Michigan Department of Community Health
Building Healthy Communities

Final Report: Farmers Markets and Community Gardens

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Executive Summary

Building Healthy Communities (BHC), an initiative of the Michigan Department of Community Health (MCDH), funds local health departments to plan, implement and evaluate evidence-based interventions designed to increase physical activity, consumption of fruits and vegetables and tobacco-free environments among low-income and minority populations in their jurisdictions. From 2007 through 2009, eighteen local health departments received a total of $1,041,972 (local, state and federal funding) to conduct these interventions. During two funding cycles, fifteen of these local health departments chose to develop or enhance farmers markets and/or community gardens in their respective communities to promote fruit and vegetable consumption. This report details the evaluation findings from these initiatives.

To encourage use of the farmers markets and community gardens, BHC interventions included: establishing new farmers markets and/or community gardens; installing point of service (POS) systems to enable farmers markets to accept Electronic Benefits Transfer (EBT) from Supplemental Nutrition Assistance Program (formerly, the Food Stamp Program) participants; provide incentive coupons to populations that receive food assistance benefits to encourage fruit and vegetable purchases at farmers markets; expand space of existing community gardens; and secure water supplies and build structures to enhance community gardens. Providing nutrition education at farmers markets and community gardens to increase knowledge, awareness and skills was an integral component to the BHC community garden and farmers market interventions. Nutrition education strategies included cooking demonstrations, taste testing events, and teaching gardening skills, food safety, food preservation techniques, and nutrition information from the *Dietary Guidelines for Americans*.

The purpose of evaluating farmers market and community garden interventions of the BHC initiative is to gain a better understanding of whether or not key target populations are utilizing these environmental supports designed to improve healthy eating behaviors, and as a result, increasing consumption of fruits and vegetables. Over the past few years, national trends show an increased focus on the local food system, with a growing interest in supporting farmers markets and the availability of locally grown foods. Nationally, data shows that the number of farmers markets increased from 1,755 markets in 1994 to 3,706 in 2004. Further, in 2000, farmers markets served nearly 2.8 million customers brining in $888 million in sales. With regard to community gardens, the American Community Garden Association (ACGA) estimates that there were 18,000 community gardens throughout the US and Canada in 2007.

In 2008, two farmers markets in Michigan were evaluated; in 2009, this number increased to seven farmers markets. To identify patron influences and preferences for products and aspects of farmers markets, and to plan future interventions aimed at increasing fruit and vegetable consumption, local health departments surveyed farmers market patrons at markets supported through BHC. The vast majority of survey respondents from the seven farmers markets evaluated were women. This finding is not consistent with current census estimates. Approximately 49% of Michigan residents are males; however only 21% of farmers market survey respondents were

male. Close to 67% of survey respondents were forty years of age or older. An overwhelming majority of respondents reported visiting their respective farmers market to purchase fruits and vegetables, and almost half of all respondents reported visiting their farmers market to support local farmers. The majority of survey respondents had an annual household income of $49,999 or less and spent $5 to $20 per visit. The largest numbers of visitors to these farmers markets were first timers; however, approximately 20% of respondents reported that they began visiting their respective farmers market three or more years ago. The vast majority of respondents reported driving a car to visit the market, while few respondents walked or biked to their respective farmers market. This finding is not surprising considering over 40% of respondents traveled between one and five miles to visit their market. When survey respondents were asked: *On a typical day do you consume fruits or vegetables five or more times per day*, more than half answered 'yes'. This statistic is encouraging considering that in 2008, an estimated 78.3% of Michigan adults consumed less than the recommended servings of fruits and vegetables.

Further examination of the farmers market customer survey reveals significant differences when adjusted for age and household income. For example, respondents 60 years of age and older reported visiting their respective market to purchase fruits and vegetables. This same demographic had the greatest numbers of individuals visiting their respective market for the first season. Additionally, more survey respondents with an annual household income of less than $25,000 reported visiting their respective farmers market *3 years ago or more*. Similar patterns were observed among respondents earning less than $25,000 in annual household income for visiting their respective farmers market *2 years ago, 1 year ago* or reporting that it was their first season visiting a farmers market. The greatest number of respondents traveling *less than one mile* to their respective farmers market had an annual household income of less than $25,000 as well. Further, farmers market respondents in this demographic reported their health to be *fair* or *poor* significantly more frequently than respondents earning more than $25,000.

Six community gardens were funded and evaluated by BHC in 2009. Similar to the findings for farmers markets, the majority of community garden respondents were women. Approximately one-third of community garden respondents were non-white; however, less than 20% of Michigan's residents are non-white. Over 40% of community garden respondents reported a household income of $50,000 or more, and six of out ten respondents reported having at least some college education.

Introduction

Seven out of the ten leading causes of death in Michigan are attributable to chronic ailments such as cardiovascular disease, stroke, cancer, diabetes, and tobacco dependence. Michigan is currently ranked 13th worst in the nation in mortality from cardiovascular disease and has the 9th highest rate of obesity in the US. Chronic diseases are not only expensive to the health of Michigan residents, these conditions also cost Michigan billions of dollars annually in medical expenses and lost wages due to illness and premature death.

Three risk factors are estimated to have a role in nearly 70% of all chronic diseases: poor nutrition, inadequate physical activity, and tobacco use. The Michigan Department of Community Health's (MDCH) Building Healthy Communities (BHC) initiative addresses these three risk factors in Michigan using a population-based approach grounded in the theoretical framework of the Social Ecological Model to prevent chronic disease and improve the health of residents. In partnership with local coalitions, local health departments are funded to plan, implement, and evaluate evidence-based interventions that focus on creating supportive policies and environments in communities to improve residents' abilities to engage in healthy lifestyle behaviors. Changing community environments and policies related to nutrition, physical activity and tobacco will help change social norms and reduce the acceptability of unhealthy eating behaviors; physical inactivity; and tobacco use. Through improving access to healthy foods, opportunities for physical activity, and developing policies to reduce tobacco use and secondhand smoke exposure, the BHC initiative aims to increase the number of residents engaging in healthy behaviors and ultimately reduce chronic disease morbidity and mortality in Michigan.

To support these efforts, MDCH staff provide training and technical assistance to local health department coordinators on community assessment, planning, and implementation of evidence-based interventions. Additionally, the MDCH requires local health departments to work with their partners to provide matching funds to promote community sharing of project costs and sustainability.

The focus of this report is the evaluation of BHC interventions designed to increase access to fruits and vegetables through establishing, expanding and/or promoting farmers markets and community gardens. The rationale for BHC's focus on increase access to fruit and vegetables is discussed below, along with an overview of fruit and vegetable access interventions conducted by BHC. The second part of the report outlines the methods used to evaluate farmers markets, followed by presentation and discussion of results. The third part of the report focuses on community gardens, including evaluation methodology and presentation and discussion of results. A conclusions section on both evaluations follows.

Increasing Fruit and Vegetable Consumption in Communities

Increasing fruit and vegetable consumption is a priority for the BHC initiative because of the many health benefits of consuming adequate amounts of these foods. Fruits and vegetables contain a variety of essential vitamins and minerals, fiber and other compounds that may prevent chronic ailments such as cancer and cardiovascular disease[1-2]. Since fruits and vegetables are low in energy density, replacing high-energy dense foods with fruits and vegetables may be an effective strategy for weight management[3]. Despite the health benefits of fruit and vegetable consumption, many individuals are consuming inadequate amounts. The *Dietary Guidelines for Americans*[4] recommends two cups of fruit and two and a half cups of vegetables per day for a reference 2,000-calorie diet. In 2008, an estimated 78.3% of Michigan adults consumed inadequate amounts of fruits and vegetables, defined as less than five servings per day[5]. This is worse in comparison to the national average of 75.6%[6]. Over the past ten years, inadequate consumption of fruits and vegetables among Michigan adults has increased significantly. Males and individuals with a high school education or less were more likely to have inadequate consumption levels compared to females and college graduates[5].

Access to healthy foods may contribute to racial and economic health disparities considering that predominantly minority and lower income neighborhoods have lower availability of healthy foods than white and higher income neighborhoods as a result of the varying types of stores combined with the disparity of offerings of healthy foods within similar stores[7-9].Policy and environmental changes, such as farmers markets and community gardens, to reduce barriers and improve access to fruits and vegetables, are among the most promising strategies for increasing their consumption across populations. However, a dearth of literature in this area limits public health practitioners from identifying specific approaches proven to successfully increase consumption of fruits and vegetables among low-income groups.

In a 2010 review of the literature on farmers markets and community gardens, only sixteen published studies were identified, the majority of which were focused on evaluations of the US Department of Agriculture's Farmers Market Nutrition Programs for seniors and women participating in the Women, Infants and Children (WIC) Program[10]. In this review, six of the sixteen studies reported that participation in farmers markets or community gardens was associated with increased fruit and vegetable intake. An additional three studies found increases in consumption of vegetables only. Few of these studies were well designed, and the review authors issued a national call to encourage evaluators to examine the effectiveness of farmers markets and community gardens on increasing fruit and vegetable consumption among various populations through additional research in this area.

In the absence of clear evidence from peer-reviewed literature, nationally recognized experts from the Centers for Disease Control and Prevention (CDC) and the Robert Wood Johnson Foundation (RWJF) continue to recommend farmers markets and community gardens as innovative strategies to increase access to healthy foods[11-12]. Through the BHC initiative, MDCH has encouraged local health department grantees to utilize these strategies to support increased

fruit and vegetable consumption among residents in their communities. As such, MDCH has provided funding to support a variety of activities related to the development and improvement of farmers markets and community gardens.

Overview of Nutrition Interventions in BHC

MDCH has funded ten local health departments to develop interventions that create and enhance access to fruits and vegetables in communities through the BHC initiative. Since the inception of the BHC initiative in 2004, grantees have started and/or enhanced twenty-eight farmers markets and twenty community gardens. Prior to developing interventions, health departments and the coalitions completed a nutrition environment assessment to determine target areas and opportunities for improving nutrition in their communities. After performing the nutrition environment assessment and gathering input from community residents, the local health departments and the coalitions applied for funding to implement environmental interventions designed to increase healthy eating.

During two funding cycles (project years 2008 and 2009), fifteen local health departments chose to develop or enhance farmers markets and/or community gardens in their respective communities as strategies to promote fruit and vegetable consumption. To encourage use of the farmers markets and community gardens, BHC interventions included: establishing new farmers markets and/or community gardens in communities; installing point of service (POS) systems to enable farmers markets to accept Electronic Benefits Transfer (EBT) from Supplemental Nutrition Assistance Program (formerly, the Food Stamp Program) participants; provide incentive coupons to populations that receive food assistance benefits to encourage fruit and vegetable purchases at farmers markets; expand space of existing community gardens; and secure water supplies and build structures to enhance community gardens. Providing nutrition education at farmers markets and community gardens to increase knowledge, awareness and skills was an integral component to the BHC community garden and farmers market interventions. Nutrition education strategies included cooking demonstrations, taste testing events, and teaching gardening skills, food safety, food preservation techniques, and nutrition information from the *Dietary Guidelines for Americans*.

Farmers Market Evaluation

In 2008, the BHC initiative introduced standardized procedures for evaluating farmers markets projects conducted by grantees. The introduction of these tools and procedures represented a shift towards making the evaluation process for farmers markets more systematic and standardized. This was designed to in turn, eliminate the burden on project staff at multiple sites to develop their own tools and processes, and to allow for aggregation of data across BHC sites for calculation of project-level statistics necessary to substantiate continued funding and support for the program. The purpose of the overall evaluation was to (1) determine whether key target populations are utilizing environmental supports designed to increase fruit and vegetable consumption; and (2) determine patron influences and preferences for products and other aspects of a farmers market to plan future interventions.

Methods

Following a review of existing literature and materials, MDCH developed a 19-item, self-administered market customer survey. This survey included questions designed to gather information and identify key outcomes, such as fruit and vegetable consumption, as well as attitudes and beliefs about the markets, products sold, and customer satisfaction. The question relating to the primary outcome was derived from the Michigan Behavior Risk Factor Survey on fruit and vegetable consumption; other questions were adopted or tailored from questions identified after conducting the literature review. The customer response survey is a valuable tool to collect information on:

a) where, by what mode, and with what frequency patrons are coming to the market as well as how they found out about it, to assist with planning targeted marketing or more in-depth consumer surveys;
b) what factors are most important to patrons in choosing fruits and vegetables at the market which can be used to tailor market messaging;
c) demographic information on who is at the farmers market to determine whether outreach to target populations is successful;
d) general health information using validated Behavior Risk Factor Survey questions to tie results to local and state surveillance reports;
e) fruit and vegetable consumption to determine if the market is improving nutrition as well as;
f) a variety of information about their opinions on the market that can be used for general market improvement designed to boost patronage.

A second evaluation instrument, the *Farmers Market Evaluation Summary Sheet*, was developed to provide objective information about the markets to answer process evaluation-focused questions (e.g., numbers of cooking demonstrations) required by the MDCH. Some behavioral changes might also be inferred from these non-behavior oriented markers of farmers market success (e.g., changes in total attendance and number of farmers over time; increases in market

sales; and numbers of Senior Project FRESH coupons redeemed). Both tools were provided to all BHC grantees in June 2008 along with instructions and training on when and how to utilize the tools. A companion document entitled *Farmers Market Evaluation Description and Procedures Manual* was also provided to coordinators to ensure proper delivery of the evaluation instruments.

All grantees that evaluated farmers markets during project years 2008 and 2009 were required to utilize the survey and the tracking instrument on four separate occasions. The survey tool was required to be administered for a minimum of 2-hour blocks on these occasions. Grantees were instructed to approach all adult market patrons age 18 years and older to complete the survey during subjectively determined "slow" market times, and select every third adult to complete the survey during busy market times. This sampling procedure was specifically noted during the evaluation protocol training sessions to reduce selection bias on behalf of survey administrators. Market Managers (if available) or local health department staffs were required to complete the Summary Sheet on the same days that the farmers market patron surveys were administered. Grantees were given the opportunity to utilize both evaluation tools more frequently than noted (i.e., for longer durations of time and/or for additional market days) as feasible or desired.

Results and Discussion

Demographic Results

A total of six-hundred and forty six (N=646) respondents completed the survey during evaluation periods from 2008 to 2009. In project year 2008, two farmers markets (Marquette and Ypsilanti) were evaluated. The Ypsilanti farmers market was funded by BHC. Although the Marquette farmers market was evaluated, its evaluation was funded by the Marquette County Health Department, not BHC. One hundred and fifty-two respondents completed the customer survey in 2008 at these two markets. Approximately 71% (n=112) of respondents attending these two farmers markets were female. Seventy-six percent of respondents were white. These two markets were evaluated again in 2009. Frequency and percent of demographics of Marquette and Ypsilanti farmers markets for 2008 and 2009 are listed in table 1.

Table 1: Demographics of Michigan's Farmers Market Users in 2008 and 2009 (Marquette and Ypsilanti only)

Name		*Marquette(%)*		*Ypsilanti(%)*	
Year		*2008*	*2009#*	*2008*	*2009#*
Gender	Male	15(33.3)	20(20.6)	25(22.1)	19(24.1)
	Female	29(64.4)	75(77.3)	83(73.5)	60(75.9)
Age#	18-29	3(6.7)	3(3.1)	24(21.2)	19(24.1)
	30-39	10(22.2)	8(8.2)	21(18.6)	22(27.8)
	40-49	15(33.3)	15(15.5)	14(12.4)	7(8.9)
	50-59	7(15.6)	27(27.8)	27(23.9)	12(15.2)
	60+	9(20.0)	43(44.3)	23(20.4)	19(24.1)
Ethnicity	White	42(93.3)	91(93.8)	76(67.3)	54(68.4)

Other	3(6.7)	3(6.1)	33(30.0)	23(29.3)

#Denotes statistical significance (significant differences between Marquette and Ypsilanti responses from 2008 to 2009 on the customer survey are listed in Appendix G).

Gender

In project year 2009, a total of seven farmers markets were funded and evaluated by BHC. The vast majority of survey respondents from the evaluated farmers markets were women (n=485; 79%). This finding is not consistent with current census estimates for Michigan. Approximately 49% of Michigan residents are males, however only 21% of survey respondents were male. Few male respondents, regardless of age, completed the farmers market customer response survey. Lake and colleagues[13] have previously examined gender differences according to food purchasing and preparation responsibility with a focus on shared households and found that significantly more women (72%) stated they were primarily responsible for preparing and cooking the food. Although more women have entered the labor market, the division of food related tasks does not seem to be affected[14]; and food purchasing and preparation within shared households continues to be dominated by females[13]. Perhaps this research explains why the overwhelming majority of farmers market respondents were women.

Age

Close to 67% of Michigan's respondents at the seven farmers markets were 40 years of age or older. This finding is consistent with current census estimates for Michigan. Frequency and percent of demographics of all seven farmers markets respondents for project years 2008 and 2009 are listed in table 2 and figure 1.

Table 2: Demographics of BHC Farmers Market Users in Project Years 2008 and 2009

		Frequency (N)	*Percent*
Gender	Male	131	21%
	Female	485	79%
Age	18-29	100	15.9%
	30-39	90	14.4%
	40-49	110	17.5%
	50-59	153	24.4%
	60+	168	26.8%
Ethnicity	White	507	81%
	Other	139	19%

Figure 1: Demographics of BHC Farmers Market Users in Project Years 2008 and 2009 Expressed in Percents

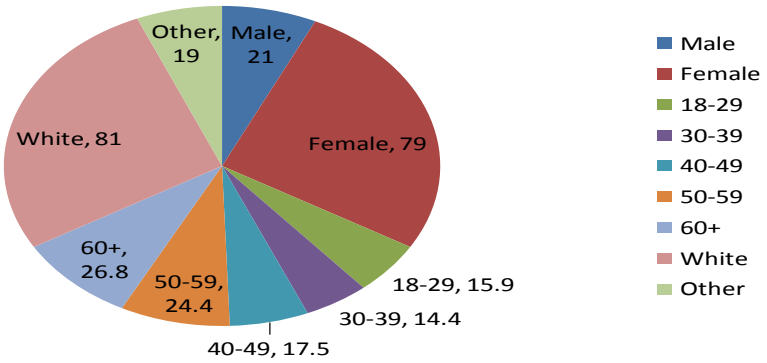
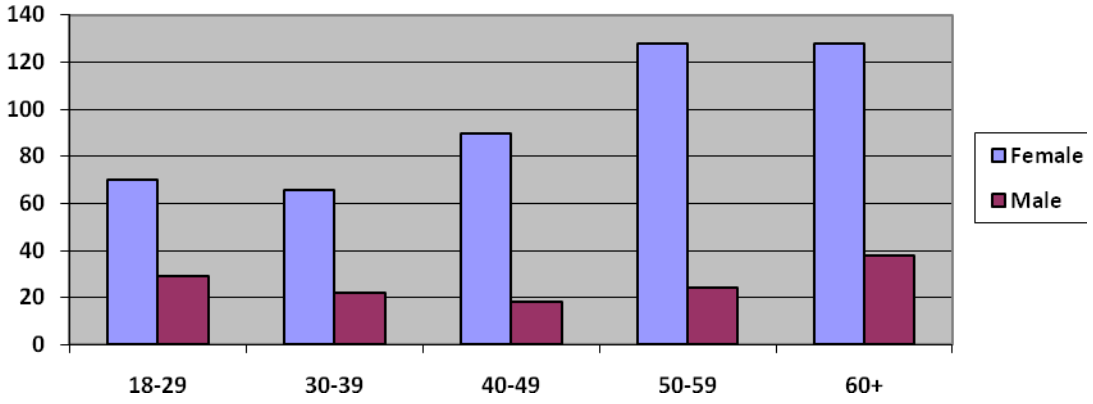


Table 3: Frequency and Percent of Total BHC Farmers Market Users for Age by Gender

		Gender	
		Female	*Male*
Age	18-29	70	29
		14.4%	22.0%
	30-39	66	22
		13.6%	16.7%
	40-49	90	18
		18.5%	13.7%
	50-59	128	24
		26.4%	18.3%
	60+	128	38
		26.4%	29.0%

Figure 2: Frequency of Total BHC Farmers Market Users for Age by Gender



Evident from the findings in table three and figure two above, approximately 53% of females and 47% of males were 50 and older. Varner and Otto[15] recently examined factors affecting sales of farmers markets in Iowa and discovered upon examination of the consumer data that the typical Iowa farmers market participant is 51 to 65 years old. According to Varner and Otto[15], this older demographic in Iowa primarily purchases produce, which was consistent with Michigan's customer survey responses.

Household Income

The majority of Michigan's farmers market respondents earned $49,999 or less in annual household income and spent $5 to $20 per visit at their respective market. Current estimates from the American Community Survey[16] performed by the US Census Bureau reveals that 26.4% of household incomes are in the range of $25,000 to $49,000 which is similar to BHC farmers market respondents (28.8%). Similar findings were observed for all household income ranges in comparison to farmers market respondents.

These findings suggest that median household income of Michigan residents did not adversely affect visits to the BHC farmers markets and the amount spent per visit. A published paper in the *Journal of Agriculture and Resource Economics* revealed poor households are found to spend less on fruits and vegetables than other households[17]. This is often thought to be due to perceptions that fruits and vegetable cost more than other foods[18], in addition to other barriers related to access.

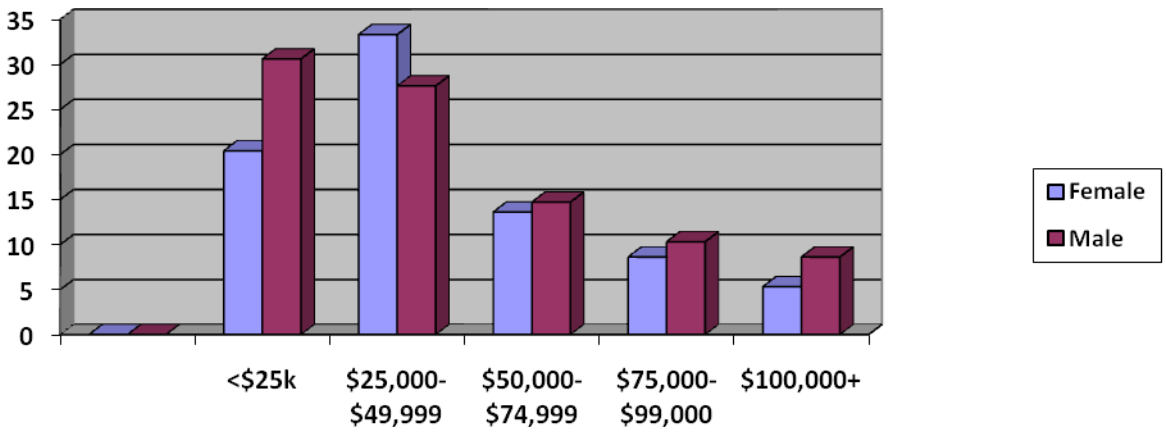
A plausible explanation for these findings could be related to the access and outreach provided by the BHC project, which focuses on serving low-income populations. By conducting interventions such as installing POS to allow for EBT sales, farmers markets may be encouraging more low-income families to attend markets. The use of EBT technology has been expanding rapidly throughout Michigan through the work of initiatives like BHC and statewide groups such as the Michigan Food Policy Council and Michigan Farmers Market Association. A

recent document produced by Michigan Farmers Market Food Assistance Partnership (MFMFAP) entitled *Bridging the Gap between Local Food and Michigan Families*[19] revealed that in 2006, out of 150 farmers markets in Michigan, only three were able to accept EBT (2%). In 2009, out of 217 farmers markets in Michigan, 30 were able to accept EBT (14%). Michigan leads the Midwest in the amount of farmers markets that accept Bridge Cards. During the Market Season in 2009, over $293,000 in Supplemental Nutrition Assistance Program (SNAP) benefits were redeemed at farmers markets. Across the state, an average of increased sales per market that accepted Bridge Cards was 224% from 2008. MFMFAP cites that the main reason for increase in sales is due to use of the alternative redemption system. This system is considered more efficient, enabling all vendors to use the same central point of sale device. It will be important for grantees to be encouraged to utilize the Farmers Market Summary Sheet as part of their evaluation activities. This tool collects valuable, objective data such as total market sales, including sales specifically from EBT transactions, numbers of farmers participating at markets and outreach activities conducted at the market. Monitoring trends of these data points could potentially provide compelling information about the success of the market and success of grantee activities designed to promote the market. Unfortunately, few Farmers Market Summary Sheets were completed by BHC grantees to identify meaningful findings for this report.

Table 4: Frequency and Percent of Total for BHC Farmers Markets by Household Income

		Total (%)
Income	Less than $25,000	193 32.9%
	$25,000 to $49,999	169 28.8%
	$50,000 to $74,999	97 16.5%
	$75,000 to $99,999	53 9.0%
	$100,000 or more	39 6.6%

Figure 3: Percent of Total for BHC Farmers Markets by Gender and Household Income



Customer Habits, Preferences and Satisfaction Results

Respondents' answers to survey questions related to their habits, preferences and satisfaction with the markets are discussed below. Table 5 outlines these questions, response options and frequency that each response option was selected by participants.

Table 5: Frequency and Percent of Most Frequently Cited Survey Response (All Respondents)

Number	Survey Question	Response Option	Frequency (%)
1	#What is the reason for your trip to the Farmers Market today? CHECK ALL THAT APPLY	Purchase fruits and vegetables Purchase baked goods Purchase crafts Socialize and look around Support local farmers Other	503(79%) 184(28.6%) 61(9.4%) 217(33.5%) 301(46.6%) 94(14.6%)
2	#How often do you visit this Farmers market?	Every week 1-2 times per month Less than 5 times per month This is my first time	260(40.2%) 168(26%) 46(7.1%) 171(26.5%)
3	#When did you start coming to this Farmers market?	3 years ago or more 2 years ago 1 year ago This is my first season	125(19.3%) 81(12.5%) 132(20.4%) 301(46.6%)
4	#How do you rate the following aspects of this market? CHECK ALL THAT APPLY	Variety of products Price of products Quality of products Hours of operation Days of operation	*Very Good *Very Good *Excellent *Very Good *Good

		Convenience of location Parking	*Excellent *Excellent
5	#What feature about the Farmers Market produce is most important to you?	Price Taste Personal health Ecologically/organically grown Product freshness Supporting local growers/economy Other Multiple answers to one or more responses above	44(6.8%) 59(9.1%) 32(5%) 54(8.4%) 158(24.5%) 133(20.6%) 8(1.2%) 166 (25.6%)
6	#How far do you travel to get to this Farmers Market?	Less than one mile 1-5 miles 6-10 miles 11-20 miles More than 20 miles	197(31.1%) 271(42.7%) 89(13.14%) 44(6.9%) 25(3.9%)
7	#How did you get to this Farmers Market?	Car Bus Walked Bicycled Other	512(80.5%) 14(2.2%) 78(12.3%) 15(2.4%) 10(1.6%)
8	#On a typical day do you consume fruits or vegetables five or more times per day?	Yes No Don't Know	340(53.5%) 245(38.6%) 23(3.6%)
9	#How much money do you usually spend at the Farmer's Market?	$0 to $5 $5 to $10 $10 to $20 More than $20	86(13.7%) 239(38.1%) 212(33.8%) 79(12.6%)
10	#As a result of shopping at this Farmers Market, have you been eating more fruits and/or vegetables than before you started to shop here?	Yes, a little more fruits and vegetables Yes, a lot more fruits and vegetables No, about the same amount of fruits and vegetables No, less fruits and vegetables This my first time at this market	218(34.4%) 108(17.1%) 187(29.5%) 1(0.2%) 110(17.4%)
11	#What types of information would you be interested in seeing at the Farmers Market? CHECK ALL THAT APPLY	Recipes that use fresh fruits and vegetables at the market General health and wellness information Advice about foods and diet from a dietician or health educator	409(70.5%) 187(32.9%) 139(25%)
19	#How is your general health?	Excellent Very good	127(20.2%) 243(38.6%)

		Good Fair Poor	192(30.5%) 46(7.3%) 13(2.1%)

*Denotes most frequently cited response when respondents could have more than one.
#Denotes statistical significant differences between responses.

Market attendance habits
The overwhelming majority (n=503; 79%) of respondents reported their purpose for visiting their respective farmers market was to purchase fruits and vegetables. Almost half of all respondents visited their farmers market to support local farmers (n=301, 47%). Buying locally grown products support local producers and support local economies. LaTrobe[20] posits this may be a reason that farmers markets have proven to be a popular method to support local producers. Using data from a national survey of food shoppers, Zepeda and Li[21] examined the characteristics of local food buyers and found that US consumers are often supportive of local labels. These same researchers have found primarily positive attitudes towards local foods among consumers-because most consumers associate local food with supporting the local economy[21]. Additionally, the enjoyment of cooking increases the probability of buying local food by 50%. Zepeda and Li[21] posit that promoting the enjoyment of cooking and perhaps eating local food would be a more effective strategy to promote local food consumption and promotion than marketing strategies focusing on energy, nutrition or supporting farmers.

Respondents visiting their respective market for the first season were the largest number of visitors (n=301, 47%). However, approximately 19% (n=125) of respondents reported that they began visiting their respective farmers market three or more years ago.

The vast majority of respondents reported driving (n=512, 81%) a car to visit their farmers market while fewer than 15% (n=93) of respondents walked or biked to their respective farmers market. This finding is not surprising considering 43% (n=271) of respondents traveled between one and five miles to visit their market. Unfortunately, minimal data is available examining relationships between proximity and farmers market visits. Lockertz[22] determined that consumers who patronize farmers markets often do so because they enjoy the shopping experience while those who do not frequent the markets often cite accessibility issues as obstacles; for example, distance between the market and place of residence along with inconvenience of location. Proximity also allows for food to travel less distances and for some individuals implying lower fuel costs[21].

Dietary Habits
When BHC farmers market respondents were asked: *On a typical day do you consume fruits or vegetables five or more times per day*, approximately 54% (n=340) answered ‘yes’. In 2008, an estimated 78.3% of Michigan adults consumed inadequate amounts of fruits and vegetables, defined as less than five servings per day[5], which is higher than that national average of 75.6%[6]. Based on the customer response survey from the seven BHC evaluated farmers markets, more

than half of individuals attending BHC farmers markets consume enough fruit and vegetables to meet current recommendations.

Customer Survey Findings Adjusted for Age and Household Income

Examination of customer survey findings when adjusted for age and household income revealed significant differences. Significantly more farmers market respondents age sixty and older visited their respective market to purchase fruits and vegetables. This same demographic had the greatest number of individuals visiting their respective market in Michigan for the first time. Examination of transportation patterns among varying age groups visiting BHC farmers markets revealed that the age eighteen to thirty-nine demographic was less likely to travel by car than individuals age fifty and older (see Appendices E & F).

Community Garden Evaluation

In 2009, the MDCH developed a standardized protocol for evaluating BHC grantee activities in community gardens. BHC initiative grantees are increasingly developing, enhancing, and sustaining community gardens as strategies to improve the healthy eating environments in their communities. The purpose of this protocol was to provide all BHC grantees with uniform and consistent evaluation processes and a set of tools for measuring the outputs and impact of community garden interventions supported by the BHC initiative.

Methods

To develop a standardized evaluation protocol, a comprehensive review of the literature was performed. This search yielded no validated instruments or methods for assessing the impact of community gardens on fruit and vegetable consumption. In the absence of validated measures and methods, a review of community garden evaluations was conducted via the Internet. This search revealed a comprehensive evaluation toolkit developed by the National Research Center, Inc., sponsored by the USDA's Community Food Projects Program. The *Community Food Project Evaluation Toolkit* was determined to have a number of useful survey and tracking instruments, and was adopted as the standard approach for evaluation gardening initiatives through BHC. Selected tools from the toolkit were provided to all grantees in a *Community Garden Evaluation Description and Procedures Manual* that had additional information tailored to BHC grantees, their projects and timelines. The tools included an *Adult Community Gardener Survey, Community Garden Tracking Form for Attendance, Community Garden Tracking Form for Produce, and Community Garden Tracking Form for Garden Characteristics*.

The self-administered *Adult Community Gardener Survey* included information on participant demographics, rating scales of various aspects of the garden, and questions about attitudes and beliefs regarding, knowledge, skills and behaviors that changed as a result of garden participation. The survey was required to be completed at the end of gardening season by participants 18 years and older. The *Tracking Form for Attendance*, a complimentary document to the *Community Gardener Survey*, was designed to count attendance at each garden, and garden site coordinators, or local health department staff person, were required to complete the tracking form daily or weekly, depending on frequency of garden activities, for the duration of the gardening season. Additionally, the *Tracking Form for Produce* was designed to track important outputs of the garden (e.g., pounds of food produced and donated) on a daily or weekly basis, depending on the frequency of garden activities, throughout the duration of the gardening season. Finally, the *Tracking Form for Garden Characteristics* was designed to provide operational (e.g., hours of operation, acres of land owned or leased) and summary information about the garden (e.g., participation, production), and was required to be completed by the garden site coordinator, or local health department staff person, at the beginning and end of the gardening season. All BHC grantees completing any garden initiatives during 2009 were required to utilize the community garden evaluation tools.

Results and Discussion

Demographic Results

Unfortunately, a small sample of community garden respondents (n=55) were assessed at only six community gardens limits meaningful comparisons among demographic variables. Similar to the findings for BHC farmers markets, the majority of community garden respondents were female (n=39, 72.2%). Thirty percent of community garden respondents were minorities; however, less than 20% of Michigan's residents are non-white. Considering the small sample size of community garden respondents these findings lack meaningful implications-but future evaluations of BHC community gardens should investigate reasons for possible ethnic demography variability.

Table 6: Demographics of Michigan's Community Garden Users

		Frequency (N)	*Percent*
Gender	Male	15	27.8%
	Female	39	72.2%
Age	18-24	2	3.6%
	25-34	6	10.9%
	35-44	5	9.1%
	45-54	13	23.6%
	55-64	7	12.7%
	65+	19	34.5%
Ethnicity	White	37	68.5%
	Other	17	31.5%

Figure 4: Demographics of Michigan's Community Garden Users Expressed in Percents

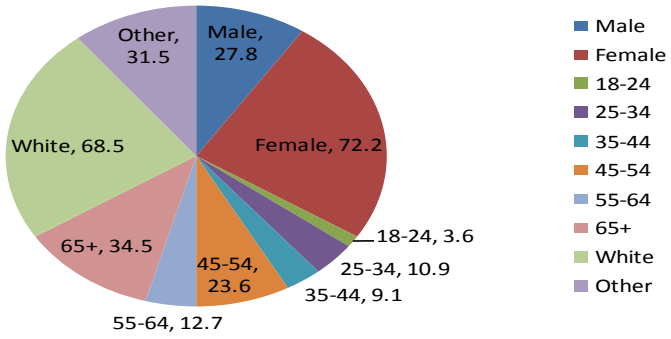
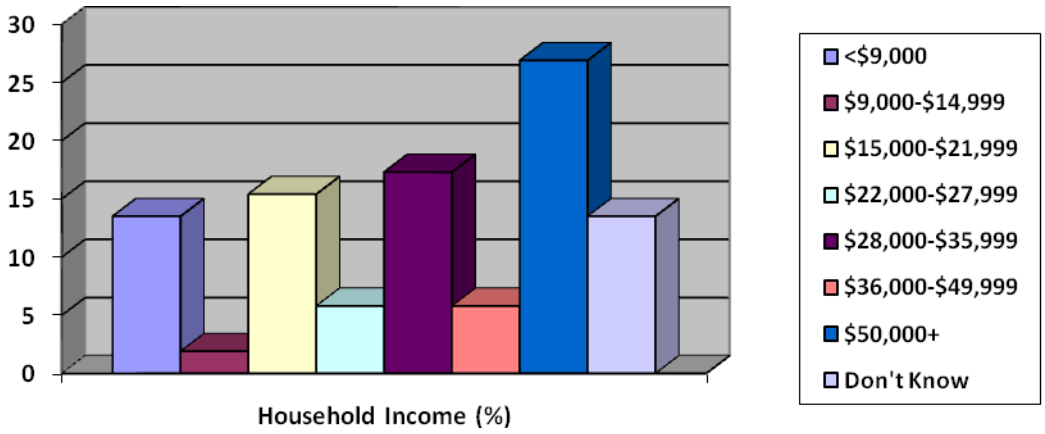


Table 7: Frequency and Percent of Total Community Gardens by Household Income and Education

		Frequency (%)
Household Income	<$9,000	7 (13.5%)
	$9,000-$14,999	1 (1.9%)
	$15,000-$21,999	8 (15.4%)
	$22,000-$27,999	3 (5.8%)
	$28,000-$35,999	9 (17.3%)
	$36,000-$49,999	3 (5.8%)
	$50,000 or more	14 (26.9%)
	Don't Know	7 (13.5%)
Education	<12 years	11 (20%)
	HS Graduate/GED	12 (21.8%)
	Some college	11 (20%)
	College graduate	15 (27.3%)
	Advanced degree	6 (10.9%)

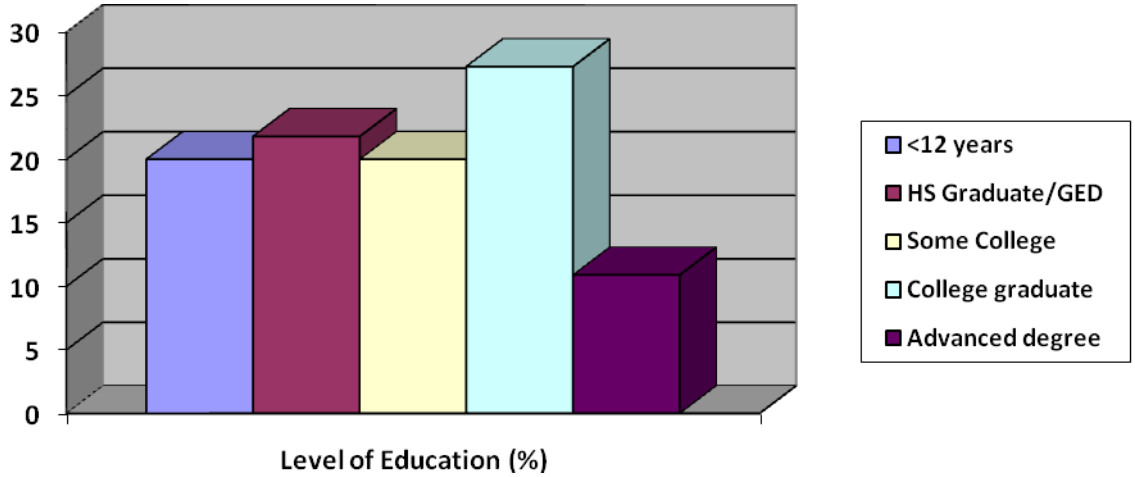
Figure 5: Percent of Total Community Gardens by Household Income



Over 40% of community garden respondents reported a household income of $50,000 or more and 58% of respondents reported having at least some college education. Considering the small sample of respondents no meaningful comparisons can be made; however, since Michigan is attempting to promote community gardens throughout the state via local ordinances, perhaps additional data can be collected to better understand the user profile of these gardens. Ann Arbor, for example permits community gardens on public land and Flint is considering changes to

zoning ordinances that would support community gardens. Some recommendations include building of structures on vacant lots[23].

Figure 6: Percentage of Total Community Gardens by Level of Education



Respondent Habits, Preferences and Satisfaction Results

Respondent's answers to survey questions related to their habits, preferences and satisfaction with the community gardens are discussed below. Table 8 outlines these questions, response options and frequency that each response option was selected by participants.

Table 8: *Frequency and Percent of Most Frequently Cited Survey Response*

Number	Survey Question	Response Option	Frequency (%)
1	How long have you been working at this garden?	Weeks Months Years	--- 5(21.1%) 2(4.2%)
2	How often do you usually participate in garden activities?	Daily Once a week 2-3 times a week 4-5 times a week Less than once a month Once a month Two times a month Three times a month	8(13.6%) 9(15.3%) 23(39%) 10(16.9%) 3(5.1%) 3(5.1%) 2(3.4%) 1(1.7%)
3	What do you like best about coming to this garden?	Meeting people	21(37.5%)
4	What do you like least about coming to this garden?	Local family problems	8(21%)

5	Please rate each of the following aspects of working at this garden	Location of the garden(s) (distance from your home Equipment provided to do the work The quality of the garden resources (soil, water, etc.) The variety of food produced at the garden The organization/management of the garden The helpfulness of staff/volunteers The knowledge of staff/volunteers The social atmosphere at the garden	*Excellent *Excellent *Excellent *Excellent *Excellent *Excellent *Good *Excellent
6	How would you rate your overall experience working in this garden?	Excellent Good Fair Poor	31(51.7%) 27(45%) 2(3.3%) 0(0.0%)
7	In what ways do you think your life is different (better or worse) because of this garden?	Able to eat healthier	22(31%)
8	Because I work in this garden…or Because I grow my own food…..	I eat more fruits and vegetables I eat more organic food I eat food that is fresher (less packaged food) I eat less fast food I eat more foods that are traditional for my culture/family background I eat new kinds of food I spend less money on food I am better able to provide food for my family and myself I feel better about where my food comes from I am more physically active	*Agree *Agree *Agree *Agree *Agree *Agree *Agree *Agree *Strongly Agree *Agree
9	Because I work in this garden….	I have learned more about gardening I have gained new gardening skills I have learned about running a small business I know more about the environment I care more about the environment I feel more involved in this neighborhood I have made new friends I feel a stronger connection to my culture	*Agree *Agree *Disagree *Agree *Agree *Agree *Agree *Strongly Agree

		I feel safer in this neighborhood I spend more time with my family I am teaching my family and/or friends to garden I am donating/giving extra food to other people	*Disagree *Agree *Agree *Agree
10	The following are statements people have made about the food in their household. Please tell me how often this statement has been true for your household in the past 30 days?	We were not able to afford more food to eat We were not able to afford more of the kinds of food we wanted to eat We were not able to afford to eat healthier meals	*Sometimes *Never *Strongly Disagree
11	Has participating in this garden helped you start a small business or earn money from gardening?	Yes No	1(1.8%) 55(98.2%)

*Denotes most frequently cited response when respondent could have more than one.

Farmers Market and Community Garden Evaluation Conclusions

The farmers market interventions conducted by BHC grantees appear to be effectively engaging their target population of low-income community members. The greatest number of respondents traveling *less than one mile* to their respective farmers market had an annual household income of less than $25,000. Also, the largest number of individuals purchasing between *$0 and $5* per visit had an annual household income of less than $25,000. Expanding and promoting EBT access at farmers markets appears to be an effective strategy for engaging this population. With over $293,000 in SNAP benefits redeemed at farmers markets in Michigan in 2009 along with over a 200% increase of markets accepting Bridge Cards; this further illustrates how farmers markets are improving access of low cost fruits and vegetables to lower income patrons. With only 30 of the 217 farmers markets accepting EBT, BHC communities can aggressively advocate for more of Michigan's farmers markets to utilize this technology to promote healthy eating behaviors.

BHC funded programs need to continue to focus on improving access among low-income participants. Farmers market respondents with annual household incomes of less than $25,000 reported their health to be *fair* or *poor* significantly more frequently than respondents earning more than $25,000. Since women were most likely to frequent markets, targeted promotion that appeals to female caregivers may be an appropriate strategy for drawing in more community residents. Promotion around supporting local farmers and local economies may also be effective strategies considering many respondents identified support of local farmers as a reason why they patronize markets.

Based on the BHC funded projects supporting farmers markets in project years 2008 and 2009, the following summary statements are appropriate:

- The vast majority of survey respondents from BHC farmers markets were women.
- Most of BHC's farmers market respondents were forty years of age or older.
- Respondents visited their respective farmers market to primarily purchase fruits and vegetables.
- Almost half of all respondents visited their farmers market to support local farmers.
- The majority of BHC farmers market respondents earned $49,999 or less in annual household income and spent $5 to $20 per visit at their respective farmers market.
- The largest numbers of visitors to the BHC farmers markets were first timers.
- The vast majority of respondents reported driving a car to visit their farmers market.
- Few respondents walked or biked to their respective farmers market.
- More than 40% of respondents traveled between one and five miles to visit their market.
- More than 50% of farmers market respondents met current fruit and vegetable consumption recommendations.
- Many customer survey responses varied by age and household income.

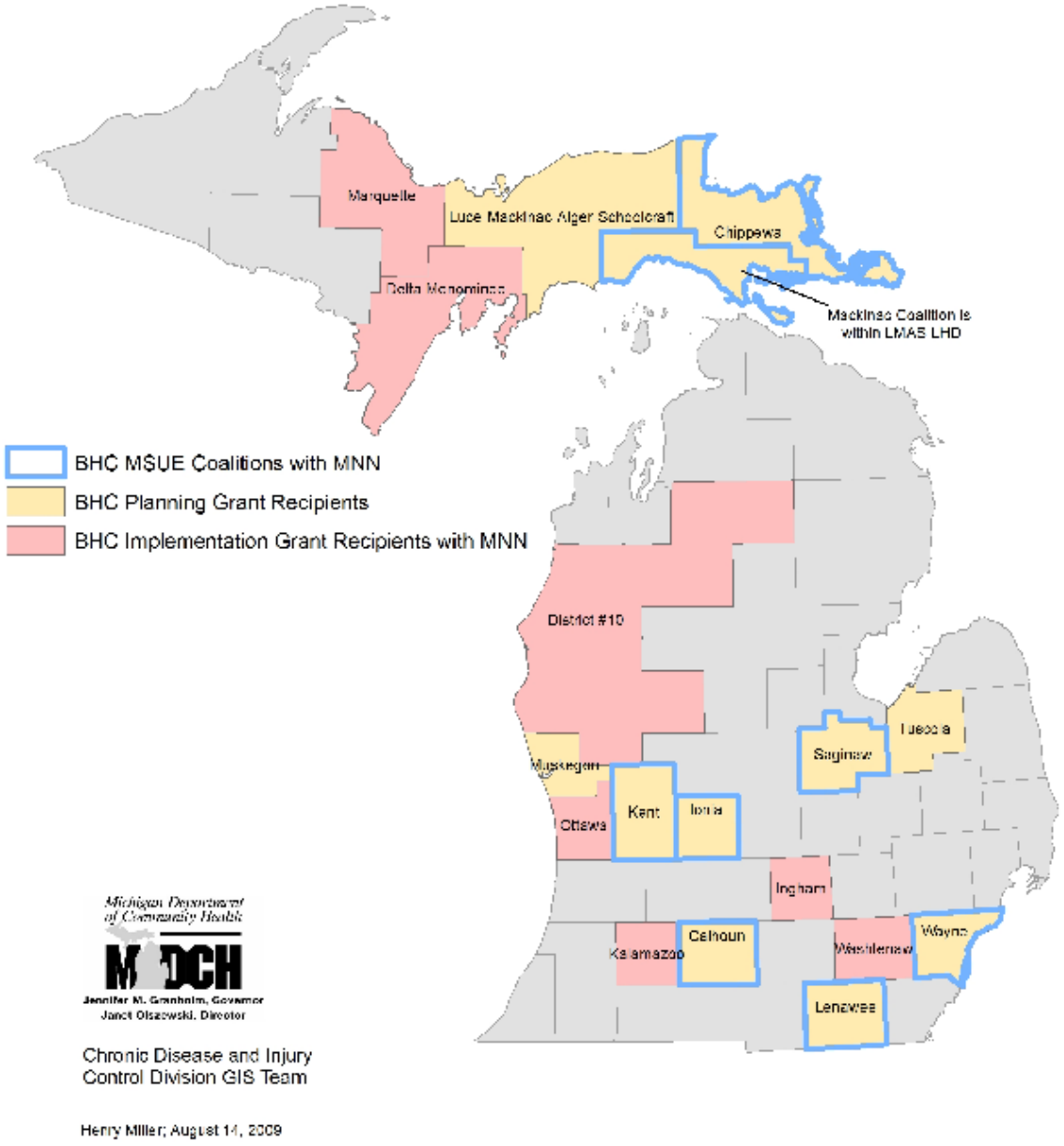
Unfortunately, few conclusions can be drawn from the community garden evaluation due to small sample size. This lack of evidence similarly permeates the national landscape, which contains a dearth of evaluation and research related to community gardens and their positive effects on communities. Even with this lack of research, implementation of community gardens is recommended as a promising practice for increasing access to fruits and vegetables, revitalizing neighborhoods and reducing urban blight, and stimulating social interaction between neighborhood residents. Using the community garden evaluation tool, MDCH has a huge opportunity for working with local groups to implement, evaluate, and collect useful data on community gardens through BHC and similar state and national programs. MDCH should work more closely with BHC communities implementing the gardening evaluation to ensure that coordinators have adequate training and support to implement the tool. The MDCH might also consider additional activities to promote buy-in from coordinators on the need for implementing the evaluation more broadly and comprehensively.

Although the sample size was small, some information on BHC funded projects supporting community gardens in 2008 – 2009 was collected, and the following summary statements are appropriate:

- The majority of community garden respondents were female.
- Thirty-percent of community garden respondents were minorities.
- Over 40% of community garden respondents reported a household income of $50,000 or more and 58% of respondents reported having at least some college education.

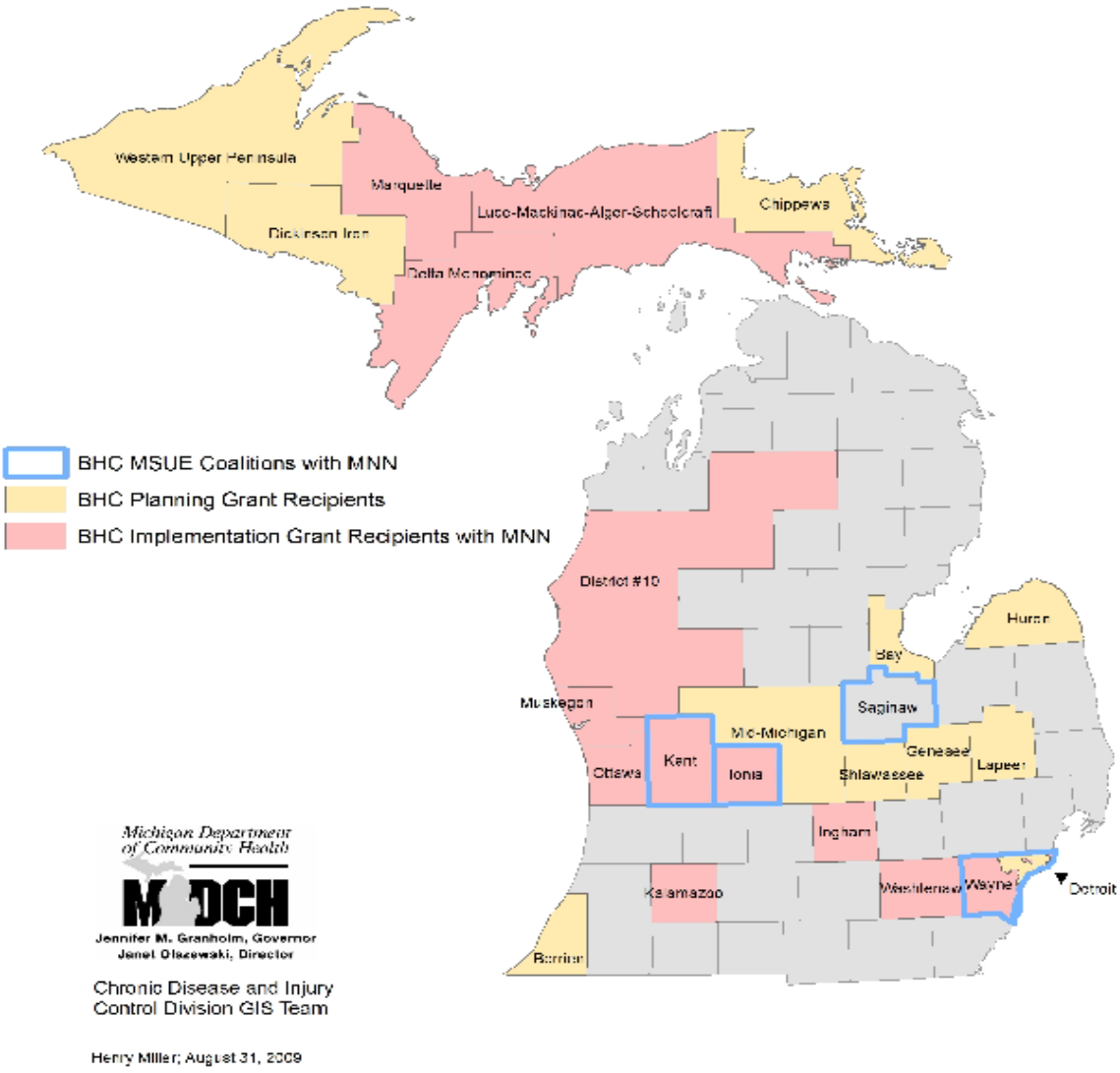
Appendix: A

Building Healthy Communities
2008 Grantees



Appendix: B

Building Healthy Communities
2009 Grantees



Michigan Department of Community Health

MDCH

Jennifer M. Granholm, Governor
Janet Olszewski, Director

Chronic Disease and Injury Control Division GIS Team

Henry Miller; August 31, 2009

Appendix: C

Building Healthy Communities Initiative Funding Matrix Project Year 2008		
Local Health Department	**Community**	**Intervention Details**
Washtenaw County	*Downtown Ypsilanti	*Enhance 1 farmers market in downtown Ypsilanti with an EBT machine.

Appendix: D

Building Healthy Communities Initiative Funding Matrix Project Year 2008-2009		
Local Health Department	**Community**	**Intervention Details**
Delta & Menominee Counties	*Northside Neighborhood in the City of Escanaba	*Establish 1 new farmers market in the Northside Neighborhood of the city of Escanaba. *Install 1 EBT machine at the Northside Neighborhood farmers market.
District 10	*City of White Cloud	*Establish 1 new community garden in the city of White Cloud.
Ingham County	*South Lansing	*Establish 1 new farmers market in South Lansing in Benjamin Davis Park. *Install 1 EBT machine at South Lansing Benjamin Davis Park farmers market.
Ionia County	*Village of Hubbardston	*Establish 1 new community garden in the village of Hubbardston.
Kent County	*City of Grand Rapids	*Establish 1 new community garden in Joe Taylor Park in the Baxter Neighborhood of the city of Grand Rapids.
Marquette County	*City of Negaunee	*Implement 1 new farmers market in the downtown area in the city of Negaunee.
Muskegon County	*Nelson Neighborhood in the City of Muskegon	*Expand 8th street Community Garden space and secure a water supply *Establish 1 new community garden in the Nelson neighborhood in the city of Muskegon.

Ottawa County	* Holland Heights	* Establish 1 new community garden in the Holland Heights neighborhood of the city of Holland.
Washtenaw County	* West Willow Neighborhood in Ypsilanti Township	* Enhance West Willow Community Garden in the city of Ypsilanti through installation of 1 rain barrel.

Appendix: E

Customer Habits, Preferences and Satisfaction Results

Responses with Significant Differences Adjusted for Age (only questions and significant response differences for age are provided)

Number	Survey Question	Age	Response Option(s)	Frequency (%)
1	What is the reason for your trip to the farmers market today? CHECK ALL THAT APPLY	18-29	Purchase fruits and vegetables	64(66)
		30-30	Purchase fruits and vegetables	60(75)
		40-49	Purchase fruits and vegetables	72(75.8)
		50-59	Purchase fruits and vegetables	120(82.2)
		60+	Purchase fruits and vegetables	136(85.5)
3	When did you start coming to this farmers market?	18-29	3 years ago or more	13(13.4)
		30-39	3 years ago or more	15 (18.8)
		40-49	3 years ago or more	20(21.1)
		50-59	3 years ago or more	31(21.2)
		60+	3 years ago or more	33(20.8)
		18-29	2 years ago	10(10.3)
		30-39	2 years ago	16(20.0)
		40-49	2 years ago	4(4.2)
		50-59	2 years ago	26(17.8)
		60+	2 years ago	14(8.8)
		18-29	1 year ago	38(39.2)
		30-39	1 year ago	23(28.8)
		40-49	1 year ago	18(18.9)
		50-59	1 year ago	14(9.6)
		60+	1 year ago	22(13.8)
		18-29	This is my first season	36(37.1)
		30-39	This is my first season	26(32.5)
		40-49	This is my first season	52(54.7)
		50-59	This is my first season	73(50.0)
		60+	This is my first season	87(54.7)
4	How do you rate the following aspects of this market? CHECK ALL THAT APPLY	18-29	Price of products (Excellent)*	36(37.1)
		30-39	Price of products (Excellent)*	26(32.5)
		40-49	Price of products (Excellent)*	24(25.3)
		50-59	Price of products (Excellent)*	23(15.8)
		60+	Price of products (Excellent)*	39(24.5)
6	How far do you travel to get to this farmers market?	18-29	Less than one mile	48(49.5)
		30-39	Less than one mile	23(28.8)
		40-49	Less than one mile	29(30.5)
		50-59	Less than one mile	41(28.1)
		60+	Less than one mile	42(26.4)

		18-29	1-5 miles	30(30.9)
		30-39	1-5 miles	41(51.3)
		40-49	1-5 miles	35(36.8)
		50-59	1-5 miles	62(42.5)
		60+	1-5 miles	79(49.7)
		18-29	6-10 miles	8(8.2)
		30-39	6-10 miles	8(10.0)
		40-49	6-10 miles	12(12.6)
		50-59	6-10 miles	28(19.2)
		60+	6-10 miles	19(11.9)
		18-29	11-20 miles	8(8.2)
		30-39	11-20 miles	8(10.0)
		40-49	11-20 miles	9(9.5)
		50-59	11-20 miles	8(5.5)
		60+	11-20 miles	9(5.7)
		18-29	More than 20 miles	3(3.1)
		30-39	More than 20 miles	0(0)
		40-49	More than 20 miles	9(9.5)
		50-59	More than 20 miles	3(2.1)
		60+	More than 20 miles	7(4.4)
7	How did you get to this farmers market?	18-29	Car	67(69.1)
		30-39	Car	62(77.5)
		40-49	Car	74(77.9)
		50-59	Car	123(84.2)
		60+	Car	138(86.8)
		18-29	Bus	1(1)
		30-39	Bus	2(2.5)
		40-49	Bus	3(3.2)
		50-59	Bus	3(2.1)
		60+	Bus	4(2.5)
		18-29	Walked	18(18.6)
		30-39	Walked	11(13.8)
		40-49	Walked	12(12.6)
		50-59	Walked	16(11.0)
		60+	Walked	12(7.5)

		18-29	Bicycled	8(8.2)
		30-39	Bicycled	4(5.0)
		40-49	Bicycled	2(2.1)
		50-59	Bicycled	1(0.7)
		60+	Bicycled	0(0.0)
		18-29	Other	3(3.1)
		30-39	Other	1(1.3)
		40-49	Other	3(3.2)
		50-59	Other	1(0.7)
		60+	Other	2(1.3)
8	On a typical day do you consume fruits or vegetables five or more times per day?	18-29	Yes	50(51.5)
		30-39	Yes	43(53.8)
		40-49	Yes	49(51.6)
		50-59	Yes	81(55.5)
		60+	Yes	85(53.5)
		18-29	No	40(41.2)
		30-39	No	34(42.5)
		40-49	No	40(42.1)
		50-59	No	60(41.1)
		60+	No	66(41.5)
		18-29	Don’t Know	7(7.2)
		30-39	Don’t Know	2(2.5)
		40-49	Don’t Know	3(3.2)
		50-59	Don’t Know	3(2.1)
		60+	Don’t Know	2(1.3)
9	How much money do you usually spend at the farmers market?	18-29	$0 to $5	19(19.6)
		30-39	$0 to $5	14(7.5)
		40-49	$0 to $5	7(7.4)
		50-59	$0 to $5	18(12.3)
		60+	$0 to $5	25(15.7)
		18-29	$5 to $10	36(37.1)
		30-39	$5 to $10	27(33.8)
		40-49	$5 to $10	41(43.2)
		50-59	$5 to $10	49(33.6)
		60+	$5 to $10	61(38.4)

		18-29	$10 to $20	34(35.1)
		30-39	$10 to $20	27(33.8)
		40-49	$10 to $20	26(27.4)
		50-59	$10 to $20	56 (38.4)
		60+	$10 to $20	48(30.2)
		18-29	More than $20	7(7.2)
		30-39	More than $20	12(15.0)
		40-49	More than $20	19(20.0)
		50-59	More than $20	17(11.6)
		60+	More than $20	16(10.1)
10	As a result of shopping at this farmers market, have you been eating more fruits and/or vegetables than before you started to shop here?	18-29	Yes, a little more fruits and vegetables	28(28.9)
		30-39	Yes, a little more fruits and vegetables	28(35)
		40-49	Yes, a little more fruits and vegetables	30(31.6)
		50-59	Yes, a little more fruits and vegetables	56(38.4)
		60+	Yes, a little more fruits and vegetables	54(34.0)
		18-29	Yes, a lot more fruits and vegetables	25(25.8)
		30-39	Yes, a lot more fruits and vegetables	10(12.5)
		40-49	Yes, a lot more fruits and vegetables	17(17.9)
		50-59	Yes, a lot more fruits and vegetables	23(15.8)
		60+	Yes, a lot more fruits and vegetables	29(18.2)
		18-29	No, about the same amount of fruits and vegetables	29(29.9)
		30-39	No, about the same amount of fruits and vegetables	25(31.3)
		40-49	No, about the same amount of fruits and vegetables	28(29.5)
		50-59	No, about the same amount of fruits and vegetables	34(23.3)
		60+	No, about the same amount of fruits and vegetables	48(30.2)
		18-29	No, less fruits and vegetables	0(0.0)
		30-39	No, less fruits and vegetables	0(0.0)
		40-49	No, less fruits and vegetables	0(0.0)
		50-59	No, less fruits and vegetables	0(0.0)
		60+	No, less fruits and vegetables	0(0.0)
		18-29	This my first time at this market	15(15.5)
		30-39	This my first time at this market	17(21.3)
		40-49	This my first time at this market	18(18.9)
		50-59	This my first time at this market	31(21.2)
		60+	This my first time at this market	22(13.8)
11	What types of information would you be	18-29	Recipes that use fresh fruits/vegetables at the market	72(74.2)

	interested in seeing at the farmers market? CHECK ALL THAT APPLY	30-39	Recipes that use fresh fruits/vegetables at the market	53(66.3)
		40-49	Recipes that use fresh fruits/vegetables at the market	58(61.1)
		50-59	Recipes that use fresh fruits/vegetables at the market	101(69.2)
		60+	Recipes that use fresh fruits/vegetables at the market	92(57.9)
		18-29	General health and wellness information	27(27.8)
		30-39	General health and wellness information	27(33.8)
		40-49	General health and wellness information	34(35.8)
		50-59	General health and wellness information	34(23.3)
		60+	General health and wellness information	47(29.6)
		18-29	Advice about foods/diet from a dietician/health educator	28(28.9)
		30-39	Advice about foods/diet from a dietician/health educator	13(16.3)
		40-49	Advice about foods/diet from a dietician/health educator	24(25.3)
		50-59	Advice about foods/diet from a dietician/health educator	30(20.5)
		60+	Advice about foods/diet from a dietician/health educator	39(24.5)
19	How is your general health?	18-29	Excellent	25(25.8)
		30-39	Excellent	23(28.8)
		40-49	Excellent	15(15.8)
		50-59	Excellent	27(18.5)
		60+	Excellent	20(12.6)
		18-29	Very good	43(44.3)
		30-39	Very good	31(38.8)
		40-49	Very good	35(36.8)
		50-59	Very good	48(32.9)
		60+	Very good	61(38.4)
		18-29	Good	24(24.7)
		30-39	Good	31(38.8)
		40-49	Good	33(34.7)
		50-59	Good	54(37.0)
		60+	Good	51(32.1)
		18-29	Fair	4(4.1)
		30-39	Fair	2(2.5)
		40-49	Fair	6(6.3)
		50-59	Fair	9(6.2)
		60+	Fair	23(14.5)
		18-29	Poor	0(0.0)

		30-39	Poor	0(0.0)
		40-49	Poor	4(4.2)
		50-59	Poor	6(4.1)
		60+	Poor	3(1.9)

***Denotes most frequently cited response when more than one response was allowed.**

Customer Habits, Preferences and Satisfaction Results

Responses with Significant Differences Adjusted for Household Income (only questions with significant response differences for household income are provided)

Number	Survey Question	Household Income	Response Option(s)	Frequency (%)
1	What is the reason for your trip to the farmers market today? CHECK ALL THAT APPLY	Less than $25,000	Purchase fruits and vegetables	138(73.0)
		$25,000 to $49,999	Purchase fruits and vegetables	123(79.9)
		$50,000 to $74,999	Purchase fruits and vegetables	69(85.2)
		$75,000 to $99,999	Purchase fruits and vegetables	39(76.5)
		$100,000+	Purchase fruits and vegetables	25(73.5)
		Less than $25,000	Purchase baked goods	46(24.3)
		$25,000 to $49,999	Purchase baked goods	40(26.0)
		$50,000 to $74,999	Purchase baked goods	34(42.0)
		$75,000 to $99,999	Purchase baked goods	20(39.2)
		$100,000+	Purchase baked goods	8(23.5)
3	When did you start coming to this farmers market?	Less than $25,000	3 years ago or more	50(26.5)
		$25,000 to $49,999	3 years ago or more	32(20.8)
		$50,000 to $74,999	3 years ago or more	12(14.8)
		$75,000 to $99,999	3 years ago or more	8(15.7)
		$100,000+	3 years ago or more	4(11.8)
		Less than $25,000	2 years ago	22(11.6)
		$25,000 to $49,999	2 years ago	15(9.7)
		$50,000 to $74,999	2 years ago	11(13.6)
		$75,000 to $99,999	2 years ago	9(17.6)
		$100,000+	2 years ago	4(11.8)
		Less than $25,000	1 year ago	41(21.7)
		$25,000 to $49,999	1 year ago	25(16.2)
		$50,000 to $74,999	1 year ago	14(17.3)
		$75,000 to $99,999	1 year ago	7(13.7)
		$100,000+	1 year ago	9(26.5)
		Less than $25,000	This is my first season	74(39.2)
		$25,000 to $49,999	This is my first season	81(52.6)
		$50,000 to $74,999	This is my first season	44(54.3)
		$75,000 to $99,999	This is my first season	27(52.9)
		$100,000+	This is my first season	16(47.1)

4	How do you rate the following aspects of this market? CHECK ALL THAT APPLY	Less than $25,000	Quality of products (Excellent)*	73(38.6)
		$25,000 to $49,999	Quality of products (Excellent)*	64(41.6)
		$50,000 to $74,999	Quality of products (Excellent)*	38(46.9)
		$75,000 to $99,999	Quality of products (Very Good)*	22(43.1)
		$100,000+	Quality of products (Excellent)*	16(47.1)
		Less than $25,000	Parking (Excellent)*	62(32.8)
		$25,000 to $49,999	Parking (Excellent)*	57(37.0)
		$50,000 to $74,999	Parking (Excellent)*	43(53.1)
		$75,000 to $99,999	Parking (Excellent)*	22(43.1)
		$100,000+	Parking (Excellent)*	16(47.1)
6	How far do you travel to get to this farmers market?	Less than $25,000	Less than one mile	82(43.4)
		$25,000 to $49,999	Less than one mile	45(29.2)
		$50,000 to $74,999	Less than one mile	22(27.2)
		$75,000 to $99,999	Less than one mile	11(21.6)
		$100,000+	Less than one mile	5(14.7)
		Less than $25,000	1-5 miles	59(31.2)
		$25,000 to $49,999	1-5 miles	67(43.5)
		$50,000 to $74,999	1-5 miles	39(48.1)
		$75,000 to $99,999	1-5 miles	28(54.9)
		$100,000+	1-5 miles	21(61.8)
		Less than $25,000	6-10 miles	22(11.6)
		$25,000 to $49,999	6-10 miles	21(13.6)
		$50,000 to $74,999	6-10 miles	9(11.1)
		$75,000 to $99,999	6-10 miles	9(17.6)
		$100,000+	6-10 miles	3(8.8)
		Less than $25,000	11-20 miles	14(7.4)
		$25,000 to $49,999	11-20 miles	14(9.1)
		$50,000 to $74,999	11-20 miles	7(8.6)
		$75,000 to $99,999	11-20 miles	1(2.0)
		$100,000+	11-20 miles	2(5.9)
		Less than $25,000	More than 20 miles	9(4.8)
		$25,000 to $49,999	More than 20 miles	6(3.9)
		$50,000 to $74,999	More than 20 miles	2(2.5)
		$75,000 to $99,999	More than 20 miles	2(3.9)

		$100,000+	More than 20 miles	2(5.9)
7	How did you get to this farmers market?	Less than $25,000	Car	134(70.9)
		$25,000 to $49,999	Car	131(85.1)
		$50,000 to $74,999	Car	68(84.0)
		$75,000 to $99,999	Car	43(84.3)
		$100,000+	Car	32(94.1)
		Less than $25,000	Bus	5(2.6)
		$25,000 to $49,999	Bus	3(1.9)
		$50,000 to $74,999	Bus	2(2.5)
		$75,000 to $99,999	Bus	1(2.0)
		$100,000+	Bus	0(0.0)
		Less than $25,000	Walked	36(19.0)
		$25,000 to $49,999	Walked	16(10.4)
		$50,000 to $74,999	Walked	6(7.4)
		$75,000 to $99,999	Walked	4(7.8)
		$100,000+	Walked	1(2.9)
		Less than $25,000	Bicycled	5(2.6)
		$25,000 to $49,999	Bicycled	2(1.3)
		$50,000 to $74,999	Bicycled	2(2.5)
		$75,000 to $99,999	Bicycled	3(5.9)
		$100,000+	Bicycled	1(2.9)
		Less than $25,000	Other	6(3.2)
		$25,000 to $49,999	Other	1(0.6)
		$50,000 to $74,999	Other	2(2.5)
		$75,000 to $99,999	Other	0(0.0)
		$100,000+	Other	0(0.0)
8	On a typical day do you consume fruits or vegetables five or more times per day?	Less than $25,000	Yes	90(47.6)
		$25,000 to $49,999	Yes	78(50.6)
		$50,000 to $74,999	Yes	49(60.5)
		$75,000 to $99,999	Yes	29(56.9)
		$100,000+	Yes	26(76.5)
		Less than $25,000	No	81(42.9)
		$25,000 to $49,999	No	73(47.4)
		$50,000 to $74,999	No	29(35.8)
		$75,000 to $99,999	No	21(41.2)
		$100,000+	No	8(23.5)

		Less than $25,000	Don't Know	13(6.9)
		$25,000 to $49,999	Don't Know	2(1.3)
		$50,000 to $74,999	Don't Know	2(2.5)
		$75,000 to $99,999	Don't Know	1(2.0)
		$100,000+	Don't Know	0(0.0)
9	How much money do you usually spend at the Farmers Market?	Less than $25,000	$0 to $5	36(19)
		$25,000 to $49,999	$0 to $5	20(13)
		$50,000 to $74,999	$0 to $5	9(11.1)
		$75,000 to $99,999	$0 to $5	4(7.8)
		$100,000+	$0 to $5	2(5.9)
		Less than $25,000	$5 to $10	71(37.6)
		$25,000 to $49,999	$5 to $10	64(41.6)
		$50,000 to $74,999	$5 to $10	27(33.3)
		$75,000 to $99,999	$5 to $10	18(35.3)
		$100,000+	$5 to $10	10(29.4)
		Less than $25,000	$10 to $20	55(29.1)
		$25,000 to $49,999	$10 to $20	49(31.8)
		$50,000 to $74,999	$10 to $20	32(39.5)
		$75,000 to $99,999	$10 to $20	20(39.2)
		$100,000+	$10 to $20	12(35.3)
		Less than $25,000	More than $20	19(10.1)
		$25,000 to $49,999	More than $20	18(11.7)
		$50,000 to $74,999	More than $20	12(14.8)
		$75,000 to $99,999	More than $20	9(17.6)
		$100,000+	More than $20	8(23.5)
10	As a result of shopping at this Farmers Market, have you been eating more fruits and/or vegetables than before you started to shop here?	Less than $25,000	Yes, a little more fruits and vegetables	65(34.4)
		$25,000 to $49,999	Yes, a little more fruits and vegetables	66(42.9)
		$50,000 to $74,999	Yes, a little more fruits and vegetables	21(25.9)
		$75,000 to $99,999	Yes, a little more fruits and vegetables	8(15.7)
		$100,000+	Yes, a little more fruits and vegetables	13(38.2)
		Less than $25,000	Yes, a lot more fruits and vegetables	45(23.8)
		$25,000 to $49,999	Yes, a lot more fruits and vegetables	25(16.2)
		$50,000 to $74,999	Yes, a lot more fruits and vegetables	12(14.8)
		$75,000 to $99,999	Yes, a lot more fruits and vegetables	11(21.6)
		$100,000+	Yes, a lot more fruits and vegetables	5(14.7)

		Less than $25,000	No, about the same amount of fruits and vegetables	45(23.8)
		$25,000 to $49,999	No, about the same amount of fruits and vegetables	37(24.0)
		$50,000 to $74,999	No, about the same amount of fruits and vegetables	36(44.4)
		$75,000 to $99,999	No, about the same amount of fruits and vegetables	19(37.3)
		$100,000+	No, about the same amount of fruits and vegetables	7(20.6)
		Less than $25,000	No, less fruits and vegetables	1(0.5)
		$25,000 to $49,999	No, less fruits and vegetables	0(0.0)
		$50,000 to $74,999	No, less fruits and vegetables	0(0.0)
		$75,000 to $99,999	No, less fruits and vegetables	0(0.0)
		$100,000+	No, less fruits and vegetables	0(0.0)
		Less than $25,000	This my first time at this market	29(15.3)
		$25,000 to $49,999	This my first time at this market	24(15.6)
		$50,000 to $74,999	This my first time at this market	11(13.6)
		$75,000 to $99,999	This my first time at this market	13(25.5)
		$100,000+	This my first time at this market	9(26.5)
11	What types of information would you be interested in seeing at the farmers market? CHECK ALL THAT APPLY	Less than $25,000	Recipes that use fresh fruits/vegetables at the market	123(65.1)
		$25,000 to $49,999	Recipes that use fresh fruits/vegetables at the market	96(62.3)
		$50,000 to $74,999	Recipes that use fresh fruits/vegetables at the market	50(61.7)
		$75,000 to $99,999	Recipes that use fresh fruits/vegetables at the market	37(72.5)
		$100,000+	Recipes that use fresh fruits/vegetables at the market	26(76.5)
		Less than $25,000	General health and wellness information	64(33.9)
		$25,000 to $49,999	General health and wellness information	47(30.5)
		$50,000 to $74,999	General health and wellness information	19(23.5)
		$75,000 to $99,999	General health and wellness information	17(33.3)
		$100,000+	General health and wellness information	9(26.5)
		Less than $25,000	Advice about foods/diet from a dietician/health educator	48(25.4)
		$25,000 to $49,999	Advice about foods/diet from a dietician/health educator	44(28.6)
		$50,000 to $74,999	Advice about foods/diet from a dietician/health educator	16(19.8)
		$75,000 to $99,999	Advice about foods/diet from a dietician/health educator	9(17.6)
		$100,000+	Advice about foods/diet from a dietician/health educator	7(20.6)
19	How is your general health?	Less than $25,000	Excellent	28(14.8)
		$25,000 to $49,999	Excellent	20(13.0)
		$50,000 to $74,999	Excellent	24(29.6)
		$75,000 to $99,999	Excellent	13(25.5)
		$100,000+	Excellent	16(47.1)
		Less than $25,000	Very good	56(29.6)

		$25,000 to $49,999	Very good	65(42.2)
		$50,000 to $74,999	Very good	31(38.3)
		$75,000 to $99,999	Very good	26(51.0)
		$100,000+	Very good	12(35.3)
		Less than $25,000	Good	62(32.8)
		$25,000 to $49,999	Good	63(40.9)
		$50,000 to $74,999	Good	24(29.6)
		$75,000 to $99,999	Good	11(21.6)
		$100,000+	Good	6(17.6)
		Less than $25,000	Fair	29(15.3)
		$25,000 to $49,999	Fair	6(3.9)
		$50,000 to $74,999	Fair	1(1.2)
		$75,000 to $99,999	Fair	1(2.0)
		$100,000+	Fair	0(0.0)
				\
		Less than $25,000	Poor	11(5.8)
		$25,000 to $49,999	Poor	0(0.0)
		$50,000 to $74,999	Poor	0(0.0)
		$75,000 to $99,999	Poor	0(0.0)
		$100,000+	Poor	0(0.0)

***Denotes most frequently cited response when more than one response was allowed.**

Appendix: G

Customer Habits, Preferences and Satisfaction Results with Significant Differences for Marquette and Ypsilanti 2008 to 2009

(only questions and significant response differences are provided)

			2008	2008	2009	2009
Number	Survey Question	Response Option(s)	Marquette	Ypsilanti	Marquette	Ypsilanti
1	What is the reason for your trip to the farmers market today? CHECK ALL THAT APPLY	Purchase fruits and vegetables	33(22.6%)	84(57.5%)	84(47.7%)	54(30.7%)
		Purchase baked goods	12(9.6%)	29(23.2)	42(23.9%)	20(11.4%)
		Purchase crafts	---	---	---	---
		Socialize and look around	18(13.7%)	39(29.8%)	---	---
		Support local farmers	22(16.3%)	50(37.0%)	58(33.0%)	27(15.3%)
		Other	4(3.4%)	17(14.5%)	1(0.6%)	20(11.4%)
2	#How often do you visit this Farmers market?	Every week	---	---	35(19.9%)	33(18.8%)
		1-2 times per month	---	---	24(13.6%)	16(9.1%)
		Less than 5 times per month	---	---	1(0.6%)	9(5.1%)
		This is my first time	---	---	37(21.0%)	21(11.9%)
3	When did you start coming to this farmers market?	3 years ago or more	8(5.1%)	0(0.0%)	0(0.0%)	19(10.8%)
		2 years ago	7(4.4%)	30(19.0%)	0(0.0%)	17(9.7%)
		1 year ago	17(10.8%)	33(20.9%)	4(2.3%)	43(24.4%)
		This is my first season	13(8.2%)	47(29.7%)	91(51.7%)	0(0.0%)
4	How do you rate the following aspects of this market? CHECK ALL THAT APPLY	Convenience of location				
		• Excellent	30(19%)	41(25.9%)	---	---
		• Very Good	14(8.9%)	47(29.7%)	---	---
		Parking				
		• Excellent	18(11.4%)	45(28.5%)	39(22.2%)	26(14.8%)
		• Very Good	23(14.6%)	30(19.0%)	23(13.1%)	27(15.3%)
		• Good	3(1.9%)	21(13.3%)	15(8.5%)	10(5.7%)
6	How far do you travel to get to this farmers market?	Less than one mile	8(5.1%)	48(30.6%)	---	---
		1-5 miles	20(12.7%)	43(27.4%)	---	---
		6-10 miles	12(7.6%)	7(4.5%)	---	---
		11-20 miles	2(1.3%)	3(1.9%)	---	---
		More than 20 miles	2(1.3%)	6(3.8%)	---	---
7	How did you get to this farmers market?	Car	---	---	83(47.2%)	61(34.7%)
		Bus	---	---	0(0.0%)	4(2.3%)
		Walked	---	---	8(4.5%)	9(5.1%)
		Bicycled	---	---	4(2.3%)	1(0.6%)
		Other	---	---	0(0.0%)	4(2.3%)
8	On a typical day do you consume fruits or vegetables five or more times per day?	Yes	24(15.2%)	71(44.9%)	---	---
		No	0(0.0%)	32(20.3)	---	---
		Don't Know	4(2.5%)	4(2.5%)	---	---

9	How much money do you usually spend at the farmers market?	$0 to $5 $5 to $10 $10 to $20 More than $20	1(0.6%) 20(12.7%) 20(12.7%) 4(2.5%)	24(15.2%) 41(25.9%) 31(19.6%) 11(7.0%)	17(9.7%) 46(26.3%) 25(14.3%) 4(2.3%)	13(7.4%) 19(10.9%) 33(18.9%) 13(7.4%)
11	What types of information would you be interested in seeing at the farmers market? CHECK ALL THAT APPLY	Recipes that use fresh fruits/vegetables at the market General health and wellness information Advice about foods/diet from a dietician/health educator	27(19.3%) 16(12.4%) 2(1.7%)	60(42.9%) 41(31.8%) 27(23.5%)	65(38.9%) 26(15.6%) 20(12.0%)	54(32.3%) 22(13.2%) 25(15%)

***Denotes most frequently cited response when more than one response was allowed.**

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