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United States, Education and Malnutrition

Food Deserts: How to Identify and Address the Food Disparities in America

Food insecurity is deeply woven into our society, a burden that grips almost every aspect of human life. Food is a basic building block for survival, affecting everything from brain function and emotion regulation to physical performance. In order to not just survive but to thrive, humans need proper nourishment, a luxury that many cannot afford. If we begin to delve into the extent of the damage caused by a lack of adequate nutrition, the issues become painfully evident. The strain on the health care system caused by chronic illness, growing social and economic disparity, and emotional and behavioral problems starting in childhood all have a foundation in food insecurity. Though the solutions are complex and intertwined, it's clear that our priority must be nutrition, thus we need to employ the idea of "food first".

Science tells us a healthy and balanced diet is vital for preventing dietary diseases, such as Type 2 diabetes and cardiovascular disease. Chronic diseases resulting from a poor diet or inactive lifestyle rampage America, affecting as many as half of the adults in the United States. The CDC estimates that combined healthcare costs for diabetes and obesity alone totaled \$474B in one year (Centers for Disease Control and Prevention, 2021).

Improving one's diet significantly reduces the risk of developing these illnesses, in turn saving money for taxpayers and individual healthcare costs. A healthy eating pattern consists of a variety of fruits and veggies, grains, and low-fat dairy products, though for many, following a nutritional diet is not a question of what, but how. Fresh, non-processed food is extremely hard to come by for people living in food deserts, defined as urban areas with very low access to grocery stores or food pantry service, making it near impossible to find affordable and nutritious food. It stems from the unequal distribution of healthy food sources across America and greatly contributes to unhealthy lifestyles. The issue of food deserts is far more widespread than it appears, with about "17.7% of the entire U.S. population" (*Food Access Research Atlas*, 2021) living in food deserts, or about 54 million Americans, more than half of whom live in poverty. Feeding America reports that 13 million children face food insecurity (*Map the Meal Gap*, Feeding America, 2021).

Families living in the United States' food deserts or whose health is otherwise compromised by the under-consumption of fresh produce are frequently living in run-down, dying neighborhoods. On the corner of Main Street sits an abandoned grocery store. On the next corner sits a convenience store and a dollar store, both of whom sell an abundant amount of processed foods low in nutrients and high in calories. The average family in these neighborhoods faces tremendous hardships just in their day-to-day life. In places with high unemployment rates, very low wages, and many single-parent households, a mother spends more time wondering where the next meal will come from rather than how nutritious it is. Just being able to put food on the table for her children is a feat, no matter the caloric makeup. On top of living in severe poverty, she struggles with Type 2 diabetes and obesity after growing up in the same situation. The family is faced with near-impossible healthcare costs, and with her kids on the same diet, likely, they will soon follow in her footsteps.

People living in food deserts are faced with two large hurdles when it comes to finding food, economic affordability and transportation issues. Impoverished neighborhoods of people with little mobility are targets for food deserts, as grocery store chains are less inclined to open up stores in these areas. Citizens without automobiles are forced to settle for cheap, low-quality food items that are prepackaged and high

in refined carbohydrates, trans fats, and artificial ingredients and low in nutrients and dietary fiber. Others have to take multiple trains and busses just to shop at a true supermarket. On top of transportation fees, fresh food is more expensive, up to \$1.50 per day per person more (Rao et al. 2013), thus some just opt to spend less on unhealthy foods. Furthermore, grocery stores in low-income areas have far less selection than their middle-class neighborhood counterparts. The fresh food that can be found in these supermarkets is scarce, accompanied by an abundance of cheap processed foods, high in fat and salt. Researchers found that impoverished neighborhoods' supermarkets are about 2.5 times smaller than markets found in higher-income areas, with "higher-priced food, less fresh produce, and more processed food" (New York Law School Racial Justice Project, 2012).

Food deserts disproportionately affect people of color, and researchers have discovered that Black and Hispanic neighborhoods on average have four times fewer supermarkets than found in white neighborhoods (New York Law School Racial Justice Project, 2012). The racial composition of a neighborhood is just as large a factor as poverty in the propagation of food deserts. African Americans are half as likely to have access to chain supermarkets, and Hispanics are a third as likely in comparison to their white counterparts. As a result, higher rates of obesity and diet-related health issues come out of low-income minority neighborhoods. Young black neighborhoods are plagued with cases of obesity and hypertension, especially in disorganized areas without parks or wellness facilities. A lack of infrastructure in poor and minority neighborhoods gives no incentives for supermarkets to locate here. Many scientists have attributed the creation of food deserts to structural racism, stating "the lack of supermarkets within low-income inner-city minority communities is not a demo-graphic accident or a consequence of "natural" settlement patterns," (New York Law School Racial Justice Project, 2012) but rather the result of government policies that have segregated our neighborhoods for decades.

In the 1940s, a string of legislation from President Franklin Roosevelt provided white families with low-interest housing loans, allowing them to move out of urban areas and into suburbs, taking the grocery stores with them. Laws like this and "redlining" policies made it near impossible for Black Americans to leave the crowded urban districts, effectively segregating minorities. Effects from this outdated legislation still linger in the communities, and the gaps between the lower and upper class have continued to grow. To fully address the issue, we need to look further than the simple lack of supermarkets, to the systemic underlying issues that have caused them in the first place.

Access to fresh food affects all aspects of life in ways that go undetected by many who have never experienced food scarcity. Our diet affects our health, education, mood, and culture. Children with a poor diet are more likely to struggle in school, sports, and extracurricular activities. Poor nutrition can cause children to have behavioral issues and cognitive disparities that have an overall negative impact on education. Food deserts even affect employment, as grocery stores serve as great opportunities for people in a community to get job experience and learn a set of skills that can assist them in other areas of their lives. Food also serves as an expression of one's cultural identity. Without access to culturally appropriate cuisine, people become disconnected from that aspect of their identity. Further, cultural diet restrictions can limit the already scarce food options in food deserts. The impact of living in a food desert is interwoven into the entire community. The life expectancy is significantly lower, while the crime rate is higher (New York Social Justice Project, 2012).

The United States of America has significant work to do to feed our own. Lawmakers and government officials face the very important question of how to solve these nutritional inequalities. Simply building more supermarkets would be an ineffective and almost ignorant solution. As stated, food deserts are a result of far more complex and systemic factors than the geographical distance from the nearest grocery store. Even with vegetables right down the street or even in your own garden, many people would not know how to prepare the produce or lack time to do so, so they would continue to resort to processed or

fast food. The most effective fix for food deserts is a combination of education, access, and policy adjustments.

The proposed solution aims to start small and to start immediately. The idea is to make a difference in my neighborhood and community. The proposal acknowledges the complex nature of food deserts, not all contributors will be addressed, rather the proposal hopes to deploy resources to the fundamental issue of many social challenges. A CDC study found that just 9% of Americans consume an adequate number of vegetables and that early intervention in access and education makes a real difference in improving diets (Manna, 2020). Building from this foundation, this solution will bring not only food access but education to young families in their home environment, in places they choose to go, and with organizations that families trust. How is this achieved and/or funded?

Through personal experience as a volunteer in both a Veggie Van and at the local food pantry, I have seen the enormous need and potential for these solutions. The Veggie Van, operating much like a food truck, penetrates targeted poverty areas, bringing fresh vegetables and fruits to the area. Food is available to be purchased for a low cost or with SNAP (federal assistance funds). Providing produce for the Veggie Van is limited by the regional growing season. Food pantries distribute food at no cost but are limited by local donations and funding. These two points of distribution are not enough. To serve the need and improve malnutrition across the country, the access points need to grow by five times or more. School buses provide an immediate increase in access points.

Recognizing there is a monetary reality to the Veggie Vans, communities, and local leaders must organize and take the necessary steps to address these needs. The following options can supplement current fresh food sources:

- Zoning community gardens into urban, suburban, and rural areas with a minimum population count of 1,000. Qualifying gardens are to be vertical, rooftop, or traditional plots. Local law would require a yield result from the gardens of 7,000 lbs. annually. Consistently providing a food source relieves burdens on other governmental and non-profit support programs. Development of healthy food zones for the city would carry tax benefits.
- New housing developments or other significant economic generating projects are required to provide community garden land or the equivalent in cash to be utilized for the sole purpose of local food generation and free or low-cost distribution. The food supplement clause would have a ten-year minimal funding requirement.
- Food sources can be supplemented from backyard gardens as they frequently produce more products than a single-family can utilize.
- “Food first” dictates a dedicated portion of the total fee paid to health insurance companies (\$185B annually) is required to be set aside for healthy food distribution. State policies would regulate and mandate the performance metrics to be met for the investment made. Rather than taxing the insurance companies who would likely pass the increase on to consumers, the insurance companies would be responsible to distribute food in the communities they serve with no premium cost increase. Improving the health of their clients provides added value to the insurance company as claims would reduce with improved health outcomes. The risk/reward scenario would be trusted to the insurance companies to manage. The federal government would match the effort in their Medicare and Medicaid programs.
- Any family or business contributing to food production in any way is eligible to tap into tax credits or in the case of a low-income family, free tuition, reduced school fees, etc.

Perhaps many would consider each option an additional tax but a better way to look at it as a minimal cost of doing business, one that provides a direct pathway to increasing access to healthy food and improving the overall quality of life in the communities they operate in, draw profit from, and where their employees

live. Additionally, these investments in community health lead to much lower healthcare costs in the future.

An intuitive alternative for commercialized grocery stores in food deserts is food co-ops, where the store is powered by the local consumer. You become a member of a grocery co-op by paying dues, typically a lifetime membership that resembles buying shares of the business. Anyone is free to shop at these markets, though member-owners have a say in decisions, and share the store's profits. Members are asked to work a few hours a month in the store, allowing them to qualify for discounts on groceries. The beauty of grocery co-ops is that the threat of gentrification is nearly eliminated by utilizing locally sourced produce and products from local farms as well as community labor. This allows them to run on low labor costs and bring down prices lower than typically seen at supermarkets. Co-ops can be an excellent community resource, as profits are turned around and reinvested into its employees and community members (*Food and Grocery Co-ops, n.d.*).

In order to keep produce for these co-ops locally sourced year-round, communities can employ the use of "high tunnels," huge portable greenhouses made from metal framing and polyethylene. High tunnels can allow for crops to grow year-round through an affordable and energy-efficient solution. This alternative can allow for optimized plant growth, as the benefits include an "extended growing season, improved plant and soil quality, reduced nutrient use and pollen and pesticide drift, reduced energy use, and improved air quality"(Natural Resources Conservation Service, n.d.). Farmers who rent space in the high tunnels sell the produce they grow to the grocery co-ops for a larger profit margin than commercialized grocery stores.

With an increase in fresh food sources for communities, we turn to educational needs. By tapping into institutions of trust such as schools and churches, we tap into existing relationships with the end-users. Fresh food ambassadors can be supported in communities- individuals who are passionate about food and its benefits and who are known in the community- to work with school, church, and community resources. Such a fresh food push can reach both children and their parents rapidly. To improve health, we need to touch both children, who ask for fruit and vegetables, and parents, who know how to make delicious meals from limited ingredients. Avenues to increase knowledge include:

- Snack distribution through the Veggie Van as school is dismissed. The individual distribution comes with a fun food fact focused on health improvement along with a recipe using the same ingredients to be made at home.
- When live cooking demonstration is not possible, digital screens on the Veggie Vans' exterior supplement the distribution.
- Creation of recipe cards for distribution using three ingredients on the food truck with each distribution run.
- Creation of meal kits, accessible in the Veggie Van or through local churches, that are both healthy and make a meal for a family for under \$10.
- Increase healthy food education in the national school system. An argument against dedicated teaching time is the volume of academic material mandated to be covered but without children in school, with full bellies, learning standards face an uphill battle.
- Accessing distribution channels in place in both the school district and the religious community including newsletters, bulletins, and email, helps spread the value of healthy consumption. A 'vegetable of the week', recipes, exercise, and health benefits can regularly be distributed. Instructional videos can be distributed in much the same way.
- The creation of an annual food fair for the community with cooking demonstrations, sampling, and food contests generates excitement around healthy, fresh food.

- Promote a culture of food first as a fundamental right and key to community stewardship to combat the stigma of low-income jobs in the agricultural community. Food production can be experiential and fun.

A huge culprit for the acceleration of food deserts is dollar store expansion in low-income areas. With such low prices, grocery stores find it hard to compete on items like paper products and toiletries. Made to appear cheaper, items are actually more expensive there than at the grocery store, simply packaged smaller and sold for only a dollar. These stores are typically highly concentrated in food deserts, though they provide no fresh food. They have been known to undercut business from local grocers and eliminate jobs, driving supermarkets out of business. Statistics have shown that “once a dollar store enters a food desert, that area is more likely to remain without access to a supermarket” (Sainato, 2019). The idea to place restrictions on dollar stores in these areas has long been debated. Some claim it is unfair to place restrictions on a single business in a free market and capitalist society, though the damaging effects brought on by these stores are widely misunderstood. When people have very little access to transportation and are surrounded by dollar stores with low prices, it’s no surprise that they will end up there. In the end, big businesses are forced to relocate and options for nutrition become even scarcer. The city of Birmingham, Alabama was one of the first cities to try out legislation restricting dollar stores within a certain radius to expand access to healthy foods. The law also incentivizes farmers’ markets and community gardens as replacements. The city immediately saw a boom in proposed grocery co-ops and ideas to expand to urban agriculture from residents themselves (Chenarides et al., 2021). Local zoning initiatives to bar select dollar store expansion in some of the most vulnerable areas in the country can be the first step to turning around a food desert.

Government intervention in bringing grocery stores to food deserts has a limited success rate. Community and/or non-profit efforts are much more successful (Brinkley, 2019). This does not mean federal/state dollars should be turned away but rather invested in the infrastructure of a community through a hub building (renovation preferred), one that promotes enterprise development, local business growth, and recreational activity. West Edge Factory by Coalfield Development (n.d.) in West Virginia provides a template for revitalization success. Such a building creates a venue for the entrepreneurial growth of a changing food culture and a healthy community. Supplemented lease agreements create a central hub for many of the activities noted above, a venue to stage from, space to garden, and space to support education, innovation (think agricultural or technology improvements), training, health care, and employment. A “food first” investment is a long-term investment in the community.

Food deserts, fresh food consumption, and the relationship of food consumption to health is a complex problem. Additional grocery stores fail to solve the problem holistically. Dual benefit programs- offering food and education- can be key contributors to eliminating food deserts and improving health by providing fresh food and education, acknowledging underlying issues, and forging a solution in the public sphere. The elimination of food deserts, access to fresh foods, promotion of healthy eating, and increasing knowledge of food and its healthy preparation benefit us all. Food first as healthy people are happy, productive people. An investment must be made at home: by increasing health locally, we benefit the world order.

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