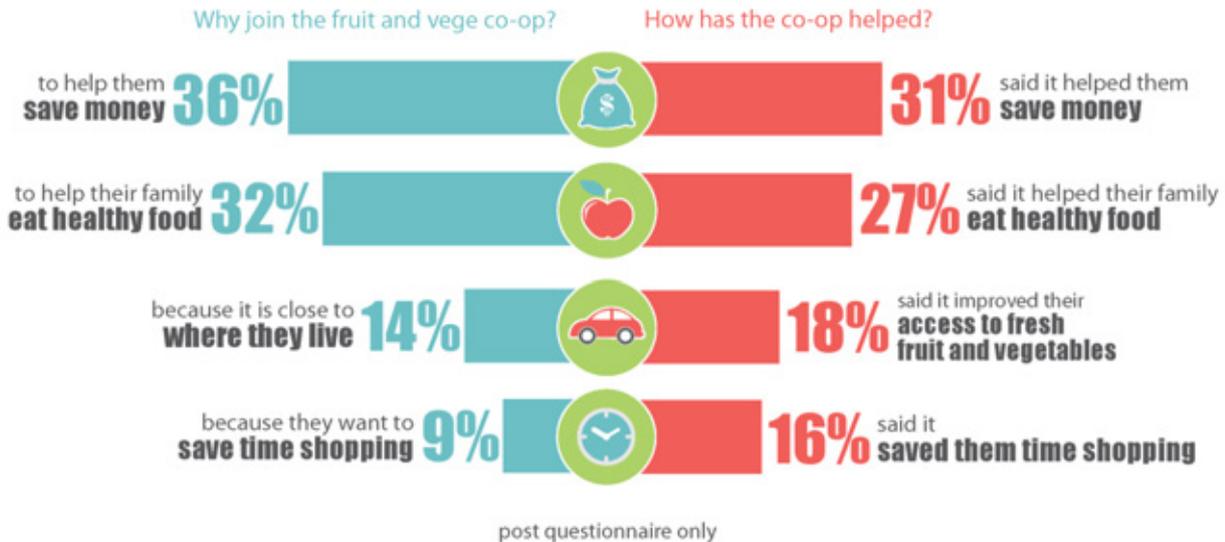
Saving money and eating healthily were the most frequent motivations for joining the fruit and vegetable co-op. Both of these findings are very interesting as it is often asserted in media commentary that fruits and vegetables are not really expensive in comparison to other food items and that people choose not to buy fruits and vegetables as they do not see them as a priority for them or are not interested in their health. Our results (and continued speedy expansion following the pilot) would suggest that neither of these assertions is in fact true, and that people in poorer communities are both concerned about eating healthily and motivated to buy fruits and vegetables when they have improved access and value opportunities provided. It is also interesting to note that though only 9% of people noted time saving as a motivation to joining the fruit and vegetable co-op 16% of them found the process of pre-ordering and then picking up their fruits and vegetables once a week actually saved them time when shopping.

- 37.5% of respondents to the pre questionnaire and 35.63% of respondents to the post questionnaire joined the co-op to save money
- 23.68% of respondents to the pre questionnaire and 32.18% of respondents to the post questionnaire noted joining the co-op to health their family eat healthy food
- 19.08% of respondents to the pre questionnaire and 13.79% of respondents to the post questionnaire noted joining the co-op because it is close to where they live
- 12.5% of respondents to the pre questionnaire and 9.2% of respondents to the post questionnaire noted joining the co-op to save time shopping

How helped – post only question

In the post survey questionnaire:

- 31.03% of respondents noted that the fruit and vege co-op helped them save money
- 26.72% noted that it helped their family to eat healthy food
- 18.1% noted that it improved their access to fresh fruit and vegetables
- 16.38% noted that it saved them time shopping



Who fruit and vegetable bags are ordered for

Another interesting finding in comparing the pre and post surveys was the increase in the numbers of people who were ordering fruits and vegetables for friends and whānau in the post pilot survey. This shows how people who initially had ordered for themselves found the fruit and vegetable co-op so valuable they were motivated to purchase for (or on behalf of) friends and whānau.

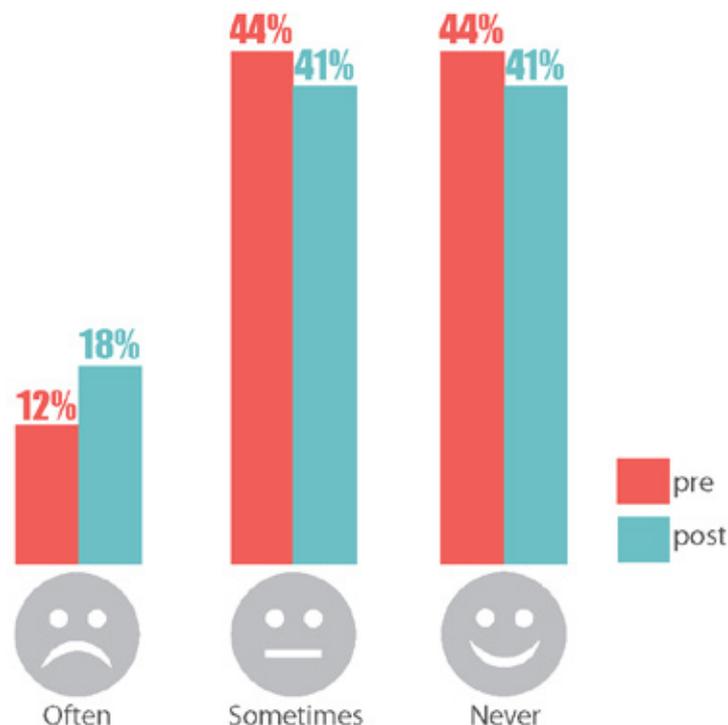
- 84.15% of respondents to the pre questionnaire and 62.71% of respondents to the post questionnaire noted ordering fruit and vegetables for their own household
- 8.54% of respondents to the pre questionnaire and 18.64% of respondents to the post questionnaire noted ordering fruits and vegetables for other whānau/fanau not living with them
- 4.88% of respondents to the pre questionnaire and 15.25% of respondents to the post questionnaire noted ordering fruit and vegetables for friends



Gone without fresh fruit and vegetables in the past 12 months to pay for something else

When we compared the responses for number of people who noted going without fruits and vegetables in the past twelve months this did not really appear to be any different before or after the pilot (for the sometimes or never categories) but there was an increase in those who felt they often went without fruits and vegetables. While we cannot explain this finding through analysis of the data we collected it may well be that as people increased their consumption of fruits and vegetables their perceptions about how frequently they went without them may have changed. For example before joining the fruit and vegetable co-op they may have paid very little attention to their fruit and vegetable consumption, but following having a higher consumption of fruits and vegetables for six months their awareness of having to choose to go without them may have been heightened. Strength is added to this theory by the following data where respondents noted that the most frequent reason for not consuming fruits and vegetables is because they are too expensive. However this finding could also be explained by random fluctuations as the difference was not statistically significant (the p value is .50 (not .05). meaning there is a 50% chance that really there is no difference between the results in the two samples.

- 11.43% of respondents to the pre questionnaire and 18.92% of respondents to the post questionnaire noted *often* going without fresh fruit and vegetables to pay for something else in the past 12 months.
- 44.42% of respondents to the pre questionnaire and 40.54% of respondents to the post questionnaire noted *sometimes* going without fresh fruit and vegetables to pay for something else in the past 12 months.
- 44.42% of respondents to the pre questionnaire and 40.54% of respondents to the post questionnaire noted *never* going without fresh fruit and vegetables to pay for something else in the past 12 months.



Things which affect how often you and your family eat fruits and vegetables

The most frequent reason noted affecting the consumption of fruits and vegetables was *they are too expensive*

- 47.31% of respondents to the pre pilot questionnaire and 62.5% of respondents to the post questionnaire noted expense as having an effect on the frequency of consumption of fruits and vegetables.
- 19.35% of respondents to the pre questionnaire and 17.5% of respondents to the post questionnaire noted no difficulty in eating fruits and vegetables.
- 11.83% of respondents to the pre questionnaire and 5% of the respondents to the post questionnaire noted transport as affecting how frequently they could eat fruit and vegetables.

Health messages and recipes and recipe tasting

Following the Christchurch model (and to add to the health promotion value of the fruit and vegetable co-op) we included health messages in each of the fruit bags every week. These were mainly focused around healthy eating but covered a wide range of topics from sun-smart advice to advice on quitting smoking and healthy attitudes to body size. We were pleased and surprised both with the number of people who said they found the health messages useful as well as the range of messages remembered. These findings suggest that where people are taking a health motivated action (i.e. purchasing fresh fruits and vegetables) they are more receptive to other health information.

Because the fruit and vegetable co-op is heavily seasonally dependent in order to maintain low prices and high quality produce the variety of fruit and vegetables provided over the six month period was necessarily wide. We were aware that this meant there were likely to be produce provided that people had either not tasted before or had no skills in preparing or cooking. To address this possible barrier for consumption we included recipes each week focussed around one of the fruits or vegetables provided in the bags. We were very pleased to find that the majority of people used these recipes sometimes or often. The questions about what fruits or vegetables people had tried for the first time because of buying through the fruit and vegetable co-op was also very pleasing with 77.78% saying they had tried fruits or vegetables for the first time. Respondents identified a range of produce noted as being tried for the first time as a time including what some people may consider to be 'basic' fruits and veg such as broccoli, varieties of apples, fresh pineapple, leeks, avocado, tomatoes, lettuce, cabbage, bananas, apples, oranges.

A further testing ground in the co-op pilot was providing recipe tastings. Our assumption here was that not knowing what some fruits or vegetables tasted like or cooking vegetable based meals could be a barrier to consumption for some participants. So on three occasions we cooked the recipe which was provided in the bag on the day and provided samples for people to taste when they came to collect their orders. The findings for the part of the survey were extremely interesting as the majority of people thought the recipe tastings were worth continuing even though only 41.67% of people actually tried the recipe. This suggests that the old 'try before you buy' adage applies even to fruits and vegetables. (We have not done further recipe tastings as we have rolled out the fruit and vegetable co-op around the Wellington region we have plans to pilot and evaluate vegetable focussed cooking lessons early in 2017.)

In the post pilot survey of those who answered the questions about health messages, recipes and recipe tastings:

- 54.05% said they sometimes used the recipes and 13.51% said they often used the recipes.
- 64.86% found the health messages useful
- 41.67 % tried the food at the recipe tasting days
- 95.65% thought the recipe tastings are worth continuing

Recipes remembered and used

In the post pilot survey recipes remembered and used included:

- *Broccoli quiche.*
- *Cauliflower bake.*
- *Curried cauliflower.*
- *Kumara soup.*
- *Leek and potato soup.*
- *I forgot the name but it involved cauliflower, kumara and silverbeet, thanks it helped heaps.*
- *There was a fritter one I used however I am a competent cook.*
- *Vegetable frittata, vegetable curry.*

Health messages described

In the post pilot survey, health messages which had been included in the bags of fruit and vegetables throughout the pilot which were remembered and described included:

- *Girl's body image was great for my daughter.*
- *Good one last week about being healthy inside and out.*
- *How much sugar is in fizzy drinks compared to just water which has none.*
- *How to cover your food; keep it fresh longer...healthy lunch box snacks for kids lunches...*
- *Juicy left over fruits and vegetables.*
- *Make half of your plate full with vege and fruits, for healthy eating it will help lose my weight.*
- *Oral health, diabetes*
- *Various ones about healthy eating, looking after teeth, influenza, measles, hand washing.*
- *Be happy with our bodies – adolescents. Teeth brushing. Washing hands.*
- *Eating for health.*
- *Food safety.*

Quality, Quantity and Variety

We were extremely pleased with the results for this section of the evaluation because the necessary seasonality of the produce we could provide throughout the pilot meant that some weeks the produce we could provide was very repetitive including carrots, onions and potatoes and mandarins or kiwifruit pretty much every week through the winter and a lot of lettuces and tomatoes in the summer. Where possible we included variety such as pears, leeks, silverbeet, bananas, strawberries, courgettes etc. This meant that respondents found that the repetitive provision of “basic” fruits and vegetables was helpful and the occasional addition of something extra was seen as an extra treat. This was reinforced anecdotally by the comments of volunteer’s survey about what we had to pack each week and those of purchasers as they peeked inside their bag at pick up each week to see what they had received. The ‘ooh’s and ‘ahhs’ were very gratifying.

On a scale of 1-5...



Because of the co-op model we were able to provide very fresh produce as we received the produce on a Tuesday morning directly from the markets (MG Marketing) and re-packed and distributed it on the same day. So we were very pleased that respondents noted this in their quality ratings which were also reflected in their general comments (see below). This was further reflected in anecdotal reports from those who ordered only every second week that the fruits and vegetables retained their freshness right through until the end of the fortnight. (It should be noted here that each recipe includes information on the correct way to store the highlighted fruit or vegetable).

In the post pilot survey;

- Of the people who answered the question on quality 76.32% rated the quality as 5 (on a scale from 1-5).
- Of the people who answered the question on quantity 84.21% rated the quantity as 5 (on a scale from 1-5).
- Of the people who answered the question of variety 81.58% rated the variety as 5 (on a scale from 1-5).

General comments

In the post pilot survey general comments about the fruit and vege co-op included:

- *Great service, I recommend it to everybody, thank you very much*
- *I love that this programme is for everyone, not just those who can't afford it. It encourages me to eat healthily and saves time at the supermarket. I hate shopping and am always pressed for time as I work so I appreciate this. I love sharing it all with whānau/friends/clients*
- *I think you are doing a fantastic job*
- *It would be great to have more places where you order/pick up.*
- *It's an amazing opportunity however I would prefer that if you could do it every week and not stop like now, which the school break, it stop till school start again.*
- *Just really appreciate it, how you include recipes on how to have/prep/eat them...Grew up with few fruits and veges, so my family and I quite enjoy them.*
- *Love the friendly helpful people. Means we can cook healthy much more cheaply. And when we get more than we need we can share with others.*
- *Please keep going. The best value ever! I am excited to come and pick up my pack every week.*
- *Rock!*
- *Since being involved in the vege co-op it has helped my family to start being healthy and thinking about how to start living a healthy life.*
- *The co-op has been a great help getting us to eat healthier with the fruit and veg we get from the co-op. Bit cheaper, better value moneywise than the supermarkets.*
- *The variety of fruit/veges is excellent and very fresh.*
- *Very helpful, friendly encouraging to eat well, eat right.*



DISCUSSION

Reviewed as a whole, the findings of this evaluation show that the fruit and vegetable co-operative model (as developed by Craig Dixon) was successful in providing improved accessibility and affordability of fruits and vegetables in the Eastern Porirua area. The fact that people continued to purchase from the co-op throughout the pilot and the amount that people were purchasing for whānau and friends suggests a high social acceptability and appropriateness of this model for this community. The reported increased consumption of fruits and vegetables as well as the increased willingness to try new fruits and vegetables suggests that eating healthily and eating fruits and vegetables are high priorities for this community. This is contrary to the suggestions of many commentators on food security and nutrition related disease. The very low incomes and high household numbers suggest that the co-op was able to reach people for whom food stress and food insecurity were likely to have been a frequent challenge. The ratings for quality, quantity and variety coupled with the general comments suggest participants hold the fruit and vegetable co-operative in high regard. The decrease in the number of Samoan participants suggests that it may be beneficial to include produce which is culturally relevant to various ethnic cuisines to attract and keep members from all of our major ethnic groups.

CONCLUSION

The East Porirua Fruit and Vegetable Co-operative pilot worked as a very successful collaboration between Regional Public Health and Wesley Community action with the support of The Salvation Army and Corinna School. The model we learned from our colleagues at Community and Public Health and Craig Dixon from FoodTogether in Christchurch proved to translate very well into the Wellington ('no-quake') environment.

OUTCOME

The positive findings from the evaluation of the Co-op Pilot combined with anecdotal and face to face feedback from members encouraged the two organisations who partnered to run the Co-op Pilot, (Wesley Community Action Cannons Creek and Regional Public Health) to formalise their partnership around this project and to launch the Fruit and Vegetable Co-op 'proper' in February 2015. We now have packing hubs in six communities around the Wellington area (East Porirua, Titahi Bay, Naenae, Upper Hutt, Waiwhetu and Wainuiomata) and provide fruit and vegetables for an average of 750 families each week. We have two more though numbers are growing rapidly. We have two further packing hubs starting in the very near future in Pomare and the Miramar-Strathmore area.

Next steps for Wesley Community Action and Regional Public health include working with packing hubs to increase the number of distribution hubs they are working with and planning a second broader scale evaluation address some of the recommendation given here and to evaluate the impact of the fruit and vegetable co-operative on all the different communities in which it is now working in the Wellington area.³ Our intention is for the fruit and vegetable co-ops to grow such that they can operate independently of any supporting organisation and provide access to affordable fresh fruits and vegetables for their communities well into the future.

³ We continue to work closely with Craig Dixon of FoodTogether as he is working to expand this model nationally.

APPENDIX 1: Summary and methods from Christchurch Fruit and Vegetable Co-op evaluation

EXECUTIVE SUMMARY

Background

The fruit and Vegetable Co-op is a health promotion partnership between Community and Public Health, the Christchurch Anglican Cathedral, and the communities of Christchurch. The aim of the project is to increase the quantity and variety of fruit and vegetables consumed among participating families by providing low cost fresh fruit and vegetables.

The project has experienced rapid growth since it began in September 2011, and currently more than 2,000 packs of fruit and vegetables are ordered each week. There are now seven packing hubs, and the number of distribution hubs has grown from one to forty.

Methods

A survey was conducted to evaluate the impact of the fruit and Vegetable Co-op on members, and to provide information to guide the Communities Team's future involvement with the Co-op. A convenience sample of 345 Co-op members from 18 randomly selected distribution hubs was surveyed.

Preliminary findings

- One quarter of respondents lived in the most deprived areas (NZDep2006 deciles 9-10), and a further 40% lived in moderately deprived areas (deciles 6-8).
- Over 80% of respondents used the Co-op to save money.
- Over 40% of respondents had been using the Co-op for more than one year.
- More than 90% of the respondents ordered the bags of fruit and vegetables for their own household.
- As well as using the Co-op, nearly 80% of respondents also got fruit and vegetables from elsewhere.
- Three quarters of respondents used the recipes provided in the bags.
- 85% of respondents read the health information on the back of the recipe card.
- Over 80% of respondents reported eating two or more servings of fruit and over 60% reported eating three or more servings of vegetables per day.
- Almost three quarters of respondents reported that they ate more fruit and vegetables since they began using the Co-op.
- One in every five respondents was a volunteer for the Co-op.
- One quarter of respondents relied on others to provide food and/or money for food, for their household 'often' or 'sometimes'.

A final evaluation report will be prepared by the Information Team which will include a more detailed analysis and discussion of survey findings.

EVALUATING THE FRUIT AND VEGETABLE CO-OP

Background

The Fruit and Vegetable Co-op⁴ is a health promotion partnership between Community and Public Health (C&PH), the Christchurch Anglican Cathedral, and the communities of Christchurch. The Co-op began as a collaborative initiative between C&PH and the Cathedral as a response to the February 2011 Canterbury earthquakes. This initiative was an expansion of an existing fruit and vegetable Co-op based at St Aidan's Church in Bryndwr, where an Anglican vicar was one of the key buyers. The aim of the project is to increase the quantity and variety of fruit and vegetables consumed among participating families by providing low cost fresh fruit and vegetables.

The project began in September 2011 in the Eastern suburbs of Christchurch, which was the area most severely affected by the earthquakes. One distribution hub was set up and 86 members joined the Co-op. Over a two-year period, Co-op membership increased dramatically and currently more than 2,000 packs of fruit and vegetables are ordered each week. There are now seven packing hubs and the number of distribution hubs has grown from one to forty.

The cathedral provides vegetable buying expertise and liaises with new Co-op groups, and community groups provide volunteer packers and distributors. C&PH provides community networks, recipes, health information and community support. On a Tuesday, the buyer from the cathedral purchases a selection of fruit and vegetables based on value for money. All fruit and vegetables are purchased from a leading supplier of fresh produce, MG Marketing, in Hornby. On Tuesdays or Wednesdays, volunteers help with packing the fruit and vegetables and distributing the orders to the distribution hubs. Members order and pay in advance, and collect their packs during a pre-determined window from one of these hubs. Each pack of fruit and vegetables costs \$10 and weighs approximately 8kg.

Also included in the pack is a card with a recipe (utilising one or more items of produce contained in the pack) on one side, and health information (e.g. healthy eating, smoking cessation, how to stay warm in winter) on the other side. In addition, there are occasionally cooking demonstrations and tastings of recipes at the distribution hubs.

In 2012, a survey of the Fruit and Vegetable Co-op was conducted investigating the impact of Co-op participation on fruit and vegetable consumption (Community and Public Health, 2013). It found that one year after joining the Co-op, members reported eating significantly more fruit daily, and most of them had also tried new varieties of fruit and vegetables. However, there was no increase in the average amount of vegetables consumed daily.

⁴ <http://www.cph.co.nz/About-Us/Fruit-and-Vege-Cooperative/>

The current survey

A survey was conducted to evaluate the impact of the Fruit and Vegetable Co-op on members, and to provide information to guide the Communities Team's future involvement with the Co-op. A convenience sample of Co-op members from randomly selected distribution hubs was surveyed. This report presents a summary of the preliminary findings of that survey. A final evaluation report will be prepared by the Information Team which will include a more detailed analysis of the findings from the survey, a description of the growth of Co-op membership, and recommendations for the Communities Team.

METHODS

Evaluation objectives

1. To determine the demographics of Co-op members.
2. To determine the extent to which members use the Co-op.
3. To identify the motivations of members to be part of the Co-op.
4. To identify any changes that have occurred since members joined the Co-op.
5. To assess whether members use the recipe cards for preparing and cooking vegetables, and read the health information on the back of the recipes.
6. To assess the current fruit and vegetable intake of Co-op members.

Survey methods

To address the evaluation objectives, a survey of Co-op members was conducted.

Survey sample size calculation

The target population was all Co-op members. At the time of planning the survey, it was estimated that there were approximately 1,500 members. The alpha level was set a priori at 0.05 and the level of acceptable margin of error at 5%. For the simple random sampling method, the required sample size was 306 members. The sample size was increased to 350, as the method used for this survey was not simple random sampling.

For practical reasons, distribution hubs were selected randomly, and then a convenience sample was used at each selected hub. Eighteen of the 40 hubs were randomly selected using a random number generator in Microsoft Excel.

Questionnaire development

The paper-based questionnaire was developed by two Information Team Analysts (C&PH) in collaboration with members of the Communities Team (C&PH). (See Appendix A for a copy of this questionnaire.)

Some questions in the questionnaire were sourced from other New Zealand surveys to allow comparisons with recent national data. These included questions relating to:

- ethnicity, from the 2013 New Zealand Census (Statistics New Zealand, 2013)
- age, from the 2012/2013 New Zealand Health Survey (Ministry of Health, 2012)
- daily fruit and vegetable consumption, from the 2012/2013 New Zealand Health survey (Ministry of Health, 2012)
- food security, from the 2008/2009 Adult National Nutrition Survey (Ministry of Health, 2008), and from an index of socio-economic deprivation for individuals (NZiDep) (Salmond, Crampton, King & Waldegrave, 2007).

Survey implementation

From 24 February to 28 March 2014, two staff members from the Communities Team went to 18 different distribution hubs to conduct the survey. The order in which the hubs were surveyed was randomised. All Co-op members who were present at the hub on the day orders were to be picked up were approached and asked to participate in the survey. Those who agreed to participate either:

- filled out the questionnaire themselves at the distribution hub
- filled out the questionnaire along with a Communities Team member (where questions were read aloud and responses written down by a Communities Team member), or
- took the questionnaire home, filled it out, and brought it back to the hub the following week.

A total of 511 questionnaires were distributed to members. A total of 227 questionnaires were filled out with Communities Team members, and 118 were filled out by members themselves. The overall response rate was 67.5%.

Data entry and analysis

A data entry template was created in Microsoft Excel prior to the commencement of data collection. On the return of the completed questionnaires each week, survey data were entered in the Excel file by the Communities Team Administrator.

Quantitative data analysis was undertaken using SPSS (version 17.0, SPSS Inc. Chicago, IL, USA). All percentages were calculated as a percentage of those who responded to the question (i.e. excluding missing responses).

To determine the level of deprivation of the neighbourhood where each respondent resides, respondents were asked to provide their street name and suburb. These addresses were geocoded and assigned to corresponding mesh-blocks, then deprivation index scores (NZDep2006⁵) were obtained at mesh-block level using Health-e-Address (Health Identity Programme, Ministry of Health⁶). The findings in this preliminary report used deprivation decile data from the 2006 census, as the 2013 data have not been released at the time of writing.

Free text comments were analysed to provide further detail by identifying the main ideas and themes.

⁵ NZDep2006 is a small area-based relative deprivation index based on 9 socio-economic variables from the 2006 Census. NZDep2006 scores are usually categorised into tenths (deciles), numbered from 1 (least deprived) to 10 (most deprived). NZDep2006 describes the deprivation experienced by groups of people in small areas and describes the general socio-economic deprivation of an area. It does not describe the deprivation of an individual.
(<http://www.health.govt.nz/publication/nzdep2006-index-deprivation>)

⁶ <http://www.health.govt.nz/our-work/health-identity/addressing-and-geocoding>

East Porirua Fruit and Vegetable Co-operative Pilot Project

Evaluation Plan

**Author: Emmeline Haymes
September 2014**

1. Project description

The aim of the East Porirua Fruit and Vegetable Co-operative (The Co-op) is to increase the consumption of fruit and vegetables in the Eastern Porirua suburbs. The Co-op is designed to reduce consumption barriers through creating competitive pricing and removing transport costs. The Co-op works through the project lead (Wesley Community Action) buying fruit and vegetables directly from wholesaler, MG Marketing, and freighting them to the Salvation Army in Waitangirua (The Packing Hub). Volunteers come to The Packing Hub where the fruits and vegetables are weighed and packed into supermarket sized plastic bags (one for fruit and one for vegetables). From the Packing Hub volunteers collect their orders and take them back to the Distribution Hubs (for the pilot project the distribution hubs were The Salvation Army, Wesley Community Action, Corrina School⁷) for pick by co-op members. Members sign up and purchase \$10 bags each week through their local Distribution Hub.

1.1 Rationale

East Porirua has been described as a 'food swamp' where food outlets selling a high proportion of unhealthy foods, such as convenience stores and takeaway shops, are common compared to other local areas⁸. There are also no low cost food outlets selling a wider variety of healthy food options (such as a Farmers' Market or a Supermarket) in East Porirua, making access to affordable healthy food a challenge for local residents. The population in East Porirua is predominantly Pacific, Māori and low income families. These populations make up a disproportionate amount of those suffering from obesity and nutrition related chronic disease, making East Porirua a priority area for Regional Public Health.

1.2 How it came about

RPH was made aware of the of the 'Christchurch Healthy Eating Co-op' from public health colleagues at Community and Public Health at Canterbury DHB. The Christchurch Co-op has been running since 2011 and was developed in response to the earthquake, to support lower decile suburbs access to affordable, healthy food. The Co-op is a joint initiative between Christchurch Cathedral and Community and Public Health. At the end of 2013 Regional Public Health suggested the model to Wesley Community Action (WCA) who were looking for a new model for assisting frequent users of their foodbank service. WCA flew to Christchurch and visited the 'Christchurch Healthy Eating Co-op' to see how the co-operative works. In May 2014 Wesley Community Action (with the support of Regional Public Health) began a pilot project modelled on the 'Christchurch Healthy Eating Co-op'. The pilot project will run until December 2014. It is intended that the results of this evaluation will inform and be incorporated to the East Porirua Fruit and Vegetable Co-op going 'live' from January 2015 with the inclusion of several more distribution hubs and a formal launch and marketing for The Co-op.

⁷ Other distribution hubs have joined the project since the beginning of the pilot but are not included in the evaluation population

⁸ Woodham, C. (2005). Food desert or food swamp. An in-depth exploration of neighbourhood food environments in Eastern Porirua and Whitby.

1.3 Partners

Key organisers

- Wesley Community Action (Project Lead)
- Regional Public Health (Marketing, Resources, Evaluation, Funding Support)
- Salvation Army (Packing and Distribution Hub)

Fruit and Vegetable provision

- MG Marketing

Pilot Distribution Hubs

- Wesley Community Action
- The Salvation Army
- Corinna School

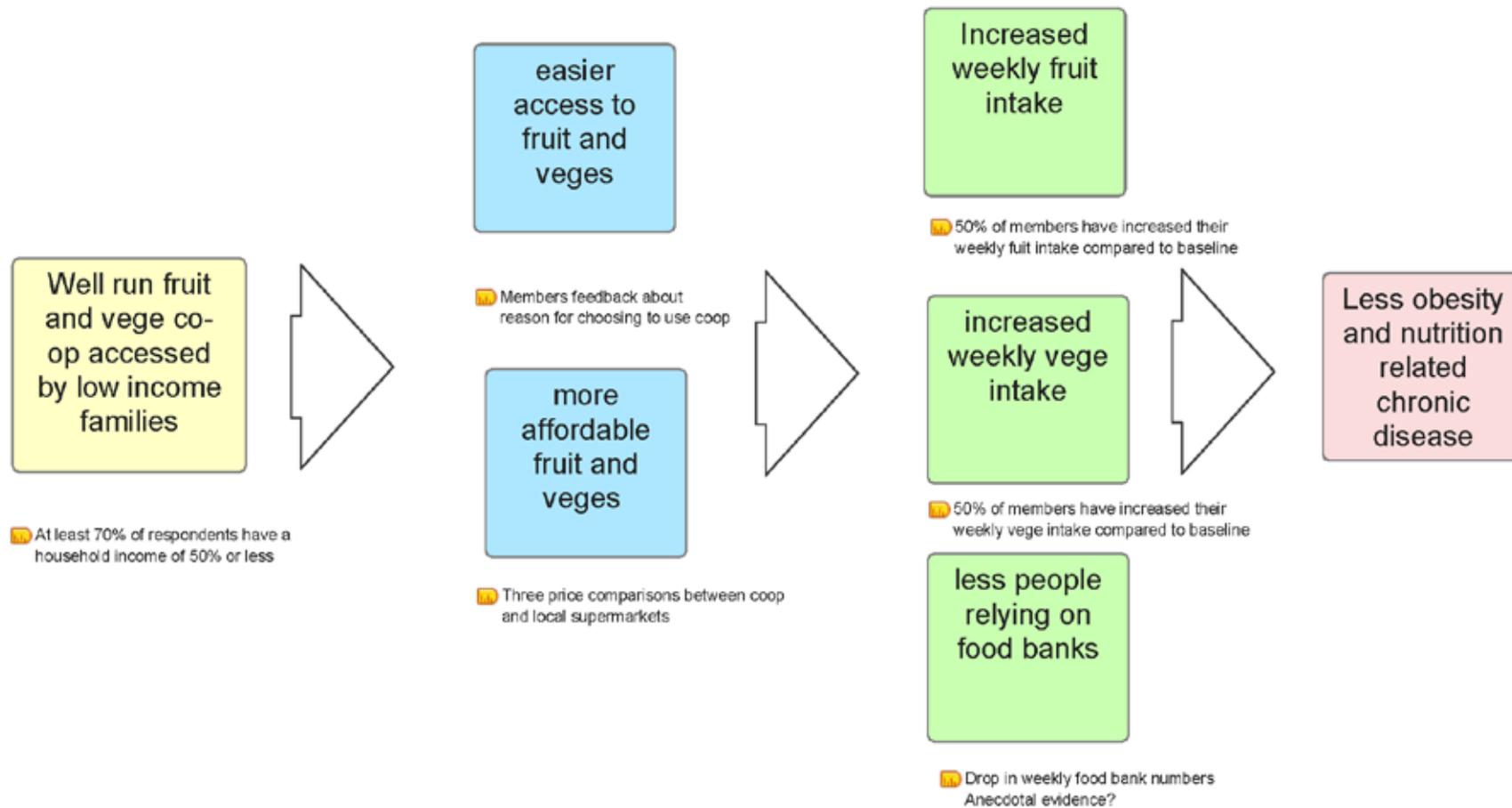
Key Stakeholders

- Michele Whiting (Corinna), Makerita Makapelu (Wesley), Tim Borrer (Wesley), Miriama Simanu (Salvation Army), Lauren Ensor (RPH), Vicki Robinson (RPH), Emmeline Haymes (RPH).

Volunteers and supporters

- Bellyfull and the Heart Foundation

2. Programme logic



3. Evaluation priorities

- To identify the strengths, weakness and lessons learned from the pilot project in order to improve future delivery
- To determine whether the pilot project achieved its outcomes

4. Methods

- Review of documentations discussions and interviews (process evaluation)
- Before and after survey and price review (outcome evaluation)

Table 2 shows the evaluation criteria, sources of data and methods that will be used.

Table 2: Evaluation criteria, sources of data and methods

Process evaluation criteria	Sources of data	Methods
Base-line data	<ul style="list-style-type: none"> - Baseline Co-op survey (see Appendix 1) - Local food environment scoping 	RPH coordinating – survey completed at Salvation Army, Wesley Community Action and Corrina School distribution hubs (free produce incentive for filling out survey). From May to August or until 60 responses are collected.
	Co-op numbers tracked	Weekly by Wesley Community Action.
	Price comparisons between local supermarkets and The Co-op	Three times during the pilot (June, September, December) RPH .
Post-Pilot Survey	Baseline survey including extra question on recipes, health messages, cooking demos, spin-offs from Co-op etc. (see Appendix two)	November over a period of 3 consecutive weeks, from 11 November. RPH coordinating – survey completed at Salvation Army, Wesley Community Action and Corrina School distribution hubs (free produce incentive for filling out survey).
	Key informant telephone interviews with people who ordered from the co-op three or less times (see Appendix 3).	People who ordered from the co-op three or less times randomized to be telephone for an interview. Forty nine interviews will be carried out for a representative sample.
	Meeting minutes	Minutes of the East Porirua Fruit and Vege Co-op Steering Group meetings will be reviewed for feedback on effectiveness of the co-op and suggestions for improvements.

NB: the pre and post pilot surveys include both demographic questions which will be used for the outcome evaluation and experience questions which will be used for the process evaluation section of the pilot evaluation.

5. Evaluation management, timeline and resources

Timeline

May – August	Baseline surveys complete
September	Baseline survey results collated
November	Post-Pilot surveys complete
December	Post-Pilot surveys collated and analysed
January 2015	Report produced with key findings and recommendations for stakeholders

6. Ethical issues and risk assessment

- **Privacy (for survey respondents)**

All analysed data will be anonymised and any identifying information will be removed from key informant interview data used in the evaluation report.

- **Ownership and storage of evaluation data**

Data necessary for the evaluation of the pilot programme will be held by regional public health.

7. Dissemination and reporting

The report for the pilot evaluation (process and outcome) will initially be shared with the project team and key stakeholders and volunteers. An approved version of the report will be published on the RPH website alongside The Co-op recipes. The evaluation report may be used as reference material in applications for funding The Co-op post pilot, and to inform the development of other similar co-operatives in other parts of the Wellington Region.

Fruit & Vege Co-op



7. What makes it hard for you/ your family to eat fruit and vegetables?

- They are too expensive
- Don't like the taste
- Don't have transport to get to the shops
- Don't know their health benefits
- Don't know how to cook them
- Nothing, I don't find it hard
- Don't have time to cook them
- Other (please specify): _____

8. Do you have any other comments about the co-op?

About yourself

9. Which suburb do you live in?

- Cannons Creek
- Waitangirua
- Ranui Heights
- Ascot Park
- Porirua East
- Other (please specify) _____

10. Which of these age groups do you belong to?

- 15-19
- 20-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75 years or over

11. How many members do you have in your household?

- One
- Two
- Three
- Four
- Five
- Six or more

12. What is your household income?

- \$20,000 or less
- \$20,001 – \$30,000
- \$30,001 – \$50,000
- \$50,001 - \$70,000
- \$70,001 or more

13. Which ethnic group or groups do you belong to?

- Samoan
- Māori
- NZ European
- Cook Island Maori
- Chinese
- Niuean
- Tongan
- Tokelauan
- Indian
- Other: _____

Thank you for taking the time to complete this survey



APPENDIX 4: Post-pilot questionnaire

Fruit & Vege Co-op



2014 POST PILOT PROGRAMME - Questionnaire

The purpose of this questionnaire is to collect information on people using the co-op to help us improve our service in the future. All responses are confidential.

1. Who is your local coordinator?

- Wesley Community Action Salvation Army Corinna School

2. How long have you been involved in the Co-op?

- < 1 month 3-5months
 1-3 months < 5 months

3. How often do you use the Co-op?

- Weekly Monthly
 Fortnightly *Not regularly*

4. Why did you join the Co-op (tick as many as applicable)?

- To save money To meet new people
 To save time shopping To help my family eat healthy food
 It is close to where I live/work Other (please specify): _____

5. Has the Co-op helped you (tick as many as applicable):

- Save money Meet new people
 Save time shopping Eat healthy food
 Access fruit & vegetables Other (please specify): _____

6. Who do you order the fruit & vegetables for?

- My household Other family/whānau/fanau (who do not live with me)
 My friends Other (please specify): _____

7. On average how many servings of fruit (fresh, frozen, canned or stewed) do you personally eat per day? (Please tick one box only)

Do not include fruit juice or dried fruit. One serving = a medium piece of fruit, two small pieces of fruit or half a cup of stewed fruit e.g. one apple + two apricots = two servings

- Never, I don't eat fruit 2 servings
 Less than 1 serving per day 3 servings
 1 serving 4 or more servings

Please turn over

Regional Public Health
Better Health For The Greater Wellington Region



Supporting Agency –
acknowledgement to Canterbury
DHB for concept and resources

Canterbury
District Health Board
Te Pōwhiri Hauora o Vitareia

Fruit & Vege Co-op



8. On average how many servings of vegetables - fresh, frozen or canned - do you eat per day?

(Please tick one box only)

Do not include vegetable juices. One serving = one potato/kumara, half a cup of peas or a cup of salad. For example, 2 medium potatoes + ½ cup of peas = three servings

- Never, I don't eat vegetables 2 servings
 Less than 1 serving per day 3 servings
 1 serving 4 or more servings

9. Have you used the recipes from the fruit and vege bags?

- Often Sometimes Never

10. Can you please write the name of any of the recipes you remember you used below

11. Do you find the health messages provided in the Co-op bags useful?

- Yes No Somewhat

12. Can you please describe any of the health messages you remember you used below

13. Did you try the food at any of the recipe tasting days?

- Yes No

If yes, do you think the food tasting days are worth continuing in the future?

- Yes No

14. Were there any fruit or vegetables in the fruit and vege bags that you and your family tried for the first time?

- Yes No

15. Can you please list any fruit or vegetables that your or your family tried for the first time below

16. Of the fruit and vegetables you received in your bags please rate them from 1 to 5 (1= poor, 5= excellent):

Quality 1-----2-----3-----4-----5

Quantity 1-----2-----3-----4-----5

Variety 1-----2-----3-----4-----5

Please turn over



Fruit & Vege Co-op



17. In the last 12 months have you gone without fresh fruit and vegetables so that you could pay for other things you needed?

- Often Sometimes Never

18. Please tick any of the below which would affect how often you or your family eat fruit and vegetables?

- They are too expensive Don't like the taste
 Don't have transport to get to the shops Don't know their health benefits
 Don't know how to cook them Nothing, I don't find it hard
 Don't have time to cook them Other (please specify): _____

19. Please tell us anything else you would like us to know about the fruit and vege co-op below

Tell us about yourself

20. Which suburb do you live in?

- Cannons Creek Waitangirua Ranui Heights
 Ascot Park Porirua East Other (please specify) _____

21. Which of these age groups do you belong to?

- 15-19 20-24 25-34 35-44
 45-54 55-64 65-74 75 years or over

22. How many members do you have in your household?

- One Two Three Four Five Six or more

23. What is your household income?

- \$20,000 or less \$20,001 – \$30,000 \$30,001 – \$50,000
 \$50,001 - \$70,000 \$70,001 or more

24. Which ethnic group or groups do you belong to?

- Samoan Māori NZ European
 Cook Island Maori Chinese Niuean
 Tongan Tokelauan Indian
 Other: _____

Thank you for taking part in this survey



APPENDIX 6: Facebook posts on Porirua page 'The Koha Shed' at beginning of pilot

"I have been waiting for this!!!!"

If you would like to invest \$10 p/w and receive 8kgs of at least four types of market fresh veg and three types of fruit then read on further for more details.

This is run by Wesley Community Action and The Salvation Army - Cannons Creek. You can purchase more than one pack and you don't have to order every week. The food will be ready for pick up on a Tuesday. Helpful information on recipes, healthy eating and general health will also be available. (supplied by Regional Public Health)

How do you join?

Sign up by filling out a form from the front desk of The Salvation Army - Cannons Creek, or from Welsey Community Action with a \$10 payment with the first needing to be in by 5th May 2014.

Call Tim Borrer 04 2377923 for more information.



"Ohh cool im signing up tomorrow."

"Gosh... thats cheap and affordable ..."

"God bless the sallies."

"I am just munching on an apple and it's gotta be the best apple this year HANDS DOWN, crunchy, sweet, crisp and above all FRESH! NO MORE discounted bruised, flourey expired stuff from pac n sav, we can now enjoy normal quality without effecting the shopping budget! YAY!"



"May/June apples are the best in NZ."

"I just paid my \$10 for next Tuesday's pick up 10am-11:30am @ Salvation Army, for 8kgs fruit and veg, you CAN'T go wrong, do it for you, DO IT FOR YOUR WHANAU, eat well, live well, be well."

"When is this happening next.. would love to do this for a few families I know could do with the fresh kai.. n for my own household of course.. Tautoko te kaupapa."

"Choice ka pai.. will pop into Salvos waspite apopo..any particular time? ???"

"Yum pumpkin soup."

"And this was today's loot people, they are doing a trial run, so we need more people ordering, more people helping with the lug, prep or tidy up, COME ON PORIRUA, \$10 for all THIS! It feels WAY heavier then 8kgs do it for your kids, do it for your health, we DO NOT want to lose this AWESOME opportunity!"

"Will be stopping by tomorrow, no radiation so can get there in time."

"It's a great idea but unfortunately wouldn't suit us, too many carrots, wouldn't use a whole cabbage and don't like celery and not enough potatoes."



"Who runs this? Would be awesome to get this implemented where I live."

"It changes from week to week. The fruit alone is worth the money Last week there were no potatoes but there was pumpkin, the carrots are small hence the quantity, but the order should differ week from week trying to get the best deal, \$10 for more then 8kgs of 4 fruit and 4 veg is definitely a BARGIN! Salvation Army and Wesley Community run this as a trial, up the line they have over 1000 orders! Off the top of my head this is the third week running, 58, 28, 38 these are the figures, you would think MORE PEOPLE would take up this fantastic opportunity!"

"I'm trying to spread the word amongst friends, family and work colleagues. I just love the idea of cutting out the middle man, and side stepping the fruit and vege section at the supermarket where I would normally waste a lot of money. It's a win-win for me."

"Do you know how they have been advertising this trial scheme? I have just gotten off the phone from someone who has a lot of clients in the Cannons Creek area and they don't even know about the scheme. I've spread the word that way so hopefully next week there will be a few more orders."

"Why's it not free 2 at need people of Porirua? Salvation Army just got a few contracts and both Wesley and Salvation are church orientated beats me why they charge the community that has little, Wellington City Mission have been giving 4 free, food parcels, meat when they can and fresh fruit, all they get is donations, take a note out of their book Salvation Army and Wesley 2 much Wellington City Mission."

"How do I sign up?"

"Don't have a problem paying for them sallys do a wonderful job in the community as does wesley its called helping others to help themselves."

"Both organisations also give out food parcels. They are awesome! Just go to either the Sallys or Wesley and they'll sign you up."

"This is a co-op, the more people who get on board then the more buying power they will have.....not everything in life should be free...for \$10 you're getting over 8kgs of fruit and veges...if you can't afford then I'm sure you can get a food parcel from them...but this is a way of helping people to help themselves."

"As a social worker that works with the most at need I'm not asking for people to have a free ride it's when they can't afford it, each time one pays, City Mission have been running for years as well and my experience with Salvation is long and not at all good for both organisations, in terms of buying power I agree if they had the money but they don't."

"I get your point and yes some people will struggle to support this initiative but all the other things such as food parcels, budget advice and support are still in place....This scheme doesn't have any bearing on that side. I'm sure if a person in need shows up desperate then they wouldn't be turned away because they don't have \$10. This is a brilliant scheme and potentially could help many people to have fresh nutritious food for a fraction of the cost."

"Yes, co-op means exactly that, SO, if you are human, and like to eat fruit and veg and not pay through the nose, then this is the place for you, if there's one thing I have learnt living in Cannons Creek is, we have many many agencies help the "people" all competing for the same coin, and not much unison with each other. Both wesley and sallys engage in a wide cross section of the communitiy and hopefully PORIRUA community will embrace this initiative, and help with lugging, processing and cleaning up as the benefits are endless, I think there is a pamphlet at reception of Salvation Army Porirua."

"What an amazing idea, think of how much this is going to save on my grocery bill and my time! Woohooo."

"Geez not everything in this world comes for free. yes there are families in need, hell I have been there done that but that doesnt mean that every great initiative needs to cater to those who can't afford it. \$10 isn't a lot and it's a great idea I say."

"I have had the pamphlet on the notice board since dot, I also ask people to put it in their kura notice, todate, most orders do not use facebook, the power of word of mouth seems to be the most effective, the struggle is getting people in the habit to pay \$10 before a Thursday and pick up on a Tuesday. Corrina School do a bulk order, all schools should follow suit."

"Yes there are a lot of agencies in Cannons Creek doing great work. A lot of them do communicate with each other at the various meetings eg coalition of foodbank meetings held on a regular basis. Sallies, Wesley, and lots of others normally attend these meetings. Thanks for letting me know that there is a pamphlet at reception of Sallies Porirua. I will send people there to get more info. Are there any notices going up in around the community in the school newsletters etc. I'll call the Sallies on Monday to see if I can get a copy of the brochure as then I can distribute some too. It will be great for more residents to access cheap fruit and veggies. I wonder if Vicki from Vinnies Mungavin would be happy to have some pamplets by her till area. Have you thought about having some pamplets at the Koha Sheds???"

"Didn't say things come for free, and having the tacit knowledge of the community \$10 may not be a lot 2 you but to others they stretch it til payday this initiative is catering 4 low income otherwise it wouldn't be @ sallies or Wesley @ the end of the day il stil continue 2 support the most @ need through Wgtn City Mission, good on you Miss Paula Mac Ewan 4 being proactive in our community."

"And today's loot has lemons which is a HIGH need at the time of the year, put your \$10 in by Thursday for NEXT Tuesdays pick up 17-06-14 between 10-11:30am from the salvation army."



"This initiative is NOT just for low income people at all – it's for anyone in the community to take advantage of to help promote healthy eating. A lot of people say they can't afford fresh fruit & veg and buy cheap junk food to fill their kids lunch boxes. This is helping and showing people they can do it healthier for cheap - instead of just giving people a hand-out its teaching them a better way.

The Salvation army is not just there for low income people - they do their work because of their faith in Jesus and it's based on their Christian ministry - they do more than give away food parcels and not all their services are free - but they are usually at minimum costs for all and free for those who are really in need! They are there for ALL people. They are not just a charity - they are a church first & foremost."

"Thanks for the weekly photos showing the produce purchased for \$10. Hope the numbers increased this week."

"Close to 80 orders this week with so much potential for more!! Going by supermarket prices the fruit alone is worth more than \$10. So much more affordable!"

"Today's loot."



"...And this is THIS week's loot, AND, I was just told I won next week's fruit and veg that's right people, pay \$10 for 8kgs 4 fruit and 4 veg AND GO IN TO WIN A FREEBIE the following week."



"I find it hard getting to Sallies....are we able to set up an a.p online and ring in and pass on contact info. I've being meaning to sign up for the past month and I'm missing out on some awesome goodness. Also what time do they close, I may be able to run up when my kids get home from school Cheers hun, awesome effort."

"No online system as of yet, does Wesley work better for you? not sure what time sallies close, but there is no harm in trying after 3pm. You could always drop off at mine and I could process it for you."

"Cool thanks, if I can't get to either I will pop in and see you. Ill pm before I turn up."

APPENDIX 7: Tracking of fruits and vegetables, recipes and health resources supplied as part of the East Porirua Fruit & Vegetable Co-op Pilot 2014

Pilot week	Date	Order	Fruit and vegetables supplied in packs	Health Topic	Health Resource	Quantity	Recipe	Notes
1	13 May		(number in brackets denotes how many times each fruit or vegetable was supplied)	-	-	-	-	-
2	20 May	48	Cabbage (1), silverbeet (1), potato (1), carrot (1), banana (1), green kiwi (1), pear (1), apple (1)	Nutrition	Low Cost Breakfast Ideas	60	Sliverbeet (frittata)	-
3	27 May	35	Broccoli (1), carrot (2), onion (1), pumpkin (1), banana (2), gold kiwi (2), apple (2), mandarin (1)	Oral Health	A5 Booklet	80	Broccoli (and chicken stir-fry)	-
4	3 June	70	Potato (2), celery, (1) cabbage (2), carrot (3), apple (3), pear (2), kiwi (3), banana (3)	Skin	Postcard	60	Celery (and potato soup)	Recipe tasting # 1
5	10 June	78	Silverbeet (2), carrot (4), onion (2), broccoli (2), apple (granny) (4), lemon (1), apple (braeburn) (5), banana (4)	Hand Washing	Sticker	80	Apple (crumble)	-
7	17 June	74	Broccoli (3), potato (3), cabbage (3), carrot (5), apple (6), kiwi (4), pear (3), banana (5)	Influenza	General Information Brochure	60	Cabbage (chop suey)	Price comparison
8	24 June	66	Celery (2), pumpkin (2), leek (1), carrot (6), apple (7), kiwi (5), pear (4), banana (6)	Measles	Information Sheet	80	Leek (and potato soup)	-
9	1 July	78	Kumara (1), potato (4), onion (3), carrot (7), apple (8), kiwi (6), pear (5), mandarin (2)	Rheumatic Fever	Wallet Card	80	Kumara (and sweet-corn fritters)	Recipe tasting # 2

10	8 July	73	Broccoli (4), spinach (1), carrot (8), potato (5), apple (9), pear (6), banana (7), mandarin -(3)	?	?	60	?	<i>School holidays</i>
11	15 July	62	Pumpkin (3), onion (4), cabbage (4), broccoli (5), apple (10), kiwi (7), banana (8), oranges (1)	?	?	62	Pumpkin (soup)	<i>School holidays</i>
12	22 July	81	Broccoli (6), silverbeet (3), potato (6), carrot (9), apple (11), pear (7)	Skin	Hand Sticker	81	Broccoli quiche	-
13	29 July	103	Kumara (2) , onion (5), potato (7), carrots (10), apple (12), banana (9), orange (1), kiwi (8)	Gastro	Rotovirus tri-fold pamphlet	102	Carrot (basic mince recipe)	-
14	5 August	101	Broccoli (7), pumpkin (4), potatoes (8), carrots (11), pineapple (1), orange (2), pears (8), lemons (2)	0800 Healthline	Fridge Magnet	101	Potato (potato and vege curry)	-
15	12 August	124	Broccoli (8), parsnips, carrots (12), potatoes (9), apples (13), oranges (3), banana (9), kiwifruit (9)	Immunization	Childhood immunization booklet	124	Cabbage (coleslaw)	-
16	19 August	119	Spinach, potatoes (10), carrots (13), onions, oranges (4), pears (9), apples (14)	?	?	119	Parsnip (parsnip and carrot mash)	-
17	26 August	124	Cabbage, kumara, potatoes (11), carrots (14), oranges (5), apples (15), kiwifruit (10), pears (10)	Nutrition	Diabetes and healthy food choices (Diabetes New Zealand)	124	Potato (potato salad)	-
18	2 September	161	Celery, carrots (15), onions, potatoes (12), apples (16), oranges (6), lemons (3), kiwifruit (11)	Nutrition	Breakfast eaters flyer	161	Celery (Celery, carrot and ham bake)	Recipe tasting # 3
19	9 September	135	Broccoli (9), kumara, carrots (16), potatoes (13), apples (17), oranges (7), kiwifruit (12)	Physical activity	Metlink Porirua Time Radius for public transport	135	Silverbeet , potato and bacon frittata	-

20	16 September	193	Broccoli (10), lettuce, carrots (17), potatoes (14), gold kiwifruit (13), apples (18), oranges (8)	Mental Health	Give, connect, exercise bookmark/postcard	72/121	Broccoli and chicken stir-fry	Price comparison
21	23 September	143			?		Broccoli Quiche	-
22	30 September	154			Half the meal vegetables flyer (Feeding Our Futures)		Cabbage – coleslaw	<i>School holidays</i>
23	7 October	107		Food hygiene	Long wash your hand (stickers for above the sink)		Cabbage – Corn beef stir-fry	<i>School holidays</i>
24	14 October	117		Food hygiene	Keep your Lunch Box Cool flyer (MPI) and Fridge thermometer		Onions – Vegetable curry	-
25	21 October	124		Oral Health	Talk Teeth (Its easy to protect your teeth booklet)		Parsnip – parsnip and carrot mash	-
26	28 October	139		Nutrition	Healthy snacks flyer (HPA/Feeding Our Futures)		Cauliflower and pasta bake	Got confused with orders – missed 10 – actual orders 149
27	4 November							
28	11 November							
29	18 November							
30	25 November							
31	2 December							
32	9 December							
33	16 December							

APPENDIX 8: Project brief

East Porirua Fruit and Vegetable Co-op Pilot 2014

Purpose

The purpose of the Porirua Co-op will be to improve affordability and access to fruit and vegetables for the residents of Cannons Creek and Waitangirua.

- Improved affordability will be achieved by purchasing fruit and vegetables direct from the wholesaler and using volunteers to staff the Co-op.
- Improved access will be achieved by having multiple distribution points throughout the suburbs such as schools, churches, and social services.

Rationale

East Porirua has been described as a 'food swamp' where unhealthy food outlets such as convenience stores and takeaway shops are in abundance compared to other local areas⁹. The 'food swamp' that accompanies this high deprivation area makes access to affordable healthy food a challenge for local residence. The population in East Porirua is predominantly Pacific, Maori and low income families making it a priority area for Regional Public Health to support.

How it came about

The 'Porirua Fruit & Vege Co-op Pilot' has come about due to the success of the 'Christchurch Healthy Eating Co-op'. The Christchurch co-op has been running since 2011 and was developed in response to the earthquake, to ensure lower decile areas have access to affordable, healthy food. The Co-op is a joint initiative between Christchurch Cathedral and the Community and Public Health unit of Canterbury DHB. At the end of 2013 Regional Public Health found out about the Co-op and raised the initiative with Wesley Community Action, who flew down to Christchurch to see how their Co-op operates. Wesley Community Action with the support of Regional Public Health have taken hold of the initiative and worked hard to make it possible. The pilot project will be starting in Eastern Porirua from May 2014.

How the co-op will work

People will prepay \$10 for each a pack (1 bag of fruit and 1 bag of vegetables) one week in advance with no joining fee required. People will pay for their order at one of the distribution hubs and it will be the responsibility of the distribution hubs to collect payments and transfer them through to the co-op coordinator. The contents of the packs will vary each week depending on what is in season. Once the money and the order numbers are given to the co-op coordinator (by end of day Thursday) they will go and purchase the produce from the wholesaler (6:30am Tuesday).

People can buy more than one pack at a time – there is no limit or requirement to buy every week. Each pack includes a recipe idea on how to use the fruit or vegetables in the pack, alongside some useful health information.

⁹ Woodham, C. (2005). Food desert or food swamp. An in-depth exploration of neighbourhood food environments in Eastern Porirua and Whitby.

All three distribution points have budgeting advice and support available to assist people in being able to take part in the co-op.

Partners

Key organisers

- Wesley Community Action (Lead / Co-op Coordinator)
- Regional Public Health (Marketing, Resources, Evaluation, Funding Support)
- Salvation Army (Packing and Distribution Hub)

Other players

- Corinna School (Distribution Hub)
- MG Marketing (Fruit and Vege provider)

Key Stakeholders

- Michele Whiting (Corinna), Makerita Makapelu (Wesley), Tim Borrer (Wesley), Miriama Simanu (Salvation Army), Lauren Ensor (RPH), Vicki Robinson (RPH), Emmeline Haymes (RPH).

Costs

Packing Hub Set Up

What	Cost	Amount	Total
Crate Hire	\$11 / 20kg		\$500
Sack Trolley		2	\$75.60
Tables		5	\$250.00
Knives		2	\$91.29
Chopping Boards		2	\$42.34
Mesh Gloves		5	\$65.00
Whiteboard			
Stationary			\$100.00
Scales			
Safety Vest		2	\$21.20
Orange Cones		3	\$59.28
First Aid Kit		1	\$30.00
Storage Box		1	\$30.00
Large tarp			
Fuel for buyer	\$15	12 trips	\$180.00

On-going Costs (Included in \$10 – may need initial kick start)

What	Cost	Amount	Total
Plastic Bags	\$0.056	1000	\$55.14
Hand Sanitiser			
Freight	\$20 / load		

On-going Costs (Not included in the \$10)

What	Cost	Amount	Total	Who
Equipment Replacement				Source Funding
Co-op Coordinator (Post Pilot)				Source Funding
Recipe/Health Brochure Printing				RPH
Cooking Demonstrations	\$60	6 x year	\$1200	RPH
Petrol Vouchers for schools				RPH

The Role of RPH

1. Assist with funding the initial set up costs (\$2000 GST excl.)
 2. Sourcing hand sanitiser
 3. Providing a weekly recipe and health messages to go in the bags
 4. Coordinating cooking demonstrations to compliment the recipes
 5. Marketing the food co-op e.g. designing flyers and posters
 6. Connecting with schools
 7. Providing nutrition and health resources
 8. Supporting the evaluation of the co-op
- RPH may also want to support community volunteers with distribution by providing petrol vouchers.
 - Pilot evaluation to be completed by RPH
 - Post Pilot Evaluation - RPH to work with HePPRU: Health Promotion and Policy Research Unit & HIA Research Unit. University of Otago, Wellington (Louise Signal has expressed interest).

Risk Management Plan

Potential Risk Factor	Management Strategy
Unloading Produce – Heavy Lifting	- Screening volunteers - Teaching safe lifting techniques
Packing hub – cutting up produce with sharp knives	- First aid kit onsite
Damaged produce during distribution process	- Extra produce through order could off set this
Cooking demonstrations – Burns, cuts etc.	- First aid kit onsite

Activity Timeline

Date	Activity
Friday 9 th May	First Orders Due
Tuesday 12 th May	First buying, packing, distribution
Tuesday 3 rd June	Cooking Demos/health displays
Tuesday 1 st July	Cooking Demos/health displays
Tuesday 8 th July	Stakeholder Review

Porirua Pilot Co-op Model

