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## **Policy Recommendations to Address Disproportionate Health Outcomes Caused by Healthy Food Access in Relation to Housing Districts Segregated by Class and Race**

Roselyn Quarcoo

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## ABSTRACT

### Policy Directives To Address Disproportionate Health Outcomes Caused By Healthy Food Access In Relation To Housing Districts Segregated By Class And Race

By

ROSELYN QUARCOO

DECEMBER 14, 2020

**INTRODUCTION:** Negative health outcomes among low-income racial and ethnic minorities are related to geographic location, socioeconomic status (SES), and a lack of resources. Areas mostly composed of racial and ethnic minorities are disproportionately affected by a lack of food access in surrounding areas. Districts that house low-income populations are commonly surrounded by convenient and snack stores, which facilitates access to unhealthy food, and subsequently to the prevalence of obesity and cardiovascular disease. Understanding the significance of this relationship is essential for efforts in prevention, as well as the alleviation of health disparities.

**AIM:** To display the relevant resources and data involved in creating prevention programs and detail several policy interventions that employ evidence-based methods for improving the health outcomes of low-income and/or racial and ethnic minorities living in food deserts.

**METHODS:** Data was collected from the United States Department of Agriculture (USDA), Department of Health and Human Services (HHS), Centers for Disease Control and Prevention (CDC), and ERS Food Environment Atlas.

**RESULTS:** The results suggest that the presence of a food swamp is a stronger predictor of chronic disease than the absence of full-service grocery stores, especially in areas with greater income inequality and where residents are less mobile.

**DISCUSSION:** The relationship between residential racial segregation and concentrated fast food restaurant density and the effects on health behavior reveals how systemic racism may be linked to health. A multifaceted policy intervention strategy that addresses built environment, food marketing and price would efficiently facilitate the improvement of health outcomes across many U.S. cities.

**INDEX WORDS:** Systemic racism, food access, diet, food desert, food swamp

POLICY DIRECTIVES TO ADDRESS DISPROPORTIONATE HEALTH OUTCOMES  
CAUSED BY HEALTHY FOOD ACCESS IN RELATION TO HOUSING DISTRICTS  
SEGREGATED BY CLASS AND RACE

by

ROSELYN QUARCOO

B.A., GEORGIA STATE UNIVERSITY

A Capstone Submitted to the Graduate Faculty  
of Georgia State University in Partial Fulfillment  
of the  
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MASTER OF PUBLIC HEALTH

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30303

APPROVAL PAGE

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To my friends and loved ones: I am forever grateful for your patience and understanding. I hope to have time now to reconnect with each of you. 2020 has been an indescribable year for everyone, and the memories shared, especially during my academic journey at Georgia State, will be cherished forever.

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## Author's Statement Page

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Roselyn Quarcoo  
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## **CHAPTER I: INTRODUCTION**

Discrimination and marginalization result in inequities that reinforce social disadvantage and vulnerability and lead to differences in health outcomes (U.S. Department of Health and Human Services, 2014; Williams and Collins, 2001). Structural racism causes direct effects on widespread health outcomes and the neighborhood environment through mutually reinforcing systems like housing and healthcare (Bailey et al., 2017). Access to healthy food becomes practically impossible for low-income households and other vulnerable populations with limited transportation or financial resources (Jetter and Cassady, 2006). Additionally, impoverished areas are less likely to have full-service grocery outlets that provide high-quality, fresh, and healthy foods—which directly affects the ability to choose healthy food options (Jetter and Cassady, 2006; Larson et al., 2009).

Nonetheless, obesity is the second-leading preventable cause of death in the United States (Stewart et al., 2009); the estimated annual medical cost of obesity in the United States was \$147 billion US dollars in 2008 (CDC, 2020). The contributors to obesity are the lack of information about nutrition, the lack of availability and affordability of healthy foods, aggressive marketing of unhealthy foods, and little to no physical activity in daily routines (WHO, 2017). If current trends continue to increase, obesity and physical inactivity may surpass tobacco use as the top preventable cause of death (Danaei et al., 2009; Mokdad et al., 2004). Broader policy interventions involving nutrition and the promotion of physical activity among children and families may prevent the current generation of American children may ultimately face a significant decline in their overall life expectancy as a result of obesity-related diseases that are largely preventable (Olshansky et al., 2005). Consumer access to supermarkets and other healthy

food outlets is generally associated with lower rates of obesity (Block et al., 2011) and chronic diseases, such as diabetes, cancer, and cardiovascular disease (CVD) (Hendrickson et al., 2006).

## **1.1 Background**

In the last fifty years, supermarkets have migrated from inner-city locations to suburban areas, which offered more land for parking, easier loading and unloading by trucks, convenient access to highways, and development opportunity for much larger stores (Pothukuchi, 2005). The reluctance of supermarkets to invest in urban areas has highlighted a range of perceptions and realities related to urban disadvantage: the attractiveness of markets, land assembly and readiness for development, costs associated with urban store development and operation, and regulatory contexts that can facilitate or hinder speedy development. Costs associated with inner-city store operation—rent, labor, and insurance—were also higher than in suburban locations. Bridging the information gap also involves attending to shopping and spending patterns in minority communities. Due to a lack of conveniently located supermarkets, low-income urban residents pay more for groceries in nearby convenience stores, spend more time traveling to distant food outlets, and incur other costs related to poor food choice or forgone eating habits developed as a result (Whelan, Wrigley, Warm, & Cannings, 2002). Low-mobility shoppers, hindered by distance more than their suburban counterparts, value proximity significantly more than other store attributes: size, price, quality of service, and acceptance of specific payment methods (Pothukuchi 2005). Sparse supermarkets also reduce job opportunities, diminish multiplier effects and entrepreneurship opportunities that grocery stores typically generate, and lower support for community activities. Furthermore, society at large suffers when food stamps and other government-funded vouchers wield less value in smaller stores than they would at full-service supermarkets.

The Economic Research Service (ERS) Food Desert Locator is based on a definition developed by the U.S. Department of Agriculture (USDA), Treasury, and U.S. Department of Health and Human Services (HHS); food deserts (FD) are defined as low-income census tracts with a substantial share of residents with low levels of access to healthy and affordable foods (Ver Ploeg and Williams, 2011). Census tracts qualify as food deserts if they meet both low-income and low-access thresholds: a poverty rate of 20% or greater, or a median family income at or below 80% of the statewide or metropolitan area median family income; and at least five hundred persons and/or at least 33% of the population lives more than one mile from a supermarket or large grocery store, and ten miles in the case of rural census tracts. According to these definitions and data sources, an estimated 23.5 million people live in FD across the United States, with 82% living in urban areas (Ver Ploeg 2011). Alternatively, food swamps have been described as areas with a high-density of establishments selling high-calorie fast food and junk food, relative to healthier food options. Food swamps are geographic manifestations of uneven socioeconomic development patterns.

**Table 1.2 Definitions**

Adult obesity	Persons 20 and older whose Body Mass Index (BMI) is greater than or equal to 30 kilograms per meters squared (CDC, 2020).
Census tract	Small, relatively permanent statistical subdivisions of a county—averaging about 4,000 inhabitants (US Census Bureau, 2019).
Child obesity	Obesity is defined as a BMI at or above the 95th percentile for children and teens of the same age and sex (CDC, 2020).
Food desert	Regions where people have limited access to healthful and affordable food, due to low-income or traveling farther to find healthful food options (Dutko, Ver Ploeg, and Farrigan, 2012).
Food swamps	Communities where fast food and junk food are overwhelmingly more available than healthy alternatives (Cooksey-Stowers, Schwartz, and Brownell, 2017).
Healthy food	Foods that (a) are comprised of at least one of the major food groups (vegetables, fruits, grains, dairy, and protein foods) equal to at least

	half the portion size that the Dietary Guidelines for Americans 2010 uses for measuring the nutrients in that food, and (b) contain only moderate amounts of saturated fats, added sugars, and sodium (Cooksey-Stowers, Schwartz, & Brownell, 2017).
Less healthy/Unhealthy food	Foods that are high in saturated fat, added sugar, and/or sodium, or that contribute little to meeting dietary recommendations (Cooksey-Stowers, Schwartz, & Brownell, 2017).

**1.3 Capstone Project Statement**

The purpose of this capstone is to display the relevant resources and data involved in creating prevention programs and detail several policy interventions that employ evidence-based methods for improving the health outcomes of low-income and/or racial and ethnic minority communities. This capstone can be used as a tool for any group or individual who may be interested in health promotion, prevention, or intervention strategies specific to dietary effects on health. The policy objectives of this capstone are to review existing interventions and recommend policy. This capstone will accomplish the following objectives to provide the necessary components essential for national intervention by reviewing multiple interventions and presenting evidence-based prevention and policy recommendations. Comprehensive policy directives for addressing food scarcity are included in this report.

## **CHAPTER II: REVIEW OF LITERATURE**

The rising prevalence of chronic disease in relation to diet is a public health concern. An assessment of sociological risk factors and successful preventive methods may be useful in providing recommendations for politicians and other governing bodies. This systematic review aimed to assess the health consequences of food deserts and swamps and to identify and describe negative food-related health outcomes included in the selected studies. Articles in languages other than English, unavailable online or through the GSU Library/EBSCO Host portal, not dated between 1990-2020, and do not reference food access, deserts, swamps, or food-related health outcomes were excluded. The time frame for the analysis was September 2020 to December 2020. The included 45 studies reported a significant relationship between built environment, available food options, and subsequent health results. There was a variety in methodological approaches, study areas, time frames, and perspectives. To conclude, there is a need for exhaustive policy measures to prevent food-related disease in order to counterbalance a compromised built environment. These articles were selected to present evidence connecting food deserts to diminished food choice and resulting health conditions.

### **2.1 Cotterill and Franklin**

Researchers used demographic information by zip code from the 1990 Census and a complete census of all supermarkets in 21 of the largest metropolitan statistical areas in the United States to gather information on individual supermarkets, including square feet of selling space—classified into individual zip code areas. The study measured the relationship between retail services per capita and demographic variables such as income per capita and percent of households receiving public assistance on a city-by-city basis. The results exposed differences in

the size of the urban grocery store gap in multiple U.S. metropolitan cities; overall, the poorest zip codes in the largest metropolitan areas had only 55% of the grocery square footage in comparison to their wealthier counterparts. The results also explained that inner-city markets, with a few exceptions, were virtually abandoned by leading chains.

## 2.2 Block, Scribner, and DeSalvo

Using geographic information system (GIS) software, all fast-food restaurants within the city limits of New Orleans, Louisiana, in 2001 were mapped. Fast food restaurant density—number of restaurants per square mile—was calculated for each area. Using multiple regression, the geographic association between fast food restaurant density and Black and low-income neighborhoods was assessed, while controlling for environmental confounders that might also influence the placement of restaurants—commercial activity, presence of major highways, and median home. The results of the study revealed that predominantly Black neighborhoods have 2.4 fast-food restaurants per square mile compared to 1.5 restaurants in predominantly white neighborhoods. And the conclusion stated that the link between fast food restaurants and Black and low-income neighborhoods contributes to the understanding of environmental causes of the obesity epidemic in these populations.

## 2.3 Fleischhacker, Evenson, Rodriguez, and Ammerman

In Fleischhacker's systematic review of 40 studies was conducted to identify all published literature relating to fast food access. Fast food restaurants are more prevalent in low-income areas. Ethnic minority groups in comparison with Caucasians were more likely to live in areas with higher access to fast food restaurants. on fast food access, 10 out of 12 studies provided evidence that fast food restaurants are more likely to locate in areas where there are

higher concentrations of ethnic minorities than whites (2011). A survey of the retail environment in 39 U.S. cities reported that neighborhoods with high percentages of African Americans were systematically underserved by retail food outlets, but Latino and lower-income non-African American groups were not, leading to a conclusion that the inner-city retail gap is racial in nature (Bellinger and Wang, 2011). Other studies find that whiter, higher-income neighborhoods are more likely to have immediate access to fresh fruits and vegetables than predominantly African-American neighborhoods regardless of income level (Baker et al, 2006). Block et al (2004) determined that race has an effect separate from income and suggest that inaccurate or stereotyped marketing profiles for Black neighborhoods or racial bias influence business decision-making. Hellig and Sawicki (2003) assert that stereotyped profiling of Black neighborhoods and racial bias explain the absence of grocery stores in many African American neighborhoods. This suggests that facilitating access to food is not simply a matter of the financial viability of a retail outlet for business owners, but something deeper and more embedded in prejudiced narratives about place (Howerton 2017).

#### 2.4 Pomeranz, Teret, Sugarman, Rutkow, and Brownell

This article connects developments in public health and nutrition with legal measures to for preventing obesity through laws and regulations. Two sets of approaches are defined: the direct application of the law to factors known to contribute to obesity and the original and innovative legal solutions that address the weak regulatory stance of government and the ineffectiveness of existing policies used to control obesity. Specific legal strategies are discussed for limiting food marketing to children: confronting the potential addictive properties of food, regulating conduct, using tort litigation, and applying nuisance law as a litigation strategy.

Preemption is anticipated and results confirm possible legal solutions at the federal, state, and local levels.

## 2.5 Sonnerville, Long, Ward, Resch, Wang, Pomeranz, Moodie, Carter, Sacks, Swinburn, and Gortmaker

Researchers modified the Assessing Cost Effectiveness framework and methods to create the Childhood Obesity Intervention Cost Effectiveness Study model to simulate the economic effects of the intervention projected over 2015–2025 for the U.S. population. The define measures were short-term effects on BMI and 10-year healthcare expenditures. Uncertainty intervals (UIs) were simulated using probabilistic sensitivity analysis and results uncovered that eliminating the federal subsidy of food and beverage advertising to children and adolescents would likely be a cost-saving strategy to reduce childhood obesity and related healthcare expenditures. This analysis is limited by the uncertainty of estimates used at each step: online marketing strategies used by major food and beverage companies in place of television ads; TV industry or food and beverage companies' response to the tax; or the impact of food reformulation.

## 2.6 Powell and Chaloupka

This article examines empirical evidence regarding the food and restaurant price sensitivity in relation to weight outcomes. The studies reviewed showed that when statistically significant associations were found between taxes and weight outcomes, the effects were generally small in magnitude, but were larger for low–socioeconomic status populations and for those at risk for obesity. Subsidies of fruits and vegetables were estimated to improve weight outcomes in children and adolescents, especially with those from families of low-socioeconomic



status. Greater price elasticity estimates were found for heavier or non-weight conscious children. Hence, subsidies directed toward low-SES households not only may change health behavior and reduce weight but also may offset equity concerns related to food taxes.

There are several important factors—obesity prevalence, consumption levels, behavioral patterns, and baseline tax rate—that should be considered within local contexts when contemplating the potential benefits of taxation. It is very difficult to estimate how a population would respond to a tax on certain foods; some may find substitutes for the taxed products, which may have the same or higher fat, sugar, or salt content than the original, thus defeating the purpose of the tax. Others may reduce their consumption of fruits and vegetables to pay for the more expensive unhealthy foods. Therefore, the law has a powerful role to play in confronting factors that contribute to obesity—including food marketing, the lack of nutrition information in restaurants, and the possible addictive properties of food. The argument for performance-based regulation, where industries are responsible for solving health problems caused by their products, may present both barriers and opportunities in affecting health outcomes.

## **CHAPTER III: METHODS AND PROCEDURES**

### **3.1 Methodology**

For this Master of Public Health capstone project, the author compiled a list of policy suggestions concerning built environment effects on resident health outcomes and diet. Methods used to develop the list included a review of articles in industry professional journals, a review of applicable agencies and organizations, and extensive web searches. The project approach utilized tools and literature available online to inform the decision-making process and to develop the final product. The literature reviewed focused on systemic racism in relation to housing, supermarket density, the relationship between food choices and health outcomes, dietary health behavior, and urban planning and design. The literature review also included studies that identify relationships between urban agriculture and social health benefits by way of increasing healthy food access and health promotion strategies.

To complete the literature review, the author used EBSCO Host, ScienceDirect, and PubMed to access health promotion, risk prevention, and environmental intervention plans to identify research published in peer reviewed journal articles related to keywords: food desert, food swamp, built environment, diet, racially segregated housing districts, health disparities, and grocery store zoning. Relevant books about food deserts were located using the Georgia State University Library Catalog and online bookstores. Agency websites including the U.S. Department of Agriculture (USDA), U.S. Department of Health and Human Services (HHS), and Centers for Disease Control and Prevention (CDC) were searched for keywords: food desert, food swamp, built environment and health, and urban planning. A web search using popular

search engines—Google Scholar, EBSCO Host—was conducted to identify other institutions that may promote healthy lifestyle choice or affect public amenities.

## **CHAPTER IV: RESULTS**

This capstone can assist researchers and public health professionals create better interventions that could affect health promotion and behavior. The results of this capstone may be useful for public health professionals and government officials because it presents the significance of prejudice in relation to built environment and its effect on the surrounding community. The health of a food insecure person can be affected by a variety of risk factors; the research shows the relationship between food deserts to diminished food choice and resulting health conditions. When addressing food insecurity via policy, other variables should be considered, such as health education, eating behaviors, and financial resources because these variables are strongly associated with food choice. Policy should be comprehensive to not only address companies and advertising but also behaviors that increase the risk of unhealthy eating.

### **4.1 Findings**

Elements of the built environment, such as the absence of necessary institutions like grocery stores, have also been associated with poor health outcomes (Scott et al, 2020). Disparate concentrations of these institutions are associated with neighborhoods with high concentrations of racial and ethnic minority residents (Block et al., 2004; LaVeist and Wallace, 2000). Income has also been found to be a determinant of the built environment; in understanding the compounding relationship between class and race, the geographical distribution of food outlets alludes to prejudiced housing practices and placement of salubrious institutions. The relationship between residential racial segregation and concentrated fast food restaurant density and the effects on health behavior reveals how systemic racism may be linked to health.

Moreover, obesity was positively associated with unemployment, outpatient healthcare visits, physical inactivity, female-headed families, Black populations, and less education, and negatively correlated with physician numbers, natural amenities, Hispanic populations, and larger population size (Slack et al, 2014). At the federal and state-level, policy initiatives, like the Healthy Food Financing Initiative (HFFI) at the U.S. Department of Health and Human Services, incentivizes large retailers and communities to build stores in designated areas (Holzman, 2010). However, scholarly analyses of the HFFI program have discovered that increasing vulnerable households' consumption of healthy foods does not effectively reduce diet-related health problems (Allcott et al., 2017). Simply improving the retail food infrastructure in a community may not encourage beneficial food purchasing and consumption patterns (Cummins et al, 2014).

#### **4.2 Resources and Organizations**

The United States government subsidizes food for low-income individuals and families through several programs, such as the Supplemental Nutrition Assistance Program (SNAP); the Special Supplemental Nutrition Program for Women, Infant and Children (WIC); the Child and Adult Care Food Program; and the National School Lunch and Breakfast Programs. Subsidies for consumers are generally not for specific food items, although some food subsidies such as WIC can be used only for certain foods, and others are delivered through the provision of regulated foods such as school breakfasts and lunches. Other useful resources are the National Agricultural Library, Food and Nutrition Information Center, Emergency Food Assistance Program, US Department of Agriculture (USDA), and US Department of Health and Human Services (HHS) for more information about food programs and health education.

Today, the Supplemental Nutrition Assistance Program (SNAP) program is the largest federal food assistance program in the country—serving more than 45 million Americans. SNAP is a critical safety net program but also has the potential to be one of the most important health and nutrition initiatives in the United States. There are multiple proposals under consideration to ensure that the program promotes healthy nutrition, ranging from establishing economic incentives to defined restrictions, such as the exclusion of sugar-sweetened beverages and other unhealthy products. The 2014 legislation re-authorizing SNAP prohibits the purchase of alcohol, tobacco, hot food and any food sold for on-premises consumption, but not high-calorie foods; soft drinks, candy, cookies, snack crackers, and ice cream are all eligible items for purchase with SNAP benefits. SNAP also distributes funds for purchasing food via Electronic Benefits Transfer (EBT) cards, a federally funded payment option offered at participating stores. Both are essentially for alleviating the food insecurity for low-income individuals.

Separately, among low-income US children, about 1/3 of them reside in households that receive SNAP benefits (Leung et al, 2013). Although SNAP participation is not associated with a higher rate of childhood obesity, SNAP participants consumed 43% more sugar-sweetened beverages (SSB), 47% more high-fat dairy, 44% more processed meats, and 19% fewer nuts, seeds, and legumes in a 2013 study (Leung et al). With perspective, both SNAP participants and low-income non-participants were below national recommendations for whole grains, fruits, and vegetables, while exceeding recommended limits for processed meat, SSBs, saturated fat, and sodium (Leung et al, 2013). None of the low-income children met at least 7 out of the 10 dietary recommendations, and after multivariate adjustment, compared with nonparticipants, intakes of calcium, iron, and folate were significantly higher among SNAP participants (Leung et al, 2013). Theoretically, federal programs may aid in food access gaps in general but the problem of

unhealthy food choice persists. An unhealthy food tax coupled with a healthy food subsidy will solve the imbalance regarding food selection.

### 4.3 Policy Recommendations and Rationale

Districts that house low-income populations are commonly surrounded by convenient and snack stores, which facilitates access to unhealthy food, and subsequently to the prevalence of obesity and cardiovascular disease. The results suggest that the presence of a food swamp is a stronger predictor of chronic disease than the absence of full-service grocery stores, especially in areas with greater income inequality and where residents are less mobile. The following policy recommendations address food outlet gaps, food pricing, advertisements, and nutritional programs. Unintended regression and unknown responses are also considered and discussed.

Policy Suggestion
Enact excise taxes where tax revenue is allocated to local efforts to reduce health and socioeconomic disparities.
Disincentivize unhealthy food choices by closing tax loopholes and eliminating business-cost deductions related to the advertising of unhealthy food and beverages to children.
Subsidize healthy food purchases via government programs
Allocate tax credits to existing and developing healthy food outlets and adjust grocery store standards and definitions
Maintain and strengthen essential nutrition supports for low-income children, families, and individuals through programs like the Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

Local governments can adopt regulations that give grocery stores different floor-area-ratio (FAR) requirements, density bonuses, or height increases to help make development more feasible in certain areas. Regulations can also lower the amount of parking that is required for grocery stores to reduce a developer's costs. Municipalities can also provide less restrictive definitions of permitted stores to eliminate as many barriers as possible. Additionally, individuals at the higher end of the BMI distribution were more price elastic, and that higher prices for fast foods were significantly associated with greater fruit and vegetable consumption, though still price inelastic (Powell and Chaloupka, 2009). A conventional excise tax strategy counts primarily on changed consumer behavior in response to higher prices and secondarily on firms reformulating their products and activities to limit their tax burden. For example, if salt were taxed in hopes of reducing the public's ingestion of sodium, consumers might eat fewer potato chips, compared with carrots and strawberries, because the chips would cost more because of the tax. Consequently, some potato chip makers might reduce the amount of salt and/or produce salt-free potato chips, hoping that at least some consumers would favor these now-cheaper alternatives. (Pomeranz, Teret, Sugarman, Rutkow, and Brownell, 2009). Implementing two types of junk food taxes—a nutrient tax and a food and beverage category tax—may push consumers to reject unhealthy choices in favor of less energy-dense foods. Theoretically, this would encourage a healthy lifestyle by diminishing the consumption of unhealthy foods and motivate manufacturers to produce healthier alternatives to maximize profit. Although consumers can save on sales tax when buying items in bulk, excise taxes are built into the retail price, thus discouraging consumers from buying product. Food companies and supported politicians may oppose them, a tax-subsidy intervention would have the greatest impact on racial



and ethnic minorities, persons of low socioeconomic status, and other vulnerable populations at risk for obesity (Franck, Grandi, and Eisenberg, 2013).

There are numerous long-term risks associated with television viewership and advertising exposure in childhood and has been extensively studied over the past thirty years. The Guide to Community Preventive Services recommended found evidence connecting behavioral interventions reducing recreational sedentary screen time to significant reductions in BMI and obesity prevalence among children. Accordingly, the American Academy of Pediatrics warrants that there is sufficient evidence to support a ban on fast food advertising in children's TV programming in order to reduce childhood obesity and improve children's nutrition (Sonnerville et al, 2015). In 2009, food marketers spent \$633 million on youth-directed television in the U.S—maintaining its position as one of the most predominant mediums to reach youth, accounting for 35% of total youth-directed expenditures (Sonnerville et al, 2015). Children are particularly vulnerable to advertisement promoting unhealthy food because of their inability to identify persuasive intent (Sonnerville et al, 2015). Unhealthy food manufacturers and companies, in an attempt to minimize their involvement in health risks, shift the responsibility to consumers. So the tax-subsidy policy could potentially should the responsibility back onto the businesses.

Rather than blaming victims or their families, unhealthy food sellers could be required to address the health consequences their products cause. Junk food could be defined as products with a composition of more than 30% fat or 40% sugar. Together, these firms, operating in an oligopolistic market, would probably cover a large percentage of the junk food that is consumed overall. After determining each regulated firm's share of the junk food market, the share of responsibility would be delegated based on products with the highest concentrations of sugar or

fat. In measuring whether each firm is achieving its goal, the company would be responsible for reducing the obesity rate in a specific group (i.e. children attending schools in a geographically contiguous area). A plan might set interim goals, requiring the firm to lower the obesity rate among these pupils by a certain percentage after the pilot time period and then more over the following years, so it reaches its share of the overall goal within ten years. While junk food consumption is not the only cause of childhood obesity, it is an important contribution, and with that in mind, junk food sellers are not expected to eliminate childhood obesity, but to reduce it significantly. When using this way of defining the target, consumption of the firm-specific product would not matter—instead, the question would be whether fewer of those children were obese—measuring an outcome versus an input. Rather than focus on fast food consumption, the firm might instead increase fruit and vegetable intake, promote exercise, or discourage TV viewing. But that would be considered a fair burden to bear in return for its ability to profit from the sale of nutrient-poor, calorie-dense products.

If the firm wanted to escape from the plan, the requirement is replacing existing products with healthier versions—thereby taking itself out of the junk food category. Many nuanced regulatory details would have to be reviewed constitutionally to be operational, but if the basic principle were widely embraced, reframing of public health problems caused by products like junk food, cigarettes, and alcohol as not simply the responsibility of users but instead, of those corporations that profit from products. Preemptive legislation can also affect the ability of claimants to bring lawsuits in the name of public health. Two bills—the Personal Responsibility in Food Consumption Act and the Commonsense Consumption Act—were introduced in the U.S. House and Senate, both seeking protections for fast-food restaurants from being sued by individuals claiming civil damages. The federal bills have failed to pass thus far, but 24 states

enacted similar legislation shielding fast-food establishments from liability between 2003 and 2006 (Pomeranz et al, 2009). Many industries urge courts, legislatures, and regulatory agencies to strengthen the preemptive force of federal and state laws—making preemption an obstacle for advocates.

Complementary policy changes and supplementary interventions may bridge the gap between consumer perception and action; policy should require that institutions offer better pricing for healthy foods relative to junk foods, actively market healthy foods, and enable consumers to resist the influence of junk food marketing. Subsidies of fruits and vegetables also were estimated to improve children's and adolescents' weight outcomes, especially those from low-SES families (Powell and Chaloupka, 2009). Hence, subsidies directed toward low-SES households not only may change behavior and reduce weight but also may offset equity concerns related to food taxes (Powell and Chaloupka, 2009). Key stakeholders include city planners, state officials, state and federal agencies and legislatures, employers, school boards, zoning commissions, developers, supermarket chains, restaurants, and industries ranging from food products to transit companies. Initiatives by hospitals, medical societies, and insurers to reduce health care disparities are not to be overlooked but narrowing health disparities requires interventions beyond just the health care sector.

## **CHAPTER V: DISCUSSION AND CONCLUSION**

The public health approach to developing population-based strategies for the prevention of excess weight gain involves changes to personal, environmental, and socioeconomic factors associated with obesity. Policy actions on the development and implementation of effective public health strategies must adopt a three-pronged approach: changing the food, physical, and the broader socioeconomic environments; positively influencing eating and physical activity behaviors; and supporting health services and clinical interventions. This capstone will only highlight two of them: physical environment and eating behavior.

### **5.1 Discussion**

Historically, the government carries the responsibility of regulating public health, safety, and welfare. However, regarding food-related chronic diseases, government institutions have failed—relying on underdeveloped claims of personal responsibility while protecting practices that exacerbate the problem. In many of the largest cities in this country, urban residents do not have full-service grocery stores in the area. Recent budget cuts in federal food assistance programs such as the Supplemental Nutrition Assistance Program (SNAP) and Electronic Benefits Transfer (EBT) strain the efficiency of distribution of federal food program dollars, reasonably priced food outlets in low-income urban neighborhoods. Urban locations also presented—and continue to present—numerous problems; sites to accommodate the standard stores were scarce or needed significant public intervention for assembly, which most cities were reluctant or unable to offer (Pothukuchi 2005). Site preparation costs, such as demolition of existing structures and environmental cleanup, added other costs and delays relative to suburban

locations (Pothukuchi 2005). The cost of urban development financing and the perceptions and realities of urban crime kept stores away (Pothukuchi 2005).

Based on these findings, local government policies such as zoning laws restricting access to unhealthy food outlets while simultaneously incentivizing healthy food retailers to locate in underserved neighborhoods seemingly appears as a solid strategy to increase health equity. These critical assumptions overlook the social role that race and class play in the place-making process of constructing retail environments; simply changing the retail environment for food access has also been shown to do little to alter food acquisition patterns (Cummins, Flint and Matthews, 2014) The strategy assumes that the residents of impoverished neighborhoods are financially capable of supporting the store, and if not, that the people from outside the neighborhood are willing to travel there to shop. Scholars argue that policies limiting the availability or affordability of unhealthy foods may have more impact on obesity than those designed to promote access to healthy food options. Under the presumption that limited resources are available for policy interventions, it is important to identify which strategies are likely to have the greatest impact. Ultimately, the systems approach to negative health outcome prevention must also incorporate a social constructivist aspect.

## **5.2 Limitations and Opportunities for Future Research**

Limitations of research involve the evaluation of increased presence of supermarkets coupled with holistic strategies such as community gardens and free weight management programs, as examples. In the articles that negated the efficacy of solely changing built environment, other alternatives or additions were not proposed—only approving or disproving hypotheses surrounding correlating relationships between phenomena. In establishing a firm

connection between supermarket density and the BMI of a population, another direction for future research would be to perform data collection, including modified variations of physical activity and nutrition questionnaires. Also, a well-rounded community analysis would not be complete without qualitative interviews of those living in the community. Qualitative data should be collected via focus groups and community outreach and participatory research. A suggestion for future research could involve gauging needs and ideas directly from the residents regarding barriers to health, significant health problems in the community, health disparities, and improvements to the community infrastructure. In future, pilot pricing and taxation interventions in food deserts should be considered as an approach to researching the effects of taxes on obesity at the population level.

### **5.3 Conclusion**

Governmental programs and policies are currently focused on clearing FD areas by funding healthy food options and access; differences between suburban and inner-city shopping patterns and the spatial organization of stores may be systematic and need to be attended to by planners designing supermarket initiatives (Pothukuchi 2005). Taxing foodstuffs can have unpredictable health effects if price elasticities of demand are ignored. A carefully targeted fat tax could produce modest but meaningful changes in food consumption and a reduction in cardiovascular disease (Mytton, Gray, Rayner, and Rutter (2007)). The most influential change agents to promote healthy eating and physical activity are the agencies and businesses that determine advertising messages, supermarket locations, school lunch menus, after-school and summer sports programs, food labels, and the built environment. Considering the possibilities for future research and initiatives, a multifaceted policy intervention strategy that addresses built

environment, healthcare, education, and health behavior would efficiently facilitate the improvement of health outcomes across many U.S. cities.

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