

THE FARM AT ST. JOE'S

Growing Healthy and Resilient Communities

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Integrative Research Seminar
Submitted in partial fulfillment of requirements for the degree of
Master of Science, Natural Resources & Environment
at the University of Michigan, Ann Arbor
April 2017



ACKNOWLEDGEMENTS

We wish to thank The Farm at St. Joe's Program Manager, Amanda Sweetman, for her enthusiasm in her work and ambition to tackle all projects for the betterment of our community. Her insight, passion, and commitment have helped to guide this research at all phases. We also wish to thank Paige Kyle, Emily Canosa, and Jana Stewart for sharing their knowledge and helping us uncover themes for this research. Thank you to our Undergraduate Research Opportunity Program assistant, Claire Davenport, for her help in organizing our data. We would also like to thank the staff and faculty at the School of Natural Resources & Environment at the University of Michigan for facilitating a positive and enriching academic experience. Finally, we would like to express tremendous gratitude to our advisor, Dr. Raymond De Young, for his mentorship, encouragement, understanding, and sense of humor. This project would not have been possible without the help of all of you!



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ABSTRACT

The purpose of this project was to assess awareness of programs and explore opportunities for program development for The Farm at St. Joe's (The Farm), part of The St. Joseph Mercy Health System. For this assessment, we surveyed community members in Ann Arbor and Ypsilanti to understand current awareness of The Farm and its offerings, interest in proposed future programming, and barriers impeding access to fresh produce and Farm offerings. We discovered a general lack of awareness of The Farm and its current programs and revealed a five category framework of program classification for ongoing exploration and development. We also facilitated two meetings to engage stakeholders in St. Joseph Mercy Health System and the broader community in proposing suggestions for creating greater visibility, providing direction for program expansion, and guiding strategic partnership development for The Farm. Based on this research, we have developed a set of recommendations intended to guide The Farm in growing its reach and impact as part of a large anchor institution in the Washtenaw County community.

BACKGROUND: The Farm at St. Joe's

Established in 2010, The Farm at St. Joe's (The Farm) is a critical component of St. Joseph Mercy Health System. The Farm is located on the grounds of St. Joseph Mercy Ann Arbor Hospital (the hospital) which provides comprehensive specialty and tertiary care programs and serves as an academic teaching institution. The Farm exists to help the hospital achieve its vision by “growing a healthy community” and seeking new, innovative ways to improve health and wellness. As the first hospital-based farm in Michigan, The Farm at St. Joe's has made considerable impacts in the communities it serves through its education, therapy, food access, and environmental stewardship programs. In the fall of 2015, The Farm entered a transitional period, hiring new Program Manager, Amanda Sweetman. In the first year of new management, The Farm increased its reach and community impact considerably. Sweetman expanded educational programming serving all 3rd and 5th graders enrolled in Ypsilanti Community Schools, launched community events hosted on-site, and aggregated fresh produce from six different producers to create a Community Supported Agriculture (CSA) program for hospital staff participants. In order to ensure that new and existing initiatives will make the greatest possible community impact while ensuring long-term sustainability, this project was undertaken to support The Farm's program manager by providing empirical research to aid strategic planning, program expansion, and community partnership development.



CONTEXT: Environment, Health, and Healthcare

A growing body of empirical evidence gathered over the last twenty-five years draws a clear connection between environments and health (Braverman & Gottlieb, 2014). Research indicates that an individual's behavior and physical environment account for 70% of health outcomes, while only 10% is attributed to medical care (Zuckerman, 2013). This reinforces the widely accepted understanding that the distribution of social and economic conditions strongly influence health status. These factors, commonly referred to as the social determinants of health, play a role in health outcomes that can have effects lasting for generations (Braverman & Gottlieb, 2014; ODPHP, 2017). By working to address not only illness, but the root causes of chronic health issues, hospitals can create healthful and supportive environments for the populations they serve. As large, place-based institutions, hospitals can play substantial, positive roles in their communities. Hospitals are increasingly embracing their role as anchor institutions and utilizing their prominent positions to provide the greatest possible community benefit. Innovative approaches to improving community health outcomes go beyond the hospital walls and integrate interactive place-based programming, increased economic investment, and holistic approaches to wellness (Norris & Howard, 2015). These efforts promote an ethic of health for the individual, community, and environment.

Across the nation, hundreds of hospitals have integrated locally and sustainably sourced foods into patient and staff meals and some host on-site farmers markets. A small, but growing number have created on-site farms and gardens that not only produce food, but also serve as therapeutic environments. As this movement grows, these programs expand, combining healthy and local food procurement, nutrition education, physical activity, volunteerism, place-based awareness and stewardship, environmental sustainability, and innovative approaches for improving behavioral health. As more hospitals embrace their role as anchor institutions and commit to whole community health, the integration of food systems and nature-based wellness into healthcare will in all likelihood become commonplace. However, at this time, the limited reach and capacity of the few existing hospital-based gardens and farms means that best practices have yet to be established (Stewart & Dellorto-Blackwell, 2016).

Washtenaw County Health Outlook

Washtenaw County covers a total area of 720 square miles, made up of 27 different cities, villages and townships. The county is a mix of urban, suburban and rural communities that approximately 350,000 citizens call home. The county's two major urban areas, and the focus of this project, are the cities of Ann Arbor and Ypsilanti. Washtenaw County is among the wealthiest in Michigan, ranking as one of the most educated, vibrant, and healthiest places to live in the state (UNITE, 2016a). The county ranks sixth among Michigan's counties in overall health outcomes (SJMAA, 2015). However, despite these health trends, there are still significant portions of the population that suffer from poor physical and mental health. In 2014, about one-fourth of the county's adults reported experiencing limitations due to a physical, mental or emotional problem (SJMAA, 2015). Additionally, great health disparities exist between communities within the county. Much of these health disparities can be attributed to social

determinants of health, which include poverty status, access to care, housing affordability and stability, community safety, rural residency, structural and institutional inequalities, and education level (UNITE, 2016a).

Priority Health Needs

In 2015-2016, St. Joseph Mercy Health System partnered with Washtenaw County Public Health and the University of Michigan Health System to conduct a single Community Health Needs Assessment (CHNA) for the county. The collaborative, named the Unified Needs Assessment Implementation Plan Team Engagement (UNITE) developed a consolidated health assessment and improvement plan. After gathering and analyzing data in the summer of 2015, the UNITE team identified the county's top three priority health needs as: 1) Mental Health and Substance Use Disorders, 2) Obesity and Related Illnesses, and 3) Preconceptual and Perinatal Health. UNITE has also prioritized a focus on the social determinants of health as a key strategy for addressing the root of health inequities (UNITE, 2016b). Additionally, just prior to the completion of the joint UNITE CHNA in 2016, St. Joseph Mercy Ann Arbor Hospital completed its own CHNA in 2015, which identified overweight and obesity as well as mental health and substance abuse as their two priority health improvement areas. Among this set of priority health issues, The Farm at St. Joe's is in a position to immediately provide programming directed at reducing obesity and related illnesses and improving community mental health. Therefore, this project examined how The Farm can best provide resources and services to improve mental health and reduce obesity and related illnesses in the community. Each of these priority health needs is briefly discussed below.

Overweight and Obesity

Obesity and overweight conditions affect more people in the U.S. than any other health issue, and the prevalence of obese and overweight individuals in Michigan made it the 5th heaviest state in 2011 (Washtenaw County Public Health, 2013). Residents of Washtenaw County face even higher rates of overweight and obesity than the state overall, with 56% of adults, 23% of adolescents, and 31% of children ages 2-5 qualifying as overweight or obese (SJMAA, 2015). Being obese or overweight are leading factors for chronic disease and disability and contribute



to diminished mental health status. Some factors contributing to these high rates of overweight conditions and obesity are individuals' fruit and vegetable intake and access to healthy food. Just 18% of adults in the county report consuming five or more servings of fruits and vegetables each day, lower than state and national rates of 22% and 24%, respectively (Washtenaw County Public Health, 2013). These rates become even lower when socio-economic factors are considered. Only 10% of those earning

less than \$35,000 annually, and only 12% of those with less than a high school education report eating at least five servings of fruits and vegetables per day (Washtenaw County Public Health, 2013).

Mental and Behavioral Health

A person’s mental health influences their physical health, employment status, educational achievement, family functioning, and community involvement, among other things. In turn, these factors affect a person’s mental health (Washtenaw County Public Health, 2013). Unfortunately, there is some evidence that mental health may be worsening among Washtenaw County residents. According to the Washtenaw County Public Health Department’s Health Improvement Plan (HIP) Survey, the proportion of Washtenaw County adults experiencing ten or more day of poor mental health within the previous month has been increasing since 2000, and had reached almost 15% of residents by 2015. Additionally, 20% of county residents reported having been diagnosed with depression and 18% with anxiety. Mental health issues affect adolescents as well, with the number of young adults reporting ten or more poor mental health days per month more than doubling from 2005 to 2010 (Washtenaw County Public Health, 2013). As with obesity, disparities exist among groups, with 46% of those on Medicaid or the Healthy Michigan Plan reporting depression (Washtenaw County Public Health, 2013). Many individuals with mental health problems do not have necessary, consistent care management and, per community interviews, bounce between crises and care facilities without meaningful or sustained improvement in health status (SJMAA, 2015).

Food and Farming in Washtenaw County

Washtenaw County represents a thriving local food landscape. The county has dozens of small farms (Local Harvest, 2016; Michigan Agritourism Association, 2017) selling at fifteen farmers markets (Washtenaw County Farmers Markets, n.d.; Michigan Agritourism Association, 2017) as well as local and national retail outlets, enabling access to seasonal, locally grown foods year-round. Agritourism in the form of farm tours, dinners, and u-pick fruit growers are all available within the county (Michigan Agritourism Association, 2017). Farm to school programs are growing and supported in Ann Arbor by the Ann Arbor Farm to School Collaborative and in Ypsilanti by the Ypsilanti Community Schools Coordinated Health Team (Washtenaw County Public Health, 2017). Advocates for local food policy lead the Washtenaw County Food Policy Council, working to create a holistic support system for local food economies that integrates community education, health, and sustainable use of natural resources (Washtenaw County Food Policy Council, 2016).



Tantré Farm, Washtenaw County, MI

Food access and assistance are addressed in numerous ways throughout the county. More than forty religious organizations, community centers, and social service organizations host food pantries and/or provide free hot meals, and large, aggregative food banks collect and distribute food within the county (Food Gatherers, 2017). Many of the county farmers markets accept Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants and Children (WIC) benefits. Many also participate in the Fair Food Network's Double Up Food Bucks program, which incentivizes the purchase of fresh, local produce by providing SNAP recipients the opportunity to double their benefits when buying local produce (Goddeeris, 2015). Prescription for Health is a similar program administered by Washtenaw County Public Health, which partners with hospitals to provide participants with prescriptions for healthy food and \$10 in tokens that can be redeemed at local farmers markets for fresh produce (Washtenaw County Public Health, 2016).

Within the Washtenaw County local food sphere there are many nonprofit organizations that fulfill multiple roles. These organizations create a network that works to ensure access to healthy, affordable local foods, provide nutrition and garden education to adults and children, and support communities by improving social, emotional, and physical health and well-being. The relative overlap of mission and scope among these organizations represents both an opportunity and an obstacle. The competitive nature of grant-seeking can result in heightened competition in provision of services. It can also lead to unnecessary duplication of programs and services, thereby further increasing competitive pressure. Conversely, this vibrant and passionate work can be seen as an opportunity for collaboration. Developing partnerships and shared resources may not only enable organizations to more effectively meet their missions, but will likely lead to better service delivery for community members.



Tatsoi greens, Tantré Farm, Washtenaw County MI

METHODS

Initial data gathering included conducting exploratory interviews with The Farm’s new program manager, a former program intern, and the University of Michigan Sustainable Food Program manager. These interviews uncovered common themes which we used to inform the direction of our literature review and develop our survey instrument. (Our interview protocol and description of the themes identified can be found in Appendix A.)

A paper survey (Appendix B) was administered to voluntary respondents at two large public festivals (Ypsilanti Heritage Festival on August 27, 2016 and HomeGrown Festival in Ann Arbor on September 20, 2016), participants in two local food-access programs (Hope Clinic’s Produce Stand on December 8, 2016 and Prescription for Health at St. Joe’s Farmers Market and Ypsilanti Farmers Market and by email for two weeks in mid-December 2016), and hospital staff and guests at St. Joseph Mercy Ann Arbor Hospital cafeteria (Joe’s Cafe on December 7, 2016). A Qualtrics version of the survey was distributed by email to health educators at Washtenaw County Public Health and then forwarded to Washtenaw County Public Health staff and Prescription for Health program participants in November-December 2016.

Box 1: Characteristics of Survey Locations

HomeGrown Festival: HomeGrown Festival, part of Slow Food Huron Valley, is an annual event that promotes visibility of and interaction with local food producers, organizations, and businesses. The festival takes place in September in downtown Ann Arbor and attracts both community residents and visitors.

Ypsilanti Heritage Festival: Ypsilanti Heritage Festival is a three-day community festival featuring local businesses and community organizations. The event is hosted in Riverside Park in the Depot Town district of Ypsilanti in August and attracts both community residents and visitors.

Hope Clinic: Hope Clinic is a faith-based organization providing medical and dental services to uninsured individuals and social services to those in need, enabling community members to meet basic and emergency needs. (The survey was administered during a weekly produce distribution.)

Prescription for Health: Prescription for Health partners with local health departments, clinics and hospitals, and farmers markets to improve access to healthy nutrient-rich foods for low income patients at risk of chronic disease. (The survey was administered by community health workers at the Ypsilanti Farmers Market and St. Joe’s farmers market, as well as online.)

Washtenaw County Public Health (WCPH) Staff: WCPH is a nationally accredited public health department working to prevent disease and promote community health. WCPH provides a suite of health-focused resources and services for community members.

St. Joseph Mercy Ann Arbor Hospital Cafeteria: The cafeteria is centrally located in the hospital’s main building and is patronized by staff, clinicians, patients, and guests. (Data collection occurred from 11:00 am to 1:00 pm and primarily targeted individuals wearing SJMAA staff and clinician identification badges.)

The survey instrument consisted of close-ended questions designed to understand individuals' awareness of The Farm and its programs, identify interest in proposed future programming, and recognize barriers to food access and program access. Additionally, two open-ended questions were included to invite suggestions for improving The Farm's services. The survey instrument also included an optional section to provide basic demographic information. The findings reported below are based on 212 completed surveys.

To analyze results from the programmatic section of the survey, factor analysis was used to understand the relationship among items. Themes that emerged as a result of the factor analysis were used to inform further data collection at The Luminary Walk, a community event held at The Farm on January 28, 2017. Data collection at The Luminary Walk consisted of an activity where participants were given an opportunity to use dot voting to choose programs of interest, suggest additional programs, and provide verbal feedback to the researchers regarding their feelings about the future direction of The Farm's programming.

These data were also used to develop a framework for two interactive meetings intended to invite feedback and suggestions from hospital and community stakeholders about awareness, program expansion, and partnership development. These qualitative data were used to identify and support recurring themes, collect anecdotes, provide additional insight into survey findings, and produce a more robust discussion.



Community meeting at Cultivate Coffee & Taphouse, February 21, 2017.



RESULTS and IMPLICATIONS

PROGRAMMATIC INTEREST FRAMEWORK

A factor analysis of the survey items measuring program interests resulted in five statistically distinct variables, which we refer to as program categories. Loading coefficients were set at a minimum of 0.55 for both inclusion and double-loading elimination. The factor analysis extraction method used was Principal Component Analysis, and Varimax with Kaiser Normalization was the rotation method used. Categories and their items are listed below in Table 1.

Table 1: Program Categories and Indicated Interest

CATEGORY NAME AND ITEMS INCLUDED	MEAN	S.D.	ALPHA (α)	SAMPLE SIZE
LEARNING Nutrition classes Cooking classes Fitness classes Wellness classes (yoga or meditation)	3.39 ^{a, b}	1.22	0.85	190
THRIVING Weight loss/weight management groups Groups/classes for specific health conditions Receiving therapy (physical or behavioral)	2.69 ^{a, c, e}	1.37	0.84	184
CONNECTING Networking events at The Farm Access to meeting/event space	2.63 ^{b, d}	1.37	0.86	179
GROWING Gardening workshops (how to use tools) Sustainability and food classes Farming/food-related vocational training	3.25 ^{c, d, e}	1.29	0.84	184
EATING CSA - a weekly produce box Farm dinners	3.61 ^{a, b, c, e}	1.16	0.70	193

Note: Means are based on a 5-point Likert rating scale with higher values denoting greater endorsement of the category. Differences are significant using paired samples t-tests. Means that share the same superscript are significantly different from one another at $p \leq 0.005$.

Overall, these data show that across the population of respondents, the greatest interest exists in programs most closely aligned with food and farming activities (*Eating* and *Growing*) and wellness related education (*Learning*) rather than traditional illness focused treatments or services (*Thriving*) or relationship building and gathering space (*Connecting*).

Program Category Interests by Survey Location

Mean interests in *Learning*, *Thriving* and *Eating* programs all show significant differences among respondent groups from different survey locations. While there was variation in programmatic interests across categories and locations, it is notable that Hope Clinic clients ranked interest in all categories higher than any other group, while Washtenaw County Public Health staff ranked nearly all categories lower than every other group (WCPH staff interest was slightly higher than HomeGrown Festival attendees in *Thriving* programs).

Table 2: Comparing interest in program categories by survey location.

SURVEY LOCATION	LEARNING*	THRIVING*	CONNECTING	GROWING	EATING*
Ypsilanti Heritage Festival (n=29)	3.26 ^a	2.96 ^f	2.98	3.14	3.43 ^k
HomeGrown Festival (n=64)	3.44 ^b	2.12 ^{f, g, h}	2.44	3.53	3.70
St. Joe's cafeteria (n=52)	3.36 ^c	2.67 ^{g, h}	2.46	3.08	3.41 ^l
Prescription for Health (n=19)	3.71 ^d	3.49 ^{h, i}	2.64	3.05	3.84
Hope Clinic (n=18)	3.82 ^e	3.69 ^{g, j}	3.41	3.70	4.28 ^{k, l, m}
Washtenaw County Public Health (n=13)	2.42 ^{a, b, c, d, e}	2.21 ^{l, j}	2.32	2.51	3.04 ^m
Grand Mean	3.39 (N=190)	2.69 (N=184)	2.63 (N=179)	3.25 (N=184)	3.61 (N=193)

Values represent means of expressed interest in program category composite variables. Means are based on a 5-point Likert scale rating with higher values denoting greater endorsement of the category.
*Significant between groups on ANOVA at $p \leq 0.05$. Means that share the same superscript are significantly different from one another at $p \leq 0.05$.

Learning

Washtenaw County Public Health (WCPH) staff expressed the lowest interest in the *Learning* category of activities with a mean interest of 2.42 on a 5-point scale. A multiple comparisons test (LSD) revealed that differences in means were statistically significant between WCPH staff and all other survey location groups. Given this significant difference, it may be of interest to follow up with WCPH staff to find out why they expressed lower interest in this category of programs. The greatest expressed interest in the *Learning* category was from Hope Clinic clients, expressing a mean interest level of 3.82. During our

interaction with Hope Clinic clients while administering the survey, many expressed the desire for health and wellness focused activities. Several shared with us the positive impact of accessing free fresh produce from the Hope Clinic produce stand and explained that additional nutrition and cooking education would be helpful in maintaining healthy lifestyles.

Thriving

While the *Thriving* category of programs had relatively low interest overall with a mean of 2.69, there were extremes in expressed interest between survey location groups. At the low end, HomeGrown Festival attendees expressed a mean interest of 2.12 while Hope Clinic clients represented the high end with a mean expressed interest of 3.69. This may be attributable to the same anecdotal evidence reported above, that Hope Clinic clients are actively interested in programs that aid in improving and sustaining health.

Additionally, *Thriving* is the only category showing a significant difference in interest between Ypsilanti and Ann Arbor respondents (Table 3). According to the Washtenaw County Health Improvement Plan 2015 Survey, there are disparities in health status and access to care between Ypsilanti and Ann Arbor. Ypsilanti residents also report having not sought needed medical care because of cost and problems with insurance more often than Ann Arbor residents (Washtenaw County HIP Survey, 2015). These and other social determinants of health may contribute to why overweight and obesity rates are higher in Ypsilanti than in Ann Arbor, at 61.6% and 48.4%, respectively.

Table 3: Comparing interest in program categories city of residence.

CITY OF RESIDENCE	LEARNING	THRIVING*	CONNECTING	GROWING	EATING
Ypsilanti (n=30)	3.91	3.57 ^a	3.39	3.71	3.85
Ann Arbor (n=41)	3.57	2.49 ^a	2.85	3.53	3.81
Other City (n=32)	3.68	3.10	2.67	3.41	3.52
Grand Mean	3.70 (N=101)	2.00 (N=99)	2.96 (N=94)	3.55 (N=97)	3.73 (N=103)

Values represent means of expressed interest in program category composite variables. Means are based on a 5-point Likert scale rating with higher values denoting greater endorsement of the category.

*Significant between groups on ANOVA at $p \leq 0.05$. Means that share the same superscript are significantly different from one another at $p \leq 0.05$.

Eating

The *Eating* category had the highest grand mean interest of any of the program categories (M=3.61, Table 2). The only significant differences for interest in the *Eating* category were found between Hope Clinic and Ypsilanti Heritage Festival attendees, St. Joe's cafeteria patrons, and WCPH staff. Hope Clinic clients expressed the highest average interest of all groups, with a mean of 4.28. The lowest interest was expressed by WCPH staff at 3.04. However, it is worth noting that all groups expressed that they were at least "somewhat interested" in *Eating* focused programs and services.

Hope Clinic clients were surveyed while attending a food pantry event in which they could receive a free bundle of fresh produce. By participating in such a program, these respondents may already have a predisposition for a CSA-like program. Similarly, the next highest interest was expressed by Prescription for Health (PFH) participants (M=3.84), who participate in a program that provides them with \$10 in tokens that can be redeemed for fresh produce at local farmers markets. The interest of these two groups in *Eating* programs like CSAs and farm dinners may suggest that the existing programs they participate in (i.e., the food pantry and PFH program) may have piqued an interest in fresh produce-provision. A next step in this research would be to explore whether these respondents are willing or able to begin to pay for such programs, or if they would only participate at a discounted rate or if offered for free.

AWARENESS OF EXISTING FARM PROGRAMS AND SERVICES

General Awareness

Just over two thirds of survey respondents had heard of The Farm before taking our survey (Appendix C, Figure C1). In fact, 34% of respondents in the hospital's cafeteria expressed no prior knowledge of The Farm's existence (Figure 1), even though the survey location featured both a large mural advertising The Farm and The Farm's weekly farmers market was occurring while the survey was being administered.



Respondents that had never heard of The Farm prior to survey (by survey location)

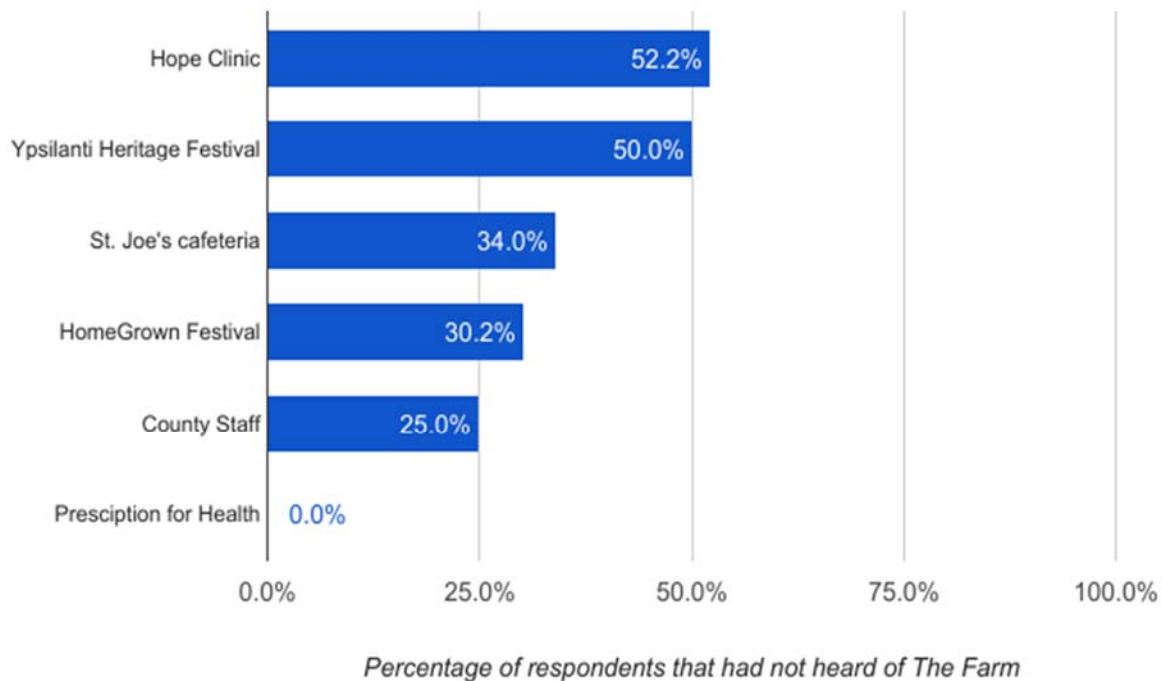


Figure 1: Respondents that had never heard of The Farm prior to survey (by survey location). Values indicate percent of respondents at given survey location that indicated no prior knowledge of The Farm. N=195.

Of those that did express prior knowledge of The Farm, nearly 40% were not aware of any of The Farm's programs or services listed in the survey (Figure 2). Awareness was also a recurrent theme in the respondent's answers to the open-ended survey question "How could The Farm serve your community better?" with nearly a third of responses (21 of 66) relating to the need to increase awareness and visibility of The Farm (Appendix D). The clear implication that lack of awareness leads directly to reduced community involvement is reinforced by 43.9% of respondents indicating that awareness of programs or services was a primary barrier to their attendance (Barriers, Figure 4).



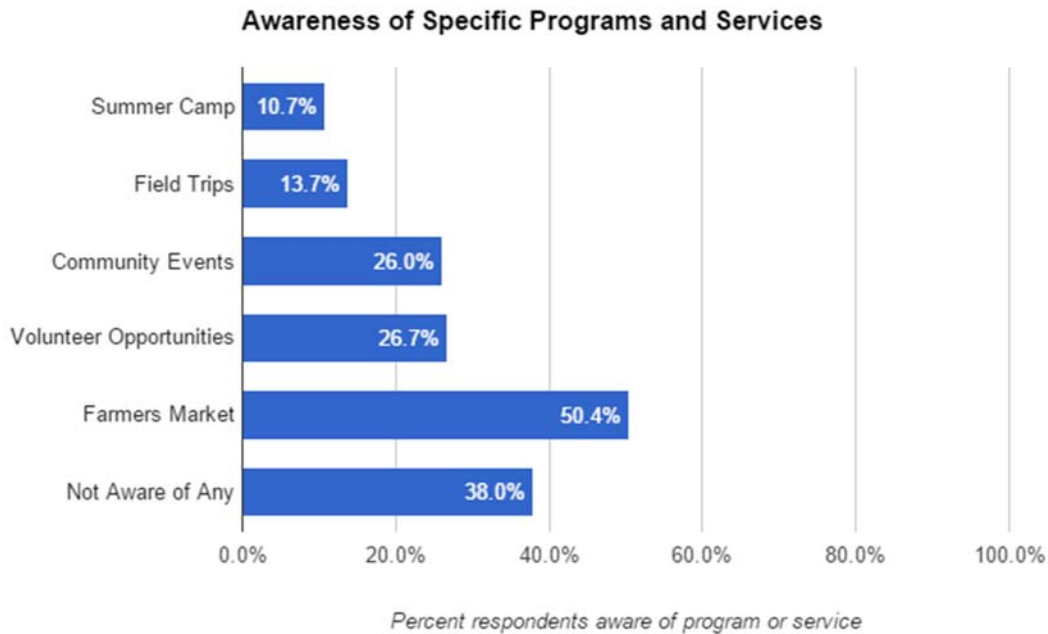


Figure 2: Awareness of specific Farm programs and services. Values represent percentage of respondents indicating awareness of Farm program or service. Only respondents indicating that they had previous awareness of the Farm were included (N=131). Respondents were instructed to choose all items they were aware of; consequently, percentages do not add to 100.

Lack of Awareness of Any Farm Offerings

While there were no significant differences in awareness between groups by city of residence, some differences emerged when groups were compared by survey location (Appendix C, Table C1). Awareness of The Farm’s offerings was generally low among all groups surveyed, but was especially low among those groups who may not have as direct a connection to the hospital. Awareness levels of The Farm were higher for respondents surveyed within the hospital’s cafeteria, but still nearly a quarter of those respondents reported no awareness of any of The Farm’s programs or services. The majority of respondents approached to complete the survey in the cafeteria were hospital staff (identified by hospital badges displayed on clothing) suggesting that even the hospital’s staff are relatively unaware of The Farm’s offerings.

Awareness of Farmers Market

Among programs that The Farm currently offers, the weekly farmers market hosted in St. Joseph Mercy Ann Arbor Hospital’s lobby is the most well-known (Figure 2). The market is one of several locations where Prescription for Health participants may redeem their prescription tokens for fresh produce and this program is administered by Washtenaw County Public Health (WCPH). Furthermore, the nature of the market’s location makes it both visible to and convenient for hospital staff. Thus, it is likely that these respondent groups’ relatively high levels of awareness of this program is due to their having had direct experience with it (i.e., St. Joe’s cafeteria, 74%, Prescription for Health, 70%, and WCPH, 67%).

BARRIERS

The survey posed two questions addressing barriers. One focused on barriers to purchasing and eating fresh produce. The other related to barriers that might stop individuals from attending The Farm’s events and programs.

Barriers to Purchasing and/or Eating Fresh Produce

Since food access is commonly cited as a major influence on health outcomes, we wanted to determine what the survey population identified as barriers to their purchasing and eating fresh produce (Figure 3). Cost of food was revealed to be the most commonly identified barrier, with approximately 50% of respondents selecting this option.

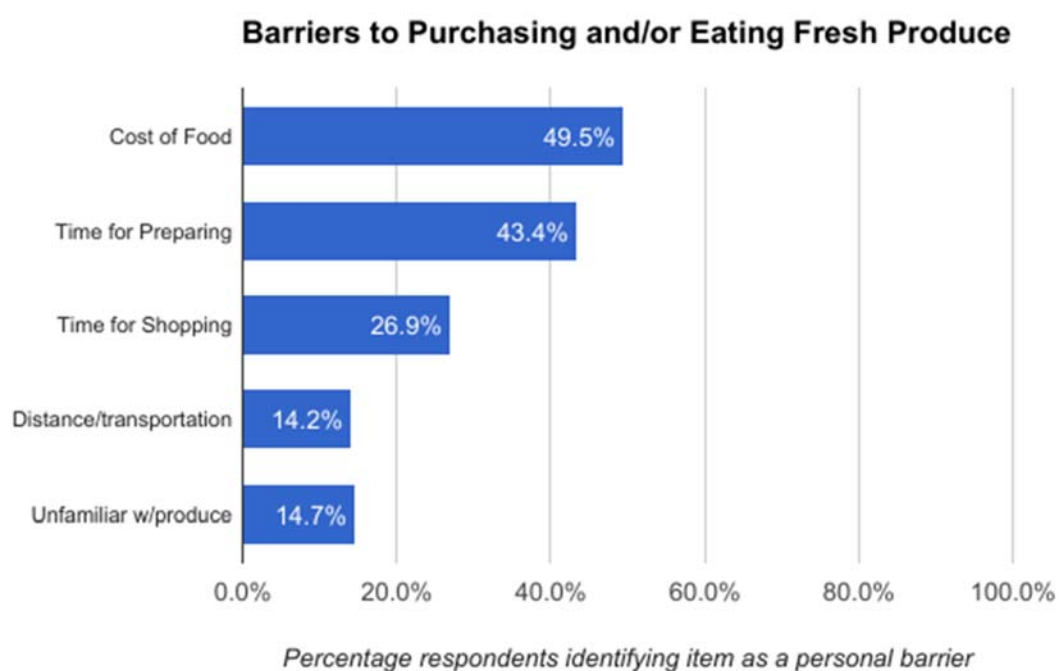


Figure 3: Barriers to purchasing and/or eating fresh produce. Percentages represent percent of respondents indicating item as a barrier (N=210). Respondents were instructed to choose all items that pose barriers; consequently, percentages do not add to 100.

When respondent groups were further analyzed by city of residence and survey location, more insights emerged. Lack of familiarity with cooking fresh produce was cited as a barrier with significantly greater frequency among the population identifying residence in Ypsilanti compared to those from Ann Arbor or other areas (Table 3). Significant differences among survey respondents by location revealed that Prescription for Health (PFH) participants more frequently viewed cost as a barrier than any other group except for Hope Clinic produce stand respondents (Appendix C, Table C2). PFH participants further identified distance as a barrier with significantly greater frequency than any other group.

Table 4: Comparing barriers to cooking/eating fresh produce by city of residence.

CITY OF RESIDENCE	COST	TIME TO SHOP	TIME TO PREP	DISTANCE	UNFAMILIAR*
Ypsilanti (n=32)	62.5	31.3	34.4	9.4	28.1 ^{a, b}
Ann Arbor (n=42)	40.5	16.7	40.5	14.3	2.4 ^a
Other City (n=33)	39.4	30.3	54.5	18.2	12.1 ^b
Grand Mean	46.7%	25.2%	42.9%	14.0%	13.1%

Values represent percentage of respondents indicating item as a barrier (N=107). Respondents were instructed to choose all items that pose barriers; consequently, percentages do not add to 100.
 *Significant between groups on ANOVA at $p \leq 0.005$. Percentages that share the same superscript are significantly different from one another at $p \leq 0.05$.

Barriers to Attending Farm Programs and Events

While time was overwhelmingly cited as the greatest barrier to attending programs at The Farm, awareness of these opportunities was also a significant barrier. This latter barrier reinforces the earlier findings regarding lack of awareness of existing Farm programs and services.

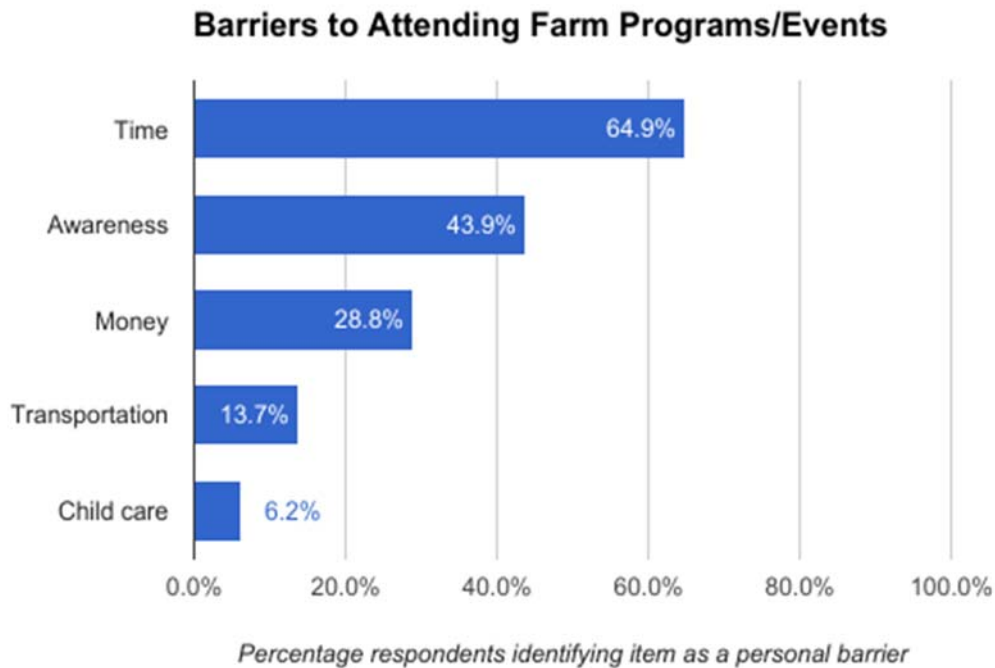


Figure 4: Barriers to attending Farm programs or events. Percentages represent percent of respondents indicating item as a barrier (N=210). Respondents were instructed to choose all items that pose barriers; consequently, percentages do not add to 100.

DISCUSSION and RECOMMENDATIONS

Through our research we identified a variety of obstacles and opportunities for the future of The Farm at St. Joe's. Based on these empirical findings, we have developed a set of recommendations intended to facilitate improved service delivery and expanded impact within the Ann Arbor-Ypsilanti community. These recommendations are not exhaustive, but we hope that they may provide direction for increasing The Farm's visibility and reach while at the same time providing a case for increased investment in and greater integration of The Farm into the St. Joseph Mercy Health System. The Farm is a unique resource with immense potential that can help the hospital fulfill its role as an anchor institution improving whole community health. While awareness, program expansion, partnership development, and capacity building are inextricably linked, increased and more integrative support from the hospital will help to promote and develop each of these themes and ensure that The Farm fulfills its role as a positive, healing presence within the community.

PROGRAMMING

Based on the results of the analysis reported here, we suggest that The Farm utilize the Programmatic Interest Categories to develop and expand programs in areas that had the greatest respondent interest. In particular, we recommend focusing of the categories of *Eating*, *Learning*, and *Growing*. Additionally, we believe that the highest impact programming will integrate characteristics from multiple categories while simultaneously addressing the key barriers identified above. Examples of such integrated programming include:

- **Cooking Class CSA:** Enrolled CSA members receive a weekly cooking lesson along with their bag of produce. (Integrates *Learning* and *Eating* and addresses the barrier of lack of familiarity with cooking fresh produce.)
- **Community Garden Mentorship Program:** Community garden plots are subdivided and more experienced gardeners sponsor a plot, sharing their knowledge and skills by mentoring low-resourced, inexperienced gardeners. (Integrates *Learning* and *Growing* and addresses the barrier of cost.)
- **Vocational Prep Kitchen & Entrepreneur Program:** Enrolled students learn kitchen prep skills and hands-on farm skills. They prepare and market value-added products for The Farm. (Integrates *Learning* and *Growing* and addresses barriers of lack of time and familiarity with produce for those buying value-added products.)

Limited time and money represent barriers to attending events at The Farm. However, if The Farm emphasizes programs that can help community members save money (e.g., learning to grow food) or time (e.g., learning food preparation skills that save time in the kitchen), these barriers will likely become less of an issue. After cost, time to prepare meals is the second largest barrier to eating fresh produce. The Farm can help to address this barrier by providing pre-prepared (i.e., cleaned, cut, and packaged) produce. This could be integrated into a vocational class where students manage the prep work and sale of produce which may then be sold to support other programming at The Farm.

The fact that respondents from all survey locations, as well as those participating in the dot voting activity at The Luminary Walk, were particularly interested in attending farm dinners suggests that such events would likely be successful and could potentially generate revenue for The Farm (Appendix C, Figure C2). Funds generated from programs like farm dinners and cooking classes could be used to subsidize much-needed programs (e.g., subsidized CSAs) for those with fewer economic resources.

While the *Connecting* category of programs (Table 1) had lower endorsement than the other categories, we believe from our conversations with community members that more community-oriented social activities are desired and needed. The programs included in this category on the survey represent a more formal, and perhaps commercial, group of events (e.g., business networking). However, this category can also include community-oriented social activities like the annual events The Farm currently hosts, which are both impactful and much desired. Continuing to incorporate live music into these events is advised, as this was consistently recommended by attendees at both The Luminary Walk and the Cultivate community meeting. These types of events also represent an excellent opportunity to expose more individuals to The Farm, its natural setting, and its program offerings.

AWARENESS

Awareness of The Farm overall, and its programs and services specifically, is a major impediment to effective service delivery to the community. However, it is difficult to determine which factors may be the greatest contributors to lack of awareness. Limited capacity of The Farm, with respect to staff or skilled volunteers, constrains efforts for broader-scale promotion. The Farm's limited capacity also affects the magnitude of programming that can be offered at any given time.

Though capacity does limit The Farm in reaching wider audiences, The Farm's efforts to increase knowledge of programs on-site and off-site should be increased. There was little available information describing The Farm's offerings at The Luminary Walk hosted at The Farm in January 2017. Providing more information about The Farm to event attendees could help to further increase their awareness of and interest in the Farm's other offerings. The Farm's primary channel for promoting the event was through Facebook, though it was also cross-promoted through other hospital mechanisms. While The Luminary Walk Facebook event page did reach thousands of individuals and attracted more than five hundred attendees (greatly increasing attendance from the previous year), utilizing social media as the principal means of outreach could limit the reach of marketing to people that are not already connected to The Farm on social media or do not use social media at all. Using on-the-ground marketing tactics like flyers, roadside signage, and a roadside farm stand could increase awareness of and interest in The Farm. However, while potentially highly effective, this work does require a significant investment of additional time and resources. Furthermore, systematically tracking who attends Farm events and how they learned about the event could enable better promotional approaches in the future. The Farm should begin asking all event attendees to sign in with basic contact information and provide information regarding how they learned about the event. This could be incentivized by offering entry into a raffle for a free CSA share (or other Farm-relevant item) for signing in.

At the community meetings we hosted, much discussion was generated regarding the issue of improving visibility of The Farm within the community (Appendix E). While the hospital does dedicate substantial effort to the marketing of general and specific hospital services and events, many of the Farm-specific marketing suggestions proposed at the community meetings would require even greater investment in the form of capital and/or capacity from the hospital. We recommend that greater hospital resources be dedicated to marketing The Farm and its programs to the public. Increasing integration of The Farm into the hospital's greater marketing efforts would undoubtedly increase awareness of and interest in The Farm, as well as act as an important tool for improving hospital-community relations and perceptions.

Greater assistance by the hospital's marketing staff could also help to improve awareness of The Farm within the hospital. The survey conducted in the hospital's cafeteria revealed that 34% of respondents had no awareness of The Farm (Awareness, Figure 1), and of those with prior knowledge of The Farm, 25% were not aware of any of The Farm's existing programming (Appendix C, Table C1). Since The Farm exists to further the hospital's mission, it is very unfortunate that this resource has such limited exposure within the institution. The primary attempt at increasing visibility of The Farm within the hospital appears to be in the form of a mural located in the main cafeteria and the weekly farmers market hosted in the hospital lobby. It is arguable that the cafeteria location for marketing may lead individuals to believe that food produced by The Farm is served in the cafeteria which is both untrue and could be construed as misleading. Overall, improving visibility of The Farm, its purpose, and its programs within the hospital campus should be a top priority. Utilizing the health system as a means of creating advocates for The Farm from within will enable increased reach and integrated service delivery for hospital clients. This broadening of understanding and knowledge of The Farm among hospital staff and clinicians will lead to greater attempts to connect patients to Farm services and will create more opportunities for The Farm to serve as a location for holistic wellness services.

Of course, greater capital investment from the hospital will likely take time. However, there are actions that The Farm can take now to both increase awareness and capacity. Making a dedicated effort to seek out, train, and retain skilled volunteers may improve marketing and outreach. One idea suggested during a community meeting was to train outreach volunteers who could attend community civic events (e.g., Kiwanis Club meetings) to give short presentations about The Farm. Furthermore, building a core group of committed volunteers will improve The Farm's service delivery, enrich innovation by promoting greater diversity of thought, and establish a broader community of stakeholders. Utilizing online sites such as VolunteerMatch and Idealist may also be appropriate low investment strategies to aid in establishing a base of volunteers seeking opportunities to utilize or improve professional skills while working with an interesting and innovative organization. Creating such opportunities for professional development will not only increase capacity, but also aid in meeting the mission of The Farm by further engaging community members and increasing local social capital.

PARTNERSHIP DEVELOPMENT

Another strategy for addressing issues of awareness, program expansion, and capacity building is through concerted efforts at strategic partnership development. While The Farm already benefits from partnerships with Huron Oaks, The Eisenhower Center, and local public schools, expanding partnerships may help to increase The Farm's reach and overcome barriers of limited capacity and resource deficiencies. Since Washtenaw County is home to many organizations working to address issues related to food access, farming, nutrition, and community development, initiating partnerships to improve service delivery, reduce redundancy, and expand opportunities for community members to access needed services should be a priority for not just The Farm, but the greater nonprofit network.

Attendees at both of the community meetings we hosted generated ideas for partnership development (Appendix E). Ideas included partnering with local school gardening programs, community colleges and universities, and youth organizations such as 4-H and scout troops. The Farm could also increase both awareness and capacity by serving as a venue for local organizations' events such as networking events, small fundraisers, art showcases, and fitness classes. Working with other organizations to host events and programs and share information through organizational newsletters may further help to increase awareness of and interest in The Farm.

Additionally, since clients at Hope Clinic expressed greater interest in all program categories than any other group, The Farm should consider methods to increase programming and partnership with Hope Clinic in particular. Furthermore, although Washtenaw County Public Health (WCPH) staff expressed the lowest interest in most programs, The Farm should nonetheless pursue increased outreach to and partnership with WCPH. Given WCPH's role in connecting community members to health-promoting resources and services, The Farm stands to greatly benefit from increasing awareness and buy-in among WCPH staff.

Finally, the jointly produced UNITE CHNA (2016a) lists organizations that may be ideal partners for both the hospital and The Farm. The organizational matrix in Appendix E of the UNITE CHNA categorizes the organizations by the overarching issues each organization works on (such as mental health or obesity) as well as specific services they provide (such as nutritional health education or mental health education), making it a useful tool for The Farm to use when developing strategic partnerships (UNITE, 2016a). While we did not have the resources to contact each organization and identify the most appropriate partnerships to pursue, there are many factors that will affect the direction that partnership development takes. These efforts will no doubt be reliant on the goals of program expansion, relationships of The Farm staff and key stakeholders, and objectives of hospital administration.

MONITORING AND EVALUATION

Connecting The Farm's Activities to CHNA Implementation Objectives

By increasing The Farm's monitoring of key indicators of success, it will be better able to quantify and report its successes internally to hospital leadership and to external stakeholders, including potential donors. By being able to clearly report on the impact of various programs, The Farm will be able to make an even stronger case for funding and other forms of institutional support.

The Farm already tracks and quantifies various metrics, including: number of volunteers, number of volunteer hours, pounds of fresh produce grown and sold, number of CSA participants, number of students attending educational activities, and the number of attendees at community events. In addition to tracking these efforts, The Farm can connect these metrics directly to the goals and objectives outlined in the hospital's and UNITE CHNA Implementation Plans. Though these tracking efforts may require additional staff or volunteer time, they are likely to result in more effective communication of The Farm's value to the hospital and the wider community, making greater support more likely in the long term. The hospital should consider hiring a skilled intern, AmeriCorps VISTA volunteer, or contracting with an analyst to assist with data tracking, monitoring, and program evaluation. Some priority metrics to begin with or expand upon are outlined below.

Produce Provision

Continuing to report and expanding on the metrics used to report The Farm's produce provision activities can help to showcase its contribution to improving healthy food access in Washtenaw County. Some of these metrics may already be tracked, but we recommend developing a systematic approach to track and report the following metrics: number of CSA and farmers market customers, and pounds of fresh produce grown, donated, and sold. Specifically, the hospital's implementation plan seeks to measure the "dollar value of food provided to Prescription for Health participants," as well as the "number of recipients of food pantry and farm stand products," and "where possible, total value/poundage of food/meals provided" (SJMAA, 2015).

Nutrition Knowledge, Behavior Indicators and Outcomes

The UNITE CHNA Implementation Plan states that it intends to "support, maintain, and explore programs that target nutrition education" and specifically, that it seeks to "increase the consumption of five or more servings of fruits and vegetables per day in both children and adults" (2016b). The Farm should continue to track the self-reported changes in nutrition behaviors of its CSA members, volunteers, and farmers market customers. When possible, The Farm should work with school partners to administer pre and post-surveys to students attending on-site field trips or summer camps. Measuring actual or self-reported changes in students' knowledge and attitudes toward nutrition (which can be predictors of nutritional behavior) will further help to support these programs and provide insight for continued improvement.

Overweight and Obesity Improvements

The UNITE CHNA Implementation Plan also states that it intends to “increase health system collaboration around healthy eating, physical activity, and chronic disease reduction as guided by the community” (UNITE, 2016b). One specific goal identified by St. Joseph Mercy Health System is “decreasing the proportion of community members of all ages who are overweight or obese” (SJMAA, 2015). As has already been done informally, The Farm could begin systematically asking CSA members if they would be willing to report on overweight/obesity status and related disease metrics prior to and after each CSA season. Stories from participants who have been able to lose weight and improve or overcome diet-related diseases over the course of the CSA would be valuable for communicating The Farm’s positive impact on important measures of community health.

Restorative Spaces and Improved Mental Health

While The Farm does not currently serve as a location for formal behavioral therapy, The Farm is indeed a resource that can be used to promote improved mental health for the county’s residents. The built environment, including buildings, designed parks and green spaces, roads, and sidewalks, can help to promote and restore mental health. Connecting more with others and walking more frequently for exercise can be influenced by the type of environment in which individuals spend time (Washtenaw County Public Health, 2013). However, built environments can also be over-stimulating, draining attentional capacity. Built environments often lack the necessary components to effectively restore attention and provide mental and emotional respite (Kaplan & Kaplan, 1989). As an urban farm surrounded by fields and woodlands, with access to miles of walking trails, and located right off of the County’s Border-to-Border bike trail, The Farm is an ideal location for mental restoration. Extensive research has shown that time spent in nature has positive benefits for individual mental health and well-being (Capaldi, Dopko, & Zelensky, 2014). In the past two decades, mainstream medical practitioners have begun drawing upon this empirical research. Several doctors and hospitals have implemented park prescription programs (Smith, 2014), prescribing patients time outdoors to combat not only physical health issues like obesity, but behavioral issues such as ADHD in children (Faber, Taylor & Kuo, 2009), and depression, anxiety, and stress in adults. Integrating a similar program into the hospital could not only have substantial health benefits for patients, but also increase use and visibility of the hospital’s often overlooked pastoral setting.

While quantifying improved mental health from use of the hospital’s setting may require its own long-term research project, The Farm can begin tracking and communicating measures of community engagement that provide mental health benefits. Tracking volunteer engagement (i.e., number of volunteer hours, volunteers’ personal stories) can help to support The Farm’s position as an impactful and positive space for community mental health. Volunteering can provide positive mental benefits; intrinsic satisfaction gained from fulfilling a purposeful role, increasing competence, or contributing to a worthy cause can improve individual outlook and well-being (Kaplan & Kaplan, 2009). Tracking use of The Farm as a community meeting space can also highlight The Farm’s role as a hub for community and social support networks. Engaging in opportunities to socialize and build community can improve cognition and behavior (Kaplan & Kaplan, 2009). The Farm already serves as a meeting destination for

various informal groups like running and walking clubs, but this role could also be expanded to become the setting for more formal social, therapeutic, and health support groups (i.e., stress, diabetes, or weight loss management groups; cognitive behavioral therapy; and grief support groups).

CONCLUSION

The Farm at St. Joe's is a unique resource with immense potential to provide much-needed physical and mental health promoting programs and services to the diverse population of Washtenaw County. In doing so, The Farm can help the hospital fulfill its role as an anchor institution capable of improving whole community health. We hope that the recommendations outlined above will provide direction for increasing The Farm's visibility and reach while at the same time providing a case for increased investment in and greater integration of The Farm into the St. Joseph Mercy Health System. With increased support The Farm is likely to become an even more well-known and critical pillar of the Washtenaw County food and health community. In this way, The Farm can continue to grow an even more robust, resilient, and healthy community.

REFERENCES

- Braveman, P., & Gottlieb, L. (2014). The Social Determinants of Health: It's Time to Consider the Causes of the Causes. *Public Health Reports, 129* (Supplement 2), 19–31.
- Capaldi, C. A., Dopko, R. L., & Zelenski, J. M. (2014). The relationship between nature connectedness and happiness: a meta-analysis. *Frontiers in Psychology, 5*, 976.
<http://doi.org/10.3389/fpsyg.2014.00976>.
- Food Gatherers. (2017). Need Food. Retrieved from: <http://www.foodgatherers.org/?module=Page&class=Pantries#food-map-heading>.
- Goddeeris, L. (2015). Case Study: Washtenaw County and City of Ann Arbor, Michigan. In: Goddeeris, L., Rybnicek, A. and Takai, K. 2015. Growing Local Food Systems: A case study series on the role of local governments. International City/County Management Association.
- Faber Taylor, A. & Kuo, F.E. (2009). "Children with attention deficits concentrate better after walk in the park." *Journal of Attention Disorders, 12*, 402-409. Kaplan R. & Kaplan S. (2009). Creating a larger role for environmental psychology: The Reasonable Person Model as an integrative framework. *Journal of Environmental Psychology, 29*: 329-339.
- Kaplan R. & Kaplan S. (1989). *The Experience of Nature: A Psychological Perspective*. Cambridge: Cambridge University Press.
- Local Harvest. (2016). Farm Search. Retrieved from: <http://www.localharvest.org/search.jsp?map=1&lat=42.261246&lon=83.71652&scale=9&ty=0&zip=48104>.
- Michigan Agritourism Association. (2017). Southeast Michigan. Retrieved from: <http://www.michiganfarmfun.com/collection.asp?ait=cv&cid=11>.
- Norris, T. & Howard T. (2015). Can hospitals heal America's communities? 'All in for mission' is the emerging model for impact. Takoma Park, Maryland: The Democracy Collaborative at the University of Maryland.
- Office of Disease Prevention and Health Promotion. (2017). Social determinants of health. Healthy People 2020. Retrieved from: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>
- Smith, L. (2014, July 25) Rx: 50 mg of nature, ad lib. Doctors are prescribing a walk in the park. *Slate*. Retrieved from: http://www.slate.com/articles/health_and_science/medical_examiner/2014/07/doctors_prescribing_outdoors_time_nature_is_good_for_you.html

- St. Joseph Mercy Ann Arbor. (2015). Community Health Needs Assessment 2015. Ann Arbor, MI: St. Joseph Mercy Health System.
- Stewart, J. & Dellorto-Blackwell, C. (2016). Farms and health: A guide to farms and gardens in healthcare. Ann Arbor, MI: University of Michigan, School of Natural Resources & Environment.
- Unified Needs Assessment Implementation Plan Team Engagement (UNITE). (2016a). Community Health Needs Assessment Report. Ann Arbor, MI.
- Unified Needs Assessment Implementation Plan Team Engagement (UNITE). (2016b). Community Health Needs Assessment Implementation Plan. Ann Arbor, MI.
- Washtenaw County Farmers Markets. (n.d.). Find Your Washtenaw County Farmers Market. Retrieved from: <http://washtenawmarkets.org/market-directory/>.
- Washtenaw County Food Policy Council. (2016). Policy Agenda. Retrieved from: <https://washtenawfoodpolicycouncil.files.wordpress.com/2015/03/policy-agenda-approved-9-12-16-final.pdf>
- Washtenaw County Public Health. (n.d.). Childhood Overweight and Obesity, Washtenaw County, MI, 2015. Ypsilanti, MI. Retrieved from http://www.ewashtenaw.org/government/departments/public_health/family_health/family-health-services/childhood-obesity-content-1/content-2015/WashCochildoverweight2015.pdf.
- Washtenaw County Public Health. (2013). Building a Healthier Washtenaw: Community Health Assessment & Community Health Improvement Plan. Ypsilanti, MI: Washtenaw County Public Health.
- Washtenaw County Public Health. (2015). Washtenaw County Community Health Improvement Plan Survey, 2015. Ypsilanti, MI.
- Washtenaw County Public Health. (2016). Prescription for Health: Program Implementation Guide. Ypsilanti, MI: Sheldon, S.P., Reister, A., Milgrom, T., Parsons, A., & Paladino, J.
- Washtenaw County Public Health. (2017). School Health Promotion. Ypsilanti, MI. Retrieved from: http://www.ewashtenaw.org/government/departments/public_health/health-promotion/schools/healthyschoolsmain.
- Zuckerman, D. (2013). Hospitals building healthier communities: Embracing the anchor mission. Takoma Park, Maryland: The Democracy Collaborative at the University of Maryland.

APPENDICES

Appendix A: Interview Protocol and Summary of Themes

A1: Interview Protocol

Background

1. First, I'd like to get a better understanding of your involvement in the local food community. How would you describe your role in community food issues?
 - a. Tell me about how you came to be involved.
 - b. In what ways is your organization addressing food issues?
 - i. Health?
 - ii. Economic development?
 - iii. Education?

Perception of Community Needs

2. Part of what I'm trying to understand is how individuals involved in local foods issues perceive community needs. As you know, different local foods organizations focus on target issues to meet community needs, like health, nutrition, access, and education. I'd like to know more about *your* experiences working within the community, about the needs that you see and try to address.
 - a. In your experience, what are the community's most pressing health, wellness, or economic development needs (for example, food access, food quality, community meeting spaces)?
 - i. How did that/those need(s) emerge?
 - b. In what ways has your organization addressed these needs?
 - i. Tell me more about when this program/action began.
 - ii. Tell me more about what was going on in the community during that time.
 - iii. How was the program/action received by community members?
 - iv. Which members of the community benefitted?
 - v. Which members didn't?
 - c. In your opinion, what are some strengths of the methods your organization has used to meet community needs?
 - d. What are some of the challenges or weaknesses?
 - e. How could these be improved?
 3. Thank you for telling me about your organization's programs. Now I'd like to learn more about your experiences and thoughts on how other organizations are working to address community needs.
 - a. Based on your experience, what needs have community organizations and others involved in local foods issues been most focused on?
-

- b.** What are some strengths of how other organizations are working to meet community needs?
 - i.** Can you give me an example of a specific initiative or program?
 - ii.** How was that program successful?
- c.** What has no one been focusing on or adequately addressing? In other words, what's missing?
- d.** What about areas that may not have an explicit need right now? Can you see issues that might become needs in the future?
 - i.** How might organizations plan together now to address these issues?
 - ii.** What might be barriers to addressing these issues?
 - iii.** How might these barriers be overcome?

Collaboration

- 4.** Now I'd like to discuss how organizations, businesses, and community leaders work together on local food issues.
 - a.** What partnerships, if any, are in place to address these issues?
 - b.** Please describe how these entities collaborate to meet shared goals.
 - c.** What assets (such as space, material resources, funding, creativity) exist that could be used or shared more effectively?
 - d.** What assets should exist that do not currently exist?
- 5.** Do you have any suggestions for areas where organizations could work together where they are not currently doing so? (For example, are there multiple organizations running nutrition education programs?)
 - a.** How do these programs differentiate themselves?
 - b.** What are the reasons these programs remain separate?

Closing

- 6.** Thank you so much for your time. You have been very helpful. Are there any other thoughts you would like to share with me?

A2: Summary of Themes Revealed Through Interviews

Needs: Overall needs identified include: food access, reduction of obesity, improvement in mental health, and reduction in health, economic and educational disparities. More specifically, interviewees also identified access to commercial kitchen space, improved infrastructure for local food systems, and increased experiential and vocational/skill-based training in sustainable food production.

Barriers/Challenges: Barriers or challenges to meeting those needs included: Producers being unable to engage with large-scale institutions, competitive nature of grant-seeking among nonprofit organizations, limited meaningful communication with low income communities, limited collaboration across nonprofit organizations, and limits to equitable access to resources.

Collaboration and Communication: Some positive examples of collaboration and communication between organizations working on community health and food systems were also identified, including: organizations and communities coming together to plan the HomeGrown Festival and Local Food Summit, the creation of an outdoor/agricultural education “working group” to share curriculum ideas and partnership opportunities, as well as a number of partnerships between many organizations and Food Gatherers.

Assets and Strengths: Additionally, a long list of strengths and assets currently in the local food and health system were also identified, from specific programs including the Washtenaw Food Policy Council, the Washtenaw Food Hub, to overall sentiment that Washtenaw County is doing a lot and constantly building momentum to improve food access and health.

Appendix B: Survey Instrument

We are interested in learning how the Farm at St. Joe’s can serve you and your community. The Farm at St. Joe’s is located on the campus of St. Joseph Mercy Health System, Ann Arbor. It envisions growing a healthy community while seeking new, innovative ways to improve health and wellness. Your feedback is needed and will remain anonymous, and you must be 18 years or older to complete this survey.

1. Have you ever been to The Farm at St. Joe’s? YES NO

2. **If you have visited**, why? (check all that apply)
 - Event: _____ School event Volunteer
 - Other: _____

3. How did you first learn about The Farm at St. Joe’s? (check **ONE**)
 - Friend/colleague Doctor Farmers market Poster/flyer
 - Event: Online: N/A (I was not aware of The Farm until now)

4. Are you aware that The Farm offers: (check all that apply)
 - Volunteer opportunities Weekly farmers markets
 - Summer camps for children Community events
 - Field trips for students I am not aware of The Farm’s offerings

5. How interested are you in the following **IF** they were offered at The Farm:

1 = Not at All 2 = Slightly 3 = Somewhat interested 4 = Interested 5 = Extremely interested

- | | |
|---|---|
| 1 2 3 4 5 Cooking classes | 1 2 3 4 5 A CSA - A weekly produce box |
| 1 2 3 4 5 Nutrition classes | 1 2 3 4 5 Farm dinners |
| 1 2 3 4 5 Fitness classes | 1 2 3 4 5 Farming/food-related vocational training |
| 1 2 3 4 5 Sustainability and food classes | 1 2 3 4 5 Access to meeting/event space |
| 1 2 3 4 5 Gardening workshops (how to use tools, etc.) | 1 2 3 4 5 Networking events at The Farm |
| 1 2 3 4 5 Wellness classes (Yoga or Meditation) | 1 2 3 4 5 Receiving therapy (physical or behavioral) |
| 1 2 3 4 5 Groups/classes for specific health conditions
(such as diabetes support groups) | 1 2 3 4 5 Weight loss/weight management group |
| | 1 2 3 4 5 Other: _____ |

6. For you, what are the main problems to purchasing/eating fresh produce? (check all that apply)
 - Cost of Food Distance/transportation to store
 - Time for shopping Not familiar with cooking with fresh produce
 - Time for preparing meals Other: _____

7. What barriers might stop you from attending programs/events at The Farm? (check all that apply)
 - Time Money Transportation availability Child-care needs
 - Awareness of events/programs Other:

8. How could The Farm serve you and your community better?

9. Is there anything else you would like to share? (Feel free to share more on the back of this page!)

OPTIONAL:

10. Zip code:

12. Number of members in household:

14. Race/ethnicity:

11. Annual household income:

13. Education level:

15. Age:

Appendix C: Supplementary Tables and Figures

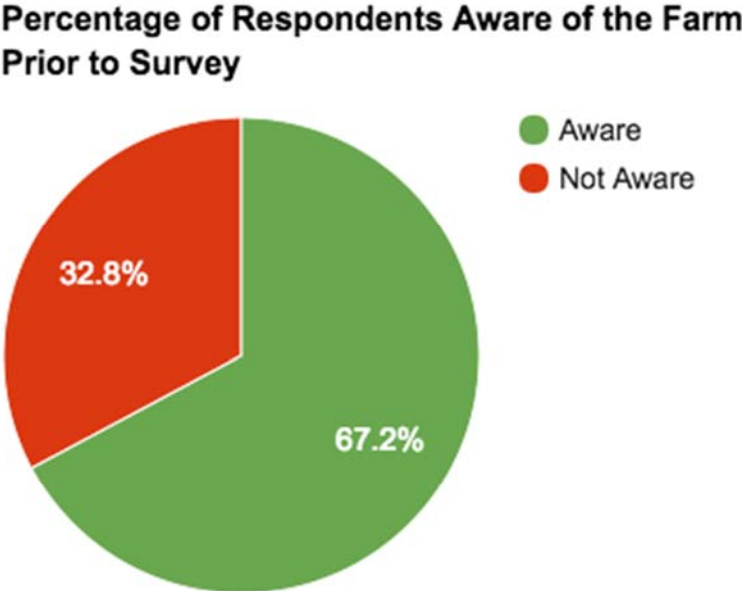


Figure C1: Percentage of respondents indicating prior awareness of The Farm (N=195).

Table C1: Comparing awareness of existing Farm programs by survey location.

SURVEY LOCATION	VOLUNTEER OPPORTUNITIES	SUMMER CAMPS	FIELD TRIPS FOR STUDENTS	WEEKLY FARMERS MARKETS*	COMMUNITY EVENTS	NOT AWARE OF ANY*
Ypsilanti Heritage Festival (n=12)	16.7	8.3	8.3	25.0 ^{a, b, c}	25.0	58.3 ⁱ
HomeGrown Festival (n=44)	36.4	15.9	18.2	31.8 ^{d, e, f}	22.7	52.3 ^{j, k}
St. Joe's cafeteria (n=35)	31.4	8.6	17.1	74.3 ^{a, d, g}	25.7	22.9 ^{l, j}
Prescription for Health (n=20)	15.8	10.0	5.0	70.0 ^{b, e, h}	40.0	25.0 ^k
Hope Clinic (n=11)	9.1	0.0	0.0	27.3 ^{g, h}	9.1	54.6
Washtenaw County Public Health Staff (n=9)	22.2	11.1	22.2	66.7 ^{c, f}	33.3	22.2
Grand Mean	26.9%	10.7%	13.7%	50.4%	26.0%	38.9%
<p>Values represent percentage of respondents indicating awareness of Farm program or service. Only respondents indicating previous awareness of the Farm were included (N=131). Respondents were instructed to choose all items that pose barriers; consequently, percentages do not add to 100.</p> <p>*Significant between groups on ANOVA at $p \leq 0.05$. Percentages that share the same superscript are significantly different from one another at $p \leq 0.05$.</p>						

Table C2: Comparing barriers to cooking/eating fresh produce by survey location.

SURVEY LOCATION	COST*	TIME TO SHOP	TIME TO PREP*	DISTANCE*	UNFAMILIAR
Ypsilanti Heritage Festival (n=30)	50.0 ^a	33.3	26.7 ^{g, h}	10.0 ^l	23.3
HomeGrown Festival (n=65)	43.1 ^{b, c}	26.2	41.5 ⁱ	15.4 ^m	6.2
St. Joe's cafeteria (n=53)	41.5 ^{d, e}	37.7	58.5 ^{g, j}	11.3 ⁿ	15.4
Prescription for Health (n=20)	90.0 ^{a, b, d}	25.0	65.0 ^{h, k}	40.0 ^{l, m, n, o, p}	30.0
Hope Clinic (n=23)	73.9 ^{c, e, f}	8.7	17.4 ^{l, j, k}	4.3 ^o	13.0
Washtenaw County Public Health Staff (n=19)	21.1 ^{a, f}	15.8	36.8	10.5 ^p	10.5
Grand Mean	49.5%	27.1%	42.9%	14.3%	14.4%
<p>Values represent percentage of respondents indicating item as a barrier to cooking/eating fresh produce (N=210). Respondents were instructed to choose all items that pose barriers; consequently, percentages do not add to 100.</p> <p>*Significant between groups on ANOVA at $p \leq 0.05$. Percentages that share the same superscript are significantly different from one another at $p \leq 0.05$.</p>					

Interest in Specific Programs/Services

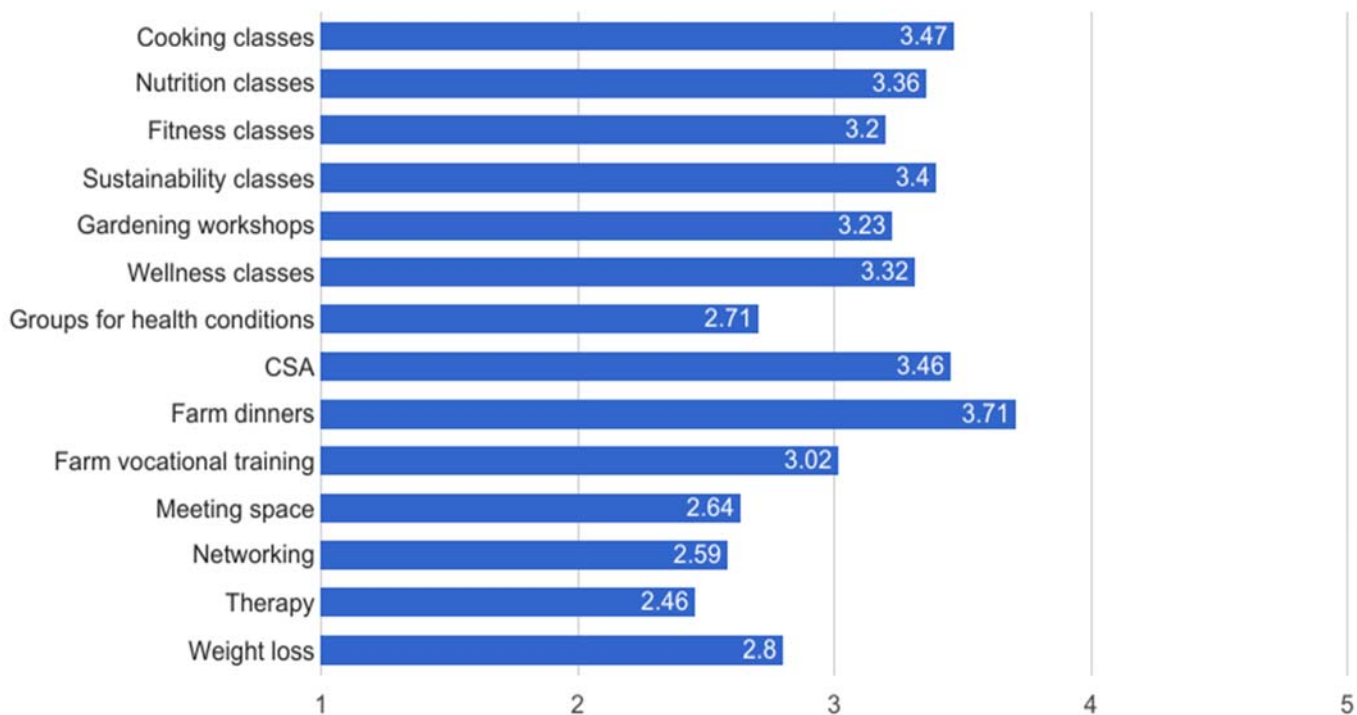


Figure C2: Interest in specific Farm programs/services. Means are based on a 5-point Likert rating scale with higher values denoting greater endorsement of the category. (N=210)

Appendix D: Open-ended Question Responses

Open-Ended Question Responses

Answers to survey question #8, "How could The Farm better serve your community?" Answers were qualitatively analyzed and sorted based on recurring themes.

Awareness/Visibility (21 of 66 responses)

1. advertise their events online and in local rural community settings
2. Advertise?
3. Advertisement?
4. advertising about more events
5. be better known - networking
6. Be more visible, which I know you are in the process of becoming
7. Do more outreach so that more people know about The Farm
8. Do things like this
9. don't know much about it, would like to learn more
10. get the word out about the program
11. get word out so people know what is going on
12. giving tours of the farm to arouse interest
13. having a Facebook page
14. include us in events
15. Increased marketing
16. invest in marketing online, pay for a Facebook ad that reaches people
17. more awareness
18. more awareness that it exists
19. more PR/awareness
20. publicize the events more, I live 2 miles from there and didn't realize that there was a farm
21. By offering more awareness events

Programs/Services (23 of 66 responses)

22. cooking classes
23. CSA boxes
24. continue to spread awareness on the benefits of providing and growing clean food
25. Education of school children, teaching WIC parents or others who commonly use processed food
26. farm markets at other locations other than the hospital
27. food for local schools/education on health and sustainability k-12
28. food growing classes
29. have fun community events
30. how to cook obscure produce
31. I think classes/programming would be great to offer to our clients, more so than for myself
32. increased opportunities for kids outside of Ypsi schools to learn at the farm
33. interested in classes

34. Market
35. more markets
36. offer more classes, send out info/advertise them
37. organic produce
38. provide a larger variety of produce - fruit and veggies
39. provide healthy eating and food preparation classes for low income and/or mental health counseling
40. provide more food for hospital use
41. providing fresh food and how to cook meals with the produce
42. selling/promoting in the hospital
43. take all tokens and sell dairy items
44. volunteering opportunities

Expand Reach/Scope (11 of 66 responses)

45. do things in neighboring communities; Dexter, Chelsea, etc...
46. be open everyday and affordable prices
47. it's not in my community
48. longer hours
49. maybe more times to go
50. open more convenient locations
51. opportunity to visit
52. other programming around town
53. outreach to Early College Alliance at EMU a public school consortium
54. participating in farmers market
55. partner with WCC CCRE garden

Food Access (5 of 66 responses)

56. assist with food
57. bringing produce to seniors
58. make food cheap to purchase
59. making the food prices more affordable
60. offer other options for access to fresh food

None (6 of 66 responses)

61. doing good job now
62. I think they do a wonderful job as it is
63. keep up the good work
64. more fruits and vegetables on tables
65. not sure right now
66. too early to tell

Appendix E: Community Meeting Data

E.1: Community Meeting at Cultivate

Data gathered from community meeting at Cultivate Coffee and Taphouse in Ypsilanti, February 21, 2017. The meeting was free and open to all community members. It was advertised through email marketing to The Farm's contact list and contact list we accumulated while conducting our survey, as well as Facebook and flyering. Around twenty individuals attended the event. Below is a list of ideas generated by attendees when asked to brainstorm all of the ways The Farm could create or expand programming to better serve the community.

Wellness Educational Programming (*Learning*)

- Cooking classes at The Farm
- Staff cooking classes
- Fitness/rehab expansion
- Business wellness tours
- Low cost cooking classes for adults
- Yoga
- Bike/trails maps

Health Programming (*Thriving*)

- Healthy Hearts 101
- Disease management programs at The Farm
- Pritikin ICR
- Rx of veggies for patients
- Group medical appointments for diabetes, etc...
- Outdoor restorative spaces

Food Programming (*Eating*)

- Local chef competition (a la Top Chef)
- Insurance/IHA sponsored funding of CSA

Farm and Garden Programming (*Growing*)

- Berry picking
- Gardening hour
- Farm-based internships to encourage careers in agriculture
- Young adult farm education programs
- Compost education
- Homesteading classes

Youth Engagement

- Mentorship programs/youth empowerment
- Source for 4-H groups, boy and girl scout troops
- Field trips designed for special needs elementary
- Toddler tours/green is great

Partnership Development

- Stewardship classes for organizations
- School garden program
- School mentorship programs
- Contracts with local schools
- Work with local pharmacies
- EMU/WCC involvement
- Partnership with EMU
- Host/collaborate with other southeast MI local food advocates

Capacity-Building

- Philanthropy
- Farmhands for farm to institution
- Additional staff
- Capital campaign for indoor space

Public Relations and Awareness

- Facebook feed of CSA meals
- Get the word out
- Billboards/commercials
- Farm simulator app
- Have local breweries and coffee shops host events
- Discount for CSA members who bring in new CSA members
- Increase word of mouth from CSA members
- Lunch 'n learn outreach
- Trail trek app and farm rewards

Arts and Entertainment

- Live music/concerts
- Artwork showcases

Facilities and Growth

- Pizza oven
- Livestock/chickens/goats
- Orchard
- Pumpkin patch

- Pollinator habitat/forage
- Farm stand at health center
- Bigger greenhouse
- Sell outside near The Farm (roadside farmstand)
- Carport pavilion
- Tables and chairs set outside for tea and veggies near farm
- Food processing center to provide hospital with food
- Physical activities like Parcourse
- Evening hours for farmers market
- Sell at farmers markets in Ypsi and Ann Arbor

E.2: Community Meeting with SJMAA Patient Community Engagement Council

Data gathered from meeting with St. Joseph Mercy Ann Arbor Hospital Patient Community Engagement Council, February 20, 2017. These results were generated during a 45 minute brainstorming session to address strategies for increasing awareness, expanding programs, and increasing partnerships for The Farm.

From the PCEC Charter: The Patient Community Engagement Council (PCEC) is based upon the belief that patients/family and our community bring a unique perspective to the delivery of health care; and thus need to be actively engaged as partners in designing, delivering and measuring the effectiveness of this mutually beneficial partnership. This approach redefines relationships in health care. Members of the council recognize the vital role that patients and families play in ensuring their health and the health of their families. Members will help to assure timely implementation of “Roadmap to Patient and Family Involvement” strategic plan. They will help to identify and remove barriers, assist with development of communication and education plans, and guide the development of a critically necessary infrastructure to manage this direction. All efforts are aimed at shaping a culture that embraces patients and the community as true partners in the delivery and environment of health care

Ideas for Raising Awareness:

- Populations/Regions to Target:
 - Increase efforts outside of Washtenaw County (include the full extent of St. Joseph Mercy Health System)
 - Seniors (Cranbrook Towers, etc...)
 - Civic organizations
 - PTO/School groups
 - Weight loss centers/weight management groups
 - Hospital volunteer newsletter
 - Livingston County
 - Develop advocates/relationships within church communities
- Strategies:

- Develop a video series/promotional videos (run at health clubs and other relevant locations)
- Create a Speaker's Bureau (develop relationships/cultivate volunteers with those who can advocate for The Farm in the context of healthcare)
- Work with nutritionists/clinicians to highlight a "veggie of the week"
- Work more closely with Marketing Department

Ideas for Program Expansion:

- Outreach and Engagement Opportunities on-site at The Farm
 - Volunteer docents to lead guided tours
 - Family events/opportunities to host events at The Farm
- Volunteer awareness program
- Demonstrations
- Community gardens
- Plant Sales (partner with other organizations to sell seedlings/plants on-site at The Farm)

Ideas for Partnership Growth:

- Build relationships with churches, clergy
- Parish nursing group
- Form partnerships in order to be open on weekends
- Connect with local leaders, including policy-makers
- Engage in community-based participatory research (CBPR)
- Specific organizations to connect with:
 - Frontier Academy
 - Hartland Schools
 - Growing Hope
 - MICHHR (Michigan Institute for Clinical Health Research)
 - IHA

Questions/Concerns Raised:

- Are weekend hours possible?
- Should The Farm be housed under the marketing department rather than community benefit?
- What is The Farm's role in the health system and greater community?