9/1/2017

Fresh Initiatives Supply Hub Program

Evaluation

Final Report (January – August 2017)

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Executive Summary

Lealman, Florida is an unincorporated area that has the fourth highest poverty rate in Pinellas County, i.e., 19% (8,048 people) of the Lealman population living at or below the 100% federal poverty level (Warren, 2013). Findings from this study reveal that Lealman remains an under-resourced and underserved area for many years because its population is largely transient. One local non-profit organization identified Lealman as a "social services desert," explaining that there are very limited services to address problems of juvenile delinquency, crime, sexual trafficking, and other pressing social issues such as hunger and poverty.

Adding to an existing network of food assistance organizations that has been serving the people in Lealman for many years, the Fresh Initiatives Supply Hub (FISH) joined the community in 2015 with the sponsorship of United Methodist Community Ministries (UMCM) to help in the efforts to reduce hunger in the community. This final report serves as a program evaluation for FISH from January to August 2017. The main objective is to assess the impact of FISH on the Lealman community and the hunger-relief network for the community. Methods include "pre-/post" in-depth interviews with FISH partnering organizations, cross-sectional surveys from pantry clients, longitudinal assessment of pantry food sources during the entire

duration of the evaluations, and results from pantry clients asked to take photographs of how they used the food received in pantries.

Findings from this study may contribute to current best practices for communities working together in a network of hunger-relief partners. Major themes from the study that relate to food insecurity and the practice of providing food to the limited income population include the importance of taking into consideration factors such as ensuring consistency for food providers and clients, diversifying channel of food sources, expanding partnerships, and responding to the needs of food pantries. Key lessons learned for food providers of limited income populations include:

1. Do more with less – collaborate with the hunger-relief network to maximize resources and share food
2. Understand the needs and food preferences of pantry clients
3. Identify ways to improve consistency of food sources and food provided

In order to implement effective community change to reduce food insecurity, we must understand perspectives from the various stakeholders including food banks and donors, food pantries and other food distributors, as well as pantry clients. This program evaluation aims to provide a glimpse of some of the inner working of the food delivery system in the hopes to increase access fresh fruits and vegetables to improve pantry clients' dietary intake and ultimately, overall health.

Background

Food Insecurity and Hunger

According to the United States Economic Research Service (ERS), food security is access by all people at all times to enough food for an active, healthy life. In 2015, 87.3% of U.S. households had enough food on the table to feed their families; that left the remaining 12.7% (15.8 million households, or approximately one in eight Americans) without sufficient food during the year due to lack of resources (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2016). About 59% of this food-insecure population indicated that they used at least one or more of the three largest federally funded food assistance programs in the prior month, i.e., the Supplemental Nutrition Assistance Program (SNAP); Special Supplemental Nutrition Program for Women, Infants, and Children; and the National School Lunch Program. Current costs for these programs are $75 billion, $6.2 billion, and $12.6 billion, respectively in 2015 (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2016).

In addition to government assistance, hunger-relief organizations provide resources that help feed the food insecure. According to Feeding America in 2014, 46,000 agencies provided groceries or meals to feed 46.5 million people in the United States, or one in seven people (Feeding America, 2014). While there are many safety nets to provide food assistance, Feeding America states that there still needs to be additional money required to meet food needs. Thus, the social sector and federal assistance must continue to provide support in order to ensure equal access to food for all Americans.

Food insecurity is a significant issue because it directly affects the health and wellbeing of our individuals, children, families, and communities. Food insecurity can lead to negative

health consequences such as poor mental and physical health, substandard economic performance, increased risk of chronic disease, poor psychological and cognitive function, and obesity (Kaiser et al., 2015). Food insecurity is not the same as poverty, but it does often overlap. Children who grow up in poverty have higher chances of becoming obese when adults (Kaiser et al., 2015). Additionally, individuals that are food secure are twice as likely to consume fruits, vegetables, and fiber than food insecure individuals in a study understanding food pantry clients (Robaina & Martin, 2013); these foods are recommended in the Dietary Guidelines for Americans to prevent risk of chronic disease and promote a healthy diet (U.S. Department of Health and Human Services and Department of Agriculture [USHHS & USDA], 2015).

Typically, food insecure individuals have poorer diet quality due to various factors such as not having transportation to have consistent visits to the grocery store (Ver Ploeg et al., 2015) or higher availability of fast-food restaurants and convenience stores which provide nutritionally poor foods (Hilmers, Hilmers, & Dave, 2012). Low cost of energy-dense foods may lead to overconsumption of foods with high calories, thus resulting in overweight status or obesity (Perez-Escamilla et al., 2012); this has been coined as the obesity-food insecurity paradox (Dinour et al., 2007).

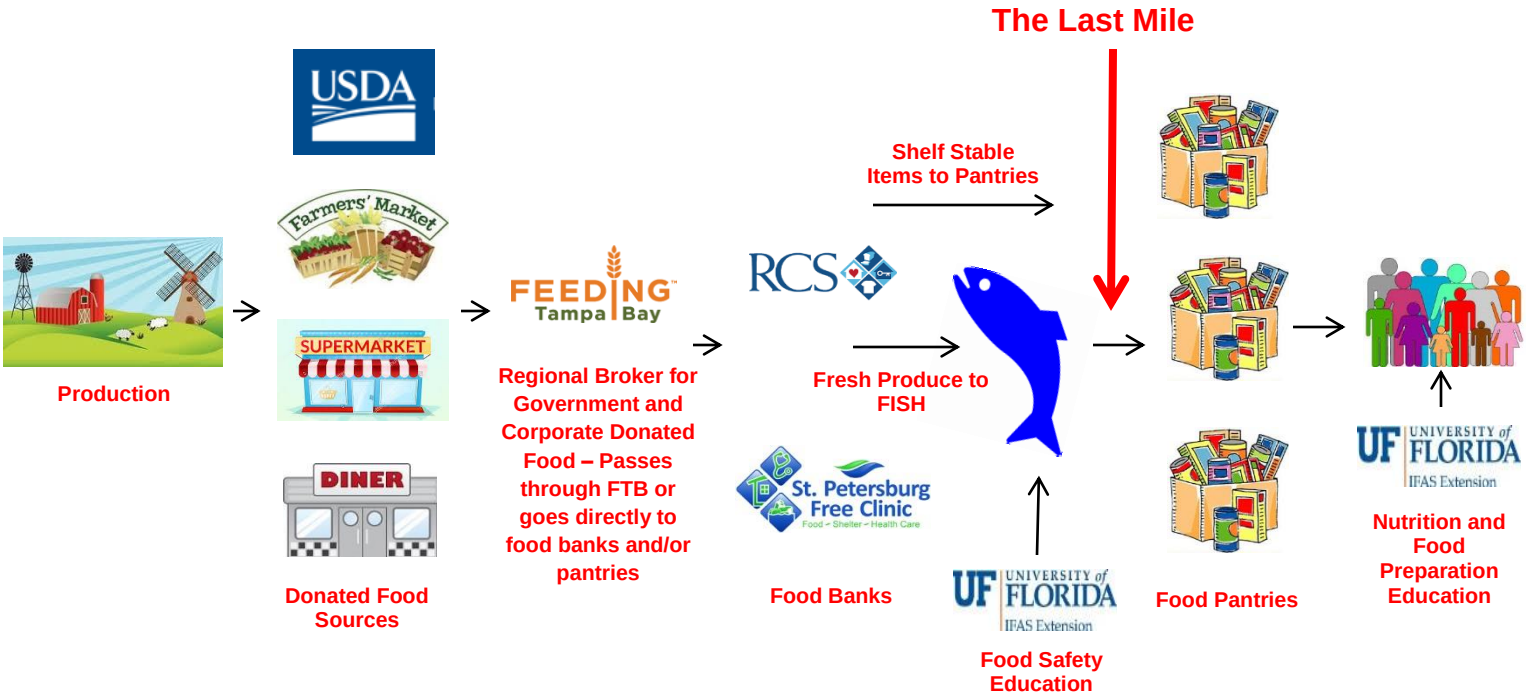
Lack of a healthy diet is a major risk factor for diseases and health conditions such as overweight and obesity, malnutrition, iron-deficiency anemia, cardiovascular disease, hypertension, dyslipidemia, Type 2 Diabetes, osteoporosis, oral disease, constipation, diverticular disease, and some cancers (USHHS & USDA, 2005). Many of these chronic diseases such as Type 2 Diabetes and obesity are on the rise in the U.S. and constitute a major cause for concern. Currently in the U.S., diabetes is the seventh leading cause of death affecting 29.1

million people (Centers for Disease Control and Prevention [CDC], 2014), and obesity which is an additional risk factor for other diseases affects more than one third (36.5%) of the American population (Ogden, Carroll, Fryar, & Flegal, 2015).

The Case of Lealman, Florida

Lealman, Florida is an unincorporated area that has been identified as having the fourth highest poverty rate in Pinellas County, i.e., 19% (8,048 people) of the Lealman population living at or below the 100% federal poverty level (Warren, 2013). In-depth interviews reveal that Lealman remains an under-resourced and underserved area for many years because its population is largely transient. One local non-profit organization identified Lealman as a "social services desert." explaining that there are very limited services to address problems of juvenile delinquency, crime, sexual trafficking, and other pressing social issues, such as hunger and poverty. A network of food assistance organizations (churches, food pantries, and social service non-profits) has been serving the people in Lealman for many years. Recently in 2015, United Methodist Cooperative Ministries/Suncoast partnered with the Dream Center's Adopt a Block to start an initiative called the Fresh Initiatives Supply Hub (FISH) and things started to change. As shown in Figure 1 and described in detail in the project narrative (see Appendix A), FISH serves as an added distributor where the food banks such as RCS Food bank or St. Petersburg Free Clinic can give fresh produce to FISH to distribute to the food pantries. Because of FISH's capacity to store, manage, process, and distribute fresh produce, more food pantries will be able to provide fresh fruits and vegetables to their clients.

Figure 1. Role of FISH in the hunger-relief network and distribution of fresh produce



The purpose of this program evaluation is to measure the impact of the Fresh Initiatives Supply Hub in the Lealman community from January to August 2017. Based on the FISH project narrative (Appendix A), the main goals are as follows:

1. Increase access to fresh, healthy foods for low income individuals and families in the Lealman food desert in a safe and efficient manner
2. Ensure fresh, healthy foods become part of a permanent change in diet and eating behavior
3. Create an effective model that can be replicated in neighborhoods throughout Pinellas County

A logic model for the program is provided in Appendix J, which details the short, medium, and long-term outcomes of the project.

Methods

In partnership with UMCM Suncoast and FISH, eight specific food pantries in the Lealman community were identified to be a part of this evaluation in January 2017: Christian Service Center, Clearview UMC, Freedom Ministries Church, Lealman UMC, Northwest Presbyterian, Tree of Life, Dream Center/Adopt a Block, and CASA. During the final report phase, some food pantries no longer had partnerships with FISH and new relationships were created, see Table 2 in Findings/Results Section. The final report includes data collected from the following nine partners: Clearview UMC, Freedom Ministries Church, Lealman UMC, Northwest Presbyterian Church Food Pantry, Tree of Life, Dream Center/Adopt a Block, Neighborly Care, Lealman and Asian Neighborhood Family Center, and Police Athletic League.

Recruitment and data collection took place at each pantry by FISH staff/volunteers, unless specifically reported otherwise; interviews and observational visits were conducted by the project Research Assistant from the University of South Florida. Pantry leaders were identified by the FISH staff and usually meant the staff/volunteer who oversaw the operations of the food pantry and food distribution; this varied by site as some had coordinators whereas others relied on pastoral staff. Each project goal, as indicated in the project narrative, will be measured using three separate instruments listed below, see Table 1. Evaluation tools were developed by the research evaluation team and reviewed by FISH staff. The project timeline is also included in Table 2.

The benefits of FISH include: having a storage/distribution center that is open five days a week to provide fresh fruits and vegetables more often; supporting a network of volunteers that

can break down bulk packages of food; and providing a central location that decreases travel time between food pantries and donation pick up sites. As indicated in Table 1, this program evaluation will use quantitative and qualitative data to assess the impact of FISH on Lealman's access to fresh fruits and vegetables and to provide an assessment of the current situation of food insecurity in the community from the perspectives of pantry clients and stakeholders.

Table 1. Data collection instruments and goals

Sample	*Method*	*Goals*	*Objective Measures*
Pantry Manager [APPENDIX B]	-Pantry food record sheet -FISH food log	Goal 1. Increase availability of F/V	• Increased fresh F/V received by FISH • Increased fresh F/V distributed by pantries to clients • Decreased food waste => more foods to distribute • Improved storage (FISH) and delivery of fresh F/V
Pantry clients [APPENDIX C]	-Survey -Photovoice	Goal 2. Increase opportunities to encourage long-term, healthy changes in the diet	• Increased F/V use and consumption • Increased desire and interest to eat more F/V • Increased willingness to try different and/or new F/V • Decreased food waste [photo project]
Pantry manager [APPENDIX D]	-In-depth interviews, "Pre/Entry" and "Post/Exit"	Goal 3. Create a sustainable model for other communities	• Increased fresh F/V • Improved logistics of pick-up and delivery of F/V • Increased opportunities for education and adoption of healthy habits (food safety, nutrition, culinary, and gardening classes) • Improved methods to reduce food waste and increase food recovery • Impact assessment of FISH

Note. *F/V = Fruits and vegetables

Descriptive statistics in the report were obtained from analysis using SPSS (statistical software), and in-depth interviews were analyzed thematically. Validity of themes were checked and confirmed with the FISH coordinator and various presentations to the food pantry leaders and community members in the hunger-relief network.

Table 2. FISH program evaluation timeline

	Feb 2017	March 2017	April 2017	May 2017	June 2017	July 2017	August 2017
FISH open house							
Evaluation/observation visits							
Data collection: Pantry leader "entry" interviews							
Data collection: Pantry leader "exit" interviews							
Data collection: Pantry food records (Once a week/each pantry)							
Data collection: Pantry client surveys (minimum 10 per month per pantry)							
Data collection: Photo project (Target sample: 15 pantry clients)							
Data analysis & Final report preparation							
Dissemination & member checking with pantry leaders and FISH staff							

Findings/Results

Through in-depth interviews, partners identified FISH as the primary "convener" and "connector" of these organizations. Food pantry staff said they were working in Lealman for many years and did not even know about other services that were doing the same thing their organization was doing. One local leader in Lealman stated, "I'm impressed when they brought every food provider and pantry for some meetings; we've never had that before. Why not? We didn't have a leader before." Thus, FISH joined the Lealman hunger-relief network with the overarching goal to assist the food distribution network by serving as the central hub and provider of fresh produce, yet evolved into a different kind of resource for the neighborhood.

Table 3 shows some of the partnerships that FISH has made with some of the local organizations, each varying in capacity to serve or provide food. The three columns distinguish the different role that FISH serves depending on the organization. As labeled in Table 3, FISH can be identified as the primary provider of fresh produce, a supplemental provider, or a community partner. While most organizations have multiple sources of food, not all food is fresh produce. FISH as a primary provider means that FISH contributes the majority or all fresh produce to these organizations. Thus, if FISH does not provide fresh produce, these organizations likely will not distribute any fresh produce at all. FISH as a supplemental provider indicates that these organizations will usually only get fresh produce if there is excess after the other "priority" organizations as mentioned before have been given food (for those that FISH is a primary provider), however, they may have their own source of food donations as well. FISH as a community partner means that these organizations (not necessarily pantries) worked with FISH

in different capacities such as farms donating fresh produce to FISH to distribute to pantries or providing other services to FISH partnering agencies.

In this complex web of hunger-relief and assistance, it is difficult to completely pinpoint all sources of food and to determine if they maintain the same role over time, especially in this timespan for the program evaluation from January to August 2017. For example, a pantry might have a consistent food supplier for a few months but lose connection after some time, or they may close for good due to the time and effort needed to maintain operations. Additionally, it took FISH some time just to establish itself in the community and build a more stable relationship with each of these organizations.

Table 3. Partners of FISH as a provider of fresh produce among Lealman organizations

FISH as Primary Provider of Fresh Fruits/Vegetables (there are secondary sources such Feeding Tampa Bay, St. Pete Free Clinic, Adopt-A-Block)	FISH as supplemental provider	FISH as community partner
Tree of Life	Meals on Wheels/Neighborly Care**	
Clearview UMC	CASA – purchase from grocery store or food distributors**	
Lealman Community Church		Dream Center/AAB
Freedom Ministries Church		Police Athletic League**
NW Presbyterian Church - primary supplier is Baypoint Church		Real Pay it Forward**
Lealman & Asian Neighborhood Family Center**		Taking it to the Streets**

Note. The relationship between pantries and FISH evolved throughout the data collection period (February-July), and some organizations were not included in the program evaluation until the tail end of the period so stakeholders did not have "entry" interviews (these are denoted by **).

In partnership with each of these organizations, data were collected and presented below from the following methods: longitudinal assessment of pantry food sources during the entire duration of the evaluations which were cross checked by FISH food distribution logs, cross-sectional surveys from pantry clients, "pre-/post" in-depth interviews with FISH partnering organizations, and a small number of photovoice results from pantry clients.

Pantry Food Records

The goal of the pantry food record tool was to measure the increase in availability of fresh fruits and vegetables being provided by FISH, or Goal 1. To measure this change, sources not from FISH were listed as well as the amount of fresh produce received/not used from FISH; however, only one pantry submitted this form on a regular basis from April to August. Exploring the various external sources of produce from FISH might be noteworthy to understand the inter-workings of the food pantry network and how the food is distributed, e.g., most all pantries receive produce from Saint Petersburg Free Clinic including FISH, which means some pantries may be receiving foods from this same single source or they can also be receiving different types of produce depending on the food banks inventory. Due to the limited amount of participation in completion of the pantry record form (see Appendix), FISH food inventory was tracked using the internal food distribution logs instead to show the amount of fruits and vegetables distributed, received, and wasted. See below figures and tables for this data from January to July 2017.

The FISH food log provides the dates of produce in pounds received and distributed by pantry and donor source (organization, individuals, etc.). The amount not distributed is the number of pounds of produce wasted. They also keep track of non-produce items, which is not reported for this program evaluation. Figure 2 shows the total pounds of produce that was

received from various sources, distributed to various pantries, and wasted by FISH (not distributed, spoiled, bad quality, etc.).

Figure 2. Pounds of Produce (fruits and vegetables combined) Received, Distributed, and Unused/Wasted by FISH from January to July 2017

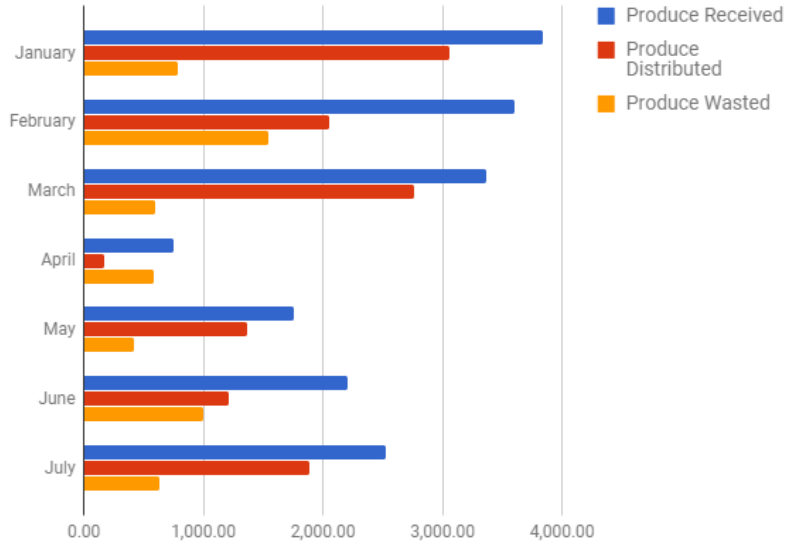


Figure 3 provides a comparison of total fruits and vegetables, in pounds, received by FISH. Some donations did not differentiate fruits and vegetables, included as "mixed F/V". The significant drop in April was due to the end of a grant cycle that was specifically for food purchases.

Figure 3. Pounds of Produce (fruits and vegetables combined) Received by FISH from January to July 2017

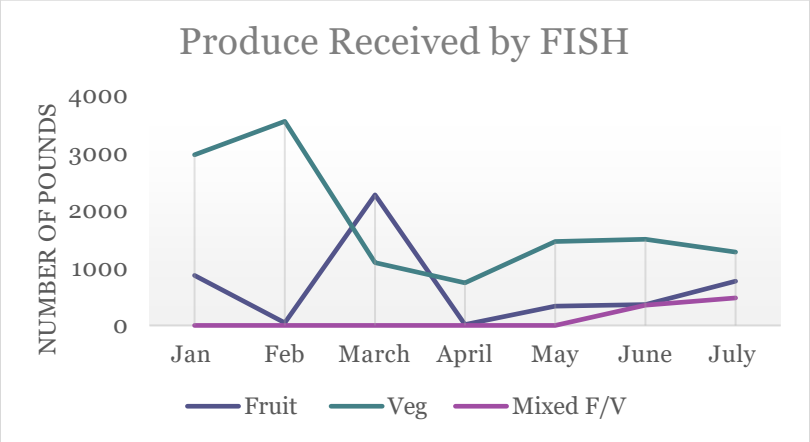
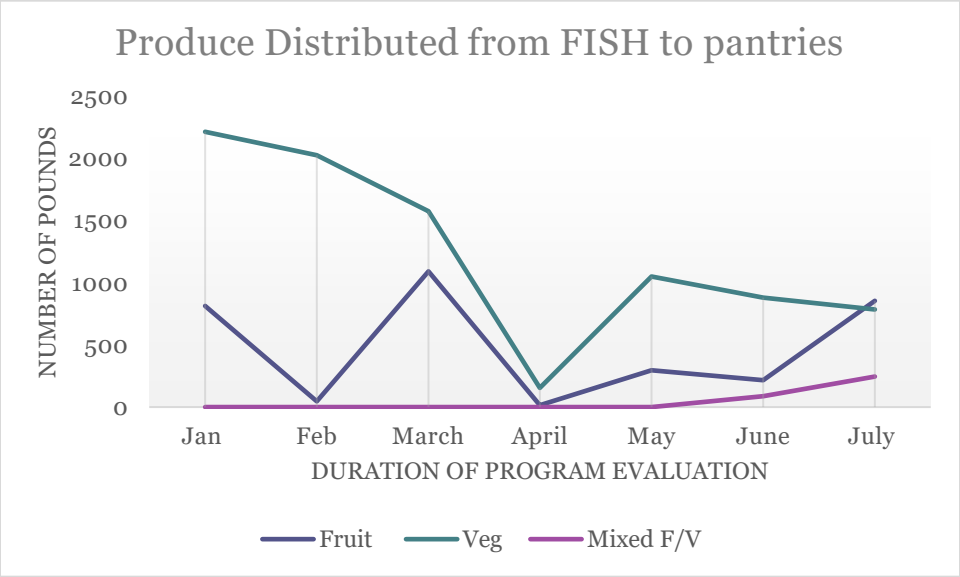


Figure 4 shows the total fruits and vegetables, in pounds, distributed by FISH to various pantries and community organizations. Some donations did not differentiate fruits and vegetables, included as "mixed F/V". While most pantry and organizations were the primary FISH partners, on various

occasions, FISH donated to other organizations that they did not regularly work with to try to distribute as much edible food as possible.

Figure 4. Pounds of Produce (fruits and vegetables combined) Received by FISH from January to July 2017



Individual fruits and vegetables could be tracked to show the diversity of foods received and distributed. From January to July 2017, there were more than 10 different types of fruits and more than 20 different vegetables. Table 4 provides a list of the top ten most distributed fruits and vegetables during this time period, comparing the total amount of each item received and distributed. For most fruits and vegetables, all pounds received were distributed unless there was an extremely large amount received, e.g., almost 500 pounds of apples or more than a thousand pounds of one specific type of fruit or vegetable. Thus, in Table 4, most of these fruits and vegetables were not distributed at 100%. The FISH coordinator noted two instances where she had to drive over an hour to give away the 1,737 pounds of eggplant they received or the 1,080 pounds of okra, which no one seemed to want. In Table 4, it can also be observed that while

FISH distributes a large amount of fruits and vegetables, an incredibly large amount is also not distributed. Reasons could have been spoilage, quality of produce, not enough turn-around time to distribute them all, or inability of food pantries to be able to store/distribute the hundreds of pounds of produce before it spoiled.

Table 4. List of Top Ten Most Distributed Fruits and Vegetables from January to July 2017, including pounds received

Produce items	Pounds distributed	Pounds Received
Cucumbers	1,804	2,690
Peppers (variety: green, yellow, hot, etc.)	1,674	3,204
Eggplants	944	1,876
Carrots	847	1,121
Melons (watermelon, cantaloupe, etc.)	816	834
Lettuce (iceberg, romaine, etc.)	799	1,160
Apple	697	765
Okra	590	1,080
Citrus (grapefruit, oranges, lemons, etc.)	433	540
Grapes	432	432

Pantry Client Survey

FISH staff and volunteers as well as the USF Research Team collected a total of 243 pantry client surveys from March to August 2017. These surveys were collected as open and closed-ended interview items during food pantry distributions (see Appendix C for instrument tool). The goal of this instrument was to assess current pantry client perceptions of fruits and vegetables, impact on diet/health, shopping habits, and access to fresh fruits and vegetables in order to increase opportunities to encourage long-term, healthy changes in the diet. The USF Research Team decided on a cross-sectional survey due to the hard to reach population and limited contact time during the food distributions, i.e., follow-up would likely be hard and eliminated the option to assess diet using food frequency questionnaire or dietary recalls. Since

we could not measure dietary changes, the instrument aimed to understand the perception of how the pantry was providing food and whether it increased their access to fresh produce. Additionally, we were trying to assess the preferred and level of desired fruits/vegetables pantry clients would want. See below figures for results from the sample (n=243), collected across five pantry sites; note there were no missing values as any "no responses" were identified as a separate variable for all questions and cases.

Descriptive and Analyses.

Table 5 provides the sample demographics of the 243 respondents that completed the pantry client survey. Perhaps, due to sensitivity of providing personal information, many of the demographic questions were not completed. There were more females (34.2%) than males (20.2%), and the majority of the population were ages 60 years and older (31.3%) and Caucasian/White (48.6%). Question responses are reported in the following sections. Figure 5 shows the range of responses on a scale from very easy to very difficult when asked, "How is your access to fresh fruits and vegetables?".

For the question, "Where do you usually get your fresh fruits and vegetables?," 64.6% of individuals (n=243) answered supermarket, 0.4% convenience store, 18.5% food pantry, 0.8% home garden, 5.3% farmer's market, and 6.2% produce stand. Less than 1% answered with other responses such as wherever the best price, went without fruits and vegetables, or from friends and relatives. For those that were noted, Save a Lot was the most common supermarket shopped at, and others mentioned Walmart and Aldi.

When asked "How many times a day do you currently eat fruits and vegetables?," 4.5% responded with none/zero times a day, 32.9% once a day, 26.7% twice a day, 15.2% three times a day, 5.3% more than three times a day, 7% few times a week, and 1.2% once a week. The most common response that participants reported (80 of 243) was consuming fruits and vegetables once a day. However, the type of fruit and vegetable consumption is not clear because some considered daily fruit as the fruit in yogurt; whether that is "fruit on the bottom" or just flavored yogurt is unclear.

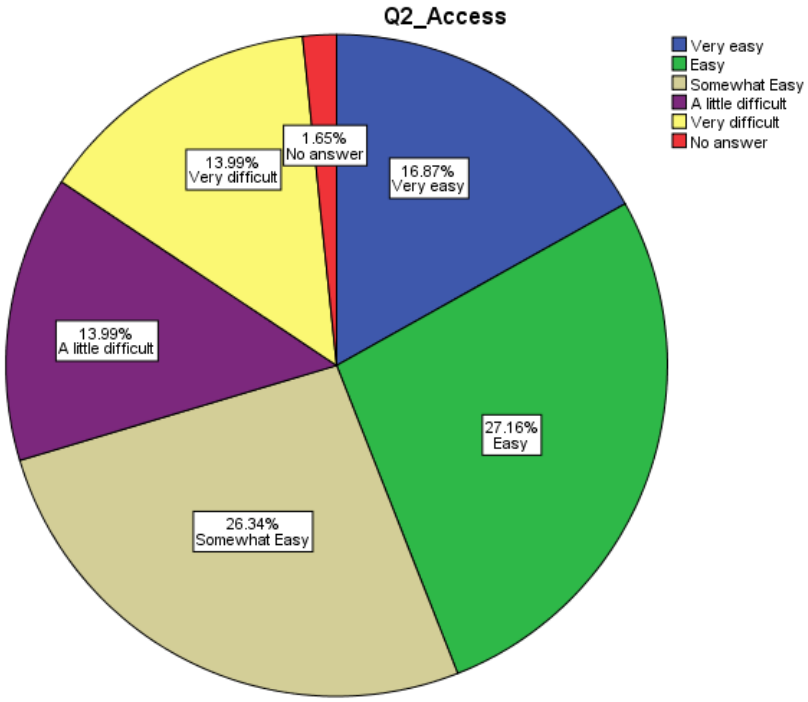
Table 5. Sample Demographics (n=243)

Sample Demographics (N=243)	N (% of sample)
Sex	
Female	***83 (34.2%)***
Male	49 (20.2%)
Unknown	111 (45.7%)
Age	
18-29	12 (4.9%)
30-39	22 (9.1%)
40-49	41 (16.9%)
50-59	53 (21.8%)
60+	***76 (31.3%)***
Unknown	39 (16.0%)
Ethnicity	
Caucasian/White	***118 (48.6%)***
Black/African American	49 (20.2%)
Hispanic	43 (17.7%)
American Indian/Native American	0
Asian	1 (0.4%)
Multiracial	1 (0.4%)
Unknown	31 (12.7%)

Midway through data collection, questions about the mode of transportation and distance traveled was added to the survey (previous respondents were included as "no answer"; 72 of 243 responses). The most common method of transportation was by car (32.9%), followed by bus (21.8%), and walking (11.5%). Less than 5% of individuals rode their bike or got a ride. Due to

the informality of adding this question, different FISH volunteers asked the distance traveled question in terms of miles and time. Thus, of those that responded to the question (133), participants traveled an average of 14 minutes from all modes of transportation, or an average of 3.17 miles. The maximum time traveled was 60 minutes by bus and less than a minute walking across the street; the mode was 10 minutes.

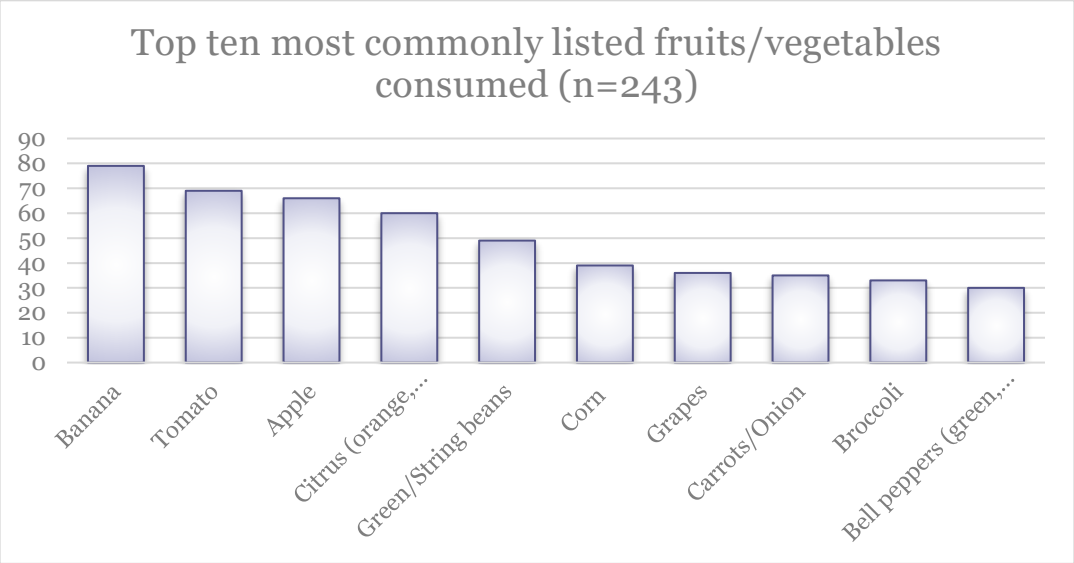
Figure 5. Pantry Clients' Self-reported Answers to Difficulty/Ease of Access to Fresh Fruits and Vegetables



Since follow-up was not an option for the evaluation, one-time perceptions of clients' fruit and vegetable consumption patterns and knowledge and behavior were measured and reported in Figure 6 and Table 6, respectively. The majority of individuals identified fruits and vegetables as items they wanted to help feed their family and benefit their health or improve their

diet. Fewer individuals were sure about fruits and vegetables preventing disease and having it at every meal.

Figure 6. List of fruits/vegetables commonly consumed in order of highest to lowest frequency reported (n=243)



As part of the program evaluation, the USF Research Team worked with the pantries and FISH staff to revise the surveys as needed. Food distributions at pantries varied by days and times (sometimes every other Wednesday, some every Saturday, in the morning or evening, etc.), so surveys were anonymously conducted at various time points to try to ensure data collection from different populations and not the same individuals. Additionally, it was difficult to account for the different types and amount of fresh produce the clients were receiving because some pantries gave away pre-packaged boxes and others would allow clients to "shop" for whatever they pleased – some leaving with fresh produce and others without any if they did not want fruits/vegetables. Other times, pantries would run out of fruits and vegetables by the 200th client. Revisions of the instrument include the following:

- Changed Q4. What foods they ate most often or "generally ate"

- Added to Q7. Sixth option: "is something I always have at meals"
- Added Q8. How far did you travel to get here (reported in minutes and miles)?
- Added Q9. What mode of transportation did you take?

Table 6. Fresh Fruit/Vegetable Knowledge and Behavior of Food Pantry Clients (n=243)

Q7. Fresh fruits and vegetables…	No	Don't know	Yes	No answer
1. …help to feed my family.	13 (5.3%)	5 (2.1%)	187 (77%)	38 (15.6%)
2. …is the food that I want to give to my family.	13 (5.3%)	4 (1.6%)	185 (76.1%)	41 (16.9%)
3. ..benefit my health.	1 (0.4%)	12 (4.9%)	190 (78.2%)	40 (16.5%)
4. …help to prevent disease.	6 (2.5%)	35 (14.4%)	159 (65.4%)	43 (17.7%)
5. …help me to improve my diet.	5 (2.1%)	11 (4.5%)	181 (74.5%)	46 (18.9%)
6. …is something I always have at meals.	43 (17.7%)	2 (0.8%)	111 (45.7%)	87 (35.8%)

Note. There were no missing values, as "no answer" was coded for unanswered questions. The no answer column accounts for individuals that did not answer the question (due to time limitations or incomplete surveys) as well as surveys that did not have the newly added option 6, "is something I always have at meals".

Pantry Stakeholder Key Informant Interviews

At the beginning of the evaluation, the USF Research Associate conducted "pre" or "entry" interviews with pantry leaders to understand the perceived role and initial partnerships with FISH. "Post" or "exit" interviews were then conducted at the end of the program evaluation in July and August 2017 by the same research associate to assess the changes, if any, and progress FISH had made on the community and individual agencies. Interviews were conducted primarily in person with some on the phone. In total, there were six "pre/entry" interviews with Clearview UMC, Freedom Ministries Church, Lealman UMC, Northwest Presbyterian Church

Food Pantry, Tree of Life, Dream Center/Adopt a Block; and nine "post/exit" interviews with the six aforementioned agencies as well as the Neighborly Care, Lealman and Asian Neighborhood Family Center, and Police Athletic League. Below are the common themes that pantry leaders identified regarding food insecurity in Lealman, the role of FISH in the community, supply and condition of fresh fruits and vegetables at their agency, and need/interest for other resources proposed by FISH such as nutrition and culinary classes for pantry clients and food safety training for pantry staff/volunteers.

Consistency for food providers and clients

While it was not in the purview of this program evaluation to assess for food insecurity (such as using the USDA food insecurity tool), it is relevant to mention that the lack of a consistent food source was a major concern for food pantry clients. Even though food pantries may play a role in providing food assistance, they do not offer a long-term solution to finding a consistent source of food for food-insecure families. Additionally, having an inconsistent food source was also a major concern for food suppliers/pantries. Pantry leaders were well aware of the food pantry "business" and recognized that, "You sort through it. It's reclaimed food - we're warned and we're aware of it" (Interview with panty manager). Sometimes pantries receive many pallets of green peppers or watermelon, or sometimes the produce runs out and there is an overabundance of one particular item, such as bread. Pantries stock their supply with canned goods, but fresh produce usually only lasts a few days in the refrigerator because it is often already on the brink of spoiling when donated (not usually FISH food, as FISH produce was noted as good quality and very fresh). Because food donations are sporadic, it is hard to have a

consistent food source. In turn, this meant that food pantries are not able to supply clients with consistent food sources either.

Having a consistent source of food is also a challenge for FISH because their food donors also fluctuate depending on the growing season or what is available. However, because FISH has basically become a produce distributor or provider for food assistance organizations, they work to secure produce by purchasing from local food retailers, make deals with discount wholesale sellers, or utilize external network beyond the Lealman community to find food donations, e.g., farmer's market vendors. During the "post/exit" interview, each pantry leader was asked, "Do you feel FISH increased access of fresh fruits and vegetables to the community?" All nine pantry leaders not only said "yes" but also explained the significant role that FISH had taken in this short amount of time as the "new kid on the block." Since FISH does not give to direct clients, they are able to focus on bringing resources into Lealman, building relationships outside of Lealman, or even raising awareness of the issue of food insecurity in their community.

Diversity of foods for pantry clients

As mentioned in the previous section, sometimes food pantries received large amounts of one specific type of vegetable, rather than a good mix of different types of vegetables – similar to what clients would be able to find at the store. Pantry leaders/staff noted the desire for more diversity among produce and not just pallets of a few types. This was especially important when families did not enjoy consuming that one type of fruit or vegetable. One pantry leader said, "Eggplants they don't go. We won't get rid of cases of cucumbers, maybe 3-4 pounds. We need items that are more staple like potatoes, carrots, or onions that are more desirable." These challenges may very well be due to the seasonality of fruits and vegetables (harvest from

community gardens), supply/demand of donors (grocery stores, excess amount from other pantries, etc.).

Pantry leaders also mentioned that by providing diverse types of produce added to the presentation of a balanced box of food that included grains, meat, and other non-perishable items. Diversity of foods was also mentioned among food pantry clients with respect for the need for different types of foods such as canned, frozen, and fresh foods. While cultural foods was not a common theme, the diversity and culture can be seen in food pantry clients' pictures which represent the varying differences of food preparation and food preferences, i.e., a more Southern-influenced meal.

Channels of food sources

Related to a consistent food source, pantry leaders mentioned the importance of developing varied food channels in order to receive donations from multiple sources. As noted in Table 3, FISH served different roles and had varying relationships with each of the food pantries. A few relied on FISH as the primary fresh fruit and vegetable provider and may have had secondary food sources, but without FISH, their clients may not have received fresh produce. FISH as a supplemental partner meant that FISH would regularly call these pantries to see if they could receive excess produce, and community partners would work with FISH in different ways, e.g., the Police Athletic League donates fresh produce from their garden to FISH since they are not a food pantry. Having multiple food sources in addition to FISH would allow them to have access to a more stable stream of food over time. As originally proposed, FISH's role was to be a fresh produce provider/distributor to the pantries because it had the capacity to store perishable foods. In this way, FISH knew which pantry needed what supplies (type of fruit/vegetable

preferred, type of foods could use, etc.) and how much. In this way, less food was wasted, and pantries could assist each other by serving as additional channels of food sources, i.e., if one organization had excess supply one week, they would donate to another food pantry and vice versa.

Connection/Partnerships

While some partnerships existed before FISH was created, some pantries did not even know about the existence of other organizations in the area, which indicated a need for further communication and cooperation among local organizations engaged in food aid. During many of the "exit/post" interviews, managers spoke about how FISH had evolved into becoming a central "connector" and "convener" in Lealman and the hunger-relief network in the community more broadly. FISH organized a first community meeting of food providers in May 2017, and even though some were hesitant in meeting because they already knew each other, the food pantries still supported the cause. One pantry leader said that if it were not for the FISH coordinator, their pantry would not be giving out produce. In describing FISH, the leader noted that:

> "…they are the initiator to put the idea of fresh produce. If you stop and FISH left, the conversation would die down to a trickle and stop. The battle to have poor families accept the idea that fruits and vegetables are not a luxury – it will take decades. We need FISH to keep the conversations alive. FISH is the connector; the FISH coordinator has come in and mapped out the pantries in Lealman that took me ten years to connect with."

In the past 8 months, FISH has been recognized by the community and has become the initial mediator/hub to connect multiple pantries. After partnerships initially formed, they would separately but cohesively evolve and later and could reduce their reliance on FISH over time.

Needs of food pantries

Limitations of food storage for fresh produce and lack of volunteers were major concerns of all food pantries in the study. Often, pantries had household-level refrigerators and there was a limited amount of food that pantries could store as well as give away before it spoiled. One pantry leader noted that many organizations exclude giving away fresh produce because it is too much of a hassle and work to store, dispose of quickly, and ensure food safety and quality of the fresh produce. The individual also noted that when produce goes bad in the refrigerator, it makes a mess and results in more work for the organization. Thus, many pantries only give away non-perishable foods. This makes FISH a vital resource for the distribution of fresh fruits and vegetables in Lealman.

As proposed in the project narrative, FISH could ideally serve as a hub for volunteers to break down food donation packaging and distribute produce to the nearby pantries. However, the interviews revealed a need for individual agencies to have a sufficient amount of volunteers just to run the operation during the days of food distributions. While each pantry differed in the operations and logistics, many noted that volunteers are needed before food distribution to assist with preparing the food boxes; during food distribution to register and guide/direct clients or make the boxes on the spot; and after food distribution to clean up. Many of the pantries in this study are faith-based organizations and rely heavily on volunteers to support the entire operation, which was a heavy responsibility for often just one person. Volunteers needed to be dedicated and committed, as they might get calls throughout the day for food donations and they would need to go pick them at various times of day.

Others noted a need for a better transportation and delivery method for all the food pantries in Lealman. Many pantries “shop” at major food banks such as Feeding Tampa Bay and

have to drive 20-30 miles several times a week to pick up food. When asked if food pantries needed or wanted nutrition education for their clients or food safety training for their staff, many seemed to have mixed feelings regarding the need. Some welcomed food safety training whereas others thought the pantry staff were well-equipped and informed with food safety principles. With regard to nutrition education, some also were interested especially in terms of providing recipes to cook uncommon fruits and vegetables, but others thought their population would not really have time to partake in these classes. In August 2017, FISH helped organize a food taste demonstration in partnership with the University of Florida Family Nutrition Program which was a success, and pantries seemed a little more open to trying these options.

Photovoice project

To understand pantry clients' experiences with the food pantry and an attempt to measure food waste or extent of need with regard to the food clients receive, a photovoice component was built into the program evaluation. Photovoice is a research method that entails asking participants to take and discuss photographs relevant to research themes. The SF Research Associate or FISH Manager recruited participants while surveys/interviews were conducted with clients. Interested individuals received instructions (Appendix G) to take 5 pictures and answer several questions and were given a disposable camera. Completed photo projects were supplemented with a $10 Walmart gift card. Below are some pictures according to each question.

The food you received from the pantry today

Your favorite foods that you got from the pantry

A dish or something you prepared with the food you received

While there is insufficient data and photographs to identify common themes, further exploration might be valuable in future research. Some patterns or ideas that seem relevant are: presentation of food (foods were plated or condiments were aligned), nutritional value/dietary patterns (food donations that are large portions of desserts, e.g., cake), quality of food (expiring foods), and cultural foods (using collard greens or eggplant may or may not be commonly used for some ethnic cuisines).

Discussion/Lessons Learned

The purpose of this program evaluation was to determine the impact of FISH on the Lealman community and to determine whether this idea of a centralized food hub could serve to improve the logistics of the current food donation delivery model. By using a mixed methods approach to collect data from pantry clients and leaders/staff/volunteers in the food assistance network, this study aimed to gather information in order to share with other community initiatives to replicate this hub and ideally reduce food insecurity in other poverty-stricken areas, or "food deserts".

During the past eight months, FISH has progressed from being the "new kid on the block" to a more essential role as a "connector" and "convener," as some pantry leaders noted. At the pre-/entry interviews with pantry leaders, not all organizations were aware of exactly all that FISH was planning to do. Even at the post-/exit interviews, some did not know all the things that FISH did outside of Lealman, but they did all agree that FISH was making an impact and bringing everyone together, and most importantly, increasing access to fresh fruits and vegetables to the people living in Lealman. Regarding the quarterly meetings that were formed in May 2017 by FISH, some pantry leaders were not sure of the purpose and goal of having everyone meeting together. A paraphrase from a conversation between the FISH Coordinator and a pantry was as follows:

> "…In a personal interaction a few months ago, a Pantry leader asked, 'Why are we [the pantries] meeting again?' The FISH coordinator explained that it was to get the pantries at least familiar with one another and if they decided it was useful to continue meeting we [food pantry distributors] would, and if not, the two meetings would be enough. A few weeks later the pantry leader was sharing a concern they had (see Aug 28 Meeting Notes) and said, (FISH coordinator paraphrase), "I wish we could all get together and come up

> with some kind of system [to address this]. Maybe that's something we could do at the pantry meeting. I guess that's kind of what you're trying to do."

It is apparent that the community sees value in working together and identifies FISH as a potential player to lead these collective efforts amongst all the food pantries and organizations involved in providing services to Lealman. This type of collaboration is not new and is prevalent across the country in various capacities such as food policy councils (FPCs) or community coalitions. FPCs have the capacity to advocate for policy change, create solutions, garner partnerships, and host meetings to gather multi-sectoral stakeholders to work towards the same goals (Hodgson, 2011). Similarly, community coalitions are group of individuals representing diverse organizations or constituencies who agree to work together to achieve a common goal (Feighery & Rogers, 1990); in the case of Lealman – reducing food insecurity and hunger to improve their citizens' quality of life. Community coalitions have been shown to impact local policy and programs (Roussus & Fawcett, 2000). Additionally, the efforts in Lealman can work towards collective impact, which is a framework to tackle complex problems and is differentiated from other community efforts by having staff that is dedicated to organizing and coordinating the group's initiatives (Collaboration for Impact, 2017); there is potential that FISH may play this role.

There may be multiple avenues to improve the logistics of the food donation to food assistance pathway, and FISH is one such solution being proposed to act as a centralized hub to distribute fresh fruits and vegetables (and non-perishable foods in some cases) to the various hunger-relief food distributors in Lealman. From the interviews with the pantry leaders, consistency of foods and developing multiple channels of food sources was important, i.e., food

pantries are like supermarkets, where food pantry clients are the consumers that rely on the pantries to put food on their tables. How do we make sure that food assistance organizations have a stable and consistent supply of food? The FISH Coordinator noted, "One week we need to work overtime to break down all the food donations, and the next week we have nothing to offer." While food pantries struggle to get a stable source of food, FISH also deals with this challenge. However, because they are the centralized "distributor" for the food pantries, they take on the role to source as much food as they can even when inventory is low. In reviewing the FISH food log, many food donations are made from nearby food banks or other donors, but often times, FISH purchases food at a wholesale, discount, or full-priced from local stores or farmer's markets where they have made deals and have built partnerships. This reiterates the recognition that FISH is a reliable food provider for Lealman food pantries and has increased access to fresh fruits and vegetables to pantry clients, as mentioned by all pantry leaders during exit interviews.

Figure 7. Impact of the 'inconsistency of food sources' (major theme from in-depth interviews) on food pantry, pantry clients, and the Lealman food insecurity rate

If food pantries do not have an inconsistent source of food, food pantry clients will not have food to put on their table, and food insecurity will continue (see Figure 7). The implications of this these concerns from food pantry leaders are a call for assistance to support food pantries, especially at the local level and in smaller communities. There is a need for external funding and

resources (challenges and needs discussed later), transdisciplinary approaches (e.g., food policy councils), and community awareness of these issues to garner assistance from businesses, residents and neighbors, and political figures.

There is major public health significance in efforts to address food insecurity, as discussed in the background section. Food insecurity and food hardship continues to plague our most vulnerable populations with limited income and education and threatens to negatively impact this population's health and quality of life. Those that are food insecurity may fall into several categories of low food security and very low food security which can translate to people reducing the quality, variety, or desirability of diet or reducing food intake and skipping meals, respectively (United States Department of Agriculture [USDA], 2017). Hunger-relief organizations are in a prime position to provide healthy meals and food items for populations that are often on federal assistance programs such as the Supplemental Nutrition Assistance Program. FISH also proposed to coordinate nutrition/cooking classes for the community in partnership with local cooperative Extension offices as well as food safety training for community organizations' staff; food tastings at food pantries in Lealman started in August 2017. There is desire to provide fresh produce at food pantries as all pantry leaders mentioned, but limitations such as storage and spoilage were a large concern. One pantry leader noted the importance of providing balanced food groups, so further exploration of interest to improve nutrition of foods offered may be a future discussion. When there is a lack of diversity of fruits and vegetables offered from food pantries, consequently, there will be a lack of diversity of nutrient intake offered by green leafy vegetables, cruciferous, and others. Among pantry clients, about two thirds of the surveyed participants recognized that fruits and vegetables were

something they wanted to provide their family and benefited their health yet 17.7% of individuals said they did not always have them at every meal, see Table 7.

Additionally, these food distributors play key roles in recognizing various social determinants and aspects of their community that impact health such as high rates of incarceration, prostitution, and lack of affordable housing, social services, and reliable transportation. A major barrier to food security that was identified in the study is the existence of a major highway in the middle of Lealman that is separating resources and access to food for many of the residents. Another issue was the lack of a grocery store within the one and a half to two-mile circumference of Lealman. These are not merely food access issues; they require planners, government officials, economic development, and other non-traditional partners at the table to find a solution to food insecurity. FISH is currently working to see if they can bring in a grocery store or farmer's market into Lealman and exploring avenues to provide volunteer and job opportunities for vocational training.

In conducting the in-depth interviews with pantry leaders and FISH community partners, one of the goals was to identify the challenges for food pantries and their needs to improve the delivery and logistics of their hunger-relief efforts. Many pantries have contracts with major food banks that may be 45 minutes away, which meant a reliable source of transportation was required for volunteers to make the trek to pick up food at least one time a week. FISH also proposed to reduce these trips by serving as the centralized food distributor; however, many food pantries and organizations still needed to make these trips. Pantry leaders mentioned that they were well-aware of where to get food if they needed it, i.e., by contacting businesses or asking other

pantries and the hunger-relief network, but the challenge lies in the amount of time required and the effort needed to find, pick-up, store, and distribute all items before the food spoils.

Another important note is that many of these food pantries are faith-based organizations and churches that rely up their members (or designate a volunteer) to run a pantry. Since the main purpose of the church is not to reduce hunger, it is difficult to allocate sufficient time to run the food pantry and provide fresh foods. Other concerns include proper food safety training (which many provide for their staff) and storage of perishable and non-perishable food on church facilities. However, it is also important to highlight that faith-based organizations are on the front lines of social service provision and often engage in programs to promote transitional housing, serve as emergency shelters, or supplement other needs in the community.

Limitations. Between January and August 2017, many changes have occurred for FISH and the development of the partnerships within Lealman. Several limitations are worth mentioning for this program evaluation. In practice, it may not be feasible to see the impact of FISH on the Lealman community in six to eight months. This program evaluation provides quantitative and qualitative data to show some improvements made for the community, e.g., increasing fresh fruits and vegetables for the community. However, continual assessment will be needed to identify successful achievement of medium and long-term outcomes, e.g., increased fruit and vegetable consumption of pantry clients using food frequency questionnaires or other methods to see actual sustained, dietary changes and impact on consumption.

Since pantries usually did not take personal identification information (regulations for USDA food donations), surveys collected did not have identifying information either. To understand pantry client perspectives, the majority of the tools were cross-sectional and provide

one-time snapshots of their lifestyle and access to fruits and vegetables. Thus, there was a potential for repeat pantry clients in completing surveys during January to July 2017, especially since there were multiple people collecting data (FISH staff/volunteers, Hillsborough Community College Dietetic Student Volunteers, and USF Research Associate). Additionally, the time with pantry clients was usually limited due to the fast pace of food pantry distributions. Surveys were often incomplete or had missing information; surveys with more than 5 missed questions were excluded from analysis.

In summary, this project was to gather the lessons learned from Lealman to share with other communities that have an interest in community initiatives to reduce food insecurity. The three major recommendations are discussed in the next section.

1. Do more with less – collaborate with the hunger-relief network to maximize resources and share food

In the role of community building and engagement, FISH has been become an advocate for the Lealman community. Bringing awareness to the issues of this community and drawing in resources to help solve the other types of social problems, e.g., incarceration and lack of affordable housing. While FISH mainly focuses on food distribution and reducing food insecurity, they have also been able to forge partnerships in a non-traditional sense. In times of funding cuts and financial shortages, it is increasingly important to foster collaboration to do more with less and share resources. FISH attends various community meetings inside and outside of Lealman to make sure to garner the support, when and if needed. One initiative they are working on is local food waste/recovery with the Tampa Bay Network to End Hunger. FISH partnered with local organizations to build a biodigester (a contraption which can break down

organic waste, often from food scraps, and produce burnable biogas and organic fertilizer) on their property and also works with an elementary school to support their school garden and composting efforts.

Just as the Lealman food pantry and community organizations have mentioned, there is value in working together. Food pantries that are now connected because of FISH existed in Lealman for more than 20 years and some did not know about what others did in the community. They share accounts to pick up food from food banks, they retrieve extra food and give it to FISH to distribute to others, or they call each other if they have excess food; in these ways they are working together to maximize collective impact. Since FISH started the Lealman food distributors' meeting in May 2017, the hunger-relief organizations are working together to find a solution to the same problem they have been fighting for decades – food insecurity and hunger.

2. Understand the needs and food preferences of pantry clients

In the past decade or so, there has been more evaluation of the impacts of food pantries and effect on nutritional status of pantry clients. In this study, we attempt to identify challenges of food pantries and food preferences of pantry clients in order to find a balance, or rather, how can we find a "sweet spot" of supplying nutritious foods that are in demand that meet the pantry clients' food preferences and needs. Determinants of food choice vary among people but can include: taste, income, skills to cook, time, culture, mood, and attitudes, beliefs, and knowledge about food (European Food Information Council, 2006).

To increase the likelihood of food consumption of nutritious foods and fresh produce, it is critical to take into account the food preferences of pantry clients. It may be worthwhile to

create a custom food list to tailor the needs and wants for each agency, i.e., if there is a central hub like FISH, they should know the preferences for each agency. FISH recognized the need to be more "creative" in providing more diverse foods to the Lealman Asian and Neighborhood Family Center whereas others serve more of the homeless population. The food distributor should cater to the needs of the food pantries while the pantries should consider the food preferences of their clients. Pantry leaders mentioned that sometimes there is a large Russian and Slavic client population and others serve predominantly Hispanic clients. FISH noted that they started to create a distribution cycle where they knew one pantry could use more of one type of produce and others would not take as many, depending on their ability to give it away, store, or their demand among pantry clients. Perhaps, a menu of items would be useful for FISH as the food distributor and based on the consumer trends (hunger-relief organizations and clients), would find a balance that can supply nutritious foods to meet the demand.

Additionally, literature is starting to show that food pantries that provide a more customized experience such as allowing clients to "shop" for the foods of their choice tend to be more successful, or better addressing the underlying root causes of poverty (Martin, Wu, Wolff, Colantonio, & Grady, 2013). Other initiatives also build in nutrition education or other types of motivational interviewing to help facilitate consumer behavior to adopt healthy eating behaviors and adding more and diverse fruits and vegetables into their diets (Martin et al., 2013). The more tailored and customized, the higher the likelihood to distribute and consume the produce. By considering individual food preferences and cultural differences, food pantries can alleviate one less barrier to consuming fruits and vegetables.

3. Identify ways to improve consistency of food sources and food provided

Similar to "doing more with less", this expands to working with others that are not typically in the hunger-relief network. It is essential to develop new partnerships with local businesses, restaurants, or retail outlets to donate a consistent and diverse amount of foods. FISH is working with various organizations including the Tampa Bay Network to End Hunger to promote a "Waste No Food" mobile app to divert food that would otherwise go to waste from food retail outlets to 501©3 registered charities. This is an example of an attempt to expand and improve the sources of food donations such as looking at the food production sector, distribution methods, and larger food bank policies. Where can partners intervene and how can they best supplement food pantries' needs and reduce the challenges to support people that need assistance? Beyonf food-related solutions, what innovative approaches can best help people out of the vicious cycles food insecurity and poverty? These are crucial questions to continue addressing at local, state and national levels.

Progress takes time; and the community in Lealman has persevered with the strong network that has been built by dedicated organizations. New, innovative partnerships are needed to improve the social conditions of community members in this highly transient, low-income area. The FISH Coordinator stated that, "Lealman is just a community that is still finding what its identity is." The role of community organizations, especially food pantries, is critical in helping to establish this sense of identity and build upon local resources to improve livelihoods.

In conclusion, this program evaluation aims to provide a snapshot of the issues and efforts from the Lealman community in order to share with other nation-wide initiatives to

reduce food insecurity. For more information, please contact the authors at the University of South Florida or the funding agency, UMCM Suncoast of Tampa Bay, Florida.

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Appendix A: FISH Program Narrative

***This section was written by the UMCM Suncoast staff, as submitted to the Healthy St. Pete Foundation grant proposal, which was accepted and funded this project.*

Program Background & Purpose

The increase in national attention on the social and economic impact of diet related illness has many Americans rethinking their diet, and changing the way they shop, eat and cook. The process of incorporating better nutrition choices as part of a long term, lifestyle change has gained traction for most of the population. Fresh produce and whole foods are readily available at grocery stores; farmers markets and specialty stores for those with the money and transportation to access them. Making these items part of a regular diet is also an attainable goal when you have access to the appropriate cooking facilities and knowledge on how to properly prepare and incorporate them. Unfortunately for low income individuals and families living in food deserts already disproportionately affected by diet related illnesses due to their circumstances, these conditions do not exist.

There is a change coming in the food being offered to food pantries to begin to address this issue, incorporating a greater amount and variety of fresh foods. The U. S. Department of Agriculture (USDA) has committed to sourcing more fresh produce from farmers markets through The Emergency Food Assistance Program (TEFAP), and government initiatives such as the Healthy Food Financing Initiative (HFFI) are providing the funds and abilities to grocery stores, markets, and local corner stores to sell healthy food in poverty stricken areas. Farmers markets have begun to participate in accepting Supplemental Nutrition Assistance Program

(SNAP), formerly food stamps, and the Women, Infants, and Children (WIC) redemptions to bring fresh options to low income families. These are important first steps; however the existing model of food delivery to local area pantries, also known as 'The Last Mile', was developed primarily for canned, boxed, and other non-perishable food items. This system is inadequate for fresh and perishable foods, and the result is that very limited amounts of these foods actually make it into the households of low income consumers. Without significantly increasing access, there can be little to no impact to improved nutrition and long term health outcomes for this population. In addition, simply ensuring that these foods actually make it into the household does not guarantee they will be consumed. Without proper education and training on how to prepare and incorporate them into a regular diet, the likelihood of a sustainable change in eating behavior is low.

The shortcomings in the current model of donated food distribution not only hamper the amount of fresh food that can be made available to food pantries, but result in significant waste and increased food safety issues. In August of 2015, the Fresh Initiatives Supply Hub (FISH) was developed as a collaborative effort between two local food pantries, the Dream Center's Adopt-A-Block Program and UMCM Suncoast, to address these issues in the Lealman food desert, and to create a model that could be expanded to serve additional neighborhoods in St. Petersburg and Pinellas County.

Program Description

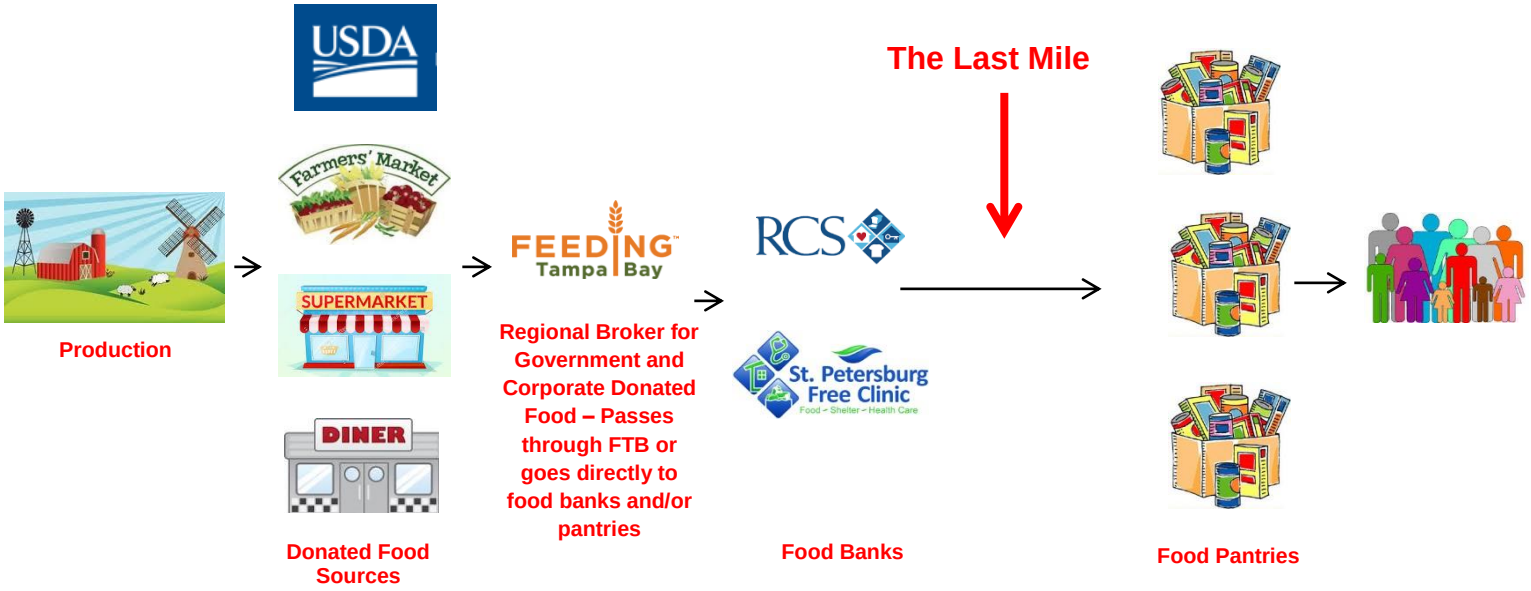
In order to have a significant impact on long term health outcomes, the primary goals of the FISH are to:

1) Increase access to fresh, healthy foods for low income individuals and families in the Lealman food desert in a safe and efficient manner;
2) Ensure fresh, healthy foods become part of a permanent change in diet and eating behavior; and
3) Create an effective model that can be replicated in neighborhoods throughout Pinellas County.

Goal 1: Increase access to fresh, healthy foods for low income individuals and families in the Lealman food desert in a safe and efficient manner.

The following, Figure 1, illustrates the existing model of food delivery, highlighting the 'Last Mile', and its' impact on the ability to deliver sufficient fresh foods to the consumer.

Figure 1. Current model of food delivery among sources of food donors and organizations in the hunger-relief network that receive/accept food donations to distribute to clients



Fresh fruits and vegetables are delivered to local restaurants, grocery stores and farmers markets. Any useable food items not consumed/sold at these locations, known as 'recovery food', are offered to the community at the food retailer's discretion. Feeding Tampa Bay

coordinates the pickup of recovery food from these locations, as well as from the USDA via TEFAP, and the delivery to food banks such as RCS and St. Pete Free Clinic for distribution to local area food pantries. The Last Mile of distribution to the food pantries, sufficient for canned and non-perishable food items, poses the following specific problems for delivery of fresh produce:

Storage: Food pantries currently lack storage space and refrigeration. This limits their ability to accept larger quantities and to ensure fresher, longer lasting produce, resulting in spoilage and waste. Limited storage can also result in improperly stored items, compromising food safety.

Hours of operation: Most food pantries are open only one to two days per week, making it difficult for them to accept fresh food that may spoil between off days when they are not open.

Travel Time: Food pantry volunteers currently travel between 15 and 35 minutes to food banks for product pickup utilizing vehicles without refrigeration capabilities. This exposes food items to contaminants, bruising, and spoilage on the return trip.

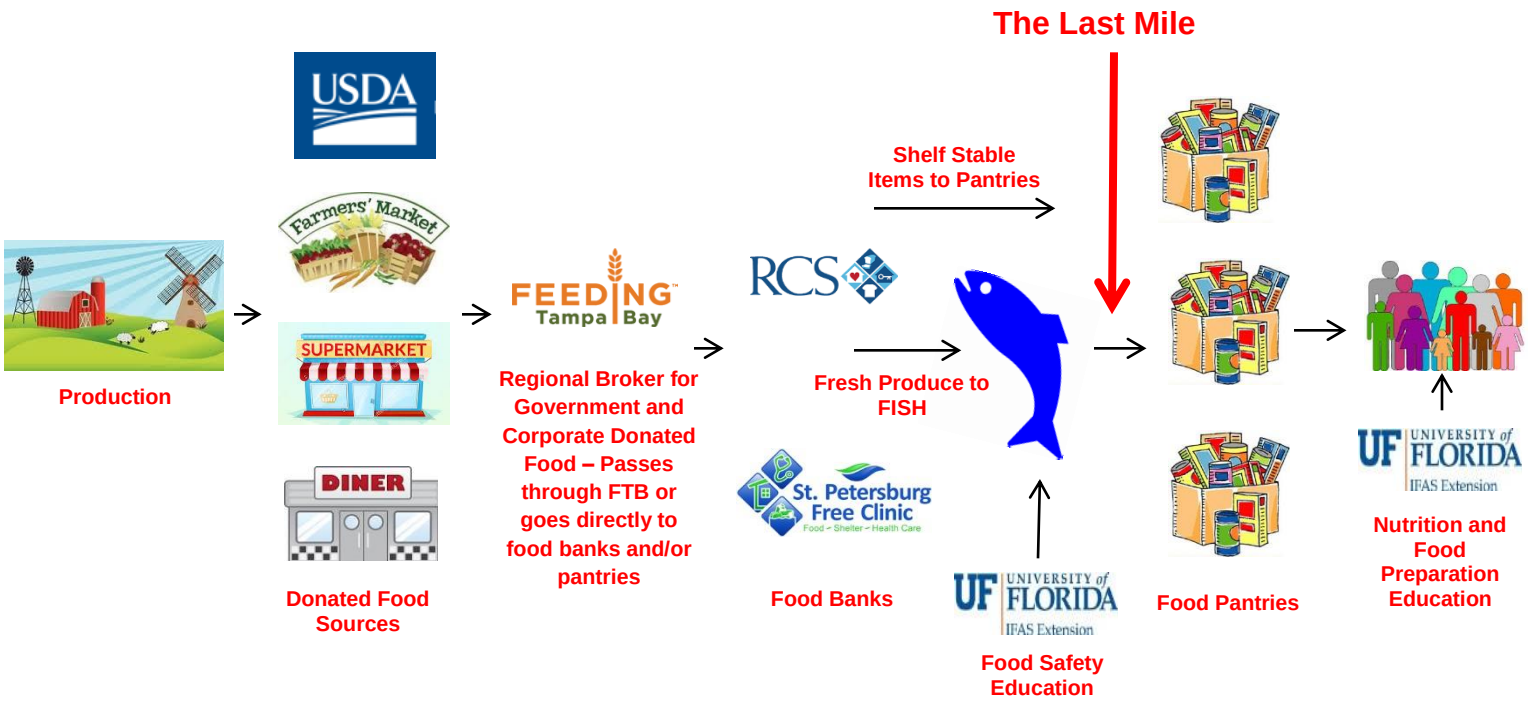
Packaging: Fresh produce often arrives at the food pantries packaged in bulk, and they do not have the resources (space, volunteer time, packaging materials, etc.) to break down these packages into usable items for the consumer. The lack of convenient packaging decreases the appeal to the consumer; they will be reluctant to take advantage of these items, and if they do, much of it may go to waste once in the household.

Safety: Food pantry workers and volunteers lack sufficient education in the safe handling of fresh food items, which can compromise food safety. Training and certification programs are not

offered at convenient locations and times for food pantry workers and volunteers to take advantage of them.

The current inventory of a typical four to eight-person food box offered at local food pantries is approximately 85% canned & boxed items, 7.5% frozen meats, 7.5% bread products, and 0% fresh produce. Fresh fruits and vegetables are not incorporated as a regular item in these boxes and only sporadically make it into the hands and diets of the consumer. The following illustrates the introduction of the Fresh Initiatives Supply Hub (FISH), addressing each of the current limitations in Last Mile delivery that restrict availability to the consumer and impact safety and efficiency, see Figure 2:

Figure 2. Proposed model of food delivery with the Fresh Initiative Supply Hub (FISH) serving as a central location to provide sources of fresh produce for local hunger-relief organizations.



Storage: FISH will provide a facility with sufficient space, equipment, refrigeration and manpower to accept and safely store larger quantities of fresh produce. A 1,500 square foot former home on Clearview UMC's property has been cleaned and remodeled to serve as the Lealman FISH. Approximately 50 volunteers from local food pantries, churches and the community will staff the facility.

Hours of operation: The FISH will be open 5 days per week for 4 hours per day. Times will vary to provide morning, afternoon and evening access for food deliveries and volunteers. Hours of operation will be determined with input from the food providers, pantries and local residents.

Travel Time: Prior to FISH, it was not feasible for food banks to make multiple deliveries to different pantries, each with varying storage capabilities and food needs. With FISH, food banks can now make a single delivery to one location that is within 5 minutes travel time for the food pantries. This decrease in travel time reduces food spoilage and waste, cuts food pantry expense, and allows for more frequent and cost effective trips to acquire fresh foods.

Packaging: FISH staff will break down large, bulk produce items received into smaller quantities that can be easily incorporated into pantry boxes, making them more attractive and usable for the consumer.

Safety: All storage and processing in the FISH will be under the management of a trained ServSafe staff member who will ensure the highest standards of safety and cleanliness are maintained. The University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Pinellas County Extension will conduct onsite, convenient ServSafe training and certification for FISH and food pantry staff, ensuring they trained on safe food handling. Training will be held a

minimum of twice a year, but may be increased to accommodate new pantry volunteers or changes in staff. FISH will also begin to implement the Hazardous Analysis Critical Control Point (HACCP) process, a systematic preventive approach to food safety in production and delivery.

Implementation of FISH will change the inventory of the typical 4-8 person food box offered at local food pantries to include a minimum of 12-15% fresh fruits and vegetables, ensuring all recipients have access to fresh produce to incorporate into their regular diet. Food pantries will obtain at least 200 pounds more fresh fruits and vegetables and will travel less time and distance to obtain these items. Volunteers at pantries in Lealman will be able to travel to the FISH in under 10 minutes. Eighty percent of FISH and food pantry workers will be ServSafe certified.

Goal 2: Incorporate fresh, healthy foods as part of a permanent change in diet and eating behaviors.

In order to make healthier eating a sustainable behavior change with the ability to impact long-term health outcomes, people must understand why these changes need to be made and how to make them. Nutrition education provides the 'why', connecting the dots between eating habits and diet related illnesses, and illustrating the positive impact these changes will have on quality and quantity of life. Cooking classes provide the 'how', teaching the skills to prepare healthy, tasty meals that incorporate more nutritious ingredients.

As part of the FISH model, UMCM is collaborating with the University of Florida/IFAS Extension in Pinellas County to offer Cooking Matters classes to food pantry recipients.

Founded in 1993, Cooking Matters has helped more than 265,000 low-income families in communities across the country learn how to eat better for less. Cooking Matters has been featured by First Lady Michelle Obama's Let's Move! Campaign and recognized by the U.S. Department of Agriculture for excellence in nutrition education. Utilizing local resources and volunteers, the program teaches adults, children and families how to shop smarter, use nutrition information to make healthier choices, and cook delicious, affordable meals. Each course is team-taught by a volunteer chef and nutrition educator and covers meal preparation, grocery shopping, food budgeting and nutrition. The program provides professional level instructional materials and national support, while offering flexibility and customization at the local level.

In the first year of operation, the six-week program will be offered bi-annually, increasing to quarterly by the second year. Personnel from UF/IFAS will coordinate and teach the classes, which will be held once a week for six weeks with between 12-15 students per class. Classes are offered at no charge, and will be held onsite at Clearview UMC Food Pantry as well as locations identified by the Dream Center Adopt-A-Block mobile food pantry, making it as easy and convenient as possible for participants to attend. The projected cost for each class is $600; we expect to be able to reduce the cost as we are able to supplement ingredients from the FISH. Ingredients for the cooking classes will be added to the participant's food pantry box for that week as an added incentive and to reinforce the lesson by recreating the meal at home.

In addition to Cooking Matters, UF/IFAS offers a class on Container Gardening and Market Gardening which we plan to incorporate into the cycle. This provides opportunities for participants to produce usable foods at home and also provides potential for income through market sales.

Goal 3: Create an effective model that can be replicated in neighborhoods throughout Pinellas County.

The weaknesses in the Last Mile of donated food delivery addressed by the FISH are not exclusive to the Lealman food desert. These issues are affecting fresh food access for low income individuals and families in neighborhoods throughout St. Petersburg and Pinellas County. As shown in the illustration of the food delivery model in Figure 1, some of the major components necessary to bring fresh, nutritious foods to low income neighborhoods are in place, however gaps in the delivery mechanism are restricting the ability to have a significant impact. The FISH addresses these gaps by leveraging existing programs, organizations and community resources, creating a cost effective, replicable solution in the following ways:

Utilization of Existing Facilities: In recent years, there has been a decline in church and other religious services attendance. As a result, most church properties have some form of excess space. These facilities, already owned and maintained by the church, can be utilized to implement a FISH, incurring little to no additional cost for purchase, rent or maintenance of space.

Utilization of Volunteers and Shared Personnel: Volunteers from churches, food pantries and the community will be utilized to staff additional FISH. A FISH coordinator will be a central point of contact and UMCM's Food Programs Manager will be available to all FISH as a shared resource.

Project Implementation Guide: Part of the Lealman FISH implementation will be to analyze and document each step of the process, outlining best practices and potential pitfalls. This

document will be formalized into a FISH Project Guide in order to facilitate and streamline future FISH implementations.

Program Summary

The Centers for Disease Control and Prevention (CDC) has confirmed the significance of a healthy diet on the quality and quantity of life, citing its impact on the growth and development of children, ability to prevent high cholesterol and high blood pressure, and reduce the risk of developing chronic diseases such as cardiovascular disease, cancer, and diabetes as well as obesity, osteoporosis, iron deficiency, and dental cavities[1]. Reducing these health risks in order to improve quality and quantity of life is only possible with long term eating behavior changes, and the implementation of a FISH will provide this opportunity for residents of the Lealman food desert.

Utilizing existing facilities, donated food, and volunteer staff, ongoing operational expenses for the FISH will consist primarily of building maintenance, utilities and program supplies. Funding for these will come from community donations, public and private funding, and future support from the Tampa Bay Network to End Hunger, which has already identified the hub as an area of interest for one of its work groups and will be working with UMCM to develop a collaborative agreement.

The FISH will collaborate with and leverage existing community programs and resources. UF/IFAS will provide ServSafe training for the FISH and food pantry workers as well as Cooking Matters and Community Gardening classes for the consumers. RCS, the St. Pete

[1] http://www.cdc.gov/healthyschools/nutrition/facts.htm

Free Clinic, and Feeding Tampa Bay will supply donated food to the hub, and the UMCM Clearview Food Pantry and the Dream Center Adopt-A-Block mobile food pantry will be FISH recipients. Two other food pantries, the Lealman UMC and Tree of Life, have also been identified as potential recipients. The local Police Athletic League Community Garden will also contribute recovery produce for distribution in the Lealman area. Volunteers from the community, church and food pantries will staff the FISH and assist with Cooking Matters classes. All funding obtained for this project will be managed solely by United Methodist Cooperative Ministries/Suncoast.

Community input into the creation and ongoing evaluation of the FISH has been provided by Clearview UMC and Wesley Memorial Food Pantry Directors, UF/IFAS coordinators, and FOCUS, a collaborative effort between the Juvenile Welfare Board, the Sheriff's Dept., local churches, social service organizations and nonprofits to work together for more efficiency and effectiveness in addressing the needs of the community. In addition to ongoing involvement with FOCUS, FISH staff will be attending meetings at the Lealman Community Association, and will reach out to the Pinellas County Planning Department for input from the County Commissioners regarding their Revitalization Plan for Lealman.

For over 40 years, UMCM's programs have served adults, children and families from a wide range of backgrounds and ethnicities, and our staff, volunteers and board are representative of the population we serve. Our target population includes the poor, homeless, minorities, immigrants/refugees and poor single parents. UMCM's staff is 60% minority consisting of African American, Asian, Hispanic and Caucasian. Staff members come from a variety of countries and speak many of the same languages as our participants, including Spanish,

Vietnamese, Tagalog, and Bosnian. Many have grown up in poverty or in families where substance abuse or mental health issues create challenges, just as in the families of the people we serve. UMCM's board members are members of the community, 17% are minority and 72% are female. The members come from a wide variety of backgrounds and experience including: grew up and/or taught school in the inner-city, social workers, and immigrants. Additionally, Board Committee members include a woman who was formerly homeless and receiving public assistance, and two single parents.

UMCM staff participates in diversity training annually each year. Some past experiences include a *Cost of Poverty* experiential workshop and a training session on how the trauma of intergenerational poverty and abusive behaviors impacts the brain. One of our Centers for Early Learning is National Association for the Education of Young Children accredited, and that organization assesses cultural competency as a part of the rating system. The other centers are seeking the same accreditation. We hold Civil Rights training annually to ensure that all of our practices and policies are non-discriminatory.

UMCM is applying for capital funding for a walk-in cooler with a freezer compartment to store the fresh food items that will be donated, as well as the processed and packed items that will be transported to the food pantries. The total cost of a walk-in cooler with freezer compartment is $21,000, and we are requesting $14,410 in funding to go towards this purchase.

Appendix B: Pantry Food Record

Pantry: _____

Date: _____ **Completed by:** _____

Fresh Fruits

Type of food (please list all)	**Amount Received (pounds)**	**Leftover (pounds)**	**Source Received from (if NOT FISH)**

Fresh Vegetables

Type of food (please list all)	**Amount Received (pounds)**	**Leftover (pounds)**	**Source Received from (if NOT FISH)**

Appendix C: Pantry Client Survey

Thank you for your time in completing this survey! Please mark and write in all the foods that you select at the pantry today.

Date:_____ Pantry:_____

Please circle: Male or Female
Age range: 18-29 30-39 40-49 50-59 >60
Ethnicity: Hispanic White Black American Indian Unknown

2. How is your access to fresh fruits and vegetables?
   a. Very easy
   b. Easy
   c. Somewhat easy
   d. A little difficult
   e. Very difficult

3. Where do you usually get your fresh fruits and vegetables?
a. Supermarket
b. Convenience store
c. Food pantry
d. Home garden
e. Farmer's market
f. Other (Please specify):_____

4. What fruits and vegetables do you and your family generally eat?

5. How many times a day do you currently eat fruits and vegetables?

6. What foods would you like to see the pantry offer more often (specific types of fruits/vegetables, frozen, canned, fresh, etc.)?

7. Fresh fruits and vegetables….			
1. help to feed my family.	No	Don't know	Yes
2. is the food that I want to give to my family.	No	Don't know	Yes
3. benefit my health.	No	Don't know	Yes
4. help to prevent disease.	No	Don't know	Yes
5. help me to improve my diet.	No	Don't know	Yes
6. is something I always have at meals.	No	Don't know	Yes

8. How far did you travel to get here (reported in minutes and miles)?
9. What mode of transportation did you take?

Appendix D: Food Pantry Leader "Pre/entry" Interview Guide

Thank you for your time and willingness to participate in this interview. My name is _____ and I am working with UMCM to evaluate the FISH project. We are extremely interested in hearing about your experience at _____ pantry. The purpose of this interview is to understand your needs as a food pantry and to hear your perspective of what your pantry clients may need and want. We also want to identify ways to strengthen FISH to better assist the food bank community and provide fresh, nutritious food for your clients.

Demographics

Position/title in organization: _____

Age: _____

Gender: M / F

How many years have you been working with this organization?

How many years have you been working in hunger-relief?

Background

1. When was this pantry established?

2. How many clients does the pantry serve monthly/annually? (crosscheck report)

3 What are your main sources of food contributions? What sources currently provide fresh fruits and vegetables?

Fruit/Vegetable Availability

4. Based on your experience at this pantry, please describe the current situation of food availability for your clients. This could be what you observe or the stories that clients have told you.

Probe: Fresh produce availability and access

5. Are food pantries currently giving out fresh fruits and vegetables? If not, why?

Probe: Barriers and facilitators that would assist in providing fruits and vegetables

6. What is the purpose of FISH? Could you describe how your pantry works with FISH?

7. In your opinion, how is the partnership with FISH working? Do you have any suggestions to change or improve the program?

Educational Programs

8. The partnership with FISH created opportunities for free culinary classes as well as gardening kits where people can learn to grow their own foods. Do you know if any of your pantry clients have participated?

9. If so, have you received any feedback from clients about these programs?

8. Is there anything that can be done to improve these opportunities for nutrition and cooking education?

Food Safety/Waste

9. Could you share your thoughts about food safety of the foods you receive and give away to families? What are some food safety issues you encounter in your role as pantry manager?

10. Do you have any suggestions to improve the food safety and quality of fresh foods received from FISH?

Probe: Training or food safety education
Have you or anyone at the pantry completed ServSafe or any other food safety training?

Probe: Quality of the foods - spoilage

11. Could you describe the current situation of food waste at your food pantry? How do you think food waste could be reduced?

Probe: Food pantry waste - excess or insufficient amounts?

Probe: Client food waste

12. Is there anything that can be done to assist you in the work that your organization does to feed the hungry?

Appendix E: Food Pantry Leader – "Post/Exit" Interview Guide

FISH partnership

1. When we last spoke, your main sources of food contributions were "insert answers", has that changed? What about sources for fresh fruits and vegetables?

2. What role do you see for FISH in terms of serving the people of Lealman?

3. Could you describe how your pantry works with FISH? Or, has that changed/developed in the last few months?

   Probe: What challenges or problems have you encountered (transporation of food, storage, distribution, etc.)?

4. In your opinion, how is the partnership with FISH working for the overall Lealman community?

5. Do you have any suggestions to change or improve the FISH program?

Fruit/vegetable access

6. Can you describe the fresh fruit/vegetable that FISH has been able to provide you all in the last few months?
   Probe: How do you feel about the quality? Diversity of choices?

7. In your opinion, do you feel like FISH has increased access of FRESH fruits and vegetables for Lealman and the partnering food assistance organizations? How? Without FTB, would you get fresh fruits and veg, would you get others or get fro FTB?

Educational Programs

8. Has your location been able to offer any nutrition classes or other educational programs due to FISH?

9. Has FISH been able to offer other types of programs/resources that has benefited your organization or the Lealman community?
   Probe: Volunteers

   Probe: Food in general

Food Safety/Waste

10. Since you've received more fresh fruits and vegetables from FISH, do you have any comments regarding food safety and quality of the foods received? Has it changed/improved?

Conclusion

11. Is there anything else that you would like to add regarding FISH as a central hub in Lealman to assist your organization to feed the hungry?

Appendix F: Interview Guide for Fish Coordinator – Post Program Evaluation

1. **How would you describe Lealman as a community?**

2. **Can you explain or share from your experiences, why it is an under-resourced community, that is, a food desert?**

3. **How can you describe the role of FISH in the Lealman community?**

   Probe: What role does it have to play in the hunger-relief initiatives?
   Probe: Resources? E.g., Summer Feeding Site flyer
   Probe: CHOPPED

4. **What do you see are the top 3 priorities that Lealman should address to reduce food insecurity?**
   Probe: Gap?

5. **What do you believe is working in terms of reducing food insecurity in Lealman?**

   Probe: Food pantries working in Lealman
   Probe: Resources provided to people

6. **What do you feel is needed for pantries to provide better food assistance? For citizens to reduce food insecurity?**

7. **Can you name some developments that you have made in the past few months since FISH started?**
   Probe: Community meetings
   Probe: Partnerships made (HCC volunteers, IFAS, etc.)
   Probe: Bio-digesters

8. **What role does FISH have in the next 5 years?**

9. **What components of FISH do you feel is most successful to be shared with other communities?**

Appendix G: Let-tuce Eat Photo Project

Thank you for your willingness to participate in this fun project! We are excited to see all your pictures from the foods you received from the pantry :)

Please take one photo of each of the following:

Photo 1: Foods you received from the pantry initially
Photo 2: something you made with the foods you received - any type of dish! If you would like to write about this dish, please include a description.

_____
_____
_____

Photo 3: Food leftover after 7 days from when you got foods from pantry (if any left)
Photo 4. If there was any foods that you tried for the first time, please take a picture of it.

Each time you take a picture, please text the picture to 727-488-5972 or email to fish@umcmsuncoast.org

Please answer the following questions *after 7 days of when you received your food.*

1. Did you use all the food? Why or why not?

   _____
   _____
   _____

2. If you didn't use all the food, what did you do with it?
   a. Didn't know how to cook it
   b. Gave it away
   c. Went bad
   d. Other _____

3. Was there anything from the food pantry that you had not tried before? If yes, did you like it?

   _____
   _____

Thank you so much for taking the time to share your pictures! Please make sure to text or email your pictures to 727-488-5972 or fish@umcmsuncoast.org . Once we have received all your pictures and this completed questionnaire, we will send you the gift card!

Appendix H: Lealman Food Distributors' Meeting Minutes, 5/2017

IN ATTENDANCE:

- The Fresh Initiatives Supply Hub (The FISH)
- Police Athletic League (PAL)
- Lealman and Asian Neighborhood Family Center (LANFC)
- Clearview United Methodist Church
- Lealman Community Church
- Northwest Church
- Florida Dream Center/ Adopt-A-Block
- Taking It To The Streets Ministries

UNABLE TO ATTEND:

Tree of Life
Freedom Ministries
Meals on Wheels

MEETING SUMMARY

Where pantries are getting food

- NW Church: Bridgepoint Church, Publix
- Clearview: SaveALot (purchase and by donation), Free Clinic, Feeding TB, USDA
- Lealman CC: Support from UMCM initially; St. Paul's
- Taking It To The Streets: Postal Drive, USDA, Operation Blessing, Free Clinic, RCS, private donation (partner mortgage company holiday drives)
- LANFC: Dream Center, Mainlands, Publix, PAL garden, grow boxes (UF/IFAS); JWB & GA Foods for kids' meals
- AAB: Feeding TB, Free Clinic, Publix, 7-11, Panera, Wawa, local food drives
- PAL: private donor for breads and pastries; 5th St. Baptist, candy and pastries; hydroponic garden, every kid has a stack; applying for grant with Church of Latter Day Saints

Number of people served

- Taking It To The Streets: 131 people/month (distribute 1/month) (moved to Kenneth City in December and does not have numbers yet for Lealman area)
- LANFC: 600-800 people a month.
- NW Church: 70 families/week; 60-100 homeless individuals in services other than food
- AAB: bulk deliveries (Mon-Fri); quick-eats food in E Lealman Sunshine Park; 20-40 people a week door-to door in 27 mobile home parks (specifically most impoverished and elderly); mobile site distribution t preregistered with excess going to walk-ups

Resources

- LANFC: two Social Workers and a Healthcare Access Navigator
- Lealman CC: children's program
- NW Church: homeless breakfast M & W with shower and laundry access; cold night shelter

- Real Pay It Forward an untapped resource
- Summer Breakspot Locations
    - PAL, 3 sites
    - LANFC
    - Mobile at Lakeview Villas and Landings
    - Put fliers in pantries

Needs

- Greatest need: Consistency (volunteers or food?)
- Lealman CC & LANFC: Not enough food
- Russian/Slavic translators
- Hispanic outreach

Proposals

- Taking It To The Streets proposed applying for United Healthcare grant for next year
- Solid Rock as potential site for pantry

Future planning

- Most of West Lealman is covered by food pantries, but East Lealman is under-served.
- Florida Dream Center is working towards moving out of Pinecrest and into Florida Sands mobile home park. Eventually wants to expand to King of the Road and Duval Park communities.

NEXT STEPS

- Post and distribute Summer Breakspot fliers in pantries and at distributions
- Scarlett (or anyone else with a contact) reach out to Spanish speaking churches re: opening a pantry in E Lealman
- Pursue options for Hispanic outreach and Russian/Slavic translator
- Connect with Real Pay It Forward and invite to next meeting
- Regular Pantry/Distributor Meetings would be beneficial; suggested rotations were every other month or once a quarter (if you have a preference, please email Scarlett)
- Lealman Community District Services
    - 1st Tues of every month at LANFC
    - Composed of organizations in Lealman to discuss community needs; open to public
    - Next meeting: June 6th

Appendix I: Lealman Food Distributors' Meeting Minutes, 8/2017

FOOD PANTRY STUDY SUMMARY AND FEEDBACK

Whitney Fung has been conducting a research study on the Lealman pantries over the past few months. The following themes/topics came out of the study and she wanted to get feedback from you all if you agree or disagree.

1. Consistency of food for providers and clients was important – In order to provide a consistent food source for clients, pantries needed a stable supply of food from source donor.
    a. NW: Yes, get 10 new people/week now
    b. FM: If get fruits & veg in, they *have* to go out that day. Would like to see more canned veg so it would last longer
    c. C: Get more fruits & veg with help from The FISH; get some from the Free Clinic, Farm Share; canned veg are lean, and things from the government [USDA] are lean; has seen an increase in 200 more people/month
    *Used to get all cans from the government and no meat; now get all the meat they want and limited cans
    *Clearview noted that 2 years ago Walmart adjusted their inventories, which really affected the supply of excess food that went into the pantries.
2. Diversity of foods – for pantries, it' difficult to get rid of pallets of just one thing. It would be better with more diversity.
    a. FM: Could get rid of more and wouldn't have to store if there was more variety
    b. C: More common items are easier to get rid of; even when give out less common items, we don't know if people are eating them
    c. NW recommended Hunsader farms
3. Connection and partnerships – importance of everyone getting together such as through quarterly meetings.
    a. Meeting together had been helpful
    b. More experienced pantries can support the newer pantries
    c. Share resources, both food/volunteers and information
4. NEEDS of food pantries
    a. Clearview: It would be great to support one central lace that could support all the residents (Peggy agrees)
    b. NW: Some people don't come for the food, some people come just to get a hug

Additional comments made after meeting:
As we were leaving an individual from the county was asking how long the pantries have been opened asking if they are newly opened. FISH Coordinator chimed in saying, "oh no, NW has been open over 25 years and Clearview 17-20." A pantry leader clarified, that they'd been open almost 20 years but only started meeting together "because of the FISH".

Another FISH partner throughout the meeting kept saying, “this is great” and reiterated that is was “great” it is to get together, to share information, and that it’s “helpful” to meet together to share info and resources

Appendix J: Fish Logic Model

INPUTS	OUTPUTS		OUTCOMES		
	Activities	**Participants**	**Short-term**	**Medium-term**	**Long-term**
Pantry staff Volunteers Time Partners	-FISH distributions of fresh fruits/vegetables -Cooking Matters classes -Garden to go programs -Food safety trainings -Implementation guide	-Pantry staff/volunteers -Lealman community members -Partners	1. Increase awareness of FISH resources [Pantry leader interviews] 2. Increase awareness of healthy eating and behaviors [Pantry client survey] + UF/IFAS evaluations 3. Increase knowledge of healthy eating and behaviors UF/IFAS evaluations 4. Increase access to fresh, healthy foods for low income individuals and families [Pantry food record]	1. Ensure fresh, healthy foods become a permanent change in diet and eating behavior [All instruments + UF/IFAS evaluations 2. Create an effective model that can be replicated in neighborhoods throughout Pinellas [Pantry leader interviews & pantry client surveys] 3. Decrease food waste [Pantry food record & leader interviews]	1. Improved health 2. Effective delivery system for hunger-relief organizations

Note. This logic model includes the original proposal of nutrition and gardening classes as activities which would have been measured by UF/IFAS evaluations. However, because of the short time period of the program evaluation, classes were not offered before August 2017.