

Food Deserts: How Little, Fresh Food Results in Large Problems

Keira Tobia

Sacred Heart University

Introduction to Food Deserts

A fact is something that is known to exist or proven to be true with supporting data or evidence (Merriam-Webster, 2019). One staggering fact is that 23.5 million Americans live in a food desert in the United States (“11 Facts About Food Deserts,” 2015; *Living In a Food Desert Documentary*, 2015). More than 6 million of the 23.5 million Americans that live in food deserts are children (*Living In a Food Desert Documentary*, 2015). According to the United States Department of Agriculture (USDA), “food deserts are defined as parts of the country void of fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished areas” (Gallagher, 2010). Food deserts typically affect urban environments where minority and low-socioeconomic communities exist (Bernard et al., 2015). This problem of food deserts as well as food insecurity (people who lack consistent source of funds to purchase food) is largely due to the lack of grocery stores, farmers’ markets, and healthy food providers in the area of which people live (Gallagher, 2010; Bernard et al., 2015). Food deserts have become an increasing problem in the United States, as obesity rates and chronic disease rates are on the rise, furthermore, education, transportation, and healthy food providers must proliferate in order to try to solve the problem of food deserts and eliminate them from society.

One may wonder where food deserts exist. People in middle- and wealthy-class areas often have plenty of access to healthy food within a half mile radius in urban areas, and a 1 to 3-mile radius in suburban areas. Usually, food deserts exist in areas that have low-income or minority neighborhoods (Allcott et al., 2018; Wright et al., 2016). Unfortunately, there are many people in the United States who are completely unaware of the existence of food deserts. Many people debate what a food desert is and the criteria to define it. Should distance, the availability of certain types of foods and/or transportation define what a food desert is? Or is it a

combination of factors that define what and where a food desert may exist? Depending on research, some food deserts in urban areas are defined as an area where there is no grocery store within one mile, but in rural areas, it is defined as an area with no grocery store within ten miles (Wright et al., 2016). Whether a distance is one mile or ten miles, people still need transportation in order to get to a grocery store. One component to grocery shopping is transporting groceries back to one's home. In areas where food deserts are present, some families, may have to walk several blocks to a bus stop and take a 20 to 30 minutes bus ride to the grocery store. Grocery shoppers who take the bus must keep in mind that they need to minimize the number of groceries that they buy so that he or she will be able to carry them back onto the bus and walk several blocks home again from the bus stop (*Living In a Food Desert Documentary*, 2015). Thus, there is also debate as to whether availability or lack of transportation in an area defines what and where a food desert exists.

Food deserts are also defined by what is available. Many food deserts do not have the average, large-scale grocery store or supermarket such as Stop & Shop or Shop Rite (*Living In a Food Desert Documentary*, 2015). However, some food deserts may have small convenience stores in which inadequate amounts of fresh, healthy food is sold (Larson, Story, & Nelson, 2009). The majority of food sold is sugary, salty, processed, and fatty, which are inexpensive and filling for families trying to feed and satisfy their starving children (Larson et al., 2009). Most convenience stores often sell products that can be a detriment to health if used in excessive amounts and overtime: alcohol and cigarettes (Allcott et al., 2018). There are often fast food restaurants in areas where food deserts are deemed to exist (Larson et al., 2009; *Living In a Food Desert Documentary*, 2015; Wright et al., 2016). Fast food restaurants can be appealing to low-income families, as food is cheap and already cooked for the convenience of its customers. It

may be helpful for low-income families who work multiple jobs and are too tired when they get home to cook dinner for themselves and/or their family. Another factor that impacts the definition of food deserts is the quality and affordability of food (Wright et al., 2016). Healthy food access may be available, however, the food is too expensive for the low-income families shopping. Therefore, they purchase the cheaper items such as a two-dollar box of macaroni and cheese that has five to six servings versus a head of lettuce for about two dollars that only contains about two to three servings (Stewart et al., 2011).

Evidence has found that the majority of people who live in a food desert have an unhealthy diet (Larson et al., 2009; Suarez et al., 2015). Currently, much of the research questions if poor diets occur from lack of healthy food available, or if it simply occurs due to poor education on proper nutrition in low-socioeconomic areas. One study found that there is a nutrition-income relationship (Allcott et al., 2018). Essentially, research from the Healthy Eating Index demonstrates that the majority of households in higher incomes, on average, eat healthier foods compared to lower income households (Allcott et al., 2018).

Health Problems in Food Deserts

The health of a population that lives in food deserts has been rapidly declining (Ghosh-Dastidar et al., 2014; Larson et al., 2009; Suarez et al., 2015). There are severe, chronic health issues that many people face, who live in food deserts such as obesity, hypertension, and chronic kidney disease (Bernard et al., 2015; Ghosh-Dastidar et al., 2014; Suarez et al., 2015). Obesity can lead to a host of many more severe and chronic problems such as heart disease, strokes, Type II Diabetes, cancers (uterus, cervix, endometrium, ovary, breast, colon, rectum, esophagus, liver, gallbladder, pancreas, kidney, and prostate), digestive problems, gynecological and sexual problems, sleep apnea, and osteoarthritis (Mayo Clinic Staff, 2019). These conditions can

threaten the lives of individuals, as their quality of life can be diminished, and it may affect both their morbidity and mortality rates (Mayo Clinic Staff, 2019; Wright et al., 2016). Obesity may affect the amount of activity one can do depending on the severity of the condition. The additional weight from an unhealthy diet can also lead to osteoarthritis on weight-bearing joints, which can cause pain for individuals during exercise (Mayo Clinic Staff, 2019). For people who develop cancer caused by obesity, they must obtain expensive medical attention and treatments in order for patients to restore health and survive. This is extremely difficult for people who live in low socioeconomic areas, as many do not have access to health insurance (McConvile, 2019).

Chronic kidney disease and kidney failure are also common health problems found in food deserts, often caused by hypertension (high blood pressure) (Suarez et al., 2015). According to research, chronic kidney disease affects 26.6 million Americans and it has a growing prevalence and impact nationally (Suarez et al., 2015). Chronic kidney disease leads to complications including anemia, bone disease, heart disease, high potassium and calcium levels, and fluid retention (American Kidney Fund, 2019).

The story of unhealthy diets may seem to begin when a convenient supermarket is removed from an area and a food desert results, however, the story does not end there. In fact, there is a cycle. Overtime, people begin to eat unhealthy diets, which leads to further chronic diseases such as obesity, chronic kidney disease, and hypertension. A documentary about Richmond, Virginia reports that where there was once a grocery store that had closed, today there is currently a dialysis center that exists in the location where the grocery store had been (*Living In a Food Desert Documentary*, 2015). When the grocery store was present, most people were eating healthier and there were lower rates of obesity and chronic kidney disease. Today, with the increase in obesity, chronic kidney disease, and hypertension from poor diets and

nutrition, most likely due to the lack of healthy foods, there is a need for dialysis centers to treat kidney failure patients. Unfortunately, dialysis cannot cure chronic kidney disease, it is simply a long-term treatment to help the kidneys continue to function (American Kidney Fund, 2019). As seen with other diseases, chronic kidney disease and dialysis affects the quality of life of those who live in a food desert in a negative way. Dialysis patients are forced to have their dialysis three times per week, usually three to four hours at a time for each treatment (Hakim & Saha, 2014). Often this time commitment prevents people from obtaining full-time employment (Dąbrowska-Bender, et al., 2018).

Another chronic illness that is linked to the poor diet of people residing in food deserts is Type II Diabetes. Type II Diabetes can affect what people must eat, and also forces them to check their glucose levels on a daily basis. People would like to avoid Type II diabetes because it can lead to chronic kidney disease and heart disease (American Kidney Fund, 2019). Food insecurity has a high correlation with increased diabetes rates. In Chicago, there is staggering data that the death rate from diabetes in a food desert is twice that of areas with access to grocery stores and healthy food (“11 Facts About Food Deserts,” 2015).

Bridgeport, Connecticut is known for having areas in which much of its population is composed of low-income families who live in a food desert. According to the Bridgeport Food Action Plan (2015), 37% of Bridgeport residents were obese, while 43% of its East End Bridgeport residents were obese (Bernard et al., 2015). The East End of Bridgeport is where the majority of food deserts are present, as there are no major grocery stores in the area, and many residents do not have transportation, therefore they often rely on convenience stores that are in a walkable distance (Bernard et al., 2015). Furthermore, when comparing the data to state levels in Connecticut, only 21% of the population is obese (Bernard et al., 2015). The data reveals that the

East End of Bridgeport had a 120% higher obesity rate compared to the rest of the city of Bridgeport (Bernard et al., 2015). As a result of the data collected, the Bridgeport Food Action Plan found that “compared to the rest of the city, more people on the East End went to the hospital more than once for diabetes and related illnesses. Also, 20% of East End residents had high blood pressure” (Bernard et al., 2015).

More Education Needed

The “cycle of poverty” can often be described as a situation that generations of families are stuck in because there is no land, no house, no margin for error, no opportunity to save, no insurance, and no potential for advancement; people simply must survive (Mayo Clinic Staff, 2019). Rather than aiding communities in poverty, it is more about enabling them through education and transportation (McConvile, 2019).

Education is extremely important for people of all ages. The ability to learn opens the world to people and allows them opportunities which can give them access to success. Some people have simply never heard of the term “food desert,” let alone understand the highly debated definition of what a food desert is. Others may not realize that perhaps people of their neighboring town are facing the problem of living in a food desert. Not only is the education and need for increased awareness of food deserts necessary amongst all people, what is also necessary is the education and emphasis of nutrition in schools and communities present in food deserts and surrounding areas.

When the idea of food deserts first came to be, it was believed that the solution to the problem was to simply open a supermarket in areas where people were struggling to find healthy food (Ghosh-Dastidar et al., 2014; Wright et al., 2016). As a result, the prediction was that chronic diseases such as obesity and high blood pressure, resulting from poor diets, would

decrease, as people would then have access to healthy foods and improve their diets to be healthier. This, unfortunately, has not been the case. Studies have shown that where easier access to healthy food was introduced in certain food deserts, there was no decrease in obesity and other chronic disease rates, nor did people actually buy healthier foods (Wright et al., 2016). This leads to the importance of education of the communities. Most schools have mandatory health classes for students; however, many do not necessarily teach nutritional concepts (Center for Disease Control & Prevention, 2019). Instead, the health classes cover good hygiene habits, sexual education, and drugs, alcohol, and their implications. It is believed that schools should simply have a mandated nutrition class so that students may understand how to obtain proper nutrition and the benefits of a healthy diet versus the health risks of a diet consisting mostly of junk food. Many schools in low-socioeconomic areas in food deserts face certain obstacles which may include not having enough funding for a nutrition class and a teacher to teach it (Center for Disease Control & Prevention, 2019). A government's programs should be created to mandate nutrition classes and provide funding for schools to implement classes into their curriculums.

Not only do children and teenagers need to be educated in schools, but adults should be educated as well. Those who live in food deserts often eat unhealthy food for several reasons: they cannot afford fresh, healthy food due to higher prices, they are not aware of the health benefits from eating healthy food, they rely on their culture and traditions for guiding them in their current diets, and they may not know how to cook healthy, fresh food (Wright et al., 2016). If communities are educated more on proper nutrition and are introduced to different types of healthy foods and recipes that guide people on how to cook, there may be more awareness, and thus a drive to seek and obtain access to healthy foods. Perhaps, community centers and religious communities can create an event which educates the community on healthy food options and the

benefits it has. With more education, it is believed that more people will want to seek healthy food for themselves and their families (Wright et al., 2016).

Often there is a lack of awareness and knowledge of healthy food options is nearby farmers' markets and community gardens in food deserts. It was found that the majority of residents of Bridgeport (58%) who participated in a survey in Bridgeport, Connecticut, were unaware of the Bridgeport Farmer's Market (Bernard et al., 2015). Residents who did go to the farmers markets in Bridgeport suggested that the city send mail to its citizens in order to advertise for the farmer's markets (Bernard et al., 2015). The advertisement might also include a fact about good nutrition and a healthy lifestyle, as well as a recipe in which an in-season fresh fruit or vegetable could be used. Any advertisements or information sent to the public should also be bilingual.

The lack of education in healthy food options and nutrition is that many children growing up in a food desert have never seen a fruit or vegetable, such as a tomato (*Living In a Food Desert Documentary*, 2015). These children only know that they have had tomato sauce and apple juice, but never fresh fruits or vegetables, and therefore they may not actually know what they look like (*Living In a Food Desert Documentary*, 2015). Many Americans take for granted the fresh fruits and vegetables they have available to them, while others do not know what a fresh tomato tastes like. Community gardens can be extremely important in helping educate communities on fresh food, nutrition facts, and what types of recipes those healthy foods can be used in (*Living In a Food Desert Documentary*, 2015). Community farms can also engage people of the community to grow food for themselves and the rest of their community. Investing time in growing food from the seed, watering it, and watching it grow may also excite and fascinate people, which results in them wanting to do more. Community members may be encouraged to

take action such as growing their own personal gardens or investigating on how to obtain and cook meals that consist of healthier foods, such as the foods they are growing, compared to their normal diets. At Shalom Farms, in Richmond, Virginia, its community is involved to volunteer and care for the farm, which produces ninety-thousand pounds of food for the community (*Living In a Food Desert Documentary*, 2015). The farm also formed a partnership paired with Bon Secours Health System to create a program called the Prescription Produce Plan (*Living In a Food Desert Documentary*, 2015). Essentially, fresh fruits and vegetables are treated like medicine, and each week families go to Shalom Farms to pick up their “prescription” of fresh fruits and vegetables (*Living In a Food Desert Documentary*, 2015). Shalom Farms has created a strong community which has become aware of healthy eating habits and dedication of time for the greater good and health of the community. On the other hand, in Bridgeport, community gardens are present, but many people are unaware that they exist (Bernard et al., 2015). Just as there needs to be more advertisements for farmer’s markets in food desert areas, there also must be more advertisements for community gardens to volunteer there and obtain healthy, affordable food. Creating an application, which organizes community members to form carpools to grocery stores and community gardens may be of some help to the community.

Transportation in Food Deserts

Scarcity of transportation is another factor that plays a role in food deserts (*Living In a Food Desert Documentary*, 2015). Since many food deserts exist in low-socioeconomic areas, many people cannot afford to own and insure their own cars. In this case, people must walk several blocks to a bus stop, and then take a bus ride 20 to 30 minutes to the grocery store. In order to simplify the process for people to travel to grocery stores and decrease travel time, perhaps a bus route could be designated for only the grocery store, so there are no unnecessary

stops, and it is easier for people to get to and from the supermarket. Another program that could be implemented is a grocery store on wheels (for example a bus filled with healthy food options). A traveling grocery store could stop at community centers or church parking lots in the local food desert communities to sell healthy, fresh food to the community citizens in need of healthy food.

Some Solutions to the Problems of Food Deserts

Unfortunately, part of the problem as to why people will not buy healthy food when healthy food options are introduced into a food desert is because they simply cannot afford it (Bernard et al., 2015; Ghosh-Dastidar et al., 2014; Larson et al., 2009; *Living In a Food Desert Documentary*, 2015; Wright et al., 2016). Simply speaking, healthy food is more expensive than processed, unhealthy foods. According to research, a healthy diet is \$1.50 more per person, per day (Wright et al., 2016). For one year, a person can spend \$547.50 extra per year for a healthy diet. If there is a family of four, an extra \$2,190.00 was spent to ensure that each family member had access to a healthy diet all three hundred and sixty-five days of the year. Residents should be taught which fresh produce is in-season and how to purchase it “in bulk,” as well as any non-perishable healthy foods. In order to avoid food wastage, companies such as Ugly Food based in Singapore, but delivers to the US, strive to reduce food waste by making connections with wholesalers, importers, and distributors to gather their fresh produce that would otherwise be wasted, and transform it into healthy food products (Ugly Food, 2018).

Government programs can also help to alleviate the stress and reduce the cost of healthy food products for individuals who cannot afford it. The Supplemental Nutrition Assistance Program (SNAP), senior vouchers, and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) cards can be used by citizens in need of funding to purchase healthy

foods from grocery stores or even some farmers' markets (Bernard et al., 2015; "Supplemental Nutrition Assistance Program (SNAP) | Benefits.gov," 2019; USDA, 2013). Unfortunately, some people do not wish to accept government funds and grants because they wish to maintain a sense of pride and identity. They feel that using those funds would be considered similar to using charitable handouts, which causes some people to see themselves as a failure if they resort to it (Eisold, 2009). The pressure of feeding families is often what causes people to accept government funds (Eisold, 2009).

In addition to government issued food vouchers, the government, with the assistance of non-profit organizations, can provide programs that incorporate exercise in order to help low-income families achieve a healthy lifestyle. A program that enables people to increase their physical activity rates may combat obesity and other chronic diseases correlated to food deserts and unhealthy lifestyles. Community members establishing an exercise program that encourages people to come and run a mile could reward them with a quantity of healthy, fresh produce. The program helps people increase their physical activity rates while allowing people to gain access to healthy food as a reward, eventually leading to a healthier lifestyle.

When it comes to facing the struggles of living in a food desert, unfortunately, many parents are faced with a difficult question when they cannot continuously afford and gain access to healthy food: "Do I feed my children with unhealthy food that will fill their stomachs and suppress their hunger, or do I feed them healthy food, but they still may be hungry?" Some will feed their children unhealthy food; others will feed their children healthy food and know that their children are still hungry; others will feed their children a combination of both healthy and unhealthy foods. People living in food deserts often struggle to provide healthy food for

themselves, but also must struggle to make ethical decisions for the health of their loved ones. Food deserts are indeed a rising problem in the United States.

In order to solve the problem of food deserts, a supermarket does not need to be introduced into a food desert, rather lower socioeconomic people must be enabled to lift themselves from poverty (Fielding-Singh, 2018). Enabling the education of nutritious options, learning of health risks of a poor diet, increasing transportation, and providing greater awareness of community involvement in community gardens and local farms can help to introduce people to understand that a healthy lifestyle requires wholesome, nutritious food. Once people understand these concepts and take small steps to introduce healthy foods into their lifestyles, then supermarkets can be introduced into food deserts. When the majority of the community is actively focused on eating healthy, the introduction of a supermarket into a food desert community may be very successful.

While the number of people living in food deserts has climbed, obesity rates and chronic disease rates are also on the rise. Education, transportation, and healthy food providers must be established in order to try to solve the problem of food deserts and eliminate them from society. An area that has an absence of healthy food providers, a lack of fresh food available, and little transportation to obtain nutritious food is simply a food desert. People must ignore the idea that food deserts are not a problem in the United States. More education and community events will bring people together. More awareness of farmers' markets, and local community gardens, will encourage a desire for healthy foods and the benefits it may have on themselves, their family, friends, and neighbors. Food is a basic human right. People should not only have access to healthy food, but they should have the right to knowledge of nutrition and health benefits from healthy food. They should not be left in the dark when it comes to poor eating habits and major

health risks affecting both morbidity and mortality. Living in a food desert may have negative impacts on people in society, however, by uniting and compiling resources together, Americans can eliminate the existence of food deserts from society and increase the overall health and well-being of the American population for the greater good of society.

References:

- 11 Facts About Food Deserts. (2015). Retrieved November 1, 2019, from DoSomething.org website: <https://www.dosomething.org/us/facts/11-facts-about-food-deserts>
- Allcott, H., Diamond, R., Dubé, J.-P., Handbury, J., Rahkovsky, I., & Schnell, M. (2018). Food Deserts and the Causes of Nutritional Inequality. *Working Papers (Faculty) -- Stanford Graduate School of Business*, 1–78.
- American Kidney Fund. (2019). Chronic kidney disease (CKD). Retrieved November 1, 2019, from <http://www.kidneyfund.org/kidney-disease/chronic-kidney-disease-ckd/>
- Bernard, S., Baptista, A., Boissevain, A., Carter, W., duBay-Horton, K., Evans, M., Gallup, P., Harris, P., Hoey, B., Meekins, T., Moore, M., Pettway, J., Salsgiver, C., Smith, J., Tota, R. (2015). Bridgeport, CT Food Action Plan 2015. Retrieved November 1, 2019 from https://www.bridgeportct.gov/filestorage/341650/341652/341932/345868/2015_Bridgeport_Food_Action_Plan.pdf
- Center for Disease Control & Prevention. (2018, August 13). Adult Obesity Facts | Overweight & Obesity | CDC. Retrieved November 1, 2019, from <https://www.cdc.gov/obesity/data/adult.html>
- Center for Disease Control & Prevention. (2019, August 21). Nutrition Education in US Schools. Retrieved November 1, 2019, from https://www.cdc.gov/healthyschools/nutrition/school_nutrition_education.htm
- Dąbrowska-Bender, M., Dykowska, G., Żuk, W., Milewska, M., & Staniszevska, A. (2018). The impact on quality of life of dialysis patients with renal insufficiency. *Patient Preference and Adherence*, 12, 577–583. <https://doi.org/10.2147/PPA.S156356>

- Eisold, K. (2009, November 30). The Shame of Food Stamps. Retrieved November 1, 2019, from Psychology Today website: <http://www.psychologytoday.com/blog/hidden-motives/200911/the-shame-food-stamps>
- Fielding-Singh, P. (2018, February 7). Op-Ed: Why do poor Americans eat so unhealthfully? Because junk food is the only indulgence they can afford. Retrieved November 1, 2019, from Los Angeles Times website: <https://www.latimes.com/opinion/op-ed/la-oe-singh-food-deserts-nutritional-disparities-20180207-story.html>
- Gallagher, M. (2010). USDA Defines Food Deserts | American Nutrition Association. Retrieved November 1, 2019, from <http://americannutritionassociation.org/newsletter/usda-defines-food-deserts>
- Ghosh-Dastidar, B., Cohen, D., Hunter, G., Zenk, S. N., Huang, C., Beckman, R., & Dubowitz, T. (2014). Distance to Store, Food Prices, and Obesity in Urban Food Deserts. *American Journal of Preventive Medicine*, 47(5), 587–595. <https://doi.org/10.1016/j.amepre.2014.07.005>
- Hakim, R. M., & Saha, S. (2014). Dialysis frequency versus dialysis time, that is the question. *Kidney International*, 85(5), 1024–1029. <https://doi.org/10.1038/ki.2013.474>
- Larson, N. I., Story, M. T., & Nelson, M. C. (2009). Neighborhood Environments: Disparities in Access to Healthy Foods in the U.S. *American Journal of Preventive Medicine*, 36(1), 74-81.e10. <https://doi.org/10.1016/j.amepre.2008.09.025>
- Living In a Food Desert Documentary*. (2015). Retrieved from <https://www.youtube.com/watch?v=jicYbi-8ZNU>

Mayo Clinic Staff. (2019, August 22). Obesity—Symptoms and causes. Retrieved November 1, 2019, from Mayo Clinic website: <https://www.mayoclinic.org/diseases-conditions/obesity/symptoms-causes/syc-20375742>

McConvile, K. (2019, July 12). What is the cycle of poverty—And how do we make it go away? Retrieved November 1, 2019, from Concern Worldwide website: <https://www.concernusa.org/story/cycle-of-poverty/>

Merriam-Webster. (2019). Definition of FACT. Retrieved November 1, 2019, from <https://www.merriam-webster.com/dictionary/fact>

Stewart, H., Hyman, J., Buzby, J. C., Frazão, E., & Carlson, A. (2011). *How Much Do Fruits and Vegetables Cost?* 37.

Suarez, J. J., Isakova, T., Anderson, C. A. M., Boulware, L. E., Wolf, M., & Scialla, J. J. (2015). Food Access, Chronic Kidney Disease, and Hypertension in the U.S. *American Journal of Preventive Medicine*, 49(6), 912–920. <https://doi.org/10.1016/j.amepre.2015.07.017>

Ugly Food. (2018). UglyFood | Eat well and do good for mother nature. Retrieved November 1, 2019, from UglyFood | Eat well and do good for mother nature website: <https://www.uglyfood.com.sg/>

Wright, J., Donley, A., Gualtieri, M., & Strickhouser, S. (2016). Food Deserts: What is the Problem? What is the Solution? *Society*, 53(2), 171–181.