Choose for Your Children's Health

Childhood Obesity Social Marketing Campaign

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1. Introduction: Why is obesity a serious problem?

According to CDC BMI-for-Age growth charts, children obesity is defined as "a Body Mass Index (BMI) for age 2 to 19 at or above the 95th percentile." Children from birth to 2, "Body mass index (BMI) > 3 standard deviations above the WHO growth standard median" are regarded as obese (Boston, n.d.).

In the past 30 years, childhood obesity has more than doubled in children and tripled in adolescents all around the world. In the United States, childhood obesity has been a serious issue. Since 1980, the prevalence of children and adolescents with obesity has almost tripled, according to research done by the Centers for Disease Control and Prevention (CDC, 2014). From 2009 to 2010, more than one-third of adults, almost 17% of youth (age 10 to 17), and about 1 in 8 preschoolers (aged 2–5) in the US were obese.

In Michigan, the childhood obesity rate was 40.1% for ages 2 to 17 in 2011. It has slightly increased from 2007, when it was 12.4% ("Obesity and Overweight for Professionals," n.d.). In Ingham County where the adolescent population is approximately 43,000, they have higher adolescent obesity rate (16.7%) over the average of Michigan (11.9%). When focusing on low-income preschool children, the obesity rate of Ingham County is also little higher (13.6%) than the rate of Michigan (13.4%) (City Data, 2013).

Obesity is especially regarded as an important health risk issue for both children and adolescents because those adolescents who are obese are likely to be obese as adults. According to the CDC, obesity usually leads to following problems: heart disease, Type 2 diabetes, stroke, osteoarthritis, several types of cancer, including cancer of the breast, colon, kidney, and pancreas, as well as multiple myeloma and Hodgkin's lymphoma. Obese adolescents are more likely to have prediabetes, and in a study of obese youth, 70% had at least one risk factor (high cholesterol or high blood pressure) of cardiovascular disease. The CDC estimates by 2025, two out of every five adults will have obesity. This puts a greater focus on preventing and controlling weight gain in children and adolescents.

Obesity also has a great effect on the nation's economy. National obesity-associated hospital costs for young people have more than tripled in 20 years, growing from $35 million to $127 million in 2004. In Michigan alone, there are nearly $3 billion in medical costs for health problems connected to obesity (Williams, n.d.).

Obesity also reduces the quality of life, largely stimulating people's demand of social services and medical treatment as well as negatively affecting working efficiency of employees and then obstructing the increase of Gross Domestic Product (GDP) (James, 2004).

2. Situational analysis: Nutrition diet and food access

According to Harvard School of Public Health (2014), a lot of factors will cause obesity, like genetics, socioeconomic reason (i.e., inability to access healthy food) and lifestyle (i.e., too little physical activity and poor eating habits).

Much research has revealed that good nutrition is one of the keys to reducing childhood obesity. Bad eating habits, for example, less consumption of vegetables and fruits and too much consumption on junk food and sweetened-beverages are considered as some of the main reasons to cause childhood obesity, especially for those low-income family ("Study : Low income families," n.d.). Low-income families can only purchase affordable food, like fast food, processed foods or cheap meat, which typically is high in fat, sugar and salt. Even though research that was done by CookingMatters.org showed that 85% low-income parents considered "eating a healthy meal is important to their family," 78% are "interested in learning more about cooking healthy meals that taste good." However, there is still a gap between anticipation and reality.

Also, research showed that for many families, especially for those low-income parents, the difficulty of "food access" is one of the main issues to not obtain and provide nutrition diets for their children ("Study," n.d.). "Food access" is a concept developed beyond "food desert", which indicates that residents have difficulty in accessing healthy food due to barriers of economic, physical and informational conditions. Research shows that the quantity of supermarkets in wealthy districts was three times more than poor districts. That is to say, many low-income neighborhoods have difficulty to even "reach" healthy food choices.

Researchers defined "food desert" as an area within around a 500-meter radius in which there is almost a complete absence of retail stores or services (Wrigley, 2002). According to a report by the USDA (United States Department of Agriculture), a 'food desert' is a census tract that is *low-income* (poverty > 20% or median income < 80 percent of statewide median income) and where a substantial number or share of people have *low access*, defined as living more than 1 mile (urban) or more than 10 miles (rural) away from a grocery store or supermarket ("Community Health Profile," n.d.). Other socioeconomic factors for food deserts are that they are usually found in "communities of color and low-incomes areas (where many people don't have cars)." The typical food desert surroundings is abundant of fast food chains, corner delis, convenience store as well as liquor stores which serve mostly processed foods.

Because of the difficulty to access much healthier food choices, low-income parents are more likely to consume unhealthy food for their families, which are more affordable. In addition, when low-income parents do not have access to retails stores because of a high cost of transportation, they may think spending more money and energy to access healthy food is not a reasonable choice. Hence, they prefer turning to unhealthy food, which they find easy to reach in the corner store.

3. Target Population

Low-income parents with children age 2 to 17 living in Ingham County, Michigan are chosen as the primary target audiences because parents are usually responsible for food purchasing and children's meal preparation.

Low-income families are selected because in the US, 1 of 7 low-income, preschool-aged children is obese, according to the data from 2012 Pediatric Nutrition Surveillance System. Also, based on "Kids Count in Michigan Data Book 2011," "Children who live in families with income below the poverty level ($17,600 for a single-parent family of three, and $22,100 for a two-parent family of

four) are more than twice as likely to be overweight or obese than their more affluent peers in families with income above 400 percent of the federal poverty level ($70,400 for a family of three, $88,400 for a family of four).

Ingham County is especially chosen because they have higher adolescent obesity rate (16.7%) than the average of Michigan (11.9%), and the low-income preschool children in Ingham County have a higher obesity rate than the rate of Michigan. Also, with total population 281,365, there are 20% individuals who are in poverty status. Ingham County's income inequality (0.46) is slightly higher than the statewide rate of Michigan (0.45), meaning that the available income is concentrated in a smaller percent of the population. Ingham County has higher child poverty rate as well. There are 22.4% of children under 18 who live below the Federal Poverty Level, higher than Michigan average (20.5%).

Another reason to choose Ingham County is because 12.8% population lives in a food desert ("Community Health Profile," n.d.). According to the data from citydata.com, 1000 people share only 0.19 grocery stores in Ingham County. 32.8% of the total population has low access to grocery stores, especially low-income family residents, with a low access rate of 13.4%. Also, according to data from 2012 Community Health Profile & Health Needs Assessment, in Ingham County, "The highest rates of persons living in a food desert are found in the Urban Low Price area (Urban Low Price, meaning those census tracts where the median home value is less than $120,900)." Therefore, even though there are no people who live in a food desert in the Urban Upscale area, there are almost 1 in 10 people live in a food desert in the Inner Suburbs area ("Community Health Profile," n.d.) **(See Appendix A)**.

4. Problem Statement

Parents with children ages 2 to 17 that live below the Federal Poverty Level in Ingham County (MI) are more likely to purchase unhealthy food to their children. The poor nutrition access will cause their children to have higher risk of obesity (at or above the 95th percentile for BMI by age and sex).

5. Campaign Objectives

Goal: The goal of our social marketing campaign is to reduce the rate of child obesity in Ingham County. Specifically, our goal in one year is prevent youth obesity rate from growing; goal in year three is child obesity rate decreasing by 1%; our five-year goal is 3% drop off in Ingham County's youth obesity's rate.

In order to achieve our goals step-by-step, we plan to approach our target audiences, parents, in three stratifies: knowledge and awareness about child obesity; knowledge and attitude toward healthy diet; and alternative healthy diet options. Therefore, we come up with three specific behavioral objectives based on their regular lifestyle.

Specific Objectives:
All our objectives are based on 1 year time period. For parents in Ingham County, our objectives include: (1) increase their knowledge and heighten awareness about child obesity as an individual health problem; (2) increase their knowledge and improve their attitude about affordable healthy food options (i.e., three canned or frozen fruits or vegetables); (3) help them obtain convenient and free access to healthy food (free buses to supermarket and grocery); (4) increase the amount of healthy food they eat per week.

6. Intervention Strategy

In order to help low-income Ingham county parents with children 2 to 17 to purchase and provide healthy food for their children, our program will focus on increasing their chance to access healthy food, raising their awareness and knowledge toward childhood obesity issues, and provide them some suggestions to solve their barriers for healthy food purchasing. We will include specific interventions, such as Meijer and Greater Lansing Food Bank. We will pay close attention to highlighting the benefits to the target population, such as: free transportation to Meijer and free recipe for cooking healthy meal with affordable spending. Also, decreasing the barriers to the target population, such as: extra cost for transportation and extra effort to prepare healthy meal. Our communication and marketing strategies as well as campaign design will be based on **Health belief model, Social learning theory, Fear (positive) appeal and Protection motivation theory.**

(1) The Theoretical Background

a. Health belief model

The Health Belief Model (HBM) is "a psychological model that attempts to explain and predict health behaviors"(Glanz et al, 2002, p. 52). The HBM have two basic mechanisms: (1) people's attitudes and behavior will be changed according to their perceived advantages, disadvantages and barriers to an action and (2) people enjoy more likelihood to take the action if they believe that the action can be done successfully (Cohen, Shumate, & Gold, 2007).

b. Social learning theory

According to Bandura (2001), social learning theory suggests that people learn by observing and modeling other people's actions and outcomes of these actions (Bandura, 2001). "Motivation, Reproduction, Retention, Attention" are four sub processes for effective learning (Bandura, 1997). Social learning theory holds that cognitive and environmental factors can both affect individuals' behaviors (Abbott, 2007). Bandura (2011) asserts that learning includes a series of cognitive steps that happen in a real society. This theory has been used widely in training and understanding aggressive behavior (Bandura, 1973).

c. Protection motivation theory

The protection motivation theory (PMT) came from psychology. It has been adapted to predict people's behavioral intentions and measure the cognitive processes by which fear appeal influences persuasion function. The kernel of PMT is that people are stimulated to protect themselves from physical, psychological, and social threats (Maddux & Rogers, 1983; Tanner, Hunt, & Eppright, 1991).

d. Fear appeal

Fear is "an unpleasant emotional state characterized by anticipation of pain or great distress and accompanied by heightened autonomic activity especially involving the nervous system; the state or habit of feeling agitation or dismay; something that is the object of apprehension or alarm" (Merriam-Webster, 2002). A "fear appeal" presents risks of using or not using a specific product, service, or idea. Namely, fear appeals motivate people toward an action (e.g., increasing control over a situation or preventing an unwanted outcome) relying on threats (Williams, 2012).

e. Positive affective appeal

Scholars explored the potential of positive affective appeals to reach audiences, which is important to health-concerned social marketers. According to previous research, positive feelings aroused by messages with positive affective appeal can substantially influence social behavior and cognitive processes such as depth of message processing, recall, attitudes, compliance (Monahan, 1995). Positive appeal used in messages produce better persuasion outcomes (Alhabash et al., 2013).

(2) 4Ps

Product:

The product of this campaign is parents' behavior of purchasing healthy food and preparing healthy meal for their children. The immediate benefits would be pay less, but eat healthier. Moreover, their children will have a healthy life, which can prevent diseases and save money on medicine. The purchasing of unhealthy food in convenience stores compete with our product, because it can save their time of purchasing, as well as effort to prepare and cook their meal.

Price*:*

To exchange for our product's benefits, participants need to pay for three main costs.

1. Monetary cost. Since our target audiences live in "food desert,"they lack access to healthy and fresh food. Meanwhile, low-income residents usually hesitate to pay for transportation to reach relatively far supermarkets, which serve fresh and healthy food. Hence, the monetary cost is the expense on transportation to the supermarket and grocery store.
2. Time cost. Purchasing healthy food in supermarkets and grocery stores costs low-income residents more time than purchasing at corner stores. (Purchasing the food material / Preparing the meal)
3. Effort cost. In order to eat healthy food in an affordable price, participants will also put effort to learn healthy recipe and cooking methods. (Learning how to cook / Considering the healthy recipe)

Place:

In order to reach this campaign's target audiences, we have selected four places where our audience is located, performs the desired behaviors, and considers or receives the health issue.

1. Home. This is the place we can directly reach this campaign's target audiences. They can receive information about our products, and perform desired behavior of this campaign.
2. Point of purchase. This place can be supermarkets and grocery stores, where healthy food is available to consumers.

3. Shuttle. We can distribute the benefits of our product on shuttle and pickup locations. Our educator, as an intermediary, can motivate participants to accept our information and conduct desired behavior.
4. Life path points. These places are points where people regularly visit and are related to our promoted product, such as the county health department, WIC, or school.

Promotion:
In order to encourage residents to adopt the desired behavior, a series of activities are designed. Based on Health Belief Model, we choose to deliver the message that "parents are responsible for children's health, and parents like you still have the ability to protect your children from obesity." Materials include flyers, brochures, and videos. We will utilize a variety of channels (paid advertising, promotion, printed materials, events, and public relations). The immediate incentive is saving money on transportation and food, as well as eating healthier food. Activities include providing free shuttles to supermarkets and grocery stores, interpersonal communication on buses, as well as distributing printed materials.

(3) Communication Strategy
In order to change low-income target parents' food purchase and selection behaviors and ultimately reduce the child obesity rate, we will frame the childhood obesity issue as: parents are responsible to children's health, and have the ability to protect children from obesity through choosing healthy food. After analyzing our target audiences, we found out many low-income parents consider price as their primary barrier for preparing healthy meals and they have less knowledge about healthy food selection and a limited budget, which makes them have little confidence to think about preparing healthy food for their children. Therefore, we came out with: *"Choose your children's health"* as our theme for the overall campaign, and we will adopt both positive and negative appeal in our campaign design.

There will be two phases in our campaign. The first phase is *"Free Bus to Better Health!"* that will focus on "free bus" promotion to solve the food access barriers. The second phase will be "*Your choice! Children's health,"* which will focus on sharing the knowledge of both child obesity prevention and healthier meal preparation with affordable prices. The lecture session will be included in this phase, because we believe that the key to changing parents' food selection behavior is to make them realize and identify how serious their children's obesity issue is.

A CBS report in February 2014 mentioned that a new review of past studies shows "half of parents with an overweight or obese child think their kids are slimmer than they actually are." Also, "In 69 studies of more than 15,000 children, researchers found many parents with an overweight child thought their son or daughter was at a healthy weight or below. Others with an obese kid thought the child was normal or just a bit heavy." According to the survey results, many low-income parents did not realize their children are obese. Therefore, we have to make parents accept their children are facing an obesity problem first, so they will have involvement to accept our suggestions and take action.

We designed our pamphlets based on the survey results: "low-income families are eager for tips and educational tools that will make preparing healthy meals easier and more affordable." What's more, "One in 2 families are extremely interested in learning more about cooking healthy meals, and 2 in 3

families are interested in how to better budget their money for meals"("Study," n.d.). That is to say, those low-income parents have high intention to prepare healthier meals for their children; however, they have limited budget and knowledge to take action. Therefore, we designed two educational pamphlets to target their needs, which could be a really practical strategy to achieve our objectives.

Phase One -- "Free Bus to Better Health!"

In this campaign, we aim to help our primary audiences solve their barrier of "food access," which was identified as one of the main reasons for them being unable to purchase healthy food. Recognizing their low-income status and shortage of supermarkets and retail stores in neighborhood, we plan to cooperate with Meijer and to provide free community shuttle buses for Ingham County residents for shopping in Meijers (Greater Lansing Meijer, Okemos, Lansing and Mason). There will be four routes available and running five times a day during the weekend (Saturday and Sunday). We will especially send our bus to those areas that are considered to be food deserts, like the Baker-Donora neighborhood and the Fabulous Acres area. The frequency of shuttle buses will be modified under the different conditions. We believe launching a "free bus" marketing event is the most direct strategy to reach out target audiences and influence their purchase decision at the purchase moment. The content of this advertisement will be set in a positive tone, informational and high arousal approach. In this phase, our communication message will focus only on announcing a free bus to Meijer for people to get more healthy food selections. We will not bring out childhood obesity issue in this phase and only highlight the "free" benefits in our advertisements.

According to the Positive Affective appeal, we believe adopting positive appeal in this phase is more effective. Since our main purpose in this phase is to attract more people to our campaign and take our bus, the positive tone can reduce people's perceived barriers, encourage people to join our event and accept our offer.

Flyers, newspaper ads, and TV commercials will be chosen as our main advertising strategy. The newspaper ads will be put on some free community newspapers. The TV commercials will be put on the main broadcast networks. The flyers will be designed with a positive tone and framed as "free benefits to all residents." The content will specifically highlight "free" and welcome to all residents, as well as including pick-up time and locations and a link of our official website for people who need more information.

We will start our "free bus" promotion one month before the launch. Three ways are selected to send out printed materials: direct mailing, pick-up locations, and public bulletin post. Direct mailing is regarded as a useful strategy, according to the research, since mail advertisements can arouse sharp awareness of target audiences (Martin, 2005). Therefore, for mailing, we will have two stages. One month before the campaign launches, we will only send out the free bus promotion flyer. Two weeks after the campaign launches, we will send out the free bus promotion flyer along with two pamphlets (same as the pamphlets in phase two). The mailing address will focus on the low-income community in Ingham County. For bulletin posts, we will choose some public locations that low-income people might search for information and free sources, like community church bulletins. For pick-up locations, we will put free bus flyers along with other pamphlets (same as phase two) at some locations where our target audiences mostly visited, like community centers and food bank delivery centers.

We will contact supermarket chains to seek their support. Ideally, we want to cooperate with Meijer, since they have four locations in the Ingham County, as well as they are a Michigan-based brand. We will persuade their participation to build their corporate social responsibility, and strong community relations. We will also try to cooperate with Greater Lansing Food Bank, since we need their demographic information about low-income residents, and food distributed points.

In order to efficiently promote our events, we will utilize public relations to earn free publicity. A launch ceremony of "free bus to better health" with local celebrity, governmental officer and sponsor is expected to attract local press. The wide coverage integrated with our advertising and promotion will generate positive public opinion and improve awareness about our campaign.

Phase two-- " Your choice! Children's health"

In the second phase, educational lectures and educational pamphlets will be included. The main purpose in this phase is to increase the understanding and knowledge about childhood obesity issue, to convince people to adopt our suggested solutions, and ultimately influence their food selection and purchasing behavior. We want to persuade target parents to believe that "childhood obesity is caused by their irresponsible food selection" and "healthy food does not mean high cost." Even though they have tightened budget, they still have many affordable healthy food choices to prepare healthy meals for their children. We want to frame the message from the parents' side: to encourage them to stand out and protect their children's health. This approach will bring those low-income parents the feeling that instead of being coached, its more like being "reminded" of their capability to provide their children with healthier lives.

After people get on our free bus, a volunteer educator will on the bus to give short lectures, including the basic knowledge of childhood obesity, the usage of our free pamphlets and the strategies of using limited budget to purchase healthy food. At the same time, we will provide two free pamphlets to each person: a tutorial of making a shopping list and a recipe of healthy meals with affordable price, which is designed by health experts. Our shopping list tutorial teaches low-income parents how to make shopping list with limited budget, and also enumerates the healthy food choices with low prices such as frozen or canned fruits and vegetables, which will increase customers' shopping efficiency and at the same time guarantee their nutrition intake.

In our shopping list and recipes pamphlets, we will insert some pictures and basic information about child obesity. We will apply low arousal fear appeal with a humorous tone in the pictures; for example, a picture with an obese child standing alone with black background and a tagline *"Thank you for making your child become independent."* In this way, we can arouse people's fear and awareness toward child obesity, and possibly remind them to think about whether their children already suffer an obesity problem. With a humorous tone, those parents will accept much easier the new information because they won't feel too overwhelmed. And the contract between picture and tagline will bring those parents a deeper impression. An emotional advertisment will be chosen because "informative advertisements are not as effective as emotional campaigns (positive & negative ones: shame, guilt, fear....)" according to previous research (Edell & Burke 1987, 1989; Petty, Cacioppo & Schumann, 1983; Witte & Allen, 2000). We intentionally combine those ads with our pamphlets, so when they realize the terrible results of child obesity, they can directly have the choice to adopt the alternative behavior-- healthy food selection.

We will decorate the bus to attract attention as mobiling advertising (auto body advertising), as well as to differentiate it from other bus and shuttle. Logos and brief information will be highlighted. We will use bright colors and vivid pictures to build a positive image.

The P-O-P displays with our campaign logo will be put in Meijer along with all the recommendation "budget-saving healthy products" and our free pamphlets, so target and potential customers can easily find those products and save their time. Also, in front of those products, we will put some small advertisements with the slogan "Your choice! Children's health" reminds them again at the food selection point.

7. Campaign Evaluation

Quantitative method
A panel survey will be conducted in Ingham County via telephone interviews and mailing, as well as where target audiences can reach our information. A panel survey can measure the same sample of respondents at different points in time, which can reveal shifting attitudes and patterns of behavior after our campaign.

Pre-surveys will be conducted to measure respondents' awareness, knowledge, and attitudes toward child obesity, purchasing behaviors, eating habits, as well as demographic information.

Evaluators of our campaign will also conduct a post-survey including the following content: respondents' awareness, knowledge, and attitude toward our campaign; changes in participants' awareness, knowledge, and attitude toward child obesity and healthy food options; changes in their purchasing behavior; respondents' knowledge, attitude toward our campaign; as well as how often they use our free transportation to supermarkets and grocery stores.

The goal of the evaluation is to compare results before and after our campaign to determine its effectiveness on target audiences.

Qualitative method
A focus group will be conducted a year after the campaign's launch. Based on the result of our panel survey, we will invite those respondents who report relatively rapid changes in knowledge, attitudes and behaviors toward child obesity, healthy food options, and eating habits to participate in. The purpose of the focus group is to acquire target audiences' acceptance and evaluation about our campaign, as well as the effectiveness of different components used in our campaign.

8. Budget

We will publish advertising on local newspaper once a week for half of a year. Then the total times for newspaper ad is 24. Our newspaper ad will cover three columns in width and is five inches long. The cost is supposed to be $500 in local newspaper. Hence, the total cost for newspaper ad will be $12,000. We also plan to launch TV advertising on local television channels in the weekend for three months. We forecast the local advertising cost for one day is $4,000. The total cost of TV advertising for 24 days is $96,000.

Category	Quantity	Cost per Unit	Subtotal
Survey	2	$4,000	$8,000
Focus Group	1	$1,000	$1,000
Promotional Brochure	10,000	$0.15	$1,500
Flyer	10,000	$0.15	$1,500
Mailing	15,000	$0.10	$1,500
Television	24	$4,000	$96,000
Newspaper	24	$500	$12,000
Video production	1	$5,000	$5,000
Print design	1	$1,000	$1,000
Volunteers	1	$50,000	$50,000
Operational cost	1	$50,000	$50,000
		Total	**$227,500**

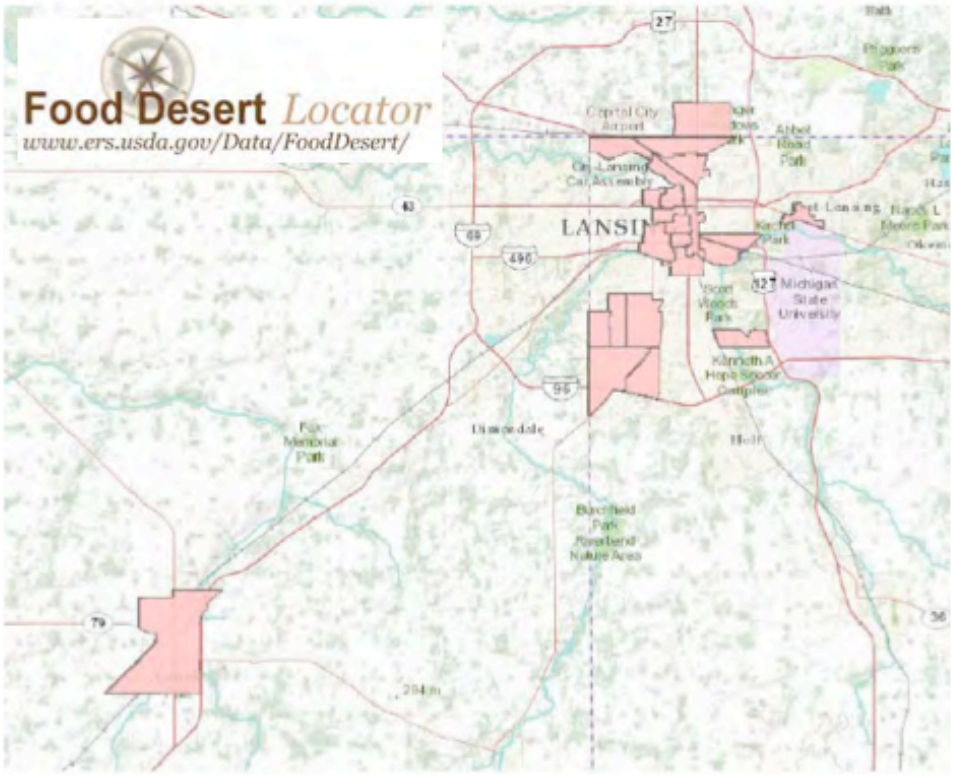
For volunteers, we need to pay to train them to be qualified educators on the bus. Meanwhile, we should provide them water and food. The cost for volunteers is estimated to be $50,000.

Category	Quantity	Cost per Unit	Times	Subtotal
Bus	4	$600	80 days	$192,000
Gasoline	4	$250	80	$80,000
Drivers	4	$200	80	$64,000
Operational Cost	1	$10,000	1	$10,000
			Total	**$346,000**

As we mentioned before, we will seek for cooperation with Meijer. They will sponsor the expense for our “free bus for better health.” This program includes four free bus lines. The estimated rent fee for each bus is $600 per day. We plan to operate those buses only on weekend. Except for holidays and extreme weather that cannot run buses, the total operational days are estimated to be 80 days. Adding salary for drivers, as well as operational fee, Meijer will sponsor $346,000 for our free shuttle program.

Appendix A.

Census Tracts which meet the definition of a USDA Food Desert area in Clinton, Eaton, and Ingham Counties.
Food Desert census tracts are colored pink.



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