

Spheres of Influence and Change: A Longitudinal Perspective of Unity Gardens' and Beacon Health System's Wellness Initiatives

Introduction:

Literature regarding initiatives to improve wellness reveals many diverse approaches, but rarely do long term outcomes reveal success. The relationship between increased consumption of fruits and vegetables and increased physical activity is well documented, yet positive outcomes continue to elude us. Data continues to show the increasing obesity rates and chronic illness, especially among our most vulnerable (minorities and people in poverty) despite years of study and interventions.

Unity Gardens Inc. incorporates a unique approach that uses attraction rather than promotion, and relationship building as vehicles to guide and facilitate long term improvement in diet and exercise. Initially, this unique wellness model was created to remove barriers to healthy eating including access. Access has multiple components as well; cost, location, and ease of use. It is more cost efficient and easier to prepare a meal of carbohydrates and fats to satiate a family. Prepared foods are often less perishable foods than fresh produce. Combine these incentives with a once a month system for food relief, and on the surface, prepared or packaged foods are a better remedy for feeding a family with limited resources.

What better way to incentivize fresh produce than to make it free? Gardening is a methodology that maximizes yield with little cost, so here in the farm belt of Indiana, it is ironic that those in poverty are disproportionately affected by poor nutrition. Spurred on by a desire to improve community health, and supported by the largest health care providers in our community, Beacon Health System, Unity Gardens' has grown to reach tens of thousands in our community.

In 2008, starting with one garden in a poverty-stricken area of South Bend, and a handful of individuals, the Unity Gardens' model for increasing access, awareness, and availability to fresh produce has grown to include between 40 to 60 open gardens that reach tens of thousands of people throughout our region. By removing barriers to access and creating dignified free food experiences, Unity Gardens' influence has stretched well beyond reaching individuals, but has now helped create community wide change. Started initially within an area where street homeless and poverty-stricken neighbors could walk to get free meals, the Unity Gardens soon became attractive to people of all socio-economic statuses. By creating food hubs throughout the community, Unity Gardens became a vehicle for growing community; a place where diverse people gathered, and all people were welcome.

To capture the essence of the influence of Unity Gardens to improve wellness in the community, it became necessary to collect qualitative and quantitative data to begin measuring the effectiveness and reach of the gardens. Spurred on and supported by Memorial Community Health Enhancement of Beacon Health System, tools and programs were begun to try to capture data regarding the people involved in the Unity Gardens and their health habit changes as a result.

Time line outline:

2008: "How can we provide food security while empowering those we help? What if we could reshape the narrative of the soup kitchen and erase the line separating us from those we serve? Is there a way to make better use of city spaces, creating green places in underserved communities?" Nine years ago,

Sara Stewart was searching for answers to these questions in her capacity as a Professor of Community Health Nursing and an expert on the culture of poverty. She sought answers through conversations with the homeless population of Saint Joseph County. Through the combination of their experience and her expertise, she conceived Unity Gardens' edible park model and began, quite literally, to dig in. By creating a free food garden in the heart of South Bend, a new model for food access and wellness was spouted. Community interest was high, and the organizational structure began to unfold. The mission of the Unity Gardens is to connect our community to healthy food, nature, and one another.

2009: 12 "Unity Gardens" were supported by free seeds and seedlings, volunteer garden leaders, and a formal 501(c)3 non-profit was established. Memorial Community Health Enhancement was involved with hosting a Unity Garden at their supported living facility, Robertson's Apartments. Ms. Patty Willeart, who supervised the facility, noted that the garden seemed to improve quality of life for the residents, and suggested an enhanced partnership of wellness. The congruence of commitment to wellness; physical, social, environmental, and economical was striking. The Community Health Enhancement team of Memorial Hospital encouraged Unity Gardens to reach out for support for growing the model. By fall of that year, Memorial offered tools for community engagement; coffee mugs, help host a Harvest Celebration, and guidance. By winter of 2009, Unity Gardens submitted a broad proposal for organizational support and received a **\$50,000** one-time grant from Memorial Community Health Enhancement, with the explicit goal of creating an organizational structure dedicated to public wellness.

2010: With the financial support of Memorial, Unity Gardens grew to host 34 sites by spring of 2010, including a garden on site at the hospital. The local media shared the story widely and early adopters hosted neighborhood Unity Gardens spreading the effectiveness, use, and notoriety even further! The idea that everyone in our community could benefit from a diet full of fresh fruits and vegetables regardless of income or other constraining factors was transforming the Michiana Community. Everyone was welcome and able to participate in Unity Gardens! From the street homeless to area dignitaries, participation was widespread. In kind donations helped the Unity Gardens grow. The mutual commitment to connecting our community to fresh food was taking root.

At LaSalle Square Unity Garden, harvesters were plentiful, but needed guidance. Tasting tours and harvesting help were the norm, spurring on the idea of hosting free classes. In fall of 2010, Memorial Community Health Enhancement once again partnered with Unity Gardens to host a free class for kids-located within one of the worst food deserts of the state; LaSalle Branch of the St. Joseph County Public Library. The class hosted 34 people; 23 children who eagerly snacked on cherry tomatoes, baby carrot sticks, celery, and more while playing vegetable games. Many of the kids were hungry, and eager for adult attention. The adult participants were mostly from outside the area. Unity Gardens submitted an Organizational Strategic Plan to Memorial for 3 year support outlining the goals of improving health physically, socially, and environmentally. Partly due to the changing health care system, the submission was denied, but the effect of having the plan sustained and guided Unity Gardens' growth for years to come.

2011: Unity Gardens launched the "Growing Health Educational Program" in January, and began harnessing donations and sponsorships to help sustain the organization. Free classes guided

participants through the gardening process in 10 weekly classes starting with garden planning, soil health, composting, and more. Participation was high, and classes hosted between 43 to 86 attendees, many of whom continued their involvement in Unity Gardens, becoming volunteers, donors, and garden leaders. The goal was to effectively connect the community to healthy food not only by increasing the availability and accessibility of fresh produce through facilitating the growth of new Unity Gardens, but also by offering education on how to grow, harvest, prepare, and eat in ways that increase consumption of that produce.

Throughout the 2011 season Unity Gardens witnessed a tremendous increase in the number of Unity Gardens, and the use of each garden. The LaSalle Square garden had over 100 harvesters a day during the peak 2011 season! Still, most harvesters needed guidance on how to properly find and pick the produce. As 2011 winter class attendance verified, and the proliferation of school based Unity Gardens also reinforces (22 of the 48 Unity Gardens were hosted focusing on children), the community was hungry to learn more about gardening and cooking. Being 4 or 5 generations displaced from farm living, it is no longer common knowledge where our foods originate from, or even how to prepare fresh produce! In late fall of 2011, Memorial was again approached for support for the Unity Gardens' Growing Project; an expansion of the 2011 educational program.

2012: \$10,000

Spurred on by the widespread community engagement and effectiveness of Unity Gardens' educational programs, Memorial Community Health Enhancement, awarded Unity Gardens support for creating a central outdoor classroom dedicated to educational intervention with a variety of audiences. The space included fencing, signage, activity centers, special plots for class participants, tasting areas, a bee garden, nature areas, and more. With areas set aside specifically for tours and learning, increased infrastructure and supplies, The LaSalle Square Unity Garden could host participants, collect tools, and harness donations for all the neighborhood Unity Gardens to utilize. The specific goals for this project included:

1. Create an outdoor classroom
2. Enhance and add curriculum
3. Build family plots

The subsequent youth educational programs, including the summer children's programs engaged children to learn how to grow gardens, while encouraging outdoor play and tasting produce. The most successful classes combined free outdoor garden exploration with a garden lesson and an edible element. Making your own salad, grilling veggies, or veggies and dip were all popular. Taking home produce, plants, and recipes engaged kids to teach their families what they learned. Outdoor exploration included planting, harvesting, drinking from a hose, scarecrow making, hunting potato bugs, pet rocks, and water play. These were early precursors to "Garden Camp". The outdoor classroom and family plots, projected to reach 6 families the first year, hosted 18 families from 6 different countries! The commitment and successes of reaching out to our neighbors through programs was sprouted. The investment in the Unity Gardens' unique model was proving effective:

Organizational Impact:

- From 1 garden in 2008, to 48 in 2012
- Over 3,500 attended Unity Gardens educational series in 2011

- 87 free classes conducted in 2012 thus far with 6 additional scheduled
- 12 Unity Gardens located at schools
- 11 Unity Gardens representing 10 different religious denominations
- 5 Unity Gardens hosted in conjunction with food pantries
- 19 Unity Gardens host or focus on Youth education/programs
- 2 Unity Gardens work specifically with clients in correctional programs
- 4 Unity Gardens work with homeless populations
- Twelve Community Events planned for 2012
- Over 1000 children reached at Ag Days Unity Gardens educational booth
- 18 Unity Gardens representing vulnerable or disadvantaged populations (homeless, incarcerated, developmentally delayed, impoverished)

2013: In 2013, bolstered by the successes in reaching out to the community, Unity Gardens' focus was on organizational sustainability to support the programs that had been so successful in connecting the community to fresh healthy food. The Unity Gardens' Sustainability Program created and expanded 4-season growing with infrastructure and urban farm to market programs. Supporting over 50 Unity Gardens, selling award winning Honey from the Hood and growing winter crops to create sales revenue helped Unity Gardens prepare for expanding summer programs. Unity Gardens Inc. had become expert in connecting our community to healthy food, especially children! Twenty-two of the 56 Unity Gardens focus on children in their garden activities; including such vulnerable populations as: Juvenile Justice Center, Migrant Farm Workers at Lakeville Unity Garden, Red Cross Refugee Unity Gardens, Kroc Center, Robinson Learning Center, Youth Service Bureau, Muessel School, El Campito Children's Center, and the children living at Beacon Heights Apartments. Unity Gardens Inc. developed and hosted successful a 10-week Junior Master Gardener program & a weekly summer Kid's Club program at the LaSalle Square Unity Garden (across from Beacon Heights Apts.) for the previous 2 years. However, the kids were getting older, and the current programs were not designed for their maturation.

In August of 2013, Unity Gardens once again turned to Memorial (Beacon Health) to support new ways to improve health in the community. To increase participation and enhance the curriculum to include older children, Unity Gardens submitted support for a committed area within the open LaSalle Square Unity Garden with curriculum designed for enriching garden education and discovery activities. The older participants would be engaged to help build and develop the area, then mentor their younger peers through a week-long Garden Camp. Measurable goals and outcomes were required by Beacon and defined by Unity Gardens (sprouting the first formal data collection efforts). The mission of the Unity Gardens Youth Discovery Garden and Educational Area was defined: To offer every child, regardless of income or circumstance, the opportunity to improve their health through healthy eating, physical activity and leadership opportunities. No place was this a more natural fit than in the garden. Kids will eat what they grow and share what they sow!

2014: \$23,500 The new Unity Gardens Youth Discovery Garden was built and continues to include areas devoted to learning and play, including an heirloom vegetable section, a grain garden, a permaculture garden and food forest area, composting and eco-recycling station, butterfly garden, soil and water conservation rain garden, a discovery trail, outdoor-classroom seating area, and an active play zone. It remains a highlighted attraction within the 2-acre open garden at LaSalle Square. Garden Camp goals were defined:

1. Increased physical activity
2. Increased consumption of healthy foods
3. Increased awareness of sustainable living practices
 - a. Composting and food reclamation
 - b. Water Conservation
 - c. Pollination studies
4. Increased engagement and leadership behavior among teens

After creating paved areas, garden play stations, and an area dedicated to chickens, the Youth Discovery Educational Program started on Saturday, June 7th with a “well-developed” set of activities to measure the knowledge base and activity levels of some neighborhood youths. A simple worksheet designed to capture baseline knowledge of a variety of vegetables, exercise habits, and leadership or “helping” activities was handed out to all the participants. Adult volunteers and interns included Unity Gardens manager and director, 2 Master Gardeners, a curriculum developer, a youth care provider, an adult volunteer from the neighborhood, and general garden volunteers were on hand to help.

Despite fliers and signs at the library and at Beacon Heights, and media coverage, at first nobody came, so the neighborhood representative walked over to Beacon Heights and invited some of the kids to come over. Over 14 youth participants attended with 8 completing the paperwork. Of those 8, one of the teen girls filled the sheet out independently and accurately. The other 7 filled out the sheet with adult assistance. The teen boys did not do the paper work. Of interest was the difficulty with focus and base skills of reading and writing and reading comprehension of all but one of the participants. Exp: when asked to circle the vegetables you have tried and then in the next section ones you had eaten within the last week, many circled more in the “last week” section than in the “ever tried” section. Formal programming included planting activities, measuring, and more papers. Lessons were learned regarding outreach and learning styles that changed future programming, guiding Unity Gardens to a more “active” curriculum in future years.

The following week, we again, had no youth participants. Knowing that camp was to start the following Monday, we were more than worried! We placed additional fliers in the nearby library and hoped for the best. Monday, June 16th was the first day of Garden Camp. The arbors, the keyhole garden supplies, and the basic structure for the Youth Discovery area were built and ready for additional planting. The chickens were in the coop. With rain threatening and record high temps predicted, attendance was a concern. Being uncertain of the number of youths we would host (0-300?), we had agreed to mandate adults to stay if we had adult to youth ratios of less than 1 to 5. We were prepared with 6 adults, and 2 neighborhood interns who did not show up.

At 9am people began to arrive. Each family was required to fill out a permission, consent, and release of liability form which included emergency numbers and left with inclement weather / Unity contact information. The youths from Beacon Heights arrived and took the paperwork, then returned with it completed and brought more kids! None of the kids, to our surprise, were ones who had attended the class or any previous classes! There was one girl who had helped in the garden in past years.

June 16th we hosted 21 participants, 8 of whom lived at Beacon Heights. Age range was 5-13 years. Beacon Heights aggregate was also 5-13 years. Having learned from the previous class experience, we

started with introductions, rules, and cup decorating to engage the youths while others arrived. We kept things moving with a garden tasting tour, and a tree planting activity, espalier. The SJCHD agreed to teach a daily nutrition class combined with preparing the healthy lunch introducing a new vegetable each day at the nearby library every day around noon. To provide a concrete base of activity, we walked there and back every day representing over a half a mile.

Each day we included free play, at least 2 integrated garden activities (including an integrated math, science and leadership opportunity), snack times, healthy lunches, and reflections. A garden reflection and activity notebook were made for each youth and handed out after lunch at the library (keeping everyone cool from the 90 plus degree heat wave that week). Attendance varied, but total number of youths was 40 with BH having 9 and 3 other neighborhood youths. Age range 4-15. Of the BH youths, 4 attended daily and 2 attended all but once. 17 of the youths were under 9. The older ones were each given leadership and mentoring opportunities in each group or formal activity.

Age of participants:

N=40	BH N=8
Mode 9 years	BH Mode 10 years
Median 9 years	BH Median 9.6 years
Range 4-15 years	BH range 5-13 years

Some activity, leadership, and lunch consumption themes were noted.

Consumption NEW VEGETABLES

Each day we included new vegetables within the lunch. Pita pizzas included arugula, basil, and oregano that the kids harvested from the garden. Mint and chives were added to the kale and lettuce we harvested together another day. Tomatoes, peppers, olives, mint, chives, onion, lettuce, mustard greens, arugula, corn, tri-colored beans, spinach, cucumber, nasturtium, kale, chard, carrots, celery, zucchini, and radish were introduced. Although many of the youths did not prefer them all, they all tasted them on most days! Three of the newer participants were hungry and out of food on 2 days, so extra vegetables were quietly donated to them. One astute BH youth challenged why they got the food. Once told that when people have no food it is good to share, they began to participate more in helping all the others! (growing empathy)

*All but 2 participants tried new veggies or herbs each class lunch time. (#38)

*The kids were more eager to try new lunch items without question or prompts after a few days of camp. Much more discussion and encouragement occurred in the first day.

*Apples, tomatoes, and bananas as snack items were increasingly popular as the week progressed.

*Participants would enjoy at least 3 servings in the fruit or vegetable category each camp day. Many enjoyed seconds of apples, tomatoes, or the lunch vegetable.

Activity

The baseline activity included the half mile walk to lunch and back each day (in future years measured as ~1000 steps). As the week progressed, the teens (>9) became more and more active; playing tag spontaneously and running throughout the garden between activities. We observed older kids carrying younger ones for play, running, doing cartwheels and playing hide and seek to and from the library. In

addition, garden activities included digging, carrying blocks, watering, weeding. During each activity, some kids would play spontaneously, increasing physical activity even more! Due to the unseasonable heat, we took breaks between garden activities, but rarely were able to stop the teens. Parents described the kids as wiped out after the day!

*Exercise themes were primarily noted in 2 different activities:

- during the walk to and from the library lunch
- during free play times in the garden

During the walks to and from the library we noticed kids walking slowly but without difficulty the first day. The following days the kids became more and more active, interspersing cartwheels, summersaults, and impromptu games of tag within the walks. This was especially interesting since the temperatures were well into the 90's with oppressive humidity. On Wednesday, the kids travelled to and from the library twice, taking shelter in the thunderstorms that came through.

Free time in the garden was interspersed intentionally. Kids were offered garden activities, but the teens especially would start playing; tag, hide and seek, and other peer driven interactive, physical play. Although the parents described the teens as exhausted once home, the teens seemed to have endless energy when it meant interacting together.

In addition, activities designed to encourage increased physical exercise were offered. None of the kids had to be prompted to run with butterfly nets or help lift cinderblocks! It seemed the more activities we offered, the more they enjoyed!

Although quantitative data was difficult to extract, many themes were noted in opportunistic leadership and mentoring activities. The keyhole garden activity, for example, was specifically designed to encourage critical thinking skills in science, math, and leadership. The older youth were charged with replicating the keyhole garden; a garden that uses cinder blocks placed in a circle, an empty hole in the middle, and the between area filled with layers of compostable green and brown materials. To properly make one, concepts such as addition, radius, and volume are necessary. As the older youths guided younger ones, the adult mentors labelled them as good at taking care of the younger ones. As they properly built the structure, they were encouraged by adults as good at science and math. They beamed as they were able to plant in their new structure and it continues to be a highlight for all groups at the Unity Garden!

We also observed increased interactions of younger and older kids as the week progressed and everyone knew each other better. Some particularly needy youth seemed to attract the BH teens, despite the fact they had younger siblings in the program as well. They often took on caring and nurturing the younger ones, helping them participate in more difficult garden activities. Adults counselors were instructed to let this progress and verbally acknowledge this "helping".

The entire Youth Discovery area is full of interesting and diverse structures and stations! The chickens offered additional opportunities to nurture and enjoy nature. The kids worked democratically to name them! The bean tripod poles were built, a spiral herb garden was designed, the 3 colored beans were planted, and late green leafy vegetables were transplanted. Kids from BH and the neighborhood continue to visit and enjoy the area! At the end of the camp, on the last day, we wrote thank you notes to all the adult mentors. All the youth participants were encouraged to draw or write on each card.

Many wrote a special note, some of which are listed here:

I love it because I wanted to degreting

Thank you for the camp

Thanks for all the nice things you said and all the good you do (from the hungry family)

Love it! Thank you for helping us in camp this week!

Thank you for teaching us about the plants and all the animals that live and help the invertebrates grow like bees 2/3 of our food would not be here!

Dear all the helpers and supporters with gardening thanks for the tomato plant. It was nice being here.

Being here was a great experiment. Thank you

I love planting!

I love camp

You are nice. You are sweet

Thank you for coming

In addition, the youths took home their garden reflection folders. More than half the participants drew a garden scene with a chicken being the single most common theme (and the storm being the second most common theme)! Some wrote paragraphs describing their day, each day. A few resisted and tried to sneak out with the library computers being a competing draw. The rule was that computers and electronics were off limits, but some of the BH teens had their library codes and some tried to sneak off during that time. Adults stationed in the reading areas helped redirect.

It was clear there were untapped opportunities and challenges with the program data. We were unprepared for the level of reading and writing comprehension and some of the focus issues we encountered. The amount of activity and ratio of adult to youth was clearly too low, and the focus of the adults needed to be less garden and more children oriented. Often there were needy youths who could benefit from one to one adult guidance and nurturing, which guided us to tweak the program to include age related groups and additional counselors. With the challenges inherent in nurturing the campers, quantitative data was sketchy and inconsistent. It also seemed to lack meaning compared to some of the interaction themes and spontaneous moments observed.

The Beacon Heights youth were fully participatory in the program, though we had hoped for more youths. The 8 that participated were engaged and mixed with the others. They were eager to help the younger kids, often being more nurturing when the youngest kids needed help or were pouty. In addition, they focused on people oriented activities, participating in gardening to engage adult attention. They consistently cared for the chickens and consistently attended camp through the week. The 4-other neighborhood youth also stood out as more needy; 3 of whom were actively hungry and 1 of which was so attention getting as to often be disruptive.

Lessons Learned to guide 2015 Summer Camp:

1. Conduct a thorough orientation/ training for adult garden guides and camp counselors
2. Create a checklist for data collection
3. Assign dedicated camp counselors to small groups for data collection
4. Increase counselor to camper ratio
5. Copy or keep quizzes, art work, and reflection folders
6. Document serendipitous garden activities and veggie tasting

2015: Continuing the support of over 50 open gardens, the winter educational programs, market sales programs and summer outreach, 2015 was a pivotal year for Unity Gardens. In January the land upon which the LaSalle Square Unity Garden was located was purchased from the city, sending a message of permanence to the community; “Unity Gardens is a successful new wellness initiative, here to stay”. In February, Unity Gardens became the youngest organization to be endowed by the Community Foundation of St. Joseph County. Bolstered by these accomplishments, Unity Gardens was invited to sell at the South Bend Farmers’ Market, subsequently doubling weekly sales revenue. The first full time employee other than the founding leaders was hired.

Unity Gardens, once again, submitted a proposal to Memorial, **(\$25,500)** building upon the successes of 2014, and adjusting to amend the shortfalls. The Unity Gardens Youth and Beacon Heights Attraction Project aimed to improve wellness in the Beacon Heights community, a low socio-economic aggregate, by increasing knowledge about and access to fresh vegetables, encouraging increased physical activity, and fostering a greater sense of community. Through offering a welcoming shaded shelter in the area across from Beacon Heights Apartments, combined with 2 Welcome Cookouts, Unity Gardens’ plan was to encourage and attract the Beacon Heights neighbors into the garden and then increase the knowledge about healthy eating and engagement in physical activity. In addition, Garden Guides were added. Dedicated people in the garden evenings to help with tasting tours, harvesting help, and data collection regarding who and how many visit and use the garden. In creating this welcoming venue and developing relationships with the Beacon Heights community, the Attraction Project was designed to increase access to fresh produce, encourage physical exercise, and increase garden knowledge, thereby contributing to wellness.

The welcoming picnic, held May 15 to help attract neighbors from Beacon Heights into the garden, was less well attended than the August one, though we did host about 10 people from across the street. It established a baseline from which we were able to measure increased involvement as the August picnic held more than twice as many guests, and over 25 from Beacon heights. The shelter was used by the BH neighbors throughout the season and served as a gathering area. Campers also enjoyed the area, as we now could host activities in 3 different shaded “stations”. The data from the welcoming picnics helped drive the addition of the Chef to Plate picnics as a new wellness initiative offered later.

Camp attendance in 2015 was disappointing. N=30, with no Beacon heights campers the entire week. Only later did we discover camp was held during summer school. Similar to 2014, the average age for campers was 9 years old with a range between 5-15 years. Campers showed similar changes in physical activity and consumption of new fruits and vegetables as in 2014. Post camp interviews with parents revealed some long term dietary changes in surveyed campers.

Results from the 2015 Beacon Heights Attraction Project, helped guide the direction of future programs. Lessons Learned from Beacon Heights Attraction Project:

1. Discover a way to offer garden guides a bit later in the evening and during the day.
2. Add September, but not maybe June to capture peak harvesting times.
3. Add t- shirts for Garden Guides and counselors.
4. Add depth to recipe sharing by having printed recipes available and sharing them at Farmer’s Market also.
5. Add an 8 week on-site cooking demo and pot luck type weekly evening event.
6. Host Garden Camp later and add a week.

The Garden Guide program yielded the most interesting data. Although Garden Guides were not as consistent in data collection as was hoped, the feedback received by them post season was critical to understanding our relationships with garden visitors and neighbors. Garden guides became the face of Unity Gardens, sharing their enthusiasm of the vegetable treasures found, teaching proper harvesting (and thereby increasing the amount of produce available), and becoming a sounding board for those visiting the garden. Garden Guides were able to share Unity Gardens' programs and framework. As relationships were sprouted, more people returned regularly. Garden Guides suggested designated t-shirts, so they could be identified as someone familiar with the garden. Garden Guides were able to capture number of visitors to the garden in the evening hours. Starting at about 21/week in mid June, visitors increased to a high in late August of 108/ week.

2016: In 2016, Unity Gardens was firmly established within the community, hosting free classes from January through March, selling year round produce, Honey from the Hood, and related products at the newly purchased South Bend Farmer's Market booth, and supporting over 45 open gardens throughout St. Joseph County. Other communities were becoming increasingly interested in Unity Gardens' unique free food model as food security, environmental sustainability, and wellness issues were common themes of concern. Speaking engagements, garden tours, and increased media attention helped highlight many of the successes Unity Gardens' enjoyed.

For the previous 2 years, the summer programs, sponsored by Beacon Health Systems, were creating a "season of activity" within the LaSalle Square Garden, with many service groups and day camps coming to visit and participate. Relationships beyond those intentionally grown began to add to the volunteer and donor base. With a focus on obesity specifically, the proposal for 2016 programming, the "Unity Gardens' Food and Fun Immersion" was submitted for consideration, and approved (**\$30,000**).

The programs within the Garden Food and Fun Immersion included:

Garden Camp this time hosted in July for 2 one week sessions, ie: repeated a second week (July 11-22) to avoid scheduling conflicts. In addition, enhanced leadership opportunities for the new "Counselor in Training" (CIT) program were added to engage the older campers who had participated in years past.

Garden Guides welcoming and relationship building aspect was one of the strongest programs in the previous year's Attraction Project. The program length was extended to continue through September when the produce is most abundant. Also the hours were shifted a bit later to 5-9pm or so, when visitors were more abundant. The T-shirts to identify the guides as dedicated Unity Gardens' personnel was also implemented.

Garden Internships: Unity Gardens hosted interns previously, but the Summer Garden Internships supported by Beacon (2) were specifically dedicated to serving as daytime Garden Guides, Garden Camp Counselors, and be charged with enhancing and maintaining the Kids Discovery Garden area. In addition to creating focus on attracting neighborhood involvement, this was designed to improve data collection efforts, and add consistency throughout the summer programs. Students focusing on education, environmental studies and urban agriculture were recruited.

Garden to Plate Program: Inspired by the previous year's community cook-out picnics, the Garden to Plate program included 8 weekly classes from area chefs who will demo a recipe using produce that can be found in the garden, followed by a community pot luck/ picnic. This was an intentional way to attract new campers and add depth to the relationships with the neighbors from Beacon Heights Apartments.

In addition to supporting the Food and Fun Programs, the Beacon health team enlisted the help of EnFocus to enhance the data collection efforts of Unity Gardens. Yum Yuk, Moods in the garden, and other paper surveys were established to capture consistent and more accurate information. Pedometers were purchased to capture actual steps of the campers. Yum Yuk helped establish a baseline of new fruits and veggies introduced, and the reactions to them (both perceived and actual).

In addition to collecting better quantitative data regarding demographics, zip codes, and use of garden, specific obesity goals included::

Goal 1: Increase physical activity in youth over the weeklong Unity Gardens Camp Session

- Measured by: Average difference in the number of steps taken by camp participants between the first and last day of camp

Goal 2: Increase consumption of fruits and vegetables in youths and adults

- Measured by: Total number of fruit and vegetable harvesters with the help of garden guides as indicated on the garden guide checklist compared to last year
- Measured by: Youth consumption during camp

Garden Camper involvement increased tremendously in 2016 with 86 Garden Campers; 32 from Beacon Heights. Clearly, the pot luck picnics and new weeks were effective in helping attract the target aggregates. Other demographic information identifying who we serve included:

Gender: 51% males to 49% females

Ethnicity: 46% Black, 39% White, 6% Hispanic, and Unknown or other 9%

Ages: 4-16 year olds, with the average age of 9

Zip Codes of Program Participants in St. Joe County (Garden Camp Participant Percentages)

46628- 31- 37%	46530- 2- 2%
46614- 11- 13%	46574- 2- 2%
46544- 8- 10%	49120- 2- 2%
46615- 5- 6%	46617- 1- 1%
46613- 4- 5%	46619 – 1- 1%
46601- 3- 4%	46635- 1- 1%
64701- 3- 4%	9 unknown

Goal 1- Activity: Activity within the camper groups revealed increases throughout the week, both with individual campers and as a whole. The average numbers of steps was measured by pedometer on as many campers as could be measured. The mid-year report indicated the average number of **steps increased for campers by 1753 steps the first week of Garden Camp and 2318 the second week.** More interesting, were some of the camper specific changes. **Campers as a whole had an increase of 217,678 steps (n=60 for the population measured)!** Looking more closely at the data, there were 3 most extreme changes. Camper N--- had 11,670 increased steps through the 2 week garden camp. This camper was very shy, and become more interactive throughout the two weeks. His mother indicated he had Asperger's Syndrome. Camper R was the youngest camper, and had a change of 10,321. He also had increased peer involvement as the camp progressed. Camper W. also increased his steps by 11,215. Camper W. also had some social issues prior to camp according to his mother. Other campers showed little increase in steps. There were 17 campers who had little to no change, including those who attended only a day or two. Taking those campers out revealed an average of 4,207 increased steps/camper. Looking more closely at the data, the campers who regularly attended and had the least number of initial steps (494-2000), all increased to at least 5359 steps per day. In fact, the two most

overweight campers (by observation) who attended camp regularly, each had an increase of approximately 4000 steps! The other 3 campers with the low steps initially had over 9000 steps per day by the end of camp. Follow up phone calls with camper parents indicated 75% of the campers maintained an increase in activity through the summer. A follow up midwinter or even a survey monkey at a few intervals through the year could reveal more information about sustained and long term activity levels subsequent to garden camp.

Goal 2- Consumption: Garden Camp encouraged consumption of fruits and vegetables using a variety of methods. Inherent within the camp was a lunch and learn where Campers enjoyed a combination of foods harvested from the garden along with those provided in the lunch and learn session. In addition, a different vegetable or fruit from the garden was introduced every day. All campers participated in the Yum-Yuk activity. Not including the tasting tours, 26 new vegetables were introduced to at least 44 campers. Not all of them liked everything, but they all tried them. In addition, the only snacks offered throughout the day were apples, sweet peppers, grapes, oranges, and bananas. Campers initially came bringing their “breakfasts” some of which included, M&Ms, popsicles, gummy bears, and lollipops. A rule was made that outside snacks were not allowed and we saved them for after camp or returned them with their parents. Within a few days, everyone enjoyed the snacks offered. Camper N, ’s mother explained he had eating issues, and would not probably eat anything offered. Camper N within the first 3 days began to eat seconds of the apples, had some lunch daily and even participated in Yum and Yuk the remainder of the camp session.

Goal 3 – Use: Garden Guides were charged with collecting data regarding the use of the garden and food harvested. Interesting statistics from 2016 revealed:

Total number of evening garden visitors: 1673

Total number of first time visitors in the evening: 1229

Total number of returning visitors: 454

Total number of youth visiting: 620

Total number of adults: 1053

The highest number of visitors in a week was September 11 with 229, followed by July 31st (133) and Sept 4th (132). Overall, 2016 Food and Fun Immersion program exceed expectations regarding increased community involvement in Unity Gardens, encouraging healthy eating and increased physical activity. Youth at camp increased their activity, the Yum Yuck activity introduced over 20 new vegetables to over 46 campers (Fennel, dill, basil, peppers, kale, mustard greens – raw, arugula, lambs quarters, mulberries, and more). Youth who were described as sedentary, autistic, etc, ran, climbed trees and interacted with their peers without difficulty. Healthy snacks that at first were turned down were treasured within a few days. The relationships with the Beacon Heights Community grew. Two CITs were hired from Beacon heights and, as one grandmother of 4 of our campers said, “You told us 4 years ago you would hire any of the kids who worked hard in the garden, and you did. It is so good for them girls to work and see how it pays off.”

2017: In addition to the programs designed to connect the community to healthy food, nature, and one another, in 2017 Unity Gardens’ focus included a capital campaign for a Community Learning Center on site at the LaSalle Square Unity Garden. Bolstered by successful programs, data collection, and increasing sales revenues, the next logical step for growth included office and classroom space, shelter for our summer programs, and indoor volunteer space. The Community learning Center was designed to increase efficiency in programming in addition to creating a food hub in one of the worst food deserts

in the state. Broad development activities included a request to Beacon Health Foundation, which remains pending.

The plan for the 2017 Food, Fun, and *Friends* Program continued to include programs and activities designed to enhance the garden experience and connection with fresh produce for neighbors and the community, with an emphasis on adding measures to track food access while increasing depth to the relationships made in the garden, thereby increasing the ability to foster ongoing healthy food and activity habits. **(\$40,450)** The priority focus for the 2017 programs was food access. In order to capture the full extent of how Unity Gardens intervenes to improve food access throughout our community, this Food, Fun, and Friend program included surveys to gather information regarding the neighborhood Unity Gardens throughout the community and the journey of public health collaboration through this longitudinal study.

The 2017 program specific goals were:

GOAL 1-Increase physical activity in youth over the weeklong Unity Gardens Camp Session

GOAL 2-Increase consumption of fruits and vegetables in youth campers

GOAL 3-Increase accessibility to fresh fruits and vegetables in food desert areas of SJC

GOAL 4-Longitudinal research report of collaborative efforts between Unity and MHSB to amend food deserts in SJC

Goal 1: Improved pedometers were purchased which reduced loss and malfunction. Camp activities were interspersed throughout the garden to infuse additional exercise within the program.

Campers as a group increased steps throughout the weeks of garden camp. The average number of steps recorded on Monday was 6790/day compared to Friday where 9024 steps was the average; an increase of 2,234 steps (over a mile increase). Being able to compare the 2016 and 17 data, it is also interesting. There was an increase in steps taken from the first year to the second: 3638/day compared to 6790/day in 2017, though the improvement in steps throughout the camp was similar; 2035 steps increased/ camper in 2016 compared to 2234 steps increased in 2017! Data was collected via Google forms for 2017. 73% of surveyed Garden Camp parents indicated their camper increased their physical activity at camp, and 87% indicated they maintained increased activity after! The curriculum for Garden Camp included activities designed to assure every camper would walk the length of the 7-acre garden at least 4 times, but more often at least 6 (Daily activities were spread out to extreme east and west side of the garden, and lunch and learn was at the opposite area as check in. Joys Johns also required a walk to the center of the garden).

Goal 2: Because of the nature of the garden immersion, combined with the Beacon Food Fun, and Friend Summer programs, increased consumption of fruits and vegetables was an easily attainable goal. Attendance data from Garden Camp, Lunch & Learn, Garden Guides, Chef Demo- Pot Luck Picnics, reveals increased participation throughout the garden.

Garden Camp: 149 campers attended 2017 Garden Camp over the 2 weeks offered.

Garden Guides: 2817 visitors with 985 children of them children (data from 4 hours each evening)

Pot Luck & Chef Demos: 231 attendees and 89 children

Over 3197 people were reached through the Beacon Food, Fun, and Friends Programs directly and over 1000 new to the garden in 2017. By investing in children and their families, increase depth to fresh

produce is expected. Increased engagement in the garden, measured through participants who attended more than one program was an impact we saw in 2017 programs:

33 Garden Campers came to the pot luck chef demos and brought their families

30 Garden Campers attended more than one pot luck picnic

63 of the attendees at the Pot Luck Programs were referred from Garden Guides

In Garden Camp, Yum Yuk results from vegetables and herbs introduced to the campers intentionally were: Before tasting: 68% of the campers thought they would like the selections

32% of the campers thought they would dislike the selections

After tasting: 76% of the campers actually liked the selection

24% of the campers disliked the selection

Garden campers tried dill, fennel, sorrel, broccoli raab, radish, rosemary, radish pods, tomatoes, purslane, and nasturtium. Including the Garden to Plate and Garden Guide programs, 68 different herbs, fruits and vegetables were introduced!

Goal 3: Food Access is a complex interaction between food availability and awareness, complicated by actual use. In order to establish a base of food access intervention, zip codes from program participants, and various neighborhood Unity gardens were collected. This year we are able to compare with last year:

Zip codes Garden Camp n=141

Zip code (Area)	2017 (%)	2016 (%)
46628- #44 (Camp setting, Beacon Heights and surrounding area)	31%	37%
46614-#20 (South Side of South Bend)	14%	13%
46615- #13 (East South Bend)	9%	6%
46617-#12 (near south east South Bend)	9%	1%
46619-#8 (south west South Bend)	6%	1%
46637-#8 (Clay township)	6%	0%
46544-#7 (Mishawaka)	5%	10%
46530-#6 (Granger)	5%	2%
46613-#6 (near south central South Bend)	5%	5%
46635-#5 (ND Roseland area)	4%	1%
46616-#4 (near west South Bend)	3%	0%
49120-#3 (Michigan)	2%	2%
46545-#2 (Mishawaka)	1%	0%
46556-#2 (Roseland-ND area)	1%	0%
46555-#1 (North Webster)	0%	0%

Zip codes Garden Guides shows neighbors still represent the vast majority of garden harvesters:

46628 (60%)

46619 (25%)

Less frequent were: 47302 46554 46536 46556 46544.

Garden Guides have difficulty collecting zip codes unless a relationship was somewhat established. The perception of garden guides was that 46628 represented most visitors. Documentation suggests people from 46619 were also well represented in the garden. Zip codes Chef Pot Lucks (in order of frequency):

46628

46619
46614
46554
46545
46617
46574
46616
47302

Zip Codes of Unity Gardens throughout St. Joseph Co

46530 – 1	46536 – 1	46544 – 1	46545 - 1
46554 – 1	46556 – 2	46774 – 1	46601- 6
46613 – 1	46614- 2	46615- 8	46616 – 1
46617 – 6	46619 – 2	46628 – 3	46637 - 1

Surveys from garden leaders were used to collect information regarding harvesters, amount of food grown, and size of the garden along with suggestions for support. Results include:

Garden leaders estimated or guessed about the amount of produce grown using average yield per plant and number of plants. By extrapolation, the amount of produce grown is:

Tomatoes: 18,450 lbs.	Green Beans: 12,000 lbs.
Zucchini: 16,000 lbs.	Cucumbers: 1,850 lbs.
Peppers: 2,300 lbs.	Eggplant: 750 lbs.
Greens: 4,700 lbs.	Fruits: 1,450 lbs.

In addition, the sharing shelf at LaSalle Square received over 1000 lbs. per week in late July through September from area growers. Unity Gardens also delivered fresh produce that was unsold from South Bend Farmers Market. Over 500 lbs/week of produce is delivered to two area homeless shelters in South Bend. 100% of garden leaders who responded to the surveys indicated their Unity Gardens were fully harvested. Taking all the data from above, the estimated data indicates, Unity Gardens connected our community to over 83,500 lbs of produce in 2017.

Respondents represented 5 zip code areas: 46628, 46617, 46615, 46613, and 46536 and included harvesters from a much wider demographic.

Summary: In reviewing the longitudinal journey toward creating a new model for food security and wellness, the power of collaborative efforts is clear. The future is promising, and having data to show potential sponsors should enhance the development efforts of both organizations. We've created a model for other communities to replicate. Continuation of summer wellness programs, using the data collection tools proving successful (pedometers, yum yuk, garden guide sheet, and on-line survey tools for garden leaders, garden campers, and summer interns) along with collecting the stories, amount of food grown, sustained wellness behavior, and other general feedback will help share our story. 2018 and beyond are exciting opportunities to compare our collaborative effectiveness over time.

Respectfully shared,
Sara Stewart RN MSN
Executive Director
Unity Gardens Inc.