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Desert in the City: The Effects of Food Deserts on Healthcare Disparities of Low-Income Individuals

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I. INTRODUCTION

Food is necessary for the very existence of human beings, but food is not always a privilege that all enjoy. The lack of access to healthy foods is a silent problem in the United States that has been largely dwarfed by starvation in other areas of the world. A growing amount of research has begun to surface surrounding areas in the U.S. with little access to healthy food.[1] These areas are referred to as "food deserts," a term that reportedly originated in Scotland in the 1990's to describe areas with poor access to affordable and healthy diets.[2]

Several scholars have discussed the idea that food deserts in and of themselves represent disparities among lower-income individuals' access to

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[1] Julie Beaulac et al., *A Systematic Review of Food Deserts, 1966-2007*, 6 PREVENTING CHRONIC DISEASE 1, 1 (July 2009), *available at* http://www.cdc.gov/pcd/issues/2009/jul/pdf/08_0163.pdf. [hereinafter Beaulac]

[2] *Id.*

nutritious food,[3] but the implications of food deserts have more far-reaching effects than have been previously explored. Although "the extent to which limited access to supermarkets and other differential aspects of the food environment contribute[s] to known economic and racial health disparities remains unclear,"[4] there are still links that can be made from lack of access to nutritious food to healthcare disparities. Further, these links can not only be made to low-income individuals, but disproportionately affected racial and ethnic groups of low-income individuals.

Part II of this article will discuss the nature of food deserts. Part III will explore the health disparities amongst low-income individuals and the disproportionate effects of diet-related diseases on this group versus the larger population. Since African-Americans are the group most disadvantaged by food deserts,[5] this section will primarily focus on health disparities affecting African-Americans, as a representation of the larger health disparities problem. Part IV will discuss healthcare disparities generally and argue that there are several effects of food deserts on these disparities, in an analysis of "deprivation amplification." Finally, Part V will identify proposed legislation surrounding

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[3] *See generally* Beaulac, *supra* note 1; INSTITUTE OF MEDICINE OF THE NATIONAL ACADEMIES, THE PUBLIC HEALTH EFFECTS OF FOOD DESERTS: WORKSHOP SUMMARY 5 (The Nat'l Acad. Press 2009), *available at* http://www.nap.edu/catalog/12623.html [hereinafter Public Health Effects]; United States Department of Agriculture, *Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences*, June 2009, http://www.ers.usda.gov/Publications/AP/AP036/AP036.pdf [hereinafter *Access to Affordable and Nutritious Food*].

[4] *Access to Affordable and Nutritious Food*, *supra* note 3, at 39.

[5] Mari Gallagher Research and Consulting Group, *Good Food: Examining the Impact of Food Deserts on Public Health in Chicago* 7, July 18, 2006, http://www.marigallagher.com/site_media/dynamic/project_files/1_ChicagoFoodDesertReport-Full_.pdf (last visited Oct. 7, 2009) [hereinafter *Good Food*].

U.S. food deserts, as well as suggest solutions to the food desert problem and its effects on healthcare disparities.

II. THE FOOD DESERT GENERALLY

A "food desert," is a large geographic area with either no or distant mainstream grocery stores, and subsequently, no access to nutritious foods.[6] As aforementioned, the term "food desert" was first used in Scotland to describe neighborhoods that encompassed many thousands of people or an extensive land area comprised of city blocks or square miles which did not have an adequate supply of nutritious food available.[7] Food deserts exist both in urban and rural low-income neighborhoods.[8] A food desert is not a complete absence of food; rather, it is an imbalance in food choice, "meaning a heavy concentration of nearby *fringe* food high in salt, fat, and sugar."[9] These fringe locations are sources of convenient, but often unhealthy, food that cannot support a daily healthy diet on a regular basis.[10] The Mari Gallagher Research & Consulting Group, who has conducted extensive research on the food desert and its link to various diseases, posits that in order to take a first step in truly understanding the problem of food deserts, terms such as "mainstream grocer" and "fringe food

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[6]National Food Desert Awareness Month, http://www.fooddesertmonth.org, (last visited Oct. 7, 2009); *see also* Mari Gallagher Research and Consulting Group, *Food Desert and Food Balance Indicator Sheet*, http://fooddesertmonth.org/pdfs/Resources%20--.%20Food%20Desert%20and%20Food%20Balance%20Indicator%20Fact%20Sheet.pdf, (2008), (last visited Oct. 7, 2009 (discussing food deserts as areas where low-income areas lack adequate access to grocery stores creating an imbalance in food choice) [hereinafter Mari Gallagher Group].

[7]Public Health Effects, *supra* note 3, at 5.

[8]*Id.*

[9] Mari Gallagher Group, *supra* note 6.

[10] *Id.*

venues" must be commonly defined to effectually assess the food desert situation.[11] A "mainstream grocer" is defined as a place where a healthy diet can be supported on a regular basis.[12] These do not only include major "full service chains" but smaller stores as well.[13] The opposite of a mainstream grocer is a fringe food venue, where the food is not inherently bad, but "if it were the primary food source, local diets and public health would likely suffer."[14] Convenience stores and fast food restaurants are examples of fringe food venues.[15]

Food deserts are viewed as such because the distance to the nearest mainstream grocer can be several miles away.[16] In June 2009, the U.S. Department of Agriculture (USDA) put forth a study that found approximately 23.5 million people live in low-income areas that are more than 1 mile from a supermarket or grocery store.[17] The study points out that not all of these individuals are low-income, but of this 23.5 million, eleven million people, or 4.1% of the population are.[18] The USDA report further purports that urban core areas with limited access to food are characterized by higher levels of racial segregation and greater income inequality.[19] Moreover, the study explores this notion of distance from grocery stores creating a desert of food, and states that a

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[11] *Id*.
[12] *Id*
[13] *Id*. at 2.
[14] *Id*. at 1.
[15] *Id*. at 2.
[16] *See Access to Affordable and Nutritious Food*, *supra* note 3, at iii (discussing average distances from homes to supermarkets in low-income areas).
[17] *Id*.
[18] *Id*.
[19] *Id*. at iv.

key concern for people who live in areas with limited access is that they rely on small grocery or convenience stores.[20] These stores, however, may not carry the food necessary for a healthy diet, and if they do, this food is offered at much higher prices.[21]

Chicago has been designated one of many "food desert zones" in this country, along with other cities that include Detroit, Michigan, Cleveland, Ohio, Milwaukee, Wisconsin, and Houston, Texas.[22] The food deserts in Chicago, specifically, give insight into the underlying racial and ethnic disparities inherent in food deserts. The Mari Gallagher Research and Consulting Group determined that African-Americans are the most disadvantaged in relation to balanced food choices, and travel the farthest distance to any type of grocery store, about 0.81 miles on average.[23] In addition, the Group found that fast food sources are slightly closer in African-American areas, concluding that "for African-Americans, it is much easier to access fast food than other types of food."[24] Chicago food deserts, for the most part, are exclusively African-American.[25]

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[20] *Id.*
[21] *Id.*
[22] Angela Cortez, *Food Desert Bill Would Entice New Grocery Stores With Tax Incentives*, NATURAL FOODS MERCHANDISER, September 16, 2009, http://naturalfoodsmerchandiser.com/tabId/119/itemId/4100/Food-desert-bill-would-entice-new-grocery-stores-w.aspx (last visited Oct. 9, 2009) [hereinafter Cortez].
[23] *Good Food*, *supra* note 5, at 17.
[24] *Id.* at 9, 17.
[25] *Id.*

III. HEALTH DISPARITIES OF LOW-INCOME INDIVIDUALS

Health disparities are defined as "the differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States."[26] A convergence of race, poverty, and environment tend to lead to greater overall threats to health.[27] Mari Gallagher's Research and Consulting Group has found that communities with no or distant grocery stores, or with an imbalance of healthy food options (i.e. food deserts), will likely have higher rates of premature death and chronic health conditions.[28] Among African-Americans specifically, the Congressional Black Caucus (CBC) found that socioeconomic factors are the leading cause of unequal healthcare among African-Americans.[29] In relation to food deserts, the CBC found that, as is supported in section II of this article, lower-income communities are "bombarded with inexpensive and readily available fast food, and have little, if any, affordable healthy food options."[30] The result of this bombardment is a risk of heart disease that is 50% higher for poor Americans than for affluent ones.[31] Nearly 24% of African-Americans live in poverty and 19% are uninsured.[32] High blood pressure has the highest prevalence in African Americans when compared to other ethnic groups anywhere in the

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[26] L. Mikkelsen et al., *Eliminating Health Disparities: The Role of Primary Prevention.* OAKLAND, CALIF: PREVENTION INST. 1 (2002), http://www.preventioninstitute.org/pdf/Health_Disparities.pdf (last visited Nov. 1, 2009) [hereinafter *Eliminating Health Disparities*]

[27] *Id.*

[28] *Good Food*, *supra* note 5, at 9.

[29] Natalie A. Thompson, *38th Annual CBC Forum Looks at Minority Health Care Disparities*, CHICAGO DEFENDER ONLINE, Oct. 1, 2008, http://www.chicagodefender.com/article-2045-38th-annual-cbc-forum-looks-at-minority-health-care-disparities.htm, (last visited Oct. 9, 2009).

[30] *Id.*

[31] *Id.*

[32] *Id.*

world.[33] In addition, 45% of African-American women have cardiovascular disease.[34]

In terms of obesity specifically, the "prevalence of obesity" affected 16.3% of American youth in 2006, however, 28% of non-Hispanic African American females were obese, as well as 20% of Mexican-American females.[35] For non-Hispanic White females, the statistic was 14.5%.[36] Obesity can lead to other health issues, further exposing the health disparities amongst groups affected by food deserts and African-Americans specifically. Obesity has been tied to lower wages among women, which affects their family's economic situation.[37] Further, there is a strong positive association between a "high glycemic load diet and the risk of coronary heart disease."[38] When economic situations are affected, it becomes harder for these groups to afford the necessary treatment for their health conditions, thus further worsening these conditions.

IV. "DEPRIVATION AMPLIFICATION" AND THE LINK BETWEEN FOOD DESERTS AND HEALTHCARE DISPARITIES

As aforementioned, "greater availability of fast food restaurants and lower prices of fast food restaurant items are related to a poorer diet."[39] The link between limited access to supermarkets and economic and racial health disparities

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[33] *Id.*
[34] *Id.*
[35] Steven Gray, *Can America's Urban Food Deserts Bloom?*, TIME MAG., May 26, 2009, http://www.time.com/time/nation/article/0,8599,1900947,00.html (last visited Oct. 9, 2009).
[36] *Id.*
[37] *Access to Affordable and Nutritious Food*, *supra* note 3, at 52.
[38] Public Health Effects, *supra* note 3, at 40.
[39] *Access to Affordable and Nutritious Food*, *supra* note 3, at 39.

remains unclear.[40] There is an undeniable link, however, between low-income individuals living in disadvantaged areas and limited provisional access to necessities like food, healthcare, transportation, or other services and resources.[41]

"Deprivation amplification" refers to "a process that could impact an individual's health whereby, risk factors for obesity, such as being low-income, combined with limited knowledge about nutrition are intensified by exposure to a food retail environment that offers too few choices for nutritious food and too many options for less nutritious alternatives."[42] Factors such as "residential segregation along socioeconomic and racial lines"[43] have created pockets of society where lower-income individuals, and more specifically racial minorities, are adversely affected in a variety of ways because they live in food deserts. Deprivation amplification explores the notion that because of this lack of food access and other factors, such as being low-income, less education about healthy choices of food leads to health disparities.

Following from the theory of deprivation amplification, scholars have begun to make a correlation between living in a food desert and falling prey to healthcare disparities. Different populations do not experience a different set of illnesses than those affecting the general population.[44] Instead, illness rates are higher, and the overall susceptibility to disease is greater because of a broad range

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[40] *Id.*
[41] *Id.*
[42] *Id.* at 39-40.
[43] *Id.*
[44] *Eliminating Health Disparities*, *supra* note 26, at 3.

of environmental conditions.[45] The California Prevention Institute states that one of the environmental factors contributing to health disparities is "inadequate neighborhood access to health-encouraging environments including affordable, nutritious food, places to play and exercise…[and] relevant health information."[46] The Institute goes on to state that health behaviors influenced by one's environment can lead to ill health.[47] Without access to healthy and nutritious food, an individual has a more difficult time changing his or her behavior because only unhealthy food is available, and the individual cannot travel to grocery stores with healthier food.[48] The USDA posits that consumers are capable of substituting healthier foods for energy-dense foods (i.e. foods located at fringe food venues), when these healthier foods are available and are as inexpensive as energy-dense foods.[49]

Individuals lacking access to preventative information continue making poor food choices that may lead to health disparities later in their lives. Although there are disparities in treatment and care of low-income individuals and more specifically, racial and ethnic minorities,[50] it is preventative information that is lacking. While the "healthcare system continues to emphasize care that occurs after an illness occurs…[there is a de-emphasis of] preventive services that could

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[45] *Id.*
[46] *Id.*
[47] *Id.*
[48] *Id.* at 4.
[49] *Access to Affordable and Nutritious Food*, *supra* note 3, at 55.
[50] Thompson, *supra* note 29.

potentially prevent the illness or reduce the burden of disease."[51] Medical intervention often comes well after a person is sick, and the most common chronic health problems, such as heart disease, diabetes, asthma, and HIV/ AIDS, which adversely affect the occupants of food deserts, cannot be cured.[52] Thus, prevention would be the optimal treatment solution for both chronic and acute injuries.[53]

Significant disparities exist in the use of evidence-based preventative services for already disadvantaged populations.[54] Racial and ethnic minorities, and more broadly, individuals who are in a lower socioeconomic position, are less likely to receive "screening and treatment for cardiac risk factors."[55] In addition, these disproportionately affected groups are also less likely to receive childhood immunizations.[56] Thus, a lack of early screening and other preventative services, leads to disparities in health for low-income individuals already living in food deserts, and unable to adequately take care of their health because of the lack of access to nutritious food.

V. PROPOSED LEGISLATION SURROUNDING FOOD DESERTS AND POSSIBLE SOLUTIONS TO THE FOOD DESERT PROBLEM

Legislation surrounding food deserts is severely lacking. One reason for this may be that the link between food deserts and healthcare has not been

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[51] Agency for Healthcare Research and Quality, *National Healthcare Disparities Report, 2003*, http://www.ahrq.gov/qual/nhdr03/nhdrsum03.htm#Differential (last visited Nov. 1, 2009) [hereinafter *National Healthcare Disparities Report*].
[52] *Eliminating Health Disparities*, *supra* note 26, at 3.
[53] *Id.*
[54] *National Healthcare Disparities Report*, *supra* note 51.
[55] *Id.*
[56] *Id.*

concretized in a way that lends itself to governmental intervention. In a study conducted by the California Prevention Institute, however, researchers found that "increasing awareness of a problem among communities and individuals, followed by the formation of community collaboratives to mobilize for changes in organizational practices and policy, resulted in laws that then made possible widespread improvements in health."[57] An example of some legislative advances regarding food deserts is the USDA's study of food deserts, which was congressionally mandated by the 2008 Farm Bill.[58] Similarly, a recent proposed bill, the Food Desert Oasis Act of 2009, seeks to encourage grocery stores to move their business into these low-income areas by creating tax incentives.[59] These stores "would receive a rehabilitation tax credit in some cases, which would focus on redevelopment in urban centers and reducing blight."[60] Further, "employers would receive a tax credit of $1,500 for every employee hired from within a Food Desert Zone, and tax-exempt bonds would be used on a variety of store upgrades, from the actual purchase of a building, to equipment, and even product purchases."[61] With more incentives for stores to enter these low-income areas, these groups would have more access to healthy foods and thus lower their risk of obesity, cardiovascular diseases, and other conditions.

Besides legislation, there are alternative options that can be implemented to help combat food deserts. The California Prevention Institute stresses the

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[57] *Eliminating Health Disparities*, *supra* note 26, at 5.
[58] *Public Health Effects*, *supra* note 3, at 6.
[59] Food Desert Oasis Act, H.R. 3100, 111th Cong. (1st. Sess. 2009).
[60] Cortez, *supra* note 22.
[61] *Id.*

importance of primary prevention as a general solution to the healthcare disparities problem.[62] Primary prevention means taking actions *before* conditions arise, and is distinguished from secondary prevention, which involves taking action when problems such as high blood pressure arise, and tertiary prevention, which involves intervention in response to emergencies.[63] The Institute found that a primary prevention approach at the community level would better combat multiple health problems, and if the approach focuses on underlying factors, such as the existence of food deserts, communities can prevent a variety of diseases.[64] In other words, the focus of the primary prevention approach is a community-focused approach, where the focus of healthcare is not treating the individual, but addressing the problems in the community as a whole, as a means of implementing a systematic analysis that works to prevent several diseases at once, rather than one disease in one individual at a time.[65]

Centrally located farmers' markets are another solution that allows individuals to have easier access to fresh foods.[66] An additional solution that was implemented in 2004 in Pennsylvania, which may work in other states, was the Fresh Food Financing Initiative (FFFI), the nation's first public-private funding initiative.[67] This initiative set aside $120 million to fund retail projects in underserved areas and provided grants of up to $250,000 per store and $2.5

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[62] *Eliminating Health Disparities*, *supra* note 26, at 4.
[63] *Id.*
[64] *Id.* at 6.
[65] *See generally Eliminating Health Disparities*, *supra* note 26, at 6-11 (explaining a multifaceted approach to prevention as well as Larry Cohen's *Spectrum of Prevention*).
[66] *Public Health Effects*, *supra* note 3, at 52.
[67] *Id.* at 58.

million per store.[68] With this funding, stores have even greater incentive to provide fresh food to low-income areas.

VI. CONCLUSION

The existence of food deserts leads to health disparities, disproportionately affecting low-income individuals and racial and ethnic minorities. Healthcare disparities refer to disparate preventative information that may help disproportionately affected groups combat disease before it can adversely affect them. The correlation between living in a food desert, and lack of preventative information, including early screening and community outreach, leads to higher risks of obesity, coronary heart disease, and other health conditions amongst individuals already adversely affected by disease and chronic conditions. With more research, the correlation between food deserts and healthcare disparities can be explored, and perhaps more legislation can be directed towards eliminating food deserts altogether.

[68] *Id.*