

Market Greens Pilot Project: Final Evaluation Report

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Executive Summary

Food insecurity is a serious problem for many Canadians, and data suggest it is affecting more people year after year¹. Food insecurity in Canada disproportionately affects children: of the four million Canadians suffering from food insecurity, 1.15 million are children, and households with children have higher food insecurity rates than the general population². During the COVID-19 pandemic, these rates may be even higher³.

Within the past decade, several programs have emerged to distribute fresh food vouchers as a way to reduce financial barriers to healthy food and improve health and food security for low-income people. Following from the success of these programs, the Market Greens program was developed to introduce fruit and vegetable subsidy programming in Ontario. The Market Greens program, established by Community Food Centres Canada (CFCC) with support from the Government of Ontario's Local Poverty Reduction Fund (LPRF), operated on the logic that improved access to and consumption of fruit and vegetables has the potential to improve food security, which contributes to improved school readiness and reduced depth of poverty in the long-term.

The program offered fruit and vegetable incentives to low-income families with children under the age of 12, redeemable at two markets in Ontario. Eligible participants received \$10 to \$20 of produce per week during each 20-week incentive period. Three incentive periods were offered between 2018 and 2020 and served a total of 348 unique families.

Taylor Newberry Consulting was contracted to evaluate this 3-year pilot of the Market Greens program. Evaluation results showed that the program improved affordable access to fruit and vegetables, and participants reported that they were eating more fruit and vegetables as a result the program. Participants also reported learning new skills related to shopping for and preparing fruit and vegetables and learned new ways to incorporate fruit and vegetables into their family's diet. By bringing their child(ren) to the market, parents modeled the process of selecting healthy foods and also exposed them to new healthy food options.

Due to the friendships made and general friendliness encountered at the markets, participants felt a significantly greater sense of community belonging after participating in the program. Participants' physical health, mental health, and spiritual health all significantly improved over the course of the program. Based on parents' reports of their child(ren)s' overall health at baseline and again at post-test, childrens' overall health improved by the end of the program as well.

The evaluation of pilot program data shows that Market Greens had many meaningful, and statistically significant effects on participants. Following the pilot program, CFCC has begun roll-out of Market Greens to 30 delivery partners across Canada. The program was launched in 2019 and will run until 2024.

¹ PROOF Food Insecurity Policy Research, nd.

² Tarasuk, Mitchell & Dachner, 2014

³ Statistics Canada, May 2020

Introduction

To be food insecure is to have insecure or inadequate access to food due to financial constraints; food insecurity is a serious problem for many Canadians, and data suggest it is affecting more people year after year⁴. Food insecurity in Canada disproportionately affects children: of the four million Canadians suffering from food insecurity, 1.15 million are children, and households with children have higher food insecurity rates than the general population⁵. Those most at risk of becoming food insecure are female-headed single-parent households (33% of these households experience food insecurity)⁶, and those who identify as Black (28.9%) and Indigenous (28.2%)¹.

During the COVID-19 pandemic, these rates may be even higher. Preliminary data analyzed by Statistics Canada suggests that the number of families who are food insecure is significantly higher during the pandemic than in 2017/2018⁷. Households with children are also significantly more likely to be food insecure than households without children since the COVID-19 pandemic began (19.2% with children vs. 12.2% without children)⁴.

Food insecure children are more likely to experience adverse developmental outcomes associated with school readiness, including health (asthma, iron deficiency, weight gain, anxiety and depression), social competence (impaired social skills), emotional maturity (trouble concentrating, persistent hyperactivity/inattention, behavioural problems), cognitive development and general knowledge (lower educational achievement, less learning)⁸. Food-insecure parents face debilitating health outcomes, like depression, diabetes, and heart disease³. As a result of COVID-19, individuals who were food insecure were significantly more likely than individuals who were not food-insecure to report poor mental health or symptoms of anxiety⁹.

Addressing food insecurity can help minimize these impacts. The importance of nutrition to cognitive development in young children is well-established¹⁰. Becoming food secure can improve academic outcomes among early school-aged children and can reduce the burden of poor mental health on children and families, thus decreasing social inequalities in child development that impact future educational, social, and health outcomes⁵. Increased fruit and vegetable consumption is also associated with decreased risk of chronic diet-related illnesses¹¹.

Within the past decade, several programs have emerged to distribute fresh food vouchers as a way to reduce financial barriers to healthy food and improve health and food security for low-income people. One American program in particular informed the development of the Market Greens program and its logic model: Wholesome Wave's Fruit and Vegetable Prescription Program. This innovative program provided vouchers for fruits and vegetables to youth with

⁴ PROOF Food Insecurity Policy Research, nd.

⁵ Tarasuk, Mitchell & Dachner, 2014

⁶ Tarasuk, Mitchell & Dachner, 2016

⁷ Statistics Canada, May 2020

⁸ Jyoti, Frongillo & Jones, 2005; Kirkpatrick, McIntyre, & Potestio, 2010; Skalicky et al., 2006; Melchoir et al., 2012; Nelson et al., 2016; Slopen et al., 2010; Weinreb et al., 2002; Winicky & Jemison, 2003

⁹ Polsky & Gilmour, 2020

¹⁰ Bryan et al., 2004

¹¹ Pearson-Stuttard et al., 2017; World Health Organization, 2015

obesity-related chronic disease, and their families, while also providing nutrition education. Demonstrated benefits of the prescription program included increased accessibility of affordable healthy foods, sustained habit of increased produce purchased at farmers' markets, increased rates of fruit and vegetable intake, improved food security, reduced BMI, and improved connection to community¹².

Following from the success of this and other similar programs, the Market Greens program was developed to introduce fruit and vegetable subsidy programming in Ontario. The Market Greens program operated on the logic that improved access to and consumption of fruit and vegetables has the potential to improve food security, which contributes to improved school readiness and reduced depth of poverty in the long-term.

About the Market Greens Program

Market Greens is a 3-year pilot program (now concluded), designed to offer fruit and vegetable incentives to low-income families with children under the age of 12¹³. The incentives were redeemable at two markets in Ontario: The Local Community Access Market in Stratford (hosted through The Local Community Food Centre) and Mijjim Market in Midland (hosted through Chigamik Community Health Centre).

Eligible participants were referred to the program by community partners or came to the program through self-referral. A screening process ensured that referrals were eligible (eligibility criteria changed slightly from year to year – detailed below). Three incentive periods of 20 weeks each were offered, with participants receiving \$10 to \$20 of produce per week for the duration of their incentive period (incentive amount depended on the size of their family). The 3 incentive periods were offered between 2018 and 2020 and served a total of 348 families.

The program was established by Community Food Centres Canada (CFCC), with support from the Government of Ontario's Local Poverty Reduction Fund (LPRF) administered by the Ontario Trillium Foundation (OTF). The overarching goals of the Market Greens program aligned with LPRF focus area of breaking the cycle of poverty for children and youth. Market Greens sought to increase access to and consumption of affordable fruits and vegetables among families who have young children and are living with low incomes. Through increased access to and consumption of fruits and vegetables, the program aims to improve school-readiness and reduce depth of poverty in the long-term by addressing food insecurity. A program logic model is presented in Appendix A.

Evaluation Methods

Taylor Newberry Consulting was contracted by Community Food Centres Canada to lead a process and outcome evaluation of this program. The following questions have guided the evaluation:

¹² Wholesome Wave, 2013; Wholesome Wave, 2017; Oberholtzer, Dimitri & Zive, 2012; Lloyd, 2014; BC Association of Farmers' Markets, 2014; Valorose et al., 2015

¹³ First year of the pilot included families with children ages 0-6

1. Does access to subsidized fruits and vegetables increase consumption of fruits and vegetables? Does that increase persist over time? Why or why not?
2. Does access to subsidized fruits and vegetables decrease food insecurity? Does the effect persist over time? Why or why not? The well-established relationship between food insecurity and school readiness will help understand the intervention's contribution to school readiness and subsequent poverty reduction.
3. To what extent does the intervention help to address behavioural and material barriers to better health for low-income families, given the complex relationship between poverty and diet-related health?
4. To what extent do the range of supports offered via the intervention sites augment the impact of material supports (i.e., vouchers)?
5. What challenges and successes are experienced in implementing the program?

The results of the evaluation in this report consist of aggregate data across years 1 and 2 of the program. A third incentive period (year 3) was added to the program in response to lower than expected redemption rates in years 1 and 2. Year 3 used additional selection criteria (i.e., pregnant women and others without children who have been impacted by the pandemic) and followed a slightly revised program delivery model (i.e., food delivery). As such, the results of Year 3 will be presented separately in an addendum in 2021.

Recruitment and Enrollment Process

Participants were recruited through a number of local partner organizations, including but not limited to Ontario Works, North Simcoe Family Health Team, Ontario Early Years Centre, Operation Grow, and The Métis Nation of Ontario (Midland); and St. James Community Food Bank, Emily Murphy Centre, Optimism Place, and the Children's Aid Society (Stratford). In years 2 and 3, participants were also able to self-refer to the program.

Enrollment criteria changed over time as well, both in an attempt to boost enrollment numbers by opening the program to more people, and to respond to the changing needs of the community during COVID (in year 3).

Enrollment Criteria by Year		
Year 1	Year 2	Year 3
•households with children ages 0-6	• households with children ages 0-12	•households with children ages 0-12
•living with low income	•living with low income	•living with low income
•have never visited the market before	•have never visited the market before	• new to market or previously unable to attend market
		• pre/peri-natal women

Table 1. Yearly adjustments to enrollment criteria are in bold text.

Enrollment targets were not met in years 1 and 2. One potential reason for lower-than-anticipated enrollment at The Local market was that many members of the community (including many mothers of young children) were already shoppers at the market before the program began, making them ineligible to enrol as participants. Another reason discovered after the first year of the program was a lack of strong connections to referral partners. In subsequent years, market staff worked to build stronger relationships with partners, and prioritized ongoing and clear communication to ensure partners were prepared and invested to connect clients to the Market Greens program.

Market staff experiencing demanding workloads was also a barrier to enrolling participants, particularly in Year 3 when volunteers who previously worked at the market left their positions due to the pandemic. However, adding a third year to the pilot exceeded the overall enrollment target (more on enrollment numbers below). The recruitment challenges faced by market staff led to problem solving and improved recruitment methods. Some of the recruitment lessons learned are summarized below:

- Recruit from similar programs run by the centres hosting the Market Greens programs. These people are often already aware of the markets due to proximity and relation to the Centres, and, depending on the programs they are already a part of, they have a high likelihood of being eligible for the Market Greens program.
- Local staff and co-researchers can draw on their own community connections and contact people they know who meet the eligibility criteria.
- Build relationships with referral partners, specifically with the **right** people within those partnering organizations. Know who works directly with your target population and get a direct line of contact with them, rather than using general communications directed at the organizations as a whole.
- Utilize snowball recruitment and word of mouth referrals from current participants. Allow participants to refer their friends and family.
- Social media may be a beneficial place to advertise the program, depending on the social media uptake in the community.

Co-researchers

In order to have a research presence at the market sites, co-researchers were hired by TNC to work closely with market staff and encourage a focus on evaluation. At one site, the co-researcher was also employed at the market and held a dual role. The co-researcher role was instrumental to the success of the evaluation. The two co-researchers have extensive knowledge of their community, strong relationship building skills, and also developed strong research skills throughout the process. They were provided with training and support from TNC, were given opportunities for input into adaptations to the evaluation design and provided important context to the interpretation of findings.

Data Collection

The full evaluation protocol involved an innovative blending of quasi-experimental quantitative and qualitative elements. Staff and co-researchers at each site collected data for each implementation round. Data was aggregated where appropriate for a larger sample size.

Survey data, interview data, and tracking data from each market location were triangulated where possible to validate findings. The full list of data collection tools is as follows (see Appendix B for targeted and acquired sample sizes for each method):

- Pre-Post survey
- In-depth End of Program Interview
- Shortened post-only survey for select participants¹⁴
- 3- or 6-Month follow-up Interview¹⁵
- Market Staff Interview
- Referral Partner Interview
- Redemption Reporting Form
- Market Activity Log
- Market Observation Journal

First, a pre-post survey design gathered baseline data on food security, eating habits, and longer-term outcomes such as overall physical and mental health. Baseline data was collected when participants first enrolled in the program (before redeeming their first fruit and vegetable voucher), and post-program data was collected at the end of each participant's 20-week incentive period. The pre-post design enabled statistical significance testing on key indicators over time.

Immediately following the post-program surveys, a sub-sample of participants from each site completed in-depth end of program interviews. These interviews were designed to gather more detail on the lasting impacts that participants experienced because of the program. The interviewer used participants' individual survey responses to inform detailed follow-up questions during the interviews. For example, participants who answered in their survey that they were eating more fruits and vegetables since the program started were asked in the follow-up interview to elaborate on why they felt their habits changed throughout the program; or, participants who responded in the survey that their mental health had improved were then asked probing questions about how and why they believed their mental health improved. Three-month follow-up interviews were conducted with the same sub-sample of participants who completed an end of program interview and were designed to gather more detail around the reasons *why* or *why not* participants experienced sustained changes in key outcome areas.

Additional information gathering around the general program successes and challenges was done through interviews with project leads at each site at the end of each implementation round. Separate interviews were also conducted with market staff in May of 2020 around the impacts of COVID-19 on the program. Referral partners were also interviewed to gain an understanding of

¹⁴ Year 1 included two groups of participants, where approximately half of the participants were included in the full evaluation (Group A) and the rest completed only a short post-test survey (Group B). Moving forward, the short, post-test-only option did not meaningfully increase participation in the evaluation and the protocol was dropped.

¹⁵ 6-month follow-ups were used in year 1, but the time delay between the end of incentives and contact for interviews negatively impacted participant retention. A 3-month follow-up was implemented in year 2 to improve retention.

the barriers, challenges, and successes of working with the program as referral partners, as well as to understand referral partner perspectives on the Market Greens program overall.

Finally, each site was responsible for tracking redemption of incentives over each 20-week incentive period, relevant activities taking place at the markets (i.e., nutrition education, childminding), and general observations of the program implementation at each market location. The observation journals were seen by staff as time consuming and not consistently useful by market staff and were therefore discontinued mid-way through the program.

Program Implementation

The pilot was implemented at two distinct market locations. The Local Community Access Market in Stratford is a well-established market. The community it serves has a low employment rate: when Centre participants were surveyed in 2016, only 28% were employed, and 29% were receiving income from government assistance programs¹⁶ (also see Table 1 for comparison of population statistics for each location). The Local market had a strong foothold in the community prior to the implementation of Market Greens. However, a disadvantage to being an established and active market is that staff at The Local tended to be extremely busy managing all aspects of the market and other programs at the Centre with less time to dedicate to implementing the Market Greens program.

Chigamik Community Health Centre in Midland serves community members from Midland, Penetanguishene, Tay, Tiny, and Christian Island. The Centre often serves single parents, Indigenous and Francophone individuals and families¹⁰. The Midland market did not exist prior to the beginning of this project. It was started up in conjunction with the Market Greens program and securing and setting up the market location was a large part of the early process for this site. The market greens program through Chigamik partnered with Operation Grow for a space to host the market. In the final year the program was moved to Chigamik Community Health Centre. One strength that the Midland program had in particular was plentiful volunteer help and staff dedicated to the Market Greens program.

Demographic	Stratford	Midland	Ontario
Population	31,054	35,859	13,448,494
% of households that are single parent	17.7%	19.1%	644,975
Low-income Prevalence (LIM-AT)	12%	16.5%	14.4%
Unemployment Rate	5.3%	8.1%	7.4%
% with Aboriginal Identity	1.3%	14.8%	2.8%

Table 2. Comparison of population statistics for each market location based on 2016 census data

¹⁶ Community Food Centres Canada, 2016

There are also some contextual differences between the two locations that impacted the evaluation process. At Chigamik, email and phone were discovered to be the most effective ways of getting in touch with participants. All participants at this location were able to take a phone call and had access to internet – no barriers were expressed in this regard. The co-researcher for this site felt that convenient online data collection methods were a success. At The Local, however, some participants identified that limited phone minutes was a barrier to communication with the research team. Although many were able to use email instead, when the pandemic forced closure of many of the public wifi hotspots (e.g., cafes, library) some participants were no longer able to access internet reliably. For staff at The Local, seeing these participants in-person at the market was identified as a more reliable way of communicating.

Another difference between the two locations was the relationship of the evaluation team with each market. At Chigamik, the evaluation team member assigned to that location was also a staff member at the market, which created a seamless connection between the day-to-day workings of the Market Greens program and the evaluation. Every time participants attended the market (and later, in year 3, every time participants received a delivery to their door), they saw the person who would reach out to them with requests for survey and interview completion. At The Local in Stratford, the evaluation team member assigned to the location was not employed by the market, making them a third-party researcher. Although the researcher attended the market and worked to build relationships with participants early in the pilot program, mid-way through Year 2 the evaluation shifted away from in-person surveys and interviews in favour of more efficient phone interviews and online surveys. As an effect of this shift away from in-person market visits and data collection, the connection between the evaluator and the market became different for the two locations. It is unknown what impact this difference may have had on participant retention or data quality (if any); however, this context should be noted.

After March 2020, both markets responded to the pandemic by altering their services. Each market pivoted in different ways. The Local in Stratford maintained their Monday markets but closed their Friday markets, and reduced their hours to 1 hour (pre-COVID hours were 1.5 hours on Mondays and 2.5 hours on Fridays). Friday markets reopened in the summer adding another hour of open time; unfortunately, limited hours were identified early in the pilot as a barrier to shopping at the market, and the fact that COVID forced such hour restrictions worsened that barrier to access. In order for the market to remain open to the public, safety protocols were put in place such as admitting a reduced number of shoppers (between 5 and 8 shoppers depending on the wave of the pandemic). A challenge that arose from offering the Market Greens program through an in-person market during the pandemic was that some participants assumed the market was closed along with other programs during the provincial lockdown. Others felt unsafe attending due to the risk of COVID transmission.

The Chigamik program pivoted to a completely new service delivery model, closing the in-person market entirely and shifting to an emergency food delivery model. Instead of offering Market Greens through the Miijim Market, Market Greens vouchers were transferred to the new COVID Emergency Food Access Program. Through this program, old and new Market Greens participants received weekly produce bags valued at \$15 each, delivered to their homes for 20 weeks. Participants were no longer able to view, handle, sample, and select the fruit and vegetables

they wanted to take home, but the delivery service overcame the barriers related to attending the market (e.g., transportation, limited hours). Redemption of vouchers was 100% through the delivery model.

Point of Sale Process

At The Local market in Stratford, the point of sale process involved a membership card with a unique ID number. Everyone who shopped at the market, whether they were a participant in the Market Greens program or not, had the same type of membership card. **This process ensured a non-stigmatizing way of receiving the vouchers**, as program participants were not identified as separate from other shoppers at the market. Membership cards contained a unique membership ID, the last digits of which identified the incentive value that each participant was entitled to. **This process of verifying incentive entitlement made check-out easy and discreet.** Participants could either redeem the full voucher amount at one market date through the week or redeem part of their incentive at the Monday market and the rest at the Friday market of the same week. This process remained unchanged throughout the duration of the pilot.

At the Midland market, the point of sale process used the Square Reader application and a physical stamp card. The Square Reader application housed information about participants; at check-out, the cashier would input the participant's name and the application would show the incentive amount they were to receive (\$10 or \$20). In addition to the Square Reader system, each participant had a physical stamp card that was stored in an alphabetized box at the market check-out. Each stamp card contained the expiry date for the participant's incentive period, and a grid with 20 squares; participants received one stamp on the grid for each market visit. **This physical tracking system made it easy to identify how many weeks of incentives each participant had remaining.** At the check-out, market staff would inform participants if they had underspent and would assist them in selecting additional produce that would bring their purchase up to the maximum total for their incentive. Participants did not have to leave the line for this – they would be checked out for the final amount and could re-enter the market to pick up the extra items before leaving. **This process encouraged participants to use up their entire incentive amounts.** Staff received feedback from participants that this process was discreet and did not make them feel put on the spot.

Attendance and Incentive Redemption Rates

A total of **283** program participants were enrolled in the 2-year Market Greens voucher program, out of a target of 360 enrollments. The additional third incentive period was targeted to enroll an additional 80 participants (for a new total of 440), and ended up enrolling another 65 participants for a total of **348** enrollments over the 3-year pilot program. Actual program enrollments were shy of targets, although the indirect reach of the program taking into account all members of enrolled households was much higher. A total of 679 individuals resided in the households enrolled in the program (of all ages). Of those, participants reported a total of 363 children age 12 or under (or 6 or under in year 1) among the households enrolled. Participants were tracked to document attendance rates and incentive amounts redeemed over the course of the program.

Across both markets, participants attended an average of 8.5 weeks out of their 20-week incentive period in years 1 and 2 and redeemed a total of \$37,142.44 worth of fruit and vegetables (see Table 2 for details). The following list captures the reasons shared in interviews for not attending the market on any given week:

- Hours of operation not fitting with their schedules
- Transportation: lack of affordable and convenient transportation, bad weather
- Stressors in their lives
- Forgetting
- Not knowing the market was open during the pandemic (The Local only)
- Choosing the one-stop-shop at a grocery store over the market (related to limited access to transportation)
- Location felt “out of the way” (The Local)

	# of Families Enrolled	Average weeks attended	Total \$ value redeemed
Year 1 Chigamik	80	7.5/20	\$11,374.25
Year 1 The Local	98	9 / 20	\$11,652.99
Year 1 Total	178	8.25/20	\$23,027.24
Year 2 Chigamik	53	9.5 / 20	\$4,760.20
Year 2 The Local	52	8 / 20	\$9,355.00
Year 2 Total	105	8.75 / 20	\$14,115.20
2-Year Program Total	283	8.5 / 20	\$37,142.44
Year 3 Chigamik	40	--	\$18,462.55
Year 3 The Local	25	--	\$3,251.00
Year 3 Total	65		\$27,051.10
Program Total (with bonus year)	348		\$64,193.54

Table 3. Enrollment, attendance and redemption rates.

Note. Year 3 average weeks attended was not compared due to the differing models of service delivery across the two markets.

Market Activities

Market activities offered alongside the markets were designed to educate participants about food, from growing to cooking. For example, the **Seed Bomb** activity involved making paper balls full of seeds that participants then threw into their home gardens to grow. Participant feedback included, “**this is a fun learning activity for children,**” and “**this is a neat way to plant your flowers and vegetables.**” Another activity that was well received was the **Shavings Equal Savings** workshop, which gave participants creative recipes using shaved vegetables. Thinly shaving produce like cabbage, carrots, and beets can stretch the vegetables to more meals, which saves money and reduces waste. Children in particular seemed to enjoy trying vegetables that had been prepared using this method. Participants were sent home with recipes to try using shaved vegetables, including a recipe for a homemade salad dressing.

“The little recipe books. Whenever they were out, it was about different seasons of vegetables and different--just all the different fresh vegetables, and then there was the recipes to go with it. They have so many. My favourite one is homemade burgers, but in the centre of the burger is, like--there’s vegetables in the centre of the burger, and it’s really, really good.”

Other activities included a Smoothie Bike, food samples, distribution of recipe cards, and on-site childminding¹⁷ for parents who were shopping at the market (see Appendix C for a full list of market activities). The majority of participants (**76.3%** agreed or strongly agreed) that market activities were useful. Interviews highlighted some of the ways in which participants found activities useful: childminding that allowed parents to shop unencumbered and recipe cards that taught participants how to use the food they were getting accounted for the majority of the qualitative responses. Unfortunately, these activities were discontinued during COVID, impacting some of the participants from the second incentive period and all participants from the third incentive period.

“I love how they pretty much help you by watching your children for the limited time that you’re there, just to make it easier on single moms, especially single moms.”

About the Market Greens Participants

Market Greens participants were mostly women (**94%**), and nearly half were single parents (**47%**)¹⁸. The average age of the household member who signed up for the program was **32**. At Chikamik in Midland – a community known for its high proportion of First Nations, Inuit or Métis peoples, **45%** of program participants identified as First Nations, Inuit or Métis (see Table 4 for more).

Participant Age	17-68, Average = 32
Participant Gender	94% female (out of 173 responses)

¹⁷ Childminding at Chigamik only

¹⁸ Values based on Year 1 and Year 2 data only

Single Parent	47% single parent (out of 169 responses)
Chigamik – First Nations, Inuit or Métis	45% (out of 94 responses)
The Local – First Nations, Inuit or Métis	6% (out of 77 responses)
Chigamik – Food Insecure at baseline	91% (out of 94 responses)
The Local – Food Insecure at baseline	72% (out of 79 responses)

Table 4. Participant demographics

Baseline Food Security Status was measured using the Household Food Security Status tool developed by Statistics Canada¹⁹. This baseline measure shows that a high percentage of Market Greens participants were food insecure at the time of enrollment (**91%** at Chigamik, **72%** at The Local). In the 12 months prior to enrolling in the program, **23%** of families did not have enough to eat. Another **63%** had enough to eat, but not always the kinds of food they wanted. The following chart explores nuances of families' food insecurity just prior to enrolling (see Appendix D for responses to additional food security status questions asked at baseline).

In the 12 months before enrollment, families...

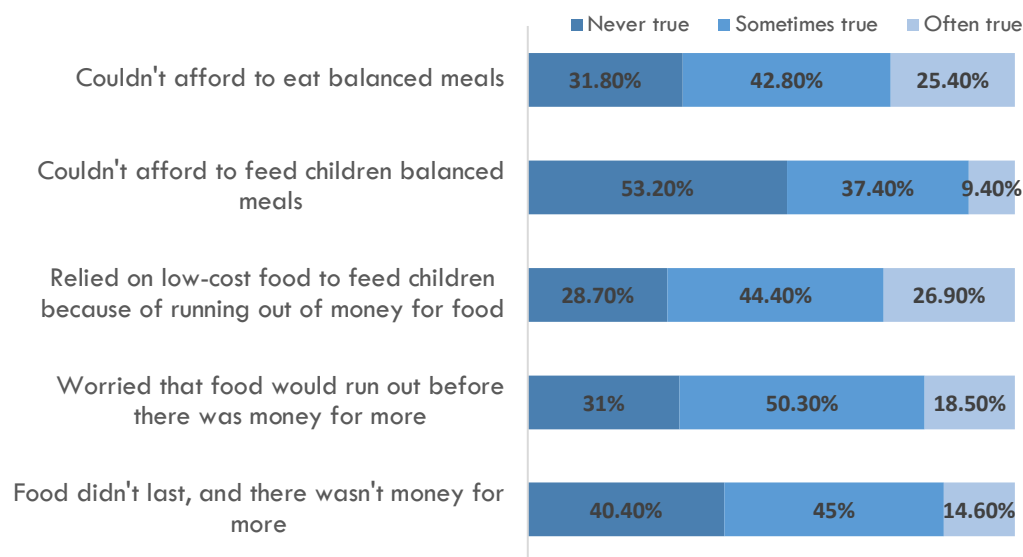


Figure 1. Food insecurity at baseline

¹⁹ Government of Canada, 2020. This tool measures the overall status of food security in a household. The status of adults and children within a household are measured separately and both are considered in the final determination of the overall household status.

The overall designation of “food insecure” (versus food secure) was given when a participant’s household was calculated as marginally, moderately, or severely food insecure (as calculated with the Household Food Security Status tool). Figure 2 shows the breakdown of severity of food insecurity by market location. Participants at Chigamik were nearly twice as likely to be severely food insecure.

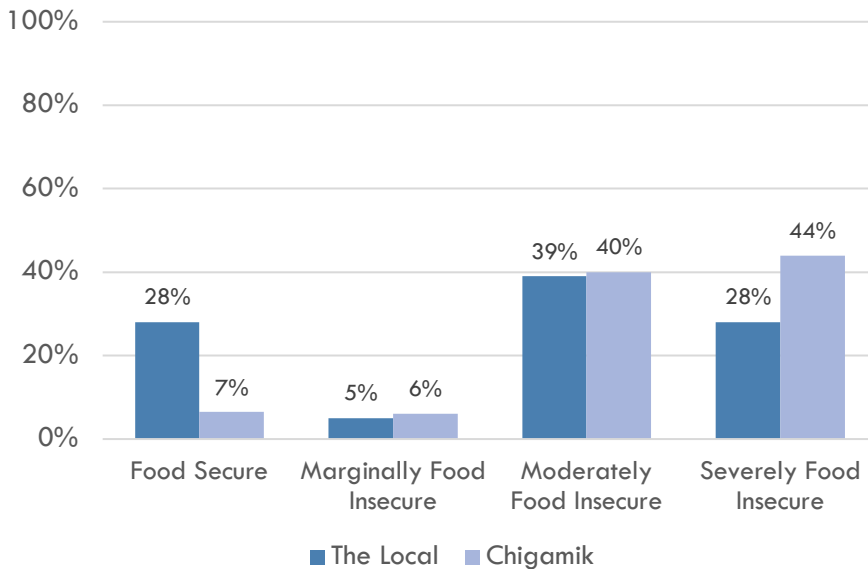


Figure 2. Severity of Food Insecurity by Site

We are able to compare the percentage of Market Greens participants in each location who were food insecure at the time of enrollment with 2008 statistics from their general region to determine if the program was serving those most in need within that region. In the South West region, including Stratford, 6.7% of the population was food insecure (*moderate* or *severe*). In the North Simcoe and Muskoka region, including Midland, 7.5% of the population was food insecure²⁰. Given the high proportion of Market Greens participants who were moderately or severely food insecure in comparison to the baseline for each region (67% and 84%, respectively), it is clear that the program reached the people who were most in need.

Evaluation Results

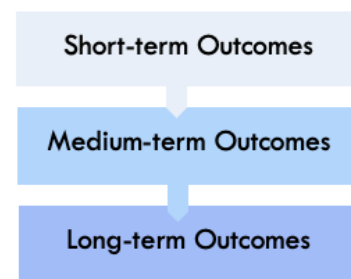
A Note on Sample Size and Data Analyzed

A total of 178 participants completed baseline surveys and 86 completed post-program surveys over years 1 and 2 combined. While any baseline-only statistics (such as the starting food security status of program participants) were generated from the sample of 178 baseline surveys, any **evaluation results based on post-program data or matched pre-post data were generated**

²⁰ Statistics Canada, Table 13-10-0463-01. Region is based on the Ontario Health Integration Network. Most recent data from 2008.

from a sample of 85 respondents. The final matched sample tends to represent the experiences of people who were more actively involved with the market, as these were also the participants willing to devote more time to participating in the evaluation. The evaluation findings are presented with both quantitative and qualitative evidence gathered through both the surveys and interviews and are organized according to program outcomes.

The Market Greens program logic model (Appendix A) outlines a pathway from program activities (e.g, market voucher use and healthy eating programming) to a series of expected outcomes. Program outcomes are best explained in terms of timeline: short-term outcomes should be measurable by the end of each participant’s incentive period and relate to tangible behaviours and skills that participants directly gain from participating in the program. Medium-term outcomes follow from successfully reaching short-term outcomes and are related to sustained changes to behaviours as well as some early socio-emotional impacts (e.g., reduced stress and increased belonging). Finally, long-term outcomes are an expected effect of the combined benefit of all other outcomes. While data includes preliminary measurement of some long-term outcomes, the model is designed to measure change in areas that are known to contribute to the long-term outcomes and to use that data to make evidence-based predictions about the likelihood and extent of those long-term outcomes.



Short-term Outcomes

The short-term outcomes relate to participants’ experience utilizing the program, from market visits to consumption of fruit and vegetables to learning and feeling connected through activities and programming available at the markets. These outcomes can be seen as linearly connected with one leading to the next, and also as interconnected, occurring together. Ultimately, their effects must combine to lead to the medium- and long-term outcomes.

Participants are comfortable with the voucher process and shopping at the market

Ninety-six percent (**96%**)²¹ of market participants said they felt comfortable shopping at the market. The remaining 4% neither agreed nor disagreed that the experience was comfortable, meaning none found it uncomfortable. Participants liked the physical space and the friendliness of market staff and volunteers (**98%** said that market staff and volunteers treated them with respect), and **89%**

said that they looked forward to attending the market each week. There were no notable differences between market locations in the level of comfort participants felt.

“I was nervous, but everybody that was working was very helpful and very patient in explaining everything, to detail how everything works, so it was kind of nice.”

²¹ Calculated by summing agree and strongly agree responses.

Despite the comfort that most participants felt at the market, some found it difficult to bring their young children (under 12) to the market with them. Some reasons included:

- Hard to move through the market with a stroller (small space)
- Too crowded
- Long lines, child(ren) unable to wait long in line
- No cart to put child in
- Lack of childcare for infants

Despite these challenges, just under half (**44%**) of participants would *often* or *always* bring their young children with them to the market²². It is important to consider accessibility for parents attending markets with their children because it is not always possible for parents to attend without their children. Given that single parents are a key demographic accessing this program, the needs of parents shopping with children are particularly important needs to meet.

Participants have increased access to affordable fruit and vegetables

There are multiple factors that play a role in increasing participants' access to affordable fruit and vegetables. Most obviously, the fruit and vegetables must be affordable for families with low incomes. Participants were asked at baseline and again at the end of the program how often cost stopped them from buying fruit and vegetables. **By the end of the program, cost had become a significantly less frequent barrier to purchasing fruit and vegetables;** at baseline, nearly all (**90.5%**) said that cost was a deterrent at least sometimes, and at the end of the program just over three-quarters (**77.1%**) felt that cost was a deterrent at least sometimes²³. Although **cost is likely to remain a challenge for many families with low income even with low market prices and a subsidy**, the voucher gave participants access to fruit and vegetables that they otherwise would not have been able to afford. As one participant stated in an interview, **"Awesome, just to know that I can afford veggies and fruits for my kids without breaking my account to do it."**

It is also important that participants have access to a variety of fruit and vegetables that are high in quality and appealing.

²² In year 1, participants were asked how often they brought children aged 0-6 to the market with them; in year 2, children aged 0-12. Percentage was calculated by summing responses for both years, making the age range asked about 0-12.

²³ Mean at baseline = 3.43, Mean at post-test = 3.07, $t_{(82)} = 3.5$, $p = 0.001$, Cohen's $d = 0.38$

- **89%** agreed that the markets had a good selection of fruit and vegetables
- **91%** agreed that the produce was good quality
- **86%** agreed that they were able to find the fruit and vegetables that they wanted to eat

“I’ve been to some tropical islands, and fresh mangoes are [good]-- [but at the market] that was the best mango I’d ever had. Hands down... they were so good.”

Parents and children consume more fruit and vegetables

While cost of fruit and vegetables still remained a challenge at least some of the time for over $\frac{3}{4}$ of families, survey data showed that **70%** of participants and **71%** of their children, on average, were **eating more fruit**; and **71%** of participants and **63%** of their children were **eating more vegetables** since starting the Market Greens program.

Interviews provided context for these increases. For example, parents may have experienced a slightly greater increase in vegetable consumption because, prior to the Market Greens program, they would save their limited fruit and vegetables for their children, prioritizing their children’s

“We have increased our fruit and vegetable intake, just because mostly my money went to making sure [my son] was fed first, so I’ve been able to eat a little bit better stuff too.”

nutrition over their own when resources were scarce. Because of the increased access to fruit and vegetables through the program, some parents reported being able to increase their **own** consumption while maintaining their children’s consumption.

A primary reason participants gave for their increased consumption was the ability to try new fruit and vegetables at the market. Survey data also shows that **67% of participants and 75% of their children tried new fruit and vegetables because of the program**. By far the most commonly given reason for how the program led to trying new things was the reduced risk of wasting money on food that they (or their children) did not like. Because of the

“I think we just realized that there was a lot that we were leaving out of her diet, that we should have had in her diet... the Market Greens program gave us so many different options per week and it also gave us the benefit of being able to try all the different things and figure out what she likes... like, I didn’t know she liked pears because I didn’t really buy them [before].”

vouchers or the lower prices at the market, families had the freedom to explore new foods risk-free and expand their options for consumption in the future.

Participants gain knowledge and skills around healthy eating

A benefit of learning about new fruit and vegetables is that families also learn new ways of preparing foods and new ways of eating. Nearly half of participants (**44%**) reported **learning new skills** related to preparing fruit and vegetables, **72%** reported that the program **changed the way they shop for fruit and vegetables**, and **52%** reported that the program **changed the way they prepare fruit and vegetables**.

The most commonly mentioned area of increased knowledge was around food preparation; specifically, the knowledge that comes from the experience of cooking with new fruit and vegetables. Many participants spoke in the interviews of learning through trial and error (e.g., learning to pickle beets based on memories from their childhood) and out of necessity (e.g., needing to make a meal with the food you have on hand).

“I’ve even got to the point where I’ve--oh, there’s a couple bananas left and they’re starting to go a little brown, so I’ll put them in the freezer because I’ve learned to make awesome banana bread.”

Another area of increased knowledge was around where food comes from. Participants enjoyed seeing some of the food being grown on-site. One participant shared that they would talk with their children during their market visits about the farmers who grew the food they were taking home.

Despite this increase in knowledge, skills, and behaviours reported by some participants, overall confidence to prepare fruit and vegetables did not significantly increase from baseline to the end of the program²⁴. Some participants shared more about why their confidence didn’t increase overall, and where they could have benefitted from more knowledge and skill-building in order to best utilize the program. Ultimately, receiving new kinds of fruit and vegetables without also learning how to prepare **and** preserve them so that they do not go to waste can add a new layer of food-related stress. More activities, programming, and at a simple level, recipe cards, could be offered to ensure that participants know how to use all of the produce they bring home.

“Because you could get a lot with \$20, right, so going every week did kind of add a little bit more stress of, like, we have to have this every meal, and it was a change that is harder to make, because when you’re not used to eating fruits and vegetables every day through a week to get through them, you start to get that overwhelming feeling of, I don’t want to waste food, so we need to figure this out. And then it becomes a different type of stress.”

²⁴ $t_{(84)} = 1.0, p = 0.28$ (non-significant).

Participants have a stronger connection to community supports at intervention sites

In addition to the educational activities offered through the market, the markets were also tied to larger networks of community supports and services. At The Local Community Food Centre, for example, participants were able to pick up prepared meals when they picked up their fruit and vegetables for the week (meals were free on Mondays). Participants at The Local were also able to pick up seedlings of vegetable plants from the on-site greenhouse in the spring so they could grow their own food at home.

At Chigamik Community Health Centre, market participants had available to them a plethora of other programs and services such as baby/parent support groups, family doctors and midwifery care, and Traditional Healing for Indigenous community members.

After participating in the Market Greens program, **22%** agreed that they had become more involved in other programs and activities run by The Local/Chigamik. Interview data links participation in Market Greens with the increased uptake in related on-site programming: **“It was an avenue, right, to other programs that you offer.”**

“They have the dinner as well that you can get now, and they have those lunches and stuff... It saves on the cost of groceries, their meals are well balanced, and my daughter will eat anything I pick up from there.”

“Discovering Chigamik and the community programs was hugely beneficial. I could not tout it enough. It’s very encouraging.”

Summary of Short-term Outcomes

Participants were comfortable with the voucher process and shopping at the market. They felt that the staff were friendly, and the orientation was helpful. They also viewed the markets as affordable, and their purchase and consumption of fruit and vegetables was therefore less impeded by cost. Most participants and their children reported that they were eating more fruit and vegetables since participating in the Market Greens program, and an important factor leading to this outcome was their ability to try new fruit and vegetables financially risk-free.

Participants reported learning new skills related to shopping for and preparing fruit and vegetables and learned new ways to incorporate fruit and vegetables into their family’s diet. Some participants also became more involved in other programs and activities run by The Local Community Food Centre and Chigamik Community Health Centre as a direct result of visiting the markets for the Market Greens program.

Medium-term Outcomes

The short-term outcomes were expected to culminate with several medium-term outcomes, including sustained positive changes in shopping and eating habits after the voucher period had

ended. Parents were also expected to begin modelling healthy eating behaviours that would lead their children to develop healthier eating habits. Participating households were expected to have reduced food insecurity, reduced stress at the household level, and an increased sense of belonging.

Data analyzed to assess medium-term outcomes includes both the pre-post survey data and end of program interviews included above, as well as data from the 3-month follow-up interviews²⁵. Note that many Year 2 participants were part way through or just finishing their incentive periods when the pandemic began; the ability for participants to sustain certain changes beyond their incentive period was likely impacted by the pandemic.

Positive changes in shopping and eating habits are sustained after voucher period

The follow-up interviews contained glowing examples of the ways in which participants' shopping and eating habits had changed longer term. Participants mentioned improved **budgeting and meal planning skills, improved attitudes** toward eating fruit and vegetables, and learning to see the value in fresh and even homegrown produce. Some of these anecdotes are presented in text boxes below.

Despite the many positive anecdotes of increased knowledge, changed attitudes, and new behaviours, not all participants were able to sustain positive changes in shopping and eating habits after the voucher period had ended. Overwhelmingly, the most common barrier identified in follow-up interviews was cost – without the vouchers, they could not afford to continue purchasing fresh fruit and vegetables at the same rate as before. The second most common barrier identified was the lesser quality of produce they **could** afford; many participants stopped shopping at their market after their voucher period had ended because their local grocery store was more convenient (e.g., one-stop-shop) and easier to get to, but the quality of produce at the grocery stores deterred them from purchasing the same amount as they would have at their market.

²⁵ Year 1 follow-up interviews occurred at 6-months post-program, but this length of time between contact led to loss of participant retention. Year 2 follow-up interviews occurred at 3-months post-program.

"I'm more interested in eating healthy, fresh, affordable food, so I get stuff while it's on sale."

"We have a better idea how to budget, and basically we started to plan out our meals ahead of time, so we knew exactly what we were looking for."

"It's even to the point that I have my own stuff growing. The Market Greens motivated me so much that I started to grow my own... It's definitely motivation, and I want more. I want to grow more because it tastes so good."

"When I was at the market, I could see that everything was fresh, everything was vibrant, and it was definitely better. Now when I look for fruits and vegetables, I look for the vibrant--I scrutinize more than before."

"Seeing the results of having [the fruit and vegetables] in the house, it does give me motivation to put aside \$10, \$20, whatever it's going to be per week, and seeing how much of a difference it's made just with \$20, it goes a long way, it lasts the week."

"Normally I'd get frozen or canned, that you kind of heat up and serve. But now it's like, I actually want to do recipes, so now when I shop, I'll be like, I want to get actual vegetables for real recipes."

Parents model healthy eating behaviours, children develop healthy eating habits

Sixty-four percent (**64%**) of participants noticed positive changes in their child(ren)'s attitudes toward eating fruit and vegetables by the end of the program. It is unclear what proportion of these changes is due to parents modelling healthy behaviours at home, to the children being able to experience the market and related programs along with their parents, or simply to having more fruit and vegetables available in their home on a regular basis. Parents did commonly bring their children with them to the market (**44%** often or always brought their young children to the market). Including their children in the shopping experience would have modeled the process of selecting healthy foods and also exposed them to a plethora of healthy, and sometimes new, food options.

One participant mentioned that the benefit of a market that served only healthy foods was the

"I think it's like taking them into a candy store... they go in there for a specific thing and then they see a whole bunch of things, right? I think it's the same kind of analogy. She goes in to all the fruits and veggies, she sees the different kinds, and we just--we honestly most of the time just let her choose what she wants."

ability for the child to choose anything they wanted, and it would always be a healthy option.

Bringing children to the market also allowed them to become involved in the educational activities and tastings which helped to make many children more open to trying new fruit and vegetables. One parent shared that, since the Market Greens program, their “**16-year-old son started cooking stir-frys with different vegetables**”. Another participant even mentioned that they had modeled healthy eating behaviours to others outside the program and that the modelling led to healthier eating habits.

“Even my parents, my mom would come over and... it’s like, well I have this recipe. My mom actually would try the recipe out, and it worked out for everybody’s benefit because... my kids would go to my parents’ house and they’d be eating healthier over there as well.”

Reduced food insecurity

Access to affordable food (a short-term outcome confirmed above) is a key factor in food security. **There is evidence of reduced food insecurity among program participants²⁶**; after the program, participants were:

- significantly less worried that food would run out before they got money to buy more
- significantly less likely to say that the food they bought didn’t last, and that there wasn’t money to get more
- significantly more able to afford to eat balanced meals
- significantly less likely to rely on certain kinds of low-cost foods to feed the children because they were running out of money to buy food
- significantly less likely to say that they couldn’t feed the children a balanced meal because they couldn’t afford it

Although food insecurity was reduced overall, there is limited data supporting the longevity of this change. Few participants talked about their food security directly during follow-up interviews. While one participant credited their reduced stress to their newfound food security (3-months post-program), another participant referred to having food security during the program, but no longer having it after the program had ended. Thus, the evaluation cannot conclude that reduced food insecurity persisted beyond the short-term.

²⁶ See Appendix D, Table 1 for detailed results of statistical analysis, and Figure 2 on the next page for a visual representation of the changes over time.

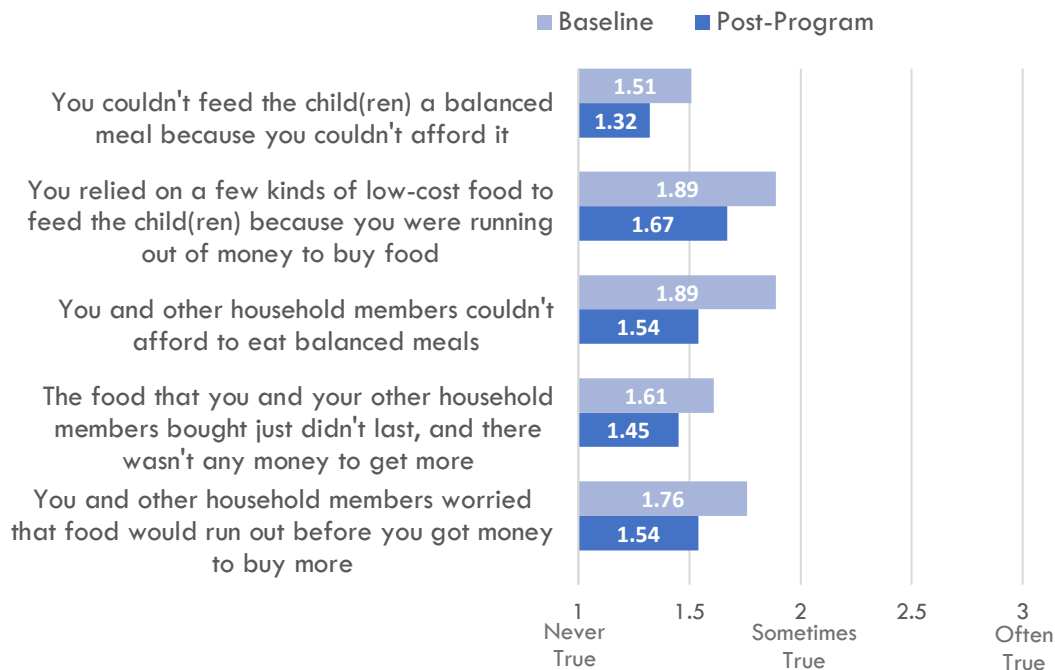


Figure 3. Reduction in food insecurity over time

Reduced stress at the household level

Stress among participants was significantly reduced while participating in the program²⁷. Some participants directly credited their improved food security for reducing their stress: **“it was a lot less stressful to have that food security.”** However, as with food security, the evidence of reduced stress can only be confirmed for the period of time in which participants were enrolled in the Market Greens program. In fact, some participants expressed that their stress levels **increased** at the time of follow-up (either 3- or 6-months post-program). The stress increase appears to be due to the contrast between plentiful access to affordable fruit and vegetables during the voucher period and then no longer being able to afford the fruit and vegetables participants had become accustomed to.

“Since it stopped, just like--I don't know, I feel like I don't ever have enough fruits and vegetables for them. I find that a bit concerning.”

²⁷ Mean at baseline = 3.46, Mean at post-program = 3.27, $t_{(82)} = 1.98$, $p = 0.05$, Cohen's $d = 0.23$ (small effect size)

Increased sense of community belonging, reduced isolation

Pre-post survey data showed that **participants felt a significantly greater sense of community belonging after participating in the program**²⁸.

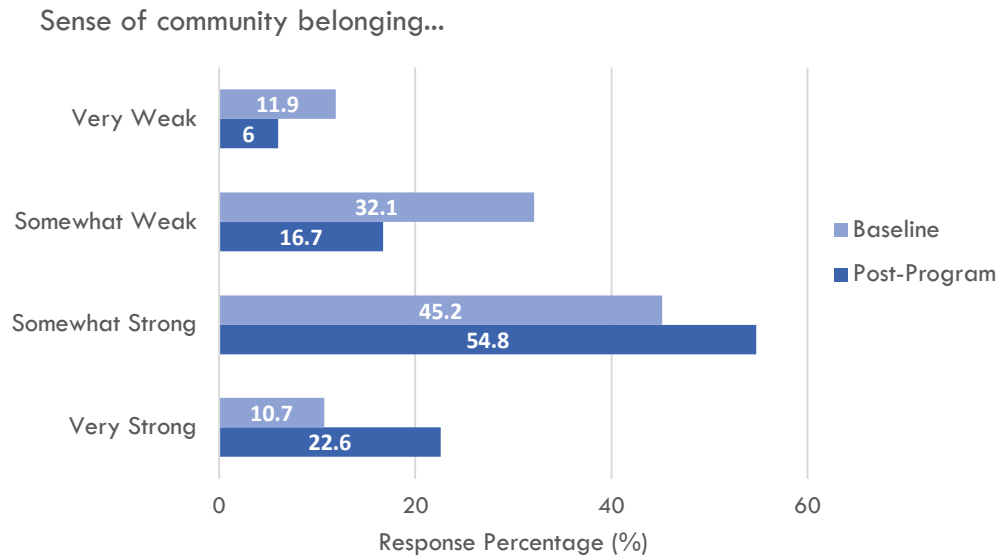


Figure 4. Increase in community belonging over time

In follow-up interviews, participants described that it was helpful to see other families in the same economic position all being helped by their community.

“Seeing that other people were basically in the same situation as we were, that we needed a little bit of help with having access to all these things, and just--it made us feel a little bit better about our situation - okay, **we’re not alone in this**. This is something that’s happening to almost everybody.”

“It just felt great knowing that the community was actually reaching out to help low income families, and even just families in general get the proper eating back into their life.”

A leading cause for increased community belonging, according to interview data, was the personal connections, friendships made, and general friendliness encountered at the markets. For some, these friendships were lasting; participants spoke about meeting up and staying in touch **even after the program had ended**.

²⁸ Mean at baseline = 2.54, Mean at post-test = 2.95, $t_{(82)} = -4.22$, $p < 0.001$, Cohen’s $d = 0.46$.

“It’s nice to meet new people and--I don’t know, you feel more secure and safer when you’re in a place where you’ve gotten to know people and they’re friendly... once you kind of get to see the regular faces that are there at the same time you are usually, that kind of stuff, then you kind of make those connections and it makes it a fun little experience. The kids, they’ve gotten to know people. I don’t know, it’s just--it’s nice.”

“So nice to go somewhere where I can get fresh fruit and veg that always looked really great at a lower cost in a smaller, tight-knit community versus just your generic big brand grocery store, so a lot more talking to people, a lot more smiles, a lot more making connections versus just going to your local big box store that everybody is kind of, like, get your stuff and get out.”

Reduced isolation is related to community belonging, and participants readily spoke of the ways in which the voucher program incentivized them to get out in the community, which in turn helped them to feel less isolated. However, whether or not this reduction in isolation persisted in the months following the end of participants’ voucher period is inconclusive.

“It’s really hard for me to get out of the house... so I know that every Monday, you have to go out because you’re basically throwing away \$10 of food, which is silly, so it kind of forces me to move at least one day a week, right, to get out of the house. And then all the friendly faces, like everybody there is so welcoming and kind, and no judgement zone kind of thing, so I really appreciated that... it’s just that little extra thing of there’s a friendly face, so you’re not as isolated or as alone as you might think you are.”

Summary of Medium-term Outcomes

By bringing their child(ren) to the market, parents modeled the process of selecting healthy foods and also exposed them to a plethora of healthy, and sometimes new, food options. This modeling may have contributed to the fact that the majority of participants reported positive changes in their child(ren)’s attitudes toward eating fruit and vegetables by the end of the program. Some participants experienced **sustained changes** in their shopping and eating habits (persisting at least 3 months after the program) that they directly attributed to their participation in the Market Greens program. Others found it difficult to sustain the changes they had made during their incentive period because they no longer felt able to afford the same quality of fruit and vegetables that they were able to get at the market using their vouchers.

Similarly, stress among participants was significantly reduced over the course of participation in the program, but **after** the voucher period ended, some participants reported that their stress levels **increased** due to the contrast of having access to fruit and vegetables and then no longer having that access. Participants also experienced significantly reduced food insecurity at the end of the program; although, it is unknown whether food security was impacted beyond the end of participants' voucher period.

Finally, due to the friendships made and general friendliness encountered at the markets, participants felt a significantly greater sense of community belonging after participating in the program. For many, these friendships and sense of connection to the community did persist beyond their participation in the program.

Long-term Outcomes

According to the project's theory of change (see Appendix A) all the short- and medium-term outcomes presented above are expected to contribute to the following long-term outcomes:

- Improved physical and mental health among adult and child participants
- Improved school readiness among children
- Reduced depth of poverty

The evaluation focuses on improved health among participants, and there is some preliminary evidence to suggest that participants and their children are experiencing such benefits.

Improved physical and mental health among adult and child participants

Participants' physical health²⁹, mental health³⁰, and spiritual health³¹ all significantly improved over the course of the program (see Figure 3). Based on parents' reports of their child(ren)s' overall health at baseline and again at post-test, childrens' overall health improved by the end of the program as well³².

Common changes in physical health included having more energy and being more active, as well as feeling relief from maladies or general ill health. Some specific examples of improved health include:

- a participant reported that their blood work looked better after participating in the program;
- a parent reported that their child was no longer anemic after the program;

²⁹ Mean at baseline = 2.7, Mean at post-test = 2.9, $t_{(81)}=-2.12$, $p<0.05$, Cohen's $d=0.23$

³⁰ Mean at baseline = 2.8, Mean at post-test = 3.1, $t_{(84)}=-2.56$, $p<0.05$, Cohen's $d=0.27$

³¹ For Chigamik participants only; Mean at baseline = 2.7, Mean at post-test = 3.1, $t_{(46)}=-2.42$, $p<0.05$, Cohen's $d=0.35$

³² Values averaged across all children within a household for the purposes of this statistical test; Mean at baseline = 4.02, Mean at post-test = 4.28, $t_{(83)}=-2.51$, $p<0.05$, Cohen's $d=0.27$

- a parent reported that their child, who was diagnosed with ADHD, seemed more focused and calmer after the program, and partially credited his improvement to the healthy diet.

For children in particular, parents anecdotally reported improved immune systems; children seemed to be avoiding the usual viruses that daycare and school children get regularly, and **therefore missing less school because of the healthy diet they were able to eat while in their family was enrolled in the Market Greens program.**

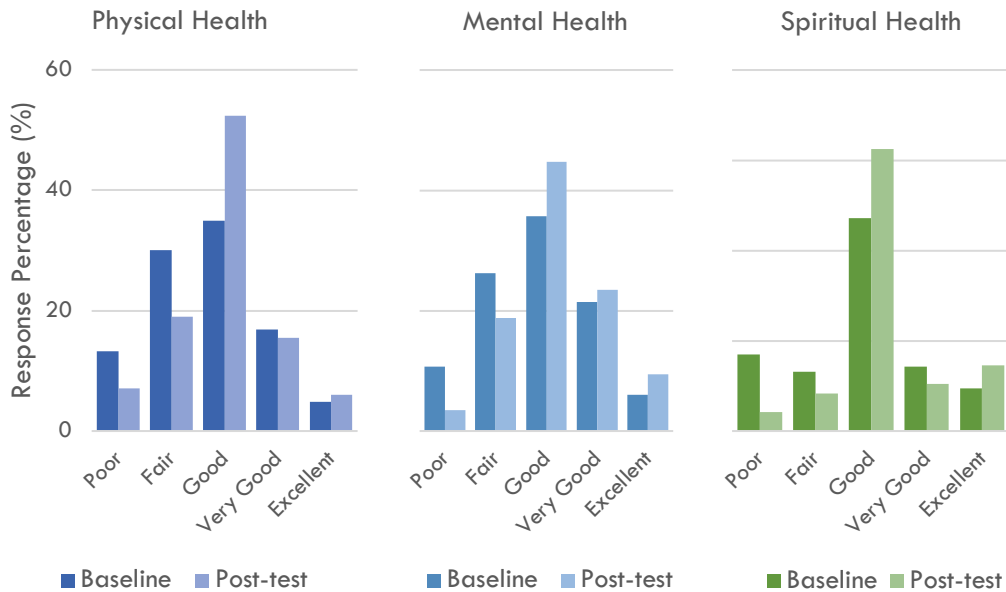


Figure 5. Change over time in physical, mental and spiritual health

The long-term benefits of healthy eating were also becoming apparent to participants; for example, one participant noted that the access to “the rainbow” of fruit and vegetables would play a role in preventing serious health problems that they were predisposed to from occurring later in life.

“I found out I’m at high risk for macular degeneration later, so trying to eat the rainbow is really expensive and I was kind of worrying. So long term, little things like that are making it possible for me to prevent big problems down the road.”

Participants also felt that the program improved their mental health. Some made general statements about the program: **“definitely making us feel better mentally and I think just overall, we’re better for it.”** Others gave more specific examples of how they believed a healthy diet was helping them with pre-existing mental health conditions.

When asked about their spiritual health, one participant described the improvements they felt as **“uplifting.”**

“I had mental health conditions... before the Market Greens, and I have been actively working on my mental health with different groups. I do notice that with more fruits and vegetables, I find that I’m at a more balanced level and able to handle my mental health issues.”

Conclusion of Evaluation Results

The first 2 years of pilot program data shows that Market Greens had many meaningful effects on participants. They enjoyed the market experience and expanded their palates and food preparation skillsets. They became connected to new community supports, experienced reduced stress, and reduced food insecurity. Participants also gained a deeper sense of community belonging and had already begun to notice improvements in their physical, mental and spiritual health.

The evaluation of the pilot showed improvements in participants lives from before the program (baseline) to the end of their participation in the voucher period (post-program). The long-term and even some medium-term outcomes were less clear in terms of their longevity, but as the program spreads to new locations and continues to serve participants in the years to come, future evaluations may be able to track participants for longer and gather more data on the long-term benefits of the program. As such, the final section of this report is a synthesis of the recommendations for future roll-out of the Market Greens program, encompassing implementation and evaluation.

Recommendations for Roll-Out

Following the pilot program, CFCC has begun roll-out of Market Greens to 30 delivery partners across Canada. The program was launched in 2019 and will run until 2024. The following recommendations are based on lessons learned over the 3-year pilot, and where applicable, take into account the existing plans and resources for the roll-out.

Recruitment

Lessons learned regarding recruitment have been discussed earlier in the report and have also been summarized here as they are relevant to the roll-out.

- Recruit from similar programs run by the centres hosting the Market Greens programs. These people are often already aware of the markets due to proximity and relation to

the Centres, and, depending on the programs they are already a part of, they have a high likelihood of being eligible for the Market Greens program.

- Local staff and co-researchers can draw on their own community connections and contact people they know who meet the eligibility criteria.
- Build relationships with referral partners, specifically with the **right** people within those partnering organizations. Know who works directly with your target population and get a direct line of contact with them, rather than using general communications directed at the organizations as a whole.
- Utilize snowball recruitment and word of mouth referrals from current participants. Allow participants to refer their friends and family.
- Social media may be a beneficial place to advertise the program, depending on the social media uptake in the community.

Implementation

Lessons learned around addressing common barriers to **accessing the program** are particularly important to informing the recommendations for a more successful roll-out. Transportation barriers (such as relying on public transit schedules or rides from other people) and limited market hours (often occurring during participants' working hours) were primary barriers that led to less than half of the pilot voucher weeks being redeemed, on average. These same barriers were identified in Wholesome Wave's fruit and vegetable prescription program which Market Greens was modeled after; Wholesome Wave found that including grocery stores as locations where subsidies could be redeemed increased redemption³³. The variety of locations of grocery stores in any given town or city increases the likelihood that one location will be easier to travel to; furthermore, the all-day hours of a grocery store mean that participants can visit when it is convenient for them.

"Honestly, the online ordering has made it easier. That is a big thing. As a single parent, bringing your child grocery shopping is not fun, so anything that makes the shopping more convenient... It really is the access, like the timing, the convenience of purchase. I think that is the big thing here."

Recommendation: Ensure that transportation and hours of operation are not barriers to participants in redeeming their vouchers. This can be done by:

- adding grocery stores or multiple market locations to the program so that participants can choose the location most convenient for them;
- providing public transit passes;
- offering online ordering or a delivery service so that participants do not have to physically shop at the markets at all if it is not feasible for them.

³³ Wholesome Wave, 2013

Similarly, participants often **prioritized convenience** when deciding whether it was worth attending the market in any given week. Many wanted to be able to purchase meat, dairy and grains (i.e., bread products) at the same location they were picking up their fruit and vegetables. Although some suggested that enabling the subsidy to cover other food groups would be helpful, others simply wanted the market to be a **one-stop-shop**. Many participants had busy schedules that made it more practical to shop at a supermarket grocer where they could get all of their weekly grocery items, rather than commuting to multiple locations for their groceries. This concern was especially relevant for those who relied on public transit, walking, and rides from others to get around.

“I think that even if it was once a month where you were allowed to use a gift certificate, whether it be \$5, \$10, whatever, so that you could pick up eggs or meat as well as your fruits and vegetables so that you’d be able to make a meal that contained everything you need to have a balanced diet, because there is times where I wouldn’t have meat, and meat is just as expensive as vegetables and fruit”

Following learnings from Wholesome Wave’s Fruit and Vegetable Prescription Program, Market Greens will now be offering a prescription-based program in addition to the market subsidy model. Through the prescription model, participants will be able to access fruit and vegetables through other local retailers besides farmers markets. This adaptation may prove to be a valuable way of reducing the market attendance barriers participants have faced in the pilot as well as improving the shopping convenience. However, for the majority of program participants who are in the standard market subsidy program, markets should consider expanding the types of foods available at their location wherever possible to improve the convenience of this model type.

Recommendation: Where possible, consider offering more grocery items at markets where there is only one location available to participants or where delivery is not an option. Enabling participants to purchase their bread, dairy and meat at the same location as their fresh fruit and vegetables would increase the convenience of the shopping experience and would therefore encourage more participants to attend the markets rather than their local grocery store.

With the roll-out expanding to new eligibility criteria in many more communities, it will be essential to cater to the specific community being served by each location. In the pilot program, single parents were a key demographic accessing the program; thus, their needs, such as childminding, room for strollers in the aisles, and a child-friendly atmosphere were important to address in order to improve market attendance.

Recommendation: Know the community being served at each program location and predict and cater to their needs. For example, this may involve offering childminding to families with young children; having market aisles that are accessible to participants with assisted mobility aids (e.g., wheelchairs, walkers); or having language translators available in communities with high proportions of newcomers to Canada. It should be a priority to make each market a friendly, welcoming and accessible space to its target population.

Although not all delivery partners in the roll-out will offer skill- and knowledge-building activities and programming, the overall Market Greens logic model still recognizes the importance of increased knowledge and skills as outcomes. In the pilot, despite the offering of many programs and activities that were well received, some participants expressed that they were still lacking in food preparation knowledge and skills. Ultimately, receiving new kinds of fruit and vegetables without also learning how to prepare **and** preserve them so that they do not go to waste can add a new layer of food-related stress. More activities, programming, and at a simple level, recipes, could be offered to ensure that participants know how to use all of the produce they bring home.

Recommendation: Wherever possible (depending in part on service delivery model) offer activities or programs designed to increase participants' knowledge and skills around **using** the fruit and vegetables they will be receiving as part of the program. The program will be most impactful if the fruit and vegetables do not just go home with participants but get consumed in the most nutritious ways possible (e.g., fresh, healthy recipes). Making activities about food preparation and basic preservation mandatory may be beneficial.

Although the evaluation of the pilot program showed very promising results on all short-term and some medium-term outcomes, the lasting effects of the changes the program made to peoples' lives was mostly inconclusive. For example, not all participants were able to sustain positive changes in shopping and eating habits after the voucher period had ended. Overwhelmingly, the most common barrier identified in follow-up interviews was cost – without the vouchers, they could not afford to continue purchasing fresh fruit and vegetables at the same rate as before. The roll-out should consider ways of making the impacts last longer for participants.

Recommendation: Consider ways of making program impacts last longer for participants; for example, offer a grocery budgeting workshop or seasonal produce selection tips that give participants a realistic plan for continuing to be able to afford fruit and vegetables after their voucher period or prescription ends. Alternatively, connecting outgoing participants to additional food subsidy opportunities or food banks may be helpful.

Evaluation

The goal for evaluation in the pilot and the scaled-up model of Market Greens is to develop a strong case for fruit and vegetable subsidy programs within a Canadian context. In order to

provide sufficient research evidence to garner enduring financial support for Market Greens programming, the ongoing evaluation is advised to maintain its rigorous, quasi-experimental design. However, with the evaluation of the pilot program complete, the evaluation of the scaled-up programming may be streamlined. There are particular aspects of the design that we recommend retaining.

One aspect that we recommend for the evaluation of the roll-out is the use of co-researchers. We found that the co-researcher role was instrumental to the success of the evaluation; the co-researchers had extensive knowledge of their community, strong relationship building skills, and developed strong research skills throughout the process. They were provided with training and support from Taylor Newberry Consulting, were given opportunities for input into adaptations to the evaluation design and provided important context to the interpretation of findings. The duplication of the role in other communities may be an important consideration depending on the evaluation design as the program is scaled (e.g., do staff have the capacity to implement an evaluation themselves? Are there financial resources to support co-researchers?)

Recommendation: Use co-researchers who are connected to each program site. Co-researchers connected to their community can be valuable in recruitment, and may be more effective than a removed, third party researcher at building trust with participants which benefits the data collection process.

Another aspect we recommend utilizing in ongoing evaluations is the mixed methods design. Quantitative data – particularly data gathered by pre-post design – has provided strong statistical evidence that the program has changed participants’ lives in the key outcome areas expected of the program. Interview data, while more resource-heavy to collect and analyze, has provided much needed context to the changes quantified in the survey data. Anecdotes from participants about **how** their lives have been impacted by the program can also be just as powerful to future funders as statistical evidence. Furthermore, anecdotes about barriers and challenges participants experience can be useful to program staff as they work to make their program as accessible and useful as possible for their participants.

Recommendation: Use a mixed-methods design that incorporates both pre-post surveys and some form of qualitative method (e.g., interviews, focus groups).

The ability to measure long-term outcomes was limited in the evaluation of the pilot. In the evaluation of the roll-out, there is an opportunity to include additional follow-up measures. Although 6-month follow-ups were challenging in the pilot due to losing contact with participants after this span of time, the 3-month follow-ups that were used in Years 2 and 3 were not able to measure truly **long-term** outcomes. Resources should be dedicated to finding successful ways of maintaining contact with participants for at least 1-year post-program to measure outcomes such as health changes, school-readiness, and reduced depth of poverty. If possible, participants could be tracked for every year that the program is funded (until 2024), providing 4-year follow-up data on the first cohort of participants.

Recommendation: Dedicate resources to improving long-term follow-ups with participants. Incorporating survey measures instead of, or in addition to, follow-up interviews would enable statistical tracking for multiple years (longitudinal evaluation) which provides extremely strong evidence of a program's impact.

Although it will be helpful to retain these components of the evaluation design, it will also be important to find ways to simplify the evaluation framework as the work is taken to scale and resources for evaluation may be reduced. A key to streamlining the evaluation will be to cater evaluations to the specific programs being assessed. For example, it would not make sense to assess the skills and knowledge gained through on-site programming for those locations/delivery models that do not offer programming or activities (e.g., food delivery program). Because increased skills and knowledge is an important part of the overall Market Greens program model, though, it will be worth retaining these measures at locations where programming and activities are offered. Thus, streamlining the evaluation will not equal one simplistic evaluation framework for all programs; it will be a matter of measuring only what can be measured at each program location.

Recommendation: Streamline and diversify the evaluation by selecting indicators (and associated data collection measures) that are most relevant to the program model being assessed. For example, if the Household Food Security Survey Model (HFSSM) is not going to be used in full as a measure of food insecurity, consider removing this complex set of questions from the surveys in favour of a more simplistic (shorter) measure of food insecurity.

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Appendix B

Targeted Sample Sizes for Each Data Collection Tool

*Year 3 was not included in original targets, but because years 1 and 2 fell short of targets, year 3 was added as a bonus year. Target totals do not include year 3; final acquired sample sizes do include year 3.

Data Collection Method	Targeted Sample Size	Acquired Sample Size
Baseline surveys	320 Y1: 80 per site (n=160) Y2: 80 per site (n=160) *Y3: 40 per site (n=80)	227 Y1 total = 82 Y2 total = 96 Y3 total = 49
Post-program surveys	320 Y1: 80 per site (n=160) Y2: 80 per site (n=160) *Y3: 40 per site (n=80)	127 Y1 total = 35 Y2 total = 51 Y3 total = 41
In-depth end of program interview	24 Y1: 6 per site Y1: 6 per site *Y3: 6-8	37 Y1 = 12 Y2 = 18 Y3 = 7 ³⁴
3- or 6-month follow-up interview	160 Y1: 40 per site Y2: 40 per site	53 Y1 = 23 Y2 = 30 Y3 = n/a
Market staff and referral partner interviews	12 Y1: 6-8 per site Y2: 6-8 per site *Y3: 1 per site	17 Y1 = 6 Y2 = 9 Y3 = 2

³⁴ From Chigamik only – evaluation focused final round of interviews on the location that had employed a new delivery model in order to gain new insights

Appendix C

Activities at the markets for Market Greens participants³⁵:

- Seedbombs – using recycled paper and seeds to take home a plant in containers or home gardens. *All ages.*
- How-To-Hide-Our-Veggies – learning how to pulsate and “hide” good foods in common everyday meals (i.e. spaghetti sauce, stews, mash potatoes, etc.)
- Legumes the Boom – how to substitute legumes and beans for other sources of protein.
- Smoothie Bike - making a smoothie by peddling the bike to turn on the blender.
- Ojibway Food of the Month- highlighting an Indigenous dish to sample once/month.
- “Create-your-Food” Space – workspace for kids to “make their own....pizzas, smoothies, salads, etc.”
- Pay-What-You-Wish & Build-Your-Own-Dish – salad bowl bar for attendees to pick up lunch for the day using Micro Greens and vegetables.
- Trying Edible Flowers – introducing members to various edible flows (dandelion, Day Lily, etc.) and how to incorporate them into everyday meals.
- Noodle-Mania – teaching members how to spiral and grate veggies to replace carb-heavy meals.
- Taste testing (exposes participants to new items)
- Blind taste testing
- Cooking demonstrations
- Recipe cards given out
- Kids activity sheets (knowledge based/educational)
- Kids colouring sheets (to help identify the fruit or vegetable)
- Reading books (for the younger kiddies)
- Shape matching boards (with produce) for younger kiddies

Food-Related Workshops outside of Market (open to “Market Greens” participants or to all market members):

- Sugar Pumpkins – learning how to use the whole pumpkin (to be hosted in the Fall).
- Breaking Your Fast – how to incorporate more fruits and vegetables into your breakfast.
- Microwave Madness- Learning ways to use microwaves to cook soup, eggs, veggies, and desert.
- One Dish...No Pssshh - learning to use one pan, crockpot, dish to make a no-fuss meal.
- Container Gardening – learning how to use everyday containers to build a garden (for peppers, tomatoes, basil) at home, no matter where you live!
- Grow your Own Herb Garden – learning how to grow herb gardens at home using your kitchen windows.
- Bee House Workshop - making bee houses to take home and learning the necessity of the role of bees in the pollination of agriculture.
- Kitchen Talk Program – ongoing program located on the same day/same space as the market. Participants work together from start to finish to make a new meal each week.

³⁵ For Years 1 and 2 only (activities cancelled in March 2020 in response to COVID and were not restarted during the pilot).

- Vegetable Shavings Equals savings- Learning to break down vegetables and how the skins and roots can be used to make broth for soups, gravies and flavor base.
- Cook Ahead and Go to Bed- learning how to cook large batches and make meals for the weeks ahead.
- Compost Tea – making liquid gold for your garden.
- Foraging – identifying wild edibles and medicine and how to harvest wild edibles and medicine. Education on the uses for different parts of plants.
- Preserving your food – four-part series that focuses on a new preserving technique each week (pickling, salsa making, dehydrating, storing your veggies).

Ceremonies and Teachings (for all members of the Mijim Market):

- Water Ceremony
- Planting Ceremony
- Plant medicine Teachings
- Companion Planting (Three Sisters soup) Teachings
- Medicine Walk with a Medicine Man

Appendix D

Responses to Additional Food Security Questions

In the 12 months before enrollment, families...

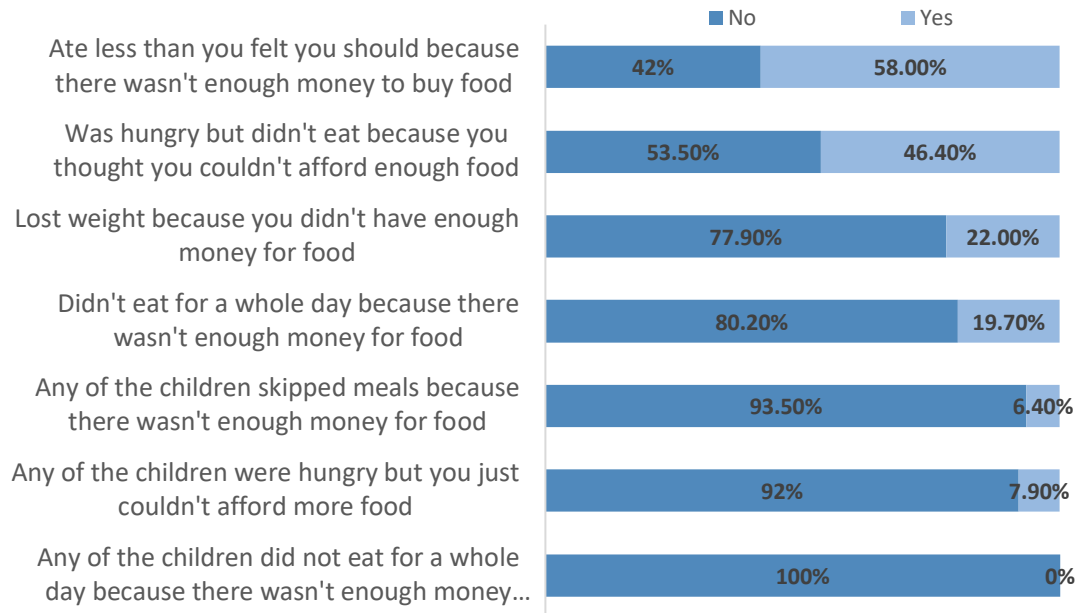


Figure 6. Note. This series of questions only asked at baseline. Also note the high proportion of “no” responses for questions about children – there has been some speculation from referral partners that participants will be hesitant to respond truthfully to questions about their childrens’ food security from fear that CAS will somehow access their survey data an investigate.

Results of Statistical Analysis of Food Security Questions

	Mean, Standard Deviation	n (sample size)	Statistical Significance ³⁶	Effect Size ³⁷
<i>You and your other household members worried that food would run out before you got money to buy more.</i>	$M_1=1.76, SD=0.67$	84	$p = 0.01$	$d = 0.36$
	$M_2=1.54, SD=0.65$			
<i>The food that you and your other household members bought just didn't last, and there wasn't any money to get more.</i>	$M_1=1.61, SD=0.66$	81	$p = 0.02$	$d = 0.26$
	$M_2=1.45, SD=0.61$			
<i>You and other household members couldn't afford to eat balanced meals.</i>	$M_1=1.89, SD=0.76$	84	$p = 0.00$	$d = 0.47$
	$M_2=1.54, SD=0.64$			
<i>You relied on a few kinds of low-cost food to feed the child(ren) because you were running out of money to buy food.</i>	$M_1=1.89, SD=0.80$	82	$p = 0.01$	$d = 0.27$
	$M_2=1.67, SD=0.77$			
<i>You couldn't feed the child(ren) a balanced meal because you couldn't afford it.</i>	$M_1=1.51, SD=0.63$	81	$p = 0.01$	$d = 0.28$
	$M_2=1.32, SD=0.52$			

Table 5. Paired-Samples t-tests of Food Security Questions from Baseline to Post-test

³⁶ p value of less than 0.05 indicates statistically significant change from baseline to post-test.

³⁷ Cohen's d of ≥ 0.20 indicates that there was a large enough change to be considered meaningful.