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Introduction

In October of 2017, the Allegany Franciscan Ministries (AFM) commissioned Hebni Nutrition Consultants of Orlando, to perform a community food security assessment of the Lincoln Park neighborhood of Ft. Pierce, St. Lucie County Florida. The project titled “(the) Lincoln Park Community Food Assessment was designed to build upon other past assessments of the neighborhood and identify the current state of food access, resident health status and environmental assets such as the current number of full service grocery stores and their proximity to the centroid of the neighborhood.

Allegany Franciscan Ministries, a Catholic organization, guided by the mission and rooted in the tradition and vision of the Franciscan Sisters of Allegany, has been a catalyst for systemic change by committing resources and working collaboratively with others to promote physical, mental, spiritual, societal, and cultural well-being in communities served.1

In 2014, AFM launched the Common Good Initiative, a long-term, community-driven, place-based effort mobilizing communities toward better health and wellness. Through the initiative in Lincoln Park, AFM is supporting residents and stakeholders to create opportunities, develop strategies and make investments that lead to healthier, safer, and more prosperous places.2

Hebni Nutrition Consultants, Inc. (Hebni) is a community-based, not for profit agency formed in 1995 to educate high-risk, culturally diverse populations about nutrition strategies to prevent diet-related diseases. Hebni’s mission is to provide culturally appropriate nutrition education and intervention strategies to prevent diet-related diseases. To further enhance their work, Hebni has incorporated the acronym H.E.B.N.I. (Health Education through Behavioral and Nutritional Initiatives) to demonstrate the organization’s reach and capabilities. Hebni is committed to reducing health disparities among high-risk minority populations by providing compressive nutrition related strategies that decrease, manage, and delay chronic diseases such as diabetes, heart disease, cancer, obesity, and hypertension.3 Hebni has extensive experience in assessing the food security and nutritional needs of underserved communities throughout Florida. Their capacities include the collection of survey data, facilitation of focus groups, and provision of nutritional training. They have participated in the development of projects with both the University Of Florida College of Public Health and several major hospitals including the Florida Hospital system.

Through the partnership, AFM and Hebni hoped to gain a better understanding of the needs of residents in the Lincoln Park neighborhood through a structured process of discourse with residents, community service

3 https://soulfoodpyramid.org/about/ Retrieved 5/7/2019
providers, and government officials. Additionally, various aspects of the local food system were examined through a process of survey data collection, focus groups, and physical examination of the various food resources currently available.

It was the goal of this effort to identify various interventions that would leave lasting changes in place after the program ended.

The initial program goals included:

- Designing activities that provide a better understanding of families who deal with various levels of food insecurity through community engagement activities.
- Performing store-based shelf content analysis to determine the affordability and availability of food items sold at retail and other food outlets.
- Identifying up to three food stores in the Lincoln Park neighborhood and engaging them in efforts to improve the shelf appearance, signage, and the convenient proximity of healthy foods.
- Developing lasting food quality standards designed to encourage healthy eating habits of consumers after the end of the program cycle.

Additionally, more service delivery goals were developed, as needed, as a fundamental part of "lessons learned" through the careful analysis of data collected for the effort, as well as new information gained during the program cycle.

Community Background

Lincoln Park is a neighborhood within the city of Ft. Pierce, St. Lucie County Florida. The Lincoln Park neighborhood is one of the oldest communities in Ft. Pierce. The neighborhood flourished as a commercial center from the late 1800s through the 1930s. There was significant economic development through that time period which began to decline in the 1960s. Lincoln Park has a culturally rich history and was at one time the home of the “Florida Highwaymen” artists, a group of 26 African American artists who created over 200,000 paintings.

4 Allegany Franciscan Ministries, Success measures Form. 10/1/17
The Lincoln Park neighborhood is a 2 1/2 square mile mainly residential area in northwest Fort Pierce. Its population of just under 9,000 is racially composed of 91% African American, 6% White, 1% Hispanic and 2% other race. Fifty-seven percent of the residents live below the poverty level; the average median household income is $15,797 compared to the St. Lucie County median income of $42,655. Some 26% of residents are uninsured. Other health related issues affecting this community include high African American infant mortality rates, increased gun violence and gang-related activity.  

The City of Ft. Pierce, along with Lincoln Park residents have been instrumental in revitalization efforts, such as streetscape and infrastructure projects, along with the removal of substandard housing units, helping to encourage businesses to return to the area. The City provides matching commercial façade grants for properties along the Avenue D corridor. The City, along with the Ft Pierce Redevelopment Agency and St. Lucie County, recently completed the construction of a beautiful Intermodal Bus Terminal and Moore’s Creek Linear Park.

The Lincoln Park neighborhood is located in an area of the City of Ft. Pierce typically referred to geospatially as Ft. Pierce North. Ft. Pierce North is a census-designated place (CDP) in St. Lucie County, Florida, United States. The population was 6,474 at the 2010 census. It is part of the Port St. Lucie Metropolitan Statistical Area. According to the United States Census Bureau, the CDP has a total area of 4.6 square miles (sq. mi.), of which 4.5 sq. mi. is land area, and 0.1 sq. mi. (1.97%) is water.

As of the census of 2010, there were 6,474 people, 2,552 households, and 1,862 families residing in the CDP. The population density was 1,652.4 people per sq. mi. There were 3,087 housing units at an average density of

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The Lincoln Park Community Food Assessment

690.6/sq. mi. The racial makeup of the CDP was 23.25% White, 72.35% African American, 0.26% Native American, 0.07% Asian, 0.15% Pacific Islander, 2.04% from other races, and 1.88% from two or more races. Hispanic or Latino of any race were 5.50% of the population.

Ft. Pierce North is contained with the larger city of Ft. Pierce, Florida. Ft. Pierce has a population of 43,883 and is the 932nd largest city in the United States. The population density is 1,886 per sq. mi which is 542% higher than the Florida average and 1982% higher than the national average. The median age in Ft. Pierce is 37 years which is approximately 11% lower than the Florida average of 42 years. In Ft. Pierce, 46% of the population over 15 years of age are married, 72% speak English and 20% speak Spanish. Forty-eight percent of Ft. Pierce residents were born in Florida, 31% were born out of state, 20% were born outside of the United States. The median household income in Ft. Pierce grew from $26,506 to $28,025 in 2017, a 5.73% increase.

The population of Ft. Pierce is 38.2% White, 36.2% Black or African American, and 22.8% Hispanic or Latino. 23.8% percent of the people in Fort Pierce, FL speak a non-English language, and 87.9% are U.S. citizens.

The largest universities in Ft. Pierce, are Indian River State College (5,065 degrees awarded in 2016), Virginia College-Fort Pierce (162 degrees), and Fort Pierce Beauty Academy (25 degrees).

The economy of Ft. Pierce employs 16,100 people. The largest industries are Health Care & Social Assistance (2,342 people), Retail Trade (1,984 people), and Accommodation & Food Services (1,644 people), and the highest paying industries are Utilities ($81,538), Information ($66,343), and Finance & Insurance ($44,615).

Median household income in Ft. Pierce, is $28,025 (compared to the Lincoln Park median income level of $15,797) which is less than the median annual income of $60,336 across the entire United States. The income inequality in Ft. Pierce, FL (measured using the Gini index) is 0.473, which is lower than the national average.

Ft. Pierce is the seat of St. Lucie County, which as of 2010 the county population was 277,798. According to the US Census, the county has a total area of 688 sq. mi., of which 572 sq. mi. is land and 116 sq. mi. (16.9%) is water.

Comparisons between the demographics of the Lincoln Park neighborhood, Ft. Pierce North, and Ft. Pierce have shown differences that have elevated Lincoln Park as an area of high concern. The concerns predicate the need for a greater level of analysis of the neighborhood levels of both healthy food access and the corresponding levels of health risk to the residents who live there.

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9 https://www.census.gov/programs-surveys/acs/   Retrieved 5/7/2019


11 https://www.census.gov/programs-surveys/acs/   Retrieved 5/7/2019
Qualitative Design, Methodology and Results

Hebni, through the “Lincoln Park Community Food Assessment” (the Project), used an array of information gathering tools to better understand the level of food systems development within the neighborhood. The tools included the utilization of previous data particularly an early survey effort undertaken by the AFM in partnership with the Lincoln Park Council for the Common Good. Survey data were collected both on the need for jobs and economic development and also community safety and health. A high positive response by residents in support of expanded affordable food options became the precursive motivation for the current project.  

In addition to an examination of earlier efforts, Hebni consulted with the University of Florida’s Florida Survey Research Center and Common Thread International, Inc. for staff training and design services. Both organizations have extensive experience in the development of data collection protocols and survey design. Hebni staff were provided with day-long human subjects training provided by the executive directors of each organization. Topics included the appropriate handling of sensitive information, effective interviewing styles, as well as various issues concerning process design.

Fundamental to the research design, it was determined that the best approach would be to utilize a “multi-method study” design using a variety of data sources, both qualitative and quantitative in nature. The qualitative methods would include an examination of literature and documents as well as key informant interviews gathered via both focus groups and intercept surveys. The quantitative techniques would consist of an analysis of the physical environment with a focus on store inventories, a review of the physical layout of the neighborhood, and an examination of other assets such as transportation services and community engagement activities. Additionally, statistical analysis of census attributes would be used to determine overall neighborhood deprivation and health risk using GIS mapping.

Throughout the project, Hebni maintained an ongoing dialog with community residents, store owners, community organizations, and government. They would use these outlets as a “sounding board” where they would share information and receive feedback. The feedback would be used to shape recommendations and evolve the mission of the project.

Focus Groups

The focus group design employed a facilitated discussion approach that would differ from one-on-one intercept survey interviews in that it would capitalize on communication between participants to generate deeper understandings (but not necessarily consensus) about the research topic being discussed. The design was considered particularly effective as the approach of using both focus groups and intercept surveys would add additional perspective. Such an approach enhanced the ability of the Hebni team to explore ideas, concepts, and shared meanings about issues through discussing them with others.

12 Common Good Initiative “Lincoln Park Community Survey” October 27, 2016
The purposeful sampling design for the focus groups recruitment was integrated into the initial intercept survey process. Each individual who consented to the initial survey was asked if they would be willing to also participate in a focus group. This sampling design was considered beneficial as it allowed respondents to elaborate on a broader range of options. This also allowed for the establishment of reasonably homogenous groups to expand on shared experiences. Some diversity within the group was considered inherently useful to generate discussion from a range of perspectives. The optimal focus group size was ten people, which allowed each respondent enough time to elaborate. Even though there is no optimal duration, Hebni determined that their focus group design probably require one to two hours, including introductions and instructions.

There were 5 groups conducted with a total of 48 individuals. Each session was recorded with additional noted taken by the moderator. Later each recording was reviewed by Hebni. Additionally, specific quotes were noted to provide additional insights.

All of the focus group discussions were held at the United Against Poverty Store. Flyers and word of mouth were used to recruit participants who had to reside in the Lincoln Park Community to be eligible to participate. Of the focus group participants (n=48) the majority (n=37) were female. The majority of the participants were African American (n=31), followed by Hispanics/Latinos (n=12) and Whites (n=5). The ages of the participants ranged from 21-75 years old. In response for their participation, each individual was provided with a gift certificate to the "UP" Store in the amount of $20. The goal was to get their personal experiences in their own words. The information provided by the participants confirmed the independent findings of the research team and also provided a more in-depth view from a community participant perspective.

Focus Group Summary
The focus group discussions covered five major topics; food availability, community access to food and nutrition, eating habits, health, and food security. The focus groups result from the discussions are as follows.
Discussion on Food Availability

- Participants mentioned doing most of their grocery shopping at the United Against Poverty (UAP) store, where merchandise is dependent on donations and availability. UAP is the largest grocery store in the immediate Lincoln Park area with easy access to public transportation.
- Other stores reported by participants were the Save-a-Lot and Walmart-Supercenter. The Walmart store is a significant distance away.
- Fresh produce is available at the UAP store, with them having the best prices, but can sell out fast or be past its prime needing to be consumed quickly.
- Participants mentioned a street vendor who has local produce available with very affordable prices.
- Save-a-Lot also is used to purchase produce with Publix being reported as having the best produce but too pricey.
- Farmer’s markets are available a short driving distance from Lincoln Park but focus group participants reported the produce being great but too expensive to purchase.
- Most participants reported having access to a car to travel to the grocery stores with a few stating they walk to get groceries.
  - Walmart is accessible by public transit but the bus stops, according to a few of our participants, are few and far between within the neighborhood to access.
- The consensus of every group was that produce was too expensive and spoils too quickly. This was the biggest limitation to purchasing fresh produce.
- Emphasis was also placed during the discussion on canned fruits and vegetables being more convenient and easier to prepare.

“I would like to see a change in the quality of food sold in the stores. Many times, it seems like we are picking through the bottom of the barrel to get food.”
Discussion on Community Access to Food & Nutrition Services

Participants reported the following barriers they face in having access to affordable, healthy food:

- Unemployment and lack of transportation were repeated with every group as the main barrier to afford healthy food. Participants reported transportation to grocery shopping as the main issue amongst the elderly residents of Lincoln Park accessing food.
- Numerous participants were from single resident households and preferred not to cook and consumed mostly junk or snack foods as their meals.
- SNAP benefits enrollment is too difficult and requires a certain level of computer literacy. Seniors find the process too frustrating and give up before completing enrollment.
- Church food pantries available but most are not directly in the neighborhood and require personal transportation. A couple of soup kitchens are also available where a hot meal is provided daily for those unable to purchase food and requires transportation.
- All groups reported a serious lack of food and nutrition programming available in their actual community. The programs that are available were said to be too far for Lincoln Park residents without reliable transportation.
- Participants were asked to describe the largest unmet need related to food and nutrition in their neighborhood:
  - Education on chronic disease management/prevention and eating habits
  - Communication on nutrition resources available
  - Nutrition education including healthy cooking and shopping budget.
  - “We need nutrition education for parents and kids, I have a 15-year-old who is pre-diabetic and don’t know what to feed him.”

Discussion on Eating Habits

*Participants were asked to discuss their current eating habits concerning fresh fruits and vegetables.*

- Most participants described eating fresh fruit at least a few times a week with a few people stating most days of the week consuming fresh fruit. This correlates with results from the intercept survey where participants reported good fruit consumption.
- Participants also reported consuming vegetables a few times a week on average, it is apparent that they are trying to purchase fresh vegetables when available at the UAP store.
- When grocery shopping participants report fresh produce as being a luxury:
  - “fresh fruits and vegetables are too expensive and spoil fast”
Discussion on Health

- Most participants reported their overall health as good, even though chronic diseases were reported. Those that were currently taking medications had the most positive outlook on their health.
- Those who rated their health as poor seemed to have a recent serious medical event giving them a poor outlook on their health.
- About half of all participants mentioned to have been diagnosed with one chronic disease either; diabetes, high blood pressure or high cholesterol. One participant was recovering from a recent heart attack while a few others were recently undergoing cancer treatments.
- Participants admitted to knowing they are overweight with only one participant being told by a health professional they were overweight.
- No matter what their overall outlook on their health overwhelmingly participants believed fresh foods would benefit their health but complained that it is more expensive and too time consuming to prepare.

Discussion on Food Security

- Approximately two-thirds of participants claimed to receive SNAP benefits. Of those that received SNAP benefits the dollar amount was reportedly very low.
  - Single elderly adults on average claimed to receive only $16 monthly which did not provide sufficient support to purchase healthy fresh foods.
- Participants reported times when money did not last to purchase enough food. To make sure they are not left participants reported visiting food pantries and soup kitchens to supplement their food budget and not go hungry.
- Due to the expense of eating out and strict food budgets participants report eating at home and trying not to eat out at all. This is in line with results from the intercept survey where participants also report not eating out much.

Focus Group Participants Recommendations

Participants were asked to describe some food and nutrition resources they would like to see in their neighborhood. Nutrition education was overwhelmingly discussed by each group and very necessary along with the following suggestions:

- A nice farmer’s market within their own neighborhood.
- A soup kitchen or low-cost cafeteria in the neighborhood, providing cheap or free hot meals daily.
- Cheap healthy prepared meals that require reheating only, particularly for low-income seniors in single person households.
- More public transportation, particularly more bus stops in Lincoln park. There is only one bus line that runs through with bus stops very far apart.
Intercept Surveys

The protocol for the intercept survey employed a seven-page questionnaire completed by Hebni survey teams deployed into the community.

An intercept survey was considered the best tool for understanding an overall profile of consumers utilizing the food store site. A seven-page questionnaire facilitated information-gathering on eating habits, health status, SNAP/WIC participation, household size, food security, food preparation, and basic demographics.

The survey questionnaire was developed to be used by on site interviewers who would intercept persons leaving the site store after shopping. The store site chosen for data collection was the United Against Poverty (UP) store of St. Lucie County located at 2520 Orange Avenue (.7 miles from the center of Lincoln Park). This site was one of the three stores identified at the program outset as likely stores to participate in the program. One hundred forty-six surveys (146) were completed there. The UP-store structure provides a spectrum of core services to its patrons including:

1. ) Emergency food assistance and crisis care
2.) Counseling and case management
3.) Basic education
4.) Personal empowerment training
5.) Job skills training and mentoring
6.) Job placement help and ongoing coaching
7.) Member Share Grocery Program, and
8.) Collaborative partner services.¹³

The membership buying program enabled qualifying consumers who after means testing were permitted to purchase discounted groceries while also having access to the other poverty reduction activities.

Interceptor Survey Report of Findings

With the support of Common Thread International, Inc., Hebni Nutrition Consultants, Inc. developed and conducted a survey of individuals regarding their health and wellness. An Executive Summary, providing an overview of the results, is presented below, followed by the detailed results of the 146 completed surveys.

Eating Habits

- Nearly two in five (37.2%) respondents said they eat fresh or frozen fruits seven days a week, and more than three in five (63.4%) said they do so four or more times a week. About one in five (18.6%) respondents indicated eating fresh or frozen fruit just once or twice during the week, and fewer than one in ten (5.5%) said they never do so. The average response across those responding was 4.47 days per week (the median was 4).

- Nearly half (48.6%) of the respondents said they eat fresh or frozen vegetables seven days a week, and seven in ten (69.8%) said they do so four or more times a week. About one in five (18.5%) respondents indicated eating fresh or frozen vegetables just once or twice during the week, and fewer than one in ten (2.7%) said they never do so. The average response across those responding was 4.99 days per week (the median was 6).

- One in four (25.3%) respondents said they eat whole grains seven days a week, and more than one in three (35.6%) said they do so four or more times a week. About one in four (28.1%) respondents indicated eating whole grains just once or twice during the week, and about one in five (18.5%) said they never do so. The average response across those responding was 3.24 days per week (the median was 3).

- Only 1.4 percent of respondents said they eat fast food seven days a week, and fewer than one in ten (7.7%) said they do so four or more times a week. More than two in five (43.7%) respondents indicated eating fast food once or twice during the week, but nearly as many (38.0%) said they never do so. The average response across those responding was 1.27 days per week (the median was 1).

Health

- Although just one in six (16.4%) respondents rated their overall health as “excellent,” nearly half (45.9%) rated their overall health as “good.” One in four (26.0%) respondents rated their overall health as “fair,” and one in ten (11.0%) said their health was “poor.”

- More than half (53.3%) of the respondents said they did not have any days in the past 30 in which their mental health was not good. Three in ten (30.6%) respondents reported one to seven days in the past 30 in which their mental health was not good. Only about one in eight (13.1%) respondents reported their mental health was not good for eight or more days in the past 30. The average response across those responding was 6.53 days in the past 30 (the median was 0).

- Nearly two in three (65.2%) respondents said they did not have any days in the past 30 in which their physical health was not good. One in six (16.4%) respondents reported one to seven days in the past 30 in which their physical health was not good. Fewer than one in ten (7.8%) respondents said their physical health was not good for 8 to 21 days in the past 30, but one in ten (10.6%) respondents reported their physical health was not good for 22 or more days in the past 30. The average response across those responding was 4.46 days in the past 30 (the median was 0).

- Two of five (43.8%) respondents said they are never out of breath doing their routine job duties. One in four (24.0%) respondents said they rarely get out of breath doing their job duties, and one in six (16.4%) said they sometimes get out of breath. About one in ten (8.2%) respondents said they often get out of breath doing routine job duties, and nearly as many (7.5%) said they get out of breath doing routine job duties very often.
More than one in four (28.1%) respondents said they never feel heavily fatigued. One in four (25.3%) respondents said they are rarely heavily fatigued, and a similar number (26.7%) said they are sometimes heavily fatigued. About one in eight (13.7%) respondents said they are often heavily fatigued, and six percent said they are very often heavily fatigued.

Nearly half (46.4%) of the respondents have a BMI in the “obese” range. About one in four (26.4%) respondents have a BMI in the “overweight” range, and a similar number (25.7%) have a BMI in the “healthy” range. Just one percent (n=2) are classified as “underweight” per their BMI score.

Although about three in ten (31.2%) adult residents of St. Lucie County are “healthy weight,” only one in four (25.7%) survey respondents are in this category. Similarly, about three in ten (30.3%) adult residents of St. Lucie County are “overweight,” about one in four (26.4%) survey respondents are in this category. More troubling, while about two in five (37.5%) adult residents of St. Lucie County are “obese,” nearly half (46.4%) of the survey respondents are in this category.

About one in three (32.4%) respondents have been told by a doctor or other health professional that they have diabetes. Nearly half (48.6%) of the respondents have been told they have high blood pressure. Three in ten (30.9%) respondents have been told they have high cholesterol. One in seven (14.5%) respondents have been told by a doctor or other health professional that they have heart disease.

More than half (54.5%) of the respondents have no children in their households. About one in five (18.6%) respondents indicated that just one child lives in their household. About one in eight (11.7%) reported that two children live in their household. Fewer than one in ten respondents said either three children (7.6%) or four or more children (7.6%) live in their households. The average response across those responding was 0.99 children in the household (the median was 0).
Food Security

- Nearly half (46.2%) of the respondents said that in the last 12 months, it was never true that the food they bought didn't last and they didn't have money to get more. Two in five (40.7%) respondents said it was sometimes true in the last 12 months that food didn't last and there was no money for more, and one in eight (12.4%) said this was often true.

- Nearly half (47.6%) of the respondents said that in the last 12 months, it was never true that they couldn't afford balanced meals. More than two in five (42.1%) respondents said it was sometimes true in the last 12 months that they couldn't afford balanced meals, and one in ten (9.7%) said this was often true.

- Two in three (67.6%) respondents said that in the last 12 months, they (or other adults in the household) did not cut the size of meals or skip meals because there wasn’t enough money for food. Nearly one in three (31.7%) respondents said they (or other adults in the household) did cut the size of meals or skip meals because there wasn’t enough money for food. Of those who had cut or skipped meals, two in five (40.9%) said this happened almost every month, and more than half (54.5%) said this happened some months but not all.

- Two in five (41.4%) respondents said that in the last 12 months, they ate less than they felt they should because there wasn’t enough money for food; nearly three in five (57.9%) respondents said this was not the case.

- Three in ten (29.7%) respondents said that in the last 12 months, they were hungry but didn’t eat because there wasn’t enough money for food; seven in ten (70.3%) respondents said this was not the case.

Food Preparation

- More than one in four (28.8%) respondents indicated preparing/cooking breakfast at home every day, and another one in six (16.4%) said they do so most days. Nearly one in three (31.5%) respondents make breakfast at home a few days a week; about one in ten (8.9%) do so once a week or less; and, about one in eight (13.7%) never make breakfast at home.

- About one in four (24.0%) respondents indicated preparing/cooking lunch at home every day, and another one in eight (13.0%) said they do so most days. One in three (33.6%) respondents make lunch at home a few days a week; about one in eight (13.0%) do so once a week or less; and, about one in six (15.1%) never make lunch at home.

- Nearly half (46.2%) of the respondents indicated preparing/cooking dinner at home every day, and another one in four (23.4%) said they do so most days. One in five (19.3%) respondents make dinner at home a few days a week; fewer than one in ten (6.2%) do so once a week or less; and, about four percent never make dinner at home.

- More than four in five (82.9%) respondents said that they enjoy cooking; about one in six (17.1%) said they do not enjoy cooking.
Eating Habits

The survey first asked a series of questions about how often respondents eat fruits, vegetables, whole grains, and fast food.

Fruits

The first question asked: “On average, how many days a week do you eat fresh or frozen fruits?” Results appear in Figure 1.

Nearly two in five (37.2%) respondents said they eat fresh or frozen fruits seven days a week, and more than three in five (63.4%) said they do so four or more times a week. About one in five (18.6%) respondents indicated eating fresh or frozen fruit just once or twice during the week, and fewer than one in ten (5.5%) said they never do so.

The average response across those responding was 4.47 days per week (the median was 4).

Vegetables

The next question asked: “On average, how many days a week do you eat fresh or frozen vegetables?” Results appear in Figure 2.

Nearly half (48.6%) of the respondents said they eat fresh or frozen vegetables seven days a week, and seven in ten (69.8%) said they do so four or more times a week. About one in five (18.5%) respondents indicated eating fresh or frozen vegetables just once or twice during the week, and fewer than one in ten (2.7%) said they never do so.

The average response across those responding was 4.99 days per week (the median was 6).
Whole Grains

The next question asked: “On average, how many days a week do you eat whole grains?” Results appear in Figure 3.

One in four (25.3%) respondents said they eat whole grains seven days a week, and more than one in three (35.6%) said they do so four or more times a week. About one in four (28.1%) respondents indicated eating whole grains just once or twice during the week, and about one in five (18.5%) said they never do so.

The average response across those responding was 3.24 days per week (the median was 3).

Fast Food

The last question in this section asked: “On average, how many days a week do you eat fast food?” Results appear in Figure 4.

Only 1.4 percent of respondents said they eat fast food seven days a week, and fewer than one in ten (7.7%) said they do so four or more times a week. More than two in five (43.7%) respondents indicated eating fast food once or twice during the week, but nearly as many (38.0%) said they never do so.

The average response across those responding was 1.27 days per week (the median was 1).
Health

The survey next asked a series of questions concerning respondents’ health and wellness.

Overall Health

The first question in the section asked: “How would you rate your overall health during the past 12 months? Would you say your overall health was excellent, good, fair, or poor?” Results appear in Figure 5.

Although just one in six (16.4%) respondents rated their overall health as “excellent,” nearly half (45.9%) rated their overall health as “good.” One in four (26.0%) respondents rated their overall health as “fair,” and one in ten (11.0%) said their health was “poor.”

Mental Health

The next question asked: “Thinking about your mental health, which includes depression, stress, and problems with emotions, for how many days during the past 30 days was your mental health not good?” Results appear in Figure 6.

More than half (53.3%) of the respondents said they did not have any days in the past 30 in which their mental health was not good. Three in ten (30.6%) respondents reported one to seven days in the past 30 in which their mental health was not good. Only about one in eight (13.1%) respondents reported their mental health was not good for eight or more days in the past 30.
The average response across those responding was 6.53 days in the past 30 (the median was 0).

Physical Health

The next question asked: “Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?” Results appear in Figure 7.

Nearly two in three (65.2%) respondents said they did not have any days in the past 30 in which their physical health was not good. One in six (16.4%) respondents reported one to seven days in the past 30 in which their physical health was not good. Fewer than one in ten (7.8%) respondents said their physical health was not good for 8 to 21 days in the past 30, but one in ten (10.6%) respondents reported their physical health was not good for 22 or more days in the past 30.

The average response across those responding was 4.46 days in the past 30 (the median was 0).

Frequency of Being Out of Breath at Work

The next question asked: “How often do you get out of breath doing your routine job duties? Would you say you get out of breath very often, often, sometimes, rarely, or never?” Results appear in Figure 8. Two of five (43.8%) respondents said they are never out of breath doing their routine job duties. One in four (24.0%) respondents said they rarely get out of breath doing their job duties, and one in six (16.4%) said they sometimes get out of breath. About one in ten (8.2%) respondents said they often get out of breath doing routine job duties, and nearly as many (7.5%) said they get out of breath doing routine job duties very often.
Frequency of Feeling Heavily Fatigued

The next question asked: “How often would you say you feel heavily fatigued? Would you say you very often, often, sometimes, rarely, or never feel heavily fatigued?” Results appear in Figure 9.

More than one in four (28.1%) respondents said they never feel heavily fatigued. One in four (25.3%) respondents said they are rarely heavily fatigued, and a similar number (26.7%) said they are sometimes heavily fatigued. About one in eight (13.7%) respondents said they are often heavily fatigued, and six percent said they are very often heavily fatigued.

BMI

Next, respondents were asked for their height and weight: “To assess people’s health, researchers use a measurement called body mass index, or BMI. To calculate BMI, we need your height and weight. Would you mind telling us your height and weight?” Respondent replies were recorded in inches (height) and pounds (weight), so the following formula was used to calculate BMI: \[ \text{BMI} = \frac{\text{weight}}{\text{height}^2} \times 703. \] The resulting value was classified per CDC values as “underweight” (BMI below 18.5), “healthy” (BMI 18.5 to 24.9), “overweight” (BMI 25.0 to 29.9), or “obese” (BMI 30 or above). These results appear in Figure 10. Nearly half (46.4%) of the respondents have a BMI in the “obese” range. About one in four (26.4%) respondents have a BMI in the “overweight” range, and a similar number (25.7%) have a BMI in the “healthy” range. Just one percent (n=2) are classified as “underweight” per their BMI score.
BMI: County Comparison

Figure 10A compares the outcomes for BMI scores from this sample to overall weight assessments for St. Lucie County, Florida\(^{14}\).

While those classified as “underweight” per their BMI score are fairly similar to rates from the County, there are clear differences for other weight classifications. Although about three in ten (31.2%) adult residents of St. Lucie County are “healthy weight,” only one in four (25.7%) survey respondents are in this category. Similarly, about three in ten (30.3%) adult residents of St. Lucie County are “overweight,” about one in four (26.4%) survey respondents are in this category. More troubling, while about two in five (37.5%) adult residents of St. Lucie County are “obese,” nearly half (46.4%) of the survey respondents are in this category.

Chronic Diseases

The last question in this section asked: “Have you ever been told by a doctor or other health professional that you have: diabetes; high blood pressure; high cholesterol; heart disease?” Results appear in Figure 11.

About one in three (32.4%) respondents have been told by a doctor or other health professional that they have diabetes. Nearly half (48.6%) of the respondents have been told they have high blood pressure. Three in ten (30.9%) respondents have been told they have high cholesterol. One in seven (14.5%) respondents have been told by a doctor or other health professional that they have heart disease.

---

\(^{14}\) “Healthiest Weight Profile, St. Lucie, Florida – 2017”: Data downloaded from Florida HEALTH on 5/01/19
Chronic Diseases: County Comparison

Figure 11A compares the survey outcomes regarding chronic diseases from this sample to rates for St. Lucie County, Florida. About one in three (32.4%) survey respondents have been told by a doctor or other health professional that they have diabetes, while only about one in eight (11.6%) adult residents of St. Lucie County have been told this. Nearly half (48.6%) of the survey respondents have been told they have high blood pressure, while nearly two in four (36.3%) adult residents of the County have been told this. Three in ten (30.9%) survey respondents have been told they have high cholesterol, while about two in four (36.4%) adult residents of St. Lucie County have been told this. One in seven (14.5%) survey respondents have been told by a doctor or other health professional that they have heart disease, while about six percent of adult residents of St. Lucie County have been given the more specific diagnosis of “angina or coronary heart disease.”

SNAP/WIC and Household Size

The next section of the survey asked about resources people can rely on for their food needs, including SNAP (the Supplemental Nutrition Assistance Program) and WIC (Women, Infants, and Children Program), as well as household composition.
Current Use of SNAP/WIC
First, respondents were asked: “Do you, or does anyone in your household, currently receive benefits from SNAP or WIC?” Results appear in Figure 12.

More than two in five (43.8%) respondents reported that they, or someone else in their household, currently receive SNAP or WIC benefits.

Recent Use of SNAP/WIC
Next, respondents were asked: “Have you, or has anyone in your household, received benefits from SNAP or WIC during the past 6 months?” Results appear in Figure 13.

More than half (51.4%) of the respondents reported that they, or someone else in their household, have received SNAP or WIC benefits in the past six months.
Adults in Household

The next question asked: “Including you, how many adults age 18 or over live in your household?” Results appear in Figure 14.

Two in five (40.4%) respondents indicated that just one adult lives in their household. About one in three (34.9%) respondents reported that two adults live in their household. About one in eight respondents said either three adults (11.6%) or four or more adults (13.1%) live in their households.

The average response across those responding was 2.01 adults in the household (the median was 2).

Children in Household

The next question asked: “How many children under age 18 live in your household?” Results appear in Figure 15.

More than half (54.5%) of the respondents have no children in their households. About one in five (18.6%) respondents indicated that just one child lives in their household, and about one in eight (11.7%) reported that two children live in their household. Fewer than one in ten respondents said either three children (7.6%) or four or more children (7.6%) live in their households.

The average response across those responding was 0.99 children in the household (the median was 0).
Food Security

The next section of the survey asked a series of questions regarding ‘food security’ – whether respondents were able to afford the food they eat on a regular basis. These questions are drawn from the USDA protocol used to assess food security.

Food Did Not Last

The first question in this section asked: “The food that (I/we) bought just didn’t last, and (I/we) didn’t have money to get more.’ Was that often, sometimes, or never true for (you/your household) in the last 12 months?”

Results appear in Figure 16. Nearly half (46.2%) of the respondents said that in the last 12 months, it was never true that the food they bought didn't last and they didn't have money to get more. Two in five (40.7%) respondents said it was sometimes true in the last 12 months that food didn't last and there was no money for more, and one in eight (12.4%) said this was often true.

Couldn’t Afford Balanced Meals

The next question in this section asked: “(I/we) couldn’t afford to eat balanced meals.’ Was that often, sometimes, or never true for (you/your household) in the last 12 months?” Results appear in Figure 17. Nearly half (47.6%) of the respondents said that in the last 12 months, it was never true that they couldn't afford balanced meals. More than two in five (42.1%) respondents said it was sometimes true in the last 12 months that they couldn’t afford balanced meals, and one in ten (9.7%) said this was often true.
Adults Cut or Skipped Meals

The next question in this section asked: “In the last 12 months, did (you/other adults in your household) ever cut the size of meals or skip meals because there wasn’t enough money for food?” Results appear in Figure 18.

Two in three (67.6%) respondents said that in the last 12 months, they (or other adults in the household) did not cut the size of meals or skip meals because there wasn’t enough money for food. Nearly one in three (31.7%) respondents said they (or other adults in the household) did cut the size of meals or skip meals because there wasn’t enough money for food.

Frequency of Adults Cutting or Skipping Meals

Those respondents who said they (or other adults in the household) did cut the size of meals or skip meals in the past 12 months because there wasn’t enough money for food (n=46) were also asked: “How often did this happen – almost every month, some months but not every month, or in only one or two months?” Results appear in Figure 18A.

Of those who had cut or skipped meals, two in five (40.9%) said this happened almost every month, and more than half (54.5%) said this happened some months but not all.

Eat Less

The next question in this section asked: “In the last 12 months, did ever eat less than you felt you should because there wasn’t enough money for food?” Results appear in Figure 19.
Two in five (41.4%) respondents said that in the last 12 months, they ate less than they felt they should because there wasn’t enough money for food; nearly three in five (57.9%) respondents said this was not the case.

**Went Hungry**

The last question in this section asked: “In the last 12 months, were you ever hungry but didn’t eat because there wasn’t enough money for food?” Results appear in Figure 20.

Three in ten (29.7%) respondents said that in the last 12 months, they were hungry but didn’t eat because there wasn’t enough money for food; seven in ten (70.3%) respondents said this was not the case.
Food Preparation

Respondents were next asked a series of questions about preparing and cooking food.

Frequency of Preparing/Cooking Breakfast at Home

First, respondents were asked how often they prepare and/or cook breakfast at home. Results are presented in Figure 21A.

More than one in four (28.8%) respondents indicated preparing/cooking breakfast at home every day, and another one in six (16.4%) said they do so most days. Nearly one in three (31.5%) respondents make breakfast at home a few days a week; about one in ten (8.9%) do so once a week or less; and, about one in eight (13.7%) never make breakfast at home.

Frequency of Preparing/Cooking Lunch at Home

Next, respondents were asked how often they prepare and/or cook lunch at home. Results are presented in Figure 21B.

About one in four (24.0%) respondents indicated preparing/cooking lunch at home every day, and another one in eight (13.0%) said they do so most days. One in three (33.6%) respondents make lunch at home a few days a week; about one in eight (13.0%) do so once a week or less; and, about one in six (15.1%) never make lunch at home.
Frequency of Preparing/Cooking Dinner at Home

Finally, respondents were asked how often they prepare and/or cook dinner at home. Results are presented in Figure 21C.

Nearly half (46.2%) of the respondents indicated preparing/cooking dinner at home every day, and another one in four (23.4%) said they do so most days. One in five (19.3%) respondents make dinner at home a few days a week; fewer than one in ten (6.2%) do so once a week or less; and, about four percent never make dinner at home.

Enjoy Cooking

The last question in this section asked: “Do you enjoy cooking?” Results appear in Figure 22.

More than four in five (82.9%) respondents said that they enjoy cooking; about one in six (17.1%) said they do not enjoy cooking.
Demographics

Finally, the survey asked a series of demographic questions about the respondents.

Gender

![Gender Chart]

Age

![Age Chart]
Employed

Figure 25: Are you employed?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>48.3%</td>
<td>51.7%</td>
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</tbody>
</table>

Employed (N=145)

Household Income

Figure 26: Household Income (before taxes)

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $15,000</td>
<td>51.4%</td>
</tr>
<tr>
<td>$15,000 to $34,999</td>
<td>36.3%</td>
</tr>
<tr>
<td>$35,000 to $49,999</td>
<td>7.5%</td>
</tr>
<tr>
<td>$50,000 to $74,999</td>
<td>0.7%</td>
</tr>
<tr>
<td>$75,000 or more</td>
<td>0.7%</td>
</tr>
<tr>
<td>Don't know/Refused</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Income (N=146)
Education

Figure 27: Education

Race

Figure 28: Race
(Note: respondents could choose multiple options)
Hispanic/Latin-x

Figure 29: Hispanic/Latin-x

<table>
<thead>
<tr>
<th>Zip Code</th>
<th>% (N=146)</th>
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<tr>
<td>32950</td>
<td>0.7%</td>
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<tr>
<td>32976</td>
<td>0.7%</td>
</tr>
<tr>
<td>33947</td>
<td>0.7%</td>
</tr>
<tr>
<td>33950</td>
<td>0.7%</td>
</tr>
<tr>
<td>34945</td>
<td>0.7%</td>
</tr>
<tr>
<td>34946</td>
<td>16.6%</td>
</tr>
<tr>
<td>34947</td>
<td>24.8%</td>
</tr>
<tr>
<td>34950</td>
<td>40.0%</td>
</tr>
<tr>
<td>34951</td>
<td>0.7%</td>
</tr>
<tr>
<td>34952</td>
<td>1.4%</td>
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<tr>
<td>34960</td>
<td>0.7%</td>
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<tr>
<td>34974</td>
<td>1.4%</td>
</tr>
<tr>
<td>34976</td>
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<tr>
<td>34982</td>
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<td>34983</td>
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</tr>
<tr>
<td>34986</td>
<td>1.4%</td>
</tr>
<tr>
<td>34987</td>
<td>0.7%</td>
</tr>
<tr>
<td>38750</td>
<td>0.7%</td>
</tr>
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</table>
Other Research Activities and Findings

Project staff identified three possible food stores in the neighborhood to target for program participation:

- United Against Poverty “UP” store of St Lucie County
- Papas Meats
- House of Meats Supermarket

Three stores were initially contacted. The first store “UP” (United Against Poverty) was enthusiastic for an opportunity to improve their food offerings and provided Hebni unrestricted access to the store. The created an ideal environment for the engagement of consumers with both the focus groups and intercept survey activities. The second store, Papas Meats, and the third store, House of Meats Supermarket, decided after several contacts to decline involvement in the initiative. Hebni performed shelf surveys where they would quantify the number of healthy offerings available to consumers. Once analyzed, Hebni was able to make recommendations as to how shelves could be reorganized, aisle signage was created to make healthy offerings more apparent. Engagement with the “UP” store began with a store reset which was conducted in January 2017. The reset took place over the course of two overnight sessions along with guidance and assistance from “UP” Store team members.

New aisle signage at United Against Poverty Store
With approval from the United Against Poverty management team, Hebni created the Healthy Corner. The Healthy Corner made it easier for customers to learn about healthier foods and encourage them to try new foods. To complement the section, a Healthy Corner recipe rack was also installed in the section. The rack contained recipes developed by Hebni’s dietitians with several featuring low-cost items and healthy, shelf-stable foods. To assist with the upkeep, Hebni hired a local Ft. Pierce resident to make ongoing weekly visits to the store and stock the “Healthy Corner” with food items as based on Healthy Corner Store Guide developed by Hebni.

The guide provides helpful tips to organize the products that meet criteria to be considered healthier options. At each visit, the employee would answer customer questions about the Healthy Corner section and photograph her work pre and post in an attempt to document the movement of items from the section. Hebni received occasional feedback from consumers who expressed satisfaction with the increased usability and ease in finding healthier foods.

Hebni team members displaying the newly created Healthy Corner and shelf signage.

Newly installed recipe rack in the Healthy Corner section.
Assessment of Food Availability in Stores

To gain a more in-depth assessment of the food resources in Lincoln Park, a food store survey was conducted. Managers of the target grocery stores in the community were asked for permission to gather information on food availability and prices. A tool developed by the USDA specifically for this purpose was utilized.

The survey tool inquiries about food in the following categories:

- Fresh Fruit
- Fresh Vegetables
- Canned Fruit
- Canned Vegetables
- Frozen Fruits and Vegetables
- Breads, Cereals and Other Grain Products (Fresh)
- Breads, Cereals and Other Grain (Dry)
- Dairy Products (Fresh)
- Dairy Products (Fresh)
- Fresh Meat and Meat Alternates Products
- Fats and Oils
- Sugars and Sweets

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Total Items Assessed</th>
<th>Number of Items Available Store A (%)</th>
<th>Number of Items Available Store B (%)</th>
<th>Number of Items Available Store C (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits (Fresh)</td>
<td>6</td>
<td>5 (83%)</td>
<td>3 (50%)</td>
<td>1 (16%)</td>
</tr>
<tr>
<td>Vegetables (Fresh)</td>
<td>8</td>
<td>6 (75%)</td>
<td>7 (87%)</td>
<td>5 (63%)</td>
</tr>
<tr>
<td>Fruits (Canned)</td>
<td>4</td>
<td>4 (100%)</td>
<td>1 (25%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Vegetables (Canned)</td>
<td>3</td>
<td>2 (66%)</td>
<td>3 (100%)</td>
<td>3 (100%)</td>
</tr>
<tr>
<td>Fruits and Vegetables -Frozen</td>
<td>5</td>
<td>2 (28%)</td>
<td>4 (57%)</td>
<td>4 (57%)</td>
</tr>
<tr>
<td>Breads Cereals and Other Grains</td>
<td>8</td>
<td>7 (88%)</td>
<td>6 (75%)</td>
<td>7 (88%)</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>5</td>
<td>1 (20%)</td>
<td>4 (80%)</td>
<td>4 (80%)</td>
</tr>
<tr>
<td>Meat and Meat Alternatives</td>
<td>14</td>
<td>7 (50%)</td>
<td>9 (64%)</td>
<td>10 (71%)</td>
</tr>
<tr>
<td>Oils</td>
<td>4</td>
<td>2 (50%)</td>
<td>4 (100%)</td>
<td>3 (75%)</td>
</tr>
<tr>
<td>Sugars and Sweets</td>
<td>9</td>
<td>4 (44%)</td>
<td>6 (66%)</td>
<td>5 (55%)</td>
</tr>
<tr>
<td>Other Food Items (Seasonings, etc.)</td>
<td>19</td>
<td>12 (63%)</td>
<td>6 (100%)</td>
<td>17 (89%)</td>
</tr>
</tbody>
</table>
Neighborhood Deprivation Mapping

As a methodology for determining the relationship between the socioeconomic status and health risk the project used Neighborhood Deprivation Index mapping also called area deprivation indexing. The area deprivation indexing represents a geographic area-based measure of the socioeconomic deprivation experienced by a neighborhood. Higher index values represent higher levels of deprivation. Higher levels of deprivation have been associated with an increased risk of adverse health and health care outcomes. The original index developed by GK Singh uses 17 different markers of socioeconomic status extracted on a census block or tracts from the US Census, American Community Survey, which is updated every five years. The coefficients used in the index include:16

- Percentage of the population aged 25 and older with less than 9 years of education
- Percentage of the population aged 25 and older with at least a high school diploma
- Percentage employed persons aged 16 and older in white-collar occupations
- Medium family income in US dollars
- Income disparity
- Median home value in US dollars
- Median monthly mortgage in US dollars
- Percentage of owner-occupied housing units
- Percentage of civilian labor force population aged 16 years and older who are unemployed
- Percentage of families below federal the poverty level
- Percentage of the population below 150% of the federal poverty level
- Percentage of single parent households with children less than 18 years of age
- Percentage of households without a motor vehicle
- Percentage of households without a telephone
- Percentage of occupied housing units without complete plumbing
- Percentage of households with more than 1 person per room

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Further building on the landmark work of GK Singh (2003), L. C. Messer was able to connect the same socioeconomic factors first to birth risks\textsuperscript{17} and later to overweight and obesity rates\textsuperscript{18}.

The project utilized this mapping process to provide geospatial representation to examine the Lincoln Park neighborhood, the surrounding City of Ft. Pierce and St. Lucie County producing visual displays that display variations in health risk that are broken down into quadrants. Each calculation of risk levels, ranging from low-to very high-risk health environments, allows for comparison and correlation of socioeconomic factors on a census block level. Such neighborhood-level maps provided a planning tool for the project by highlighting

\textsuperscript{17} LC Messer “The Development of a Standardized Neighborhood Deprivation Index”. Journal of Urban health, November 2006, Volume 83, Issue 6, pp 1041–1062

\textsuperscript{18} Rossen et al. “Neighborhood economic deprivation explains racial/ethnic disparities in overweight and obesity among children and adolescent in the USA” Office of Analysis and Epidemiology, National Center for Health Statistics, Center for Disease Control and Prevention
The Lincoln Park Community Food Assessment

overall health risks. The map insets, one of greater Ft. Pierce the other for the Lincoln Park neighborhood specifically, identify both food desert areas and quartiles of health risk. The food desert census tracts are identified with cross hatching, illustrate that the entirety of the Lincoln Park neighborhood lies in a food desert, as defined by the US Department of Agriculture.

Food deserts are parts of the country vapid of fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished areas. This is largely due to a lack of grocery stores, farmers markets, and healthy food providers.\(^\text{19}\)

Health risk (NDI) is broken into four quartiles ranging from low risk to very high risk. The entirety of the Lincoln Park neighborhood lies in either high or very high risk. This indication is consistent with the data gathered through the intercept survey process which revealed that the respondents had both elevated BMI and significantly higher rates of type two diabetes, as compared with county and state rates. This cross-referencing of both qualitative and quantitative health trends lends to the verification of the information collected through both methods.

Project Evolution and Other Activities

At the outset of the project, several high-level goals were established as a starting point of the evaluation process. Throughout the information-gathering process, community feedback and empirical data were used to refine the approach and establish additional program activities and recommendations.

Several new objectives were developed:

- Increase the nutritional and food preparation knowledge of residents through education and training provided through proactive community engagement.
- Raise greater awareness to the “UP” Store changes by providing information to a wider audience through participation at other community events such as health fairs and neighborhood gatherings.
- Encourage the exchange of information through regular meeting with community stakeholders, leaders, and government representatives.


Hebni Nutrition Consultants, Inc.
Healthy Cooking Classes

As a result of the indication of elevated health risk leading to a range of nutritionally controlled metabolic diseases Hebni designed a series of cooking classes in collaboration with Your Plate Health & Wellness Center. The cooking session events were conducted by a Hebni dietitian and featured healthy easy-to-make recipes that were offered monthly to residents. The sessions were conducted at the Your Plate Health & Wellness Center located at 1203 Orange Avenue a location that had convenient proximity to Lincoln Park.

The classes were held once per month on the following dates:

- November 29, 2018
- December 13, 2018
- January 24, 2019
- February 21, 2019
Each session centered on a specific theme and were FREE to the community and included information specifically targeted to the better utilization of fresh foods considered to be both useful in the support of weight loss and better diabetic control. Hebni dietitians demonstrated different ways that healthy foods could be prepared and how to modify the preparation to culturally appropriate tastes.

Many of the recipes were extracted from the Hebni cookbook titled “The New Soul Food Cookbook” The recipes are specifically designed to provide healthy cooking instruction with culturally targeted sensory and taste demands in mind. Authored by two of the three Hebni founders, Roniece Weaver and Fabiola Gaines, the recipes have been used for many years and shown to be highly effective. Additionally, cooking classes and demonstrations are used regularly in the daily operation of the Fresh Stop Mobile Farmer’s Market, a mobile grocery store designed from a refitted transit bus that moves healthy food into areas of low food availability.

At each session a pre-and-post class questionnaire were provided to each participant in order to assess impact. The questionnaire contained 10 questions designed to assess if the participants gained understanding of the subject matter, as well as participant intent to make lasting changes.
Data Findings

Question #1  In the last 12 months (I/we) couldn’t afford to eat balanced meals.” Was that often, sometimes, or never true for (you/your household)?

Ninety-six percent of respondents reported that they couldn’t afford to eat a balanced diet.

Question #2  The food that (I/we) bought just didn’t last, and (I/we) didn’t have money to get more.” Was that often, sometimes, or never true for (you/your household) in the last 12 months?

Ninety-one percent of respondents reported that they periodically run out of food.

Question #3  In the last 12 months, did (you/you or other adults in your household) ever cut the size of meals or skip meals because there wasn’t enough money for food?

Seventy percent of respondents reported that at some time over the past year they have had to reduce the size of the meals they prepare.
Question #3A  How often did this happen – almost every month, some months but not every month, or in only 1 or 2 months?

Fifty-two percent of respondents reported that almost every month they experience reduced meal sizes due to shortages of food.

Question #4  In the last 12 months, did you ever eat less than you felt you should because there wasn’t enough money for food?

Sixty-eight percent of respondents reported that they often eat less food than they think they should.
Question #5  In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food?

Seventy-one percent of respondents reported that there is often not enough money to purchase food.

Question #6  Do you, or does anyone in your household, currently receive benefits from SNAP or WIC?

Forty-eight percent of respondents reported that they have one or more household members who receive Federal food assistance.

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**Question #5- Not Enough Money for Food**

- Yes: 71%
- No: 29%

**Frequency (N) = 21**

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**Question #6- Household Members with SNAP or WIC**

- Yes: 52%
- No: 48%

**Frequency (N) = 21**
Question #7. Are you seriously thinking about increasing fruit and vegetable intake over the next 6 months?

In the pre and post-class comparisons, eighty-six percent of respondents reported ahead of the class that they were considering an increase in fresh foods consumption. Ninety percent reported on the post test that they were considering the same. This is an increase of four percent.

Question #8. Do you plan to continue trying to increase fruit and vegetable intake over the next six months?

In the pre and post-class comparisons, ninety-five percent of respondents reported in both the pre and post class that they would consider they increase over time.
Question #9. How confident are you that you can change your diet to increase fruit and vegetable intake?

In the pre and post-class comparisons, ninety-one percent of respondents reported ahead of the class that they were either very confident or somewhat confident that they would maintain change over time. In the post class comparison ninety percent maintained the same consideration.

Other Stakeholder Discussions

The Hebni team has maintained involvement throughout the project with the St. Lucie Food Policy Council. The Council was established pursuant to guidance provided through the Florida Department of Health "St. Lucie County Community Health Improvement Plan 2016-2019" (CHIP).

The Plan was originally developed with the input from various community groups in an effort to improve a spectrum of health conditions including those associated with food insecurity.

The prior 2013-2015 CHIP plan focused heavily on socio-economic issues but did not address healthiest weight which partners felt was a major health concern in the county. The Council formed two committees:

1. Data Committee – to analyze statistics from Florida Charts, the County Health Rankings, Community Commons, and the local United Way Needs Assessment.

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Florida Department of Health in St. Lucie County Community Health Improvement Plan 2016-2019
2. **Survey Committee** – to survey stakeholders and the public on what they viewed as the most important health issues facing our community.  

The committee’s work resulted in the identification of several priorities.

Weight, healthy eating, and increasing physical activity were chosen as priorities among stakeholders, which was supported by surveys done in the community. As the issues outlined in the 2013-2015 CHIP were continuing to be addressed by strategic plans at the roundtable meetings, the St. Lucie County Health Access Network and the Council chose to move towards a new CHIP plan that places an emphasis on healthiest weight and chronic disease.

As part of the Hebni team’s involvement with the Food Policy Council, they additionally participated in the Southeast Food Systems Discussion “connecting Community and Building Capacity” in conjunction with other members of the Council. Several of the issues brought forward in the meeting were:

- **A lack of institutional, government, and financial support for local, state, and regional food system and policy work is a major obstacle. There is not an apparent centralized “hub” organization in the region** – Possible national models include the; Community Food Strategies (NC), the Center for Rural Affairs (NE), or Food Solutions New

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21 Community Health Improvement Plan 2016-2019 pg. 5

22 Community Health Improvement Plan 2016-2019 pg. 5
England. A temporary solution may be a combination of SSAWG, Community Food Strategies, and the Center for a Livable Future working together.

- Race – including recognition of and reconciliation with the history of slavery - is a critical issue. How to address these systemic issues through policy, programs, or organizing was not entirely clear and warrants further exploration. Further, the group seemed sympathetic toward those who are historically oppressed, rural, impoverished, and otherwise vulnerable. While interest in farming, farmers, sustainability and climate resilience were raised during the discussion, the orientation of this effort will focus more on equity.

- The actions raised under "What would be the next iteration..." and "Possible next steps" ties into the development of a communications strategy to tell the South's story, development of a vision or theory of change and hosting another gathering or reconvening in late summer or fall were of particular interest.

As a part of our community engagement, Hebni’s Executive Director, Glen Providence was asked to be a part of the Local Foods, Local Places Steering Committee for the City of Ft. Pierce. The City of Ft. Pierce has been selected as a finalist to receive technical assistance to address food deserts in Fort Pierce. As a part of the Committee, Mr. Providence will work with other local leaders on the community initiative to advance local food system efforts and improving access to healthy food. The project workgroup will attend a 1.5-day workshop designed to boost economic opportunities for farmers, businesses and other entrepreneurs. At the end of the workshop, the group will collectively create an action plan and then fund the next steps.
Food Proximity and Transportation

The two largest Lincoln Park neighborhood stores are Papas Meats located at 823 Orange Avenue (1.9 miles from the neighborhood center) and the United Against Poverty Store located at 2501 Orange Avenue (.7 miles from the center). Both stores have a large variety of fresh fruits and vegetables that when reviewed seemed to be fresh.

Papas Meats is a family run grocery with a large spectrum of Latin American food offerings with specialized fruits and vegetables. The story appeared to be well run, busy and the food offerings were kept on tidy shelves and tables. When the store was visited it was busy. The staff was friendly and helpful. They did, however, decline participation in the project for undisclosed reasons.

Residents of Lincoln Park have several choices of full-service supermarkets located within a reasonable distance of the neighborhood that are served by public transit buses. There is a Publix Supermarket located 2.1 miles from the center of the neighborhood and a Walmart Supercenter located 2.9 miles to the southwest. Both can be reached by bus. The bus service is offered by Community Transit.

Community Transit, a division of Council on Aging of St. Lucie, Inc. (COASL), is the public transit provider for St. Lucie County through a contract with the Board of County Commissioners of St. Lucie County. They have been operating the Treasure Coast Connector since 1990. Community Transit has two modes of transportation.²³

• A demand response system which is an origin to destination system where passenger trips are generated by calls from passengers or their agents at least twenty-four (24) hours in advance, to the Transit Reservationists, who then schedules a vehicle to pick up the passenger; and
• A fixed route service provides service along specific routes with scheduled arrival times at predetermined bus stop areas. This is the type of system most people refer to when they mention a city bus.

The fixed route service is available from 6 am to 8 pm Monday through Friday. Bus service is also available from 8 am to 12 pm and 1 pm-4 pm on Saturday. There is no cost for the service however riders are limited to the number of bags they may carry on the bus. There is no service on Sunday.

Lincoln Park residents are able to catch the bus at the Intermodal Transit Facility which is a central bus hub where most all routes converge. Estimates of travel time are 10 minutes on the number 1# Line to Publix and 21 minutes on the 3# line to the Walmart Supercenter.

For residents whom are without their own form of transportation this does provide a means to acquire reasonably priced fresh food within a reasonable distance.
Conclusions, Observations and Recommendations

During the duration of the Project the Hebni team has collected stakeholder feedback from a wide spectrum of respondents. This has included the provision of focus groups, classroom instruction, and the collection of pre-and-post class input from participants and also, a large sample, intercept survey effort. The questions for each source of data were designed to maintain continuity through consistent types of questions so that information can be cross-referenced. There were three basic concentrations:

- Food Security, food supply and proximity.
- Health status
- Financial stability and the impact on food acquisition.

Additionally, environmental implications to food security were assessed such as the proximity to food supplies, the variety of foods available, transportation, health risk, and the availability of food relief services. This assessment was completed by both a physical examination of the Lincoln Park neighborhood where teams were deployed to examine the offerings of local stores, and also a desk review and analysis utilizing geospatial calculations (NDI mapping) which employed an examination of census data to determine health-risk and the presence of food desert census tracts.

A physical review of food supplies demonstrated that there are an adequate supply and variety of food within a reasonable proximity (up to 2 miles).

The current transportation system provides free public bus services available six days a week from the Ft. Pierce Intermodal Transportation Hub that is able to provide access to both a Publix and a Walmart Superstore at a travel time of less than one half hour. The bus station is located at the southeast corner of the Lincoln Park neighborhood requiring residents to walk some distance. Additionally, there is a limitation on the number of bags a rider may bring on the bus with no provision for wheeled carts of other means of moving bags from the station to an individual domicile. The provision of cost-free transportation is of great economic benefit to riders however, it presents some barriers to the effective use as a means of performing grocery shopping. This is most evident to populations whom because of age or other limiting conditions would have difficulty in walking. The feedback obtained from community stakeholders however strongly suggests that nearly half of respondents report some difficulty in obtaining both enough food and satisfying meal sizes.

When comments obtained through the focus groups were considered with the self-reported responses of the written surveys, the comments supported a lack of financial resources as the root cause of food shortages. While we traditionally define such areas a food deserts because they describe low-income areas with an absence of healthy food, the concept fails to account for individuals who live near healthy foods but may be unable to purchase them because of social deprivation or prohibitively high food prices. These unidentified areas are considered to be “food mirages”24.

24 http://winnspace.uwinnipeg.ca/bitstream/handle/10680/1205/2016%20Confronting%20the%20Illusion%20In-Brief.pdf?sequence=6&isAllowed=y Retrieved 5/19/2019
This would account for the condition apparent in the Lincoln Park neighborhood.

The comparative analysis of stakeholder feedback both directly collected by the Project and other previous data collection efforts, indicates the need for additional economic development and job training that can provide increased employment to residents.

An examination was made of the self-reported health information obtained by the project. This analysis of data indicated elevated levels of metabolic disease such as type two diabetes and other coronary conditions. Additionally, there were high levels of elevated Body Mass Index in excess of 25 (BMI). BMI of 25 or greater is considered the level when an individual would be typified as overweight. When this information is compared to the extrapolated health risk through the NDI mapping process, the evidence of high health-risk census blocks over much of the neighborhood is supported.

The multi-level analysis of food security in the neighborhood has indicated the following recommendations:

- Transportation services can greatly improve the access to full services food stores. The project recommends that the service be modified on Saturdays to include an expanded schedule and the implementation of a shopping shuttle that has provisions for the rider to both carry wheeled carts and multiple bags of groceries. Stopping at several locations on the return trip would ease the difficulty of moving groceries for individual whom may have barriers to walking long distances. To assist with this recommendation, Hebni has had preliminary conversations with the leadership of the of United Against Poverty store about the development of a mobile market, similar to Hebni’s Fresh Stop Mobile Farmers Market bus which travels throughout food desert neighborhoods in Orange County, Florida as part of the solution to increase access to fresh fruit and vegetables in Lincoln Park.
- Based on stakeholder comments, there was some concerns raised about both the availability and quality of the fresh foods available through the fifteen food pantries in the Ft. Pierce area. Having additional food resources available at either free or reduced rates would assist food insecure residents supplement supply at times when personal food supplies run low. Assisting local food pantries upgrade refrigeration would also allow for more fresh food to be provided.
- It is recommended that the development work with local neighborhood groceries continue with support and inclusion in any neighborhood development activities. Stores should be encouraged to include more healthy foods. To that end, Hebni would like to request funding to continue to maintain an provide oversight to the Healthy Corner at the UP Store.
- Throughout the process there has been a strong indication that even though there may be enough fresh food within the boundaries of the neighborhood that often individuals lack the financial resources to purchase it. It is recommended that economic development activities include job development where the identification of living wage/ demand occupations job be identified for local residents including inclusion in local Federal Job Training programs. It is also recommended that
the local Career Source organization be included in the neighborhood planning efforts and any discussions of food insecurity.

- It is recommended that additional consideration be given to enhancing local health interventions to include activities targeted to individuals who are diabetic or considered to be pre-diabetic, and/or overweight. This may involve the inclusion of faith-based, peer-led programs such as the CDC Diabetes Prevention Programs that are self-perpetuating and may be operated at a low cost.
- Additionally, food preparation and tasting sessions highlighting fresh fruits and vegetables should be continued with the inclusion of both community-based agencies and local churches.
- Lastly, Hebni would like to recommend funding for meals, travels and expenses for Hebni's Executive Director to be a part of the Local Foods, Local Places-Ft. Pierce Steering Committee Workgroup and the St. Lucie Food Policy Council. It is our belief that these initiatives provide extraordinary opportunities for Hebni to continue its presence in the community while working to secure additional resources and solutions to the issues surrounding food access and food insecurity within the Lincoln Park/Ft. Pierce neighborhoods.