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HEALTHY AND AFFORDABLE FOOD IN LOW-INCOME NEIGHBORHOODS: A COMMUNITY FOOD SECURITY ASSESSMENT OF SMITH HILL

A project based upon an independent investigation, submitted in partial fulfillment of the requirement for the degree of Bachelor of Arts in Social Work.

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ABSTRACT

Community food security refers to a situation where all residents in a community can access affordable and nutritionally adequate foods. When a community has difficultly accessing healthy and affordable food, it is an issue of community food insecurity; low-income and urban communities experience this problem greatly. Key indicators of food insecurity include households with incomes below the poverty line, minority households, female-headed households, households with children, a lack of a supermarket and lack of adequate transportation. This study examined the issue of community food security in the Smith Hill neighborhood of Providence, RI. It was hypothesized that the Smith Hill community, as a low-income, urban neighborhood, would experience a moderate level of community food insecurity, as it would experience the various factors and barriers noted in the literature that contribute to problems accessing healthy and affordable food. The various factors of food availability and affordability were hypothesized to be the most problematic for the community and its residents.

To understand this problem, a small-scale community food security assessment of the Smith Hill neighborhood in Providence, RI was completed and evaluated. This assessment included both descriptive data about the community, as well as interviews with four key stakeholders in the community who work in areas related to food access. Results of the study supported the hypothesis in some areas, but not in others. Assessment and interview results indicated that the Smith Hill community experiences some food access and food insecurity problems, as a result of many residents living below the poverty level and experiencing other factors akin to food insecurity, but the existence of food pantries, federal food assistance programs and the new supermarket do a great deal to alleviate these problems. Limitations of the study and implications for social work practice, policy and research are also discussed.

Introduction

While there has always been an anti-hunger movement in the social justice field, a new food access movement has developed over the past few years that has been deemed the community food security movement. Community food security (CFS) is defined as "a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice" (Hamm & Bellows, 2003, as cited in Jacobson, 2007). Simply, when a community has difficultly accessing adequate food, it is an issue of community food insecurity. Numerous articles and studies have shown that low-income and urban communities, which almost always include a large minority population, have difficultly accessing healthy and affordable food (Morland & Filomena, 2007; PolicyLink, 2005; Bolen & Hecht, 2003; Gottlieb, Fisher, Dohan, O'Connor & Parks, 1996; Winne, 2003; Ashman, Vega, Dohan, Fisher, Hippler & Romain, 1993). There are multiple factors that contribute to this lack of access and there are multiple negative consequences as a result of it.

There are a variety of factors that contribute to the problem of food insecurity for low-income and urban communities. It is clear that poverty – not having the monetary resources to buy food - is a major factor, but it has been shown that "the lack of access to food in low-income urban neighborhoods – the simple inability to buy it there – is an important additional factor" (Bolen & Hecht, 2003). In comparison to people in more affluent areas, these residents have "very limited access to high quality food, enjoy fewer options in the variety of goods…available…and pay higher prices for their groceries" (Bolen & Hecht, 2003).

One major reason for this limited access to food is the lack of supermarkets in urban communities. It has been well documented that there are less supermarkets in low-income and minority communities compared to wealthier, white communities (PolicyLink, 2005). These residents also face transportation barriers in their access to food. The population of those living in poverty is the least likely to own cars, so many rely on public transit to get to a supermarket – or they walk to the neighborhood corner stores to buy groceries (Gottlieb et. al, 1996). As a result of these previously stated factors, residents often shop at the corner stores, which cause another food access problem: "these small stores…generally offer fewer healthy foods, are poorly maintained, and charge higher prices" (PolicyLink, 2005).

There are numerous negative consequences that result from food insecurity in low-income and urban communities. Mainly, "poor food access negatively affects the health of inner city [and low-income] consumers" (Gottlieb et. al, 1996). The health and nutritional implications include nutrient deficiency, increased infection and disease, increased diet-related and chronic diseases, as well as a greater incidence of obesity (Bolen & Hecht, 2003; Gottlieb et. al, 1996). These results are problematic for all residents, but especially for infants and children, pregnant women and older adults (Bolen & Hecht, 2003).

The problem of lack of access to healthy and affordable food – the issue of food insecurity – is an important one for social workers to consider. This problem is widespread and thus requires social work's attention: "The United States Department of Agriculture finds that approximately 5.1 million people, including over 2 million children are food insecure and lack the resources to obtain nutritious food" (Bolen & Hecht,

2003). In addition, “researchers have documented racial and economic disparities in the types of food store available by neighborhood type and…that food items sold in stores vary by type” (Morland & Filomena, 2007). Food insecurity is a problem that mainly affects low-income, urban and minority populations and these are the exact disadvantaged populations that social workers work with. Social workers should be educated about the multifaceted issues that affect their clients, including adequate access to nutritional food. Also, when social workers address and alleviate food problems with clients, they will be promoting the values of self-reliance and empowerment (Whitaker, 1993, as cited in Jacobson, 2007).

It has been observed by some in the field that social work has not paid enough attention to community food security problems or the anti-hunger movement in general (Jacobson, 2007). Some have noted social work’s tendency to treat hunger and food problems as “individual, short term problem[s] easily addressed through emergency food assistance alone” (Biggerstaff, McGrath, Morris & Nichols-Casebolt, 2002, as cited in Jacobson, 2007), which is not adequate in addressing food security. It is essential that social workers use research to discover the root causes of food insecurity, and its connection with the structural inequalities of unemployment and low wages (Biggerstaff, McGrath, Morris & Nichols-Casebolt, 2002, as cited in Jacobson, 2007).

The necessity of addressing the community food security problem is especially imperative for the areas of policy and community work. The current policies in place at federal, state and local levels are very often intricately linked to food security issues. Social workers must become educated about food access problems and food assistance policies that oppress disadvantaged populations. An important task is for them to work

towards changing policies to better serve those populations. For community organizers, the need to address this problem is quite obvious, as organizing with "a social justice approach to food security links food consumption and production, promotes people's participation in the decisions that affect their lives, and shapes approaches that address food security as community-level change" (Jacobson, 2007). Community organizing can often lead to better access to food; when the community works to change the food their corner stores serve, to bring a supermarket into their area or to start a farmer's market, success can be accomplished, and success stories across America prove this fact. In addition, healthy people and healthy food often help to revitalize distressed communities in numerous ways (PolicyLink, 2005). Food insecurity affects a number of populations and social work needs to be a part of working towards understanding the problem and working on how to solve it.

Literature Review

Many studies have shown that low-income and urban communities encounter significant barriers that cause difficultly accessing healthy and affordable food (Gottlieb, et al., 1996; Cohen, 2002; Pothukuchi, Joseph, Burton & Fisher, 2002; Bolen & Hecht, 2003; PolicyLink, 2005; Wiig & Smith, 2008; Public Health Law & Policy, 2009). The most recent statistics shows that, in 2007, approximately 11.1% of US households experienced food insecurity (Chilton & Rose, 2009). This number can be estimated as about 9 million households or 19 million adults and 12 million children (Cohen, 2002; Pothukuchi et al., 2002). It is important to note that these statistics have not changed much over the years, considering that in 1999, 10% of households were food insecure (Pothukuchi et al., 2002). Individuals and families most likely to be affected by food

insecurity include households with incomes below the poverty line, minority households, female-headed households and households with children. Data shows that Black and Latino households have twice the rate of food insecurity as White households, and households with children are almost twice as likely to be food-insecure than those without (Huddleston-Casas, Charnigo & Simmons, 2008). In addition, female-headed households' food insecurity rates are almost threes times national rates (Chilton & Rose, 2009).

It is not difficult to see that these disproportionally affected groups of people have a similar characteristic in that they are also the most likely to live in low-income, inner-city or urban areas. It is clear that the reason that these poor individuals and families experience food insecurity is because of a lack of access to affordable and healthy food. This population faces numerous different barriers that create this lack of access, and there are various reasons that have caused these barriers to exist. There are numerous negative consequences that occur as a result of food insecurity, but luckily, there are also possible solutions.

Barriers to Food Access

While poverty is the primary source of food insecurity in the United States, the actual lack of access to food is a result of various barriers that low-income and minorities face (Bolen & Hecht, 2003). These various barriers include a lack of access to supermarkets, transportation barriers, reliance on corner stores, the influence of food assistance programs, and the influence of food policies.

Lack of Supermarkets as a Barrier

The social, economic, and institutional characteristics of a community – the environment that people purchase their food in – have a great effect on food insecurity and must be considered in an analysis of the subject (Cohen, 2002). It has been well documented that in low-income areas and communities of color there is a lack of access to stores with healthy and affordable food, especially a lack of supermarkets in these areas. A nationwide study done by the University of Connecticut found that there were 30% fewer supermarkets per capita in the lowest-income zip codes than in the highest-income zip codes (Public Voice for Food & Health Policy, 1995, as cited in Bolen & Hecht, 2003). Similarly, a California-based report found that middle- and upper-income neighborhoods have 2.26 times as many supermarkets per capita than low-income neighborhoods (Shaffer, 2002, as cited in Bolen & Hecht, 2003). In another study, it was found that the zip codes with the greatest number of people on public assistance had 20% fewer supermarkets than zip codes with a lower percentage of people on public assistance (Cotterill & Franklin, 1995, as cited in Gottlieb, et al., 1996). These numbers seem to be the same all across the country, showing the link between geographic access and income level.

Along with this link, there is also a link to race: “a multi-state study found that wealthy neighborhoods had over three times as many supermarkets as low-wealth neighborhoods. Access also varied by race, with predominantly white neighborhoods having four times more supermarkets than predominantly black neighborhoods” (Morland, Wing & Diez, 2002, as cited in PolicyLink, 2005, p. 10). Shaffer’s study noted above also found that “predominantly white communities have 3.2 times the

supermarkets of predominantly black communities, and 1.7 times those of predominantly Latino communities" (2002, as cited in PolicyLink, 2005, p. 10).

The lack of supermarkets contributes to food insecurity because associations have been found between access to supermarkets and healthier food intakes, partly resulting from supermarkets tending "to offer food at lower prices and provide a wider variety of and higher-quality food products than small grocery stores" (Story, Kaphingst, Robinson-O'Brien & Glanz, 2008, p. 259). Data from New York shows that the availability and variety of fresh produce is associated with the racial composition of neighborhoods, and that the availability and varieties of fresh produce carried in supermarkets is greater than other stores (Morland & Filomena, 2007). Morland, et al.'s multi-state study, noted previously, found that "fruit and vegetable intake increased with each additional supermarket in a census tract, and that increase was nearly three times as large for African-Americans" (2002, as cited in Story, et al., 2008, p. 259). In general, recent evidence indicates that the introduction of a new supermarket in a low-income area that did not previously have one is associated with a significant increase in fruit and vegetable consumption (Wrigley, Warm & Margetts, 2003, as cited in Rose & Richards, 2004).

While the above evidence has shown that a lack of supermarkets is directly related to food insecurity, there are some researchers who do not agree. Rose and Richard (2004) conducted a study of food store access among participants in the Food Stamp Program and found that "when supermarket shopping, car ownership, and travel time to store were combined", 76% had easy access to a supermarket (p. 1085). While this factor standing alone is in opposition to other data, there are still a quarter of the households who have only moderate or virtually no access to a supermarket, which is still

problematic. Also, only Food Stamp Program participants were sampled, and while that group does experience high rates of food insecurity, they are not completely representative of the food insecure population. Lack of supermarkets is still a significant factor for millions of Americans who cannot access healthy and affordable food.

White (2006) is another researcher who opposes the ecological food access studies being done. The author states that these studies typically look at the correlation between food access and diet in the same area and draw conclusions on causality, but these studies do not have data on where people bought their food and assume they all shopped at places in their census tract, which is unlikely. White does not offer an alternative way of conducting food insecurity research and also does not take into account the studies that do look at where people buy their food, or the studies that also look at transportation, which determines where people buy their food. The factor of transportation, which is analyzed below, is a significant barrier to food access, because the combination of a lack of supermarkets and a lack of transportation will likely result in food insecurity.

Transportation Barriers

Lack of adequate transportation options is another barrier that contributes to food insecurity: this barrier includes the problems associated with not having a car and having to use public transportation. Unfortunately, the problem of the absence of supermarkets is further compounded by low rates of vehicle ownership among low-income families, in addition the fact that bus lines often do not correspond to market locations (Gottlieb et al., 1996). A nation-wide study found that zip codes with the fewest supermarkets per

capita also had lowest percentage of vehicle ownership, which further relates these two barriers to food access (Gottlieb et al., 1996).

Numerous studies, including U.S. Census data, have shown that low-income, African-American and Latino households have less access to private vehicles than higher-income and white households which makes it difficult to access supermarkets and affordable, healthy food (U.S. Census, 2000, as cited in PolicyLink, 2005). Further data supports the lack of private vehicles: a United States Department of Agriculture (USDA) study found that "only 22% of food stamp recipients drove their own car to purchase groceries as compared to 96% of non-food stamp recipients" (Gottlieb et al., 1996, p. 11). Residents who do not have cars are forced to depend on public transit, taxis or friends to travel to grocery stores if there are not any close-by. This fact makes grocery shopping costly, inconvenient, unreliable and time-consuming (Bolen & Hecht, 2003; PolicyLink, 2005). Transportation barriers for the elderly poor are even more severe, as many can no longer drive or do not feel safe using public transit (Bolen & Hecht, 2003).

Many state-wide studies have been conducted about this issue, with similar results. A California-wide study showed that only 52% of people in low-income areas lived within a half mile of a supermarket and that public transit was found to be inadequate (Bolen & Hecht, 2003). Besides problems transporting bags of groceries, residents reported that buses ran infrequently and at inconvenient times (Bolen & Hecht, 2003). This study also found that most supermarket sites are often located near freeways or in suburban shopping centers, which makes them difficult for inner-city residents to access without a car (Bolen & Hecht, 2003). A Minnesota study reported similar results: the low-income women in the sample stated that store location was a major factor for

food-shopping, and because many did not own cars and had to rely on alternate transportation, for them, transportation limited their shopping frequency and the amount of food they could buy (Wiig & Smith, 2008).

In relation to this summary of the transportation barrier, research has consistently demonstrated that car ownership and the "use of car to buy food is socioeconomically patterned and that this is a key determinant in choice of main food stores" (White, 2006, p. 101). Therefore, socioeconomic status is strongly related to car ownership, and car ownership is truly what determines where individuals do their food-shopping. This relationship means that "for those households without access to a vehicle, distance, not price or selection is the primary factor determining choice of food store" (Gottlieb et al., 1996, p. 12). Distance as a determining factor has poor implications for low-income households who are either forced to travel inconveniently to grocery stores every once in a while or, as the next barrier shows, to shop at smaller stores in their neighborhood.

Corner Store Price & Selection as a Barrier

As a result of the previously discussed barriers – lack of supermarkets and inadequate transportation – many low-income residents are forced to shop at neighborhood corner stores located closer to home, which contributes to their likelihood of being food insecure. Research has supported the simple fact that "residents with limited access to transportation rely heavily on corner stores for their food shopping" (Public Health Law & Policy, 2009, p. 4). In terms of time, these corner stores are more convenient, but unfortunately on average offer fewer healthy foods, are poorly maintained and charge higher prices (PolicyLink, 2005). One study showed that although the stores were convenient, participants [in the sample] shopped at them less frequently

because their prices were generally higher and would rather shop more infrequently at grocery stores than shop at the corner stores (Wiig & Smith, 2008).

Corner store data has shown to support the fact that “most corner stores sell primarily liquor, cigarettes and prepackaged convenience items; few offer fresh produce or other healthy food options” (Public Health Law & Policy, 2009, p. 4). Naturally, if corner stores are overpriced and have limited selection, there will be a negative effect on family food security and community food security in general. Focus group research from one intensive study has suggested that residents perceive corner stores as unsafe, unclean, and as having high-priced and low-quality products yet are often times basically forced to buy food from them (Public Health Law & Policy, 2009).

Overall, research has shown that neighborhood corner stores have higher prices than supermarkets and have a limited and poor selection of food. Through analyzing research from different studies it was found that there are consistent differences between types of stores and their prices and selection: “larger grocery shops, not surprisingly, generally have greater availability, lower costs and better quality fresh produce than smaller grocery stores” (White, 2006, p. 101). For instance, a Minnesota study found that fresh fruits and vegetables at local stores were expensive, limited in variety and poorer in quality than those from supermarkets (Hendrickson, Smith & Eikenberry, 2006, as cited in Wiig & Smith, 2008). Regarding price specifically, extensive surveys have found that prices at corner stores are on average about 10 % higher than those at large chain supermarkets (Kaufman, MacDonald, Lutz, & Smallwood, 1997, as cited in PolicyLink, 2005), and can be as much as 49% higher than supermarkets, depending on the store (FoodFirst, 2004, as cited in PolicyLink, 2005). These studies all show how high prices

and poor quality selections at most corner stores creates another food access barrier for low-income residents who are forced to do their food shopping at these stores.

Federal Food Assistance Programs as a Perceived Barrier

It has been debated within the literature whether or not the use of food stamps, which has been recently renamed the Supplemental Nutrition Assistance Program (SNAP), or the use of the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is associated with food insecurity (Frazao, Andrews, Smallwood & Prell, 2007; Wiig & Smith, 2008). For instance, some data has suggested that participation in these programs is "associated with poor dietary intake, overweight and obesity" (Dinour, Bergen & Yeh, 2007, as cited in Wiig & Smith, 2008, p. 1726). A review of the literature suggests that it is not these programs that are the direct causes of food insecurity, but the various barriers described in this report that affect how low-income households who receive food stamps access food (Wiig & Smith, 2008). It is important to note that these programs have more recently focused on nutrition, as WIC recently changed their food packages for the first time in twenty years to be consistent with federal nutritional and infant feeding practice guidelines (Chilton & Rose, 2009; Public Health Law & Policy, 2009).

Although food stamps are not the direct cause of food insecurity, in many neighborhoods, "food stamp recipients are still at risk for food insecurity because they have few or no places to spend their food stamps on nutritious or desired food" (Bolen & Hecht, 2003, p. 6). Therefore, even if there is a nutritional basis to the program, if there is no access to nutritional food, households may still be insecure. Also, there is still some

belief that recipients do not receive sufficient benefits that allow them to purchase the foods necessary for a healthy diet during the entire month (Story et al., 2008).

Additional Barriers

Some articles have noted additional barriers that contribute to food insecurity in low-income communities, including the high number of fast food restaurants in low-income areas, the perceived high cost of healthy food, the lack of education about nutrition, and the lack of culturally appropriate foods (Story et al., 2008; Bolen & Hecht, 2003; Frazao, Andrews, Smallwood & Prell, 2007; Wiig & Smith, 2008). One California study found 52 fast-food restaurants and only one sit-down dinner in a two mile radius of typical low-income areas (Bolen & Hecht, 2003). While these fast-food restaurants may offer convenient and cheap food, the food is not nutritious by any standards. On average, "away-from-home foods tend to be more calorie dense and of poorer nutritional quality than foods prepared at home" (Guthrie, Harnack & Story, 2002, as cited in Story et al., 2008, p. 260). The Consumer Expenditure Survey found that the average low-income four-person household spends 26 cents of a food dollar on food away from home, which makes it plausible that a plentitude of fast-food restaurants could contribute to food insecurity (Frazao et al., 2007).

Another barrier that may account for food insecurity is the perceived high cost of nutritional or healthy foods, such as fruits and vegetables (Frazao et al., 2007). Studies have found that low-income sample populations perceive fruits and vegetables to be expensive, which deters them from purchasing those products (Wiig & Smith, 2008). In regards to price, reports show that while the availability and affordability of a healthy diet has increased over the past ten years, the availability and cost in local stores has remained

poor (White, 2006). One study used the USDA's Thrift Food Plan to determine the cost of healthy food and found it to be more expensive, which suggests that "the higher cost of healthier foods could be a deterrent to eating healthier among low-income consumers" (Story et al., 2008, p. 263). Although some studies suggest "that 'healthy' food may be more expensive and less available in poorer areas…[other] studies have failed to replicate these findings, showing instead that 'healthy' foods tend to be as, if not more, available in poorer areas and are lower in price" (White, 2006). There does not seem to be a nationwide consensus on the affordability of so-called healthy food, but either way, it still may be true that low-income populations may perceive healthy food to cost more - and in some areas, that actually might be the case.

It has also been reported that a lack of knowledge about a healthy diet contributes to food insecurity. One study found a "disconnection between diet and health relationships" (Bradbard, Micheals, Fleming & Campbell, 1997, as cited in Wiig & Smith, 2008, p. 1732), while another's sample self-reported that they were healthy eaters, but did not actually consume the daily value of any recommended intakes (Dibsdall, Lambert, Bobbin & Frewer, 2003, as cited in Wiig & Smith, 2008). Lack of education has been debated as a barrier, since other studies have shown that low-income populations are aware of what constitutes a healthy diet. For instance, one study has shown that while "food-insecure youths saw greater barriers to healthy eating as far as both convenience and food preferences, they were similar to their food-secure peers as far as acknowledging the benefits of eating healthfully" (Widome, et. al., 2009, p. 827). Some research has also found that low-income individuals do want to buy healthy foods such as fresh produce, but are unable to for financial or geographic reasons (Bolen &

Hecht, 2003). There does not seem to be an agreement among the research whether or not education about nutrition is a barrier to eating healthy foods; it might differ from person to person, and it may not be able to be generalized.

In addition to these factors, as many neighborhoods become ethnically diverse, there have been reports of residents being unable to find stores offering culturally appropriate foods (Bolen & Hecht, 2003). Also, the results of a USDA study on the food spending patterns of low-income households had an interesting conclusion: “the knowledge that even higher income households do not consume enough fruits and vegetables to meet…recommendations suggests that other factors besides income play a strong role in fruit and vegetable purchasing behavior” (Frazao, et al., 2007, p. 6). This study suggests that no one in the nation eats healthy enough, and that trying to find out why low-income populations are not able to eat healthy is not going to solve any problems. This point is technically in opposition to these main points, but in actuality it serves to show that there are multiple factors at play in food insecurity, and income is not the only one.

Root Causes of Major Barriers to Food Access

There are some major root causes behind the aforementioned barriers that affect access to affordable and healthy food for low-income communities. These macro-level causes include suburban development, public transit development, corner store’s business models, as well as economic and food policies.

Suburban Development as a Root Cause

Suburban development began in the 1940s-1950s, and was accompanied by the process of “redlining” African-American and low-income neighborhoods as the least

desirable. As a result of this process, which continued until the 1970s, these neighborhoods naturally began to decline just as the white middle class population left urban areas for the suburbs. “Supermarket flight” happened simultaneously, as the supermarkets left the urban areas to open new suburban stores, taking with them jobs, tax revenue and the selection of healthy food. True crime rates and perceived crime rates are also said to have led supermarkets out of urban areas (PolicyLink, 2005).

These supermarket corporations designed their new stores to have large parking lots, which “necessitated both expensive land parcels…often not available in inner-city neighborhoods and easy automobile access…for their customers” (Bolen & Hecht, 2003, p. 4). Inner-city neighborhoods were denied opportunities and investments as a result of supermarket flight, and further declined as they become more isolated and racially segregated. The only stores left in these neighborhoods were “small independent groceries that charged high prices and offered minimal variety, or corner stores selling a limited number of processed foods” (PolicyLink, 2005, p. 28).

Since the original development of the suburbs, supply and demand factors have influenced modern retail geography. The industrialization of food, commercial forces, as well as socioeconomic and cultural shifts have “led to a greater demand for one-stop shopping and a greater willingness to travel to shops viewed as offering better value for money, quality and range of goods” (White, 2006, p. 100). This led to a growth of large chain supermarkets, which in turn has forced small local stores into “increasingly diversifying to become all-encompassing ‘convenience’ stores maintaining higher prices driven by their turnover in order to compete” (Wrigley, 2002, as cited in White, 2006, p. 100).

Development of Public Transit as a Root Cause

While the government's historic funding of the federal highway system and other automobile-centered projects might seem to be the root cause for transportation issues, the federal focus on the commuter rail is a major problem. The government has been subsidizing the commuter rail system since it was developed: it was originally designed to accommodate central business districts – not neighborhood locations - and is now most frequented by middle-class citizens (Gottlieb et al., 1996). As a result of these subsidies, other transit operations such as inner-city bus routes have tended to suffer, which has negatively impacted the low-income population's ability to travel outside their neighborhoods (Gottlieb et al., 1996).

Corner Store Business Models as a Root Cause

The high prices and poor selection at neighborhood corner stores has occurred as a result of the lack of supermarkets, as smaller stores were forced to develop business models to make a profit. For instance, in neighborhoods without supermarkets, a single store might dominate an entire area with no competition: "little competition combined with high operating costs and low sales volume often results in higher prices for inner city shoppers" (Gottlieb et al., 1996, p. 11).

One problem is that many neighborhood corner grocery stores "used to feature meat, dairy, produce, and other foods, [but] have become primarily alcohol, cigarette and convenience food outlets" (Bolen & Hecht, 2003, p. 5). This shift in business models has occurred for various reasons, including that storeowners often do not have experience dealing with produce or perishable food (Bolen & Hecht, 2003). Corner stores also generally have a slow turnover rate, which leads owners to stock non-perishable food that

has a longer shelf life (Bolen & Hecht, 2003). Non-perishable items also require little sales experience since they do not spoil or need care (Bolen & Hecht, 2003). In addition, corner stores have limited space for products and therefore focus on selling products in high demand, such as alcohol, tobacco and snack foods (Bolen & Hecht, 2003). Some store owners also perceive that the demand for produce at their stores is limited, and believe their selection reflects customer demand, which includes a high demand for liquor and soda (Public Health Law & Policy, 2009).

Food and Economic Policies as Root Causes

It has been determined that "agricultural policies determine which crops the government will support…[and] government support influences which crops U.S. farmers produce, the prices of these crops, and…which products food processors, distributers and retailers make available to consumers and at what market price" (Schoonover, 2007, as cited in Story et al., 2008, p. 262). U.S. farm polices heavily support commodity grains, soybeans and corn, through subsidy payments, research dollars, and infrastructure support, which has created artificially low prices for their related products. These policies have made sugars and fats the most inexpensive food substances to produce, and therefore the cheapest of food substances for companies to buy and include in their product lines (Schoonover, 2007, as cited in Story et al., 2008).

It is clear that government food policies have a great effect on food availability and price. To frame the issue simply, "the low cost of cheap corn and soybeans and higher-priced fruits and vegetables are believed to be a direct consequence of U.S. agricultural policy" (Muller, 2006, as cited in Story et al., 2008, p. 262). In opposition to cheap products made with fat and sugar, healthy foods like fruits, vegetables and nuts

receive little government support and their higher cost is likely a result of it (Story et al., 2008). Between 1985 and 2000, fruits and vegetables had the highest price increases compared to all other food categories, with the lowest price increases being for processed products (Putnam, 2000, as cited in Story et al., 2008). As a result of food policies, "the current structure of food prices is that high-sugar and high-fat foods provide calories at the lowest cost…while fruits and vegetables are more expensive on a per calorie basis" (Story et al., 2008, p. 262). This pricing effect may cause low-income families to select more unhealthy foods as a way to be full and save money, which greatly affects their food insecurity status.

While unrelated to government policy, but still important, the U.S food industry aggressively promotes unhealthy foods though advertising. The food industry spends over $7 billion per year in advertising focused on highly processed and packaged foods and "advertising for fruits, vegetables and other healthful foods is negligible in comparison" (Pothukuchi et al., 2002, p. 4). These advertising practices have a great affect on what foods low-income consumers purchase and what foods are available to purchase.

Negative Consequences of Food Insecurity

The prevalence of food insecurity for low-income communities has numerous negatives consequences for both the individuals as well as the communities. These consequences include health and nutritional problems, psychological and social problems, and community problems.

Health and Nutrition Consequences

As result of food insecurity, food-insecure individuals are at higher risk for all kinds of health and nutritional problems. In general, studies have shown that individuals from low-income households are more likely to have nutritional deficiencies or diets lacking various nutrients, and food insecurity just makes this problem worse (Rose & Richards, 2004). While seemingly minor, these protein and micronutrient deficiencies can have severe health consequences (Chilton & Rose, 2009). To state the problem simply, "people who live in a neighborhood without access to grocery stores are less likely to have healthy diets" (Public Health Law & Policy, 2009, p. 4), which shows a direct connection between food access and health. For instance, a California study found that low-income residents who lived in neighborhoods with mostly corner stores and fast food had significantly higher rates of obesity and diabetes compared to those who had access to a supermarket (Public Health Law & Policy, 2009).

While the above analysis seems to be the general consensus, a study done by Widome, et al. (2009) found that food-insecure youths were actually more likely than food-secure youths to meet the daily serving of vegetables. The researchers stated that this trend was likely because of cultural factors or because of food assistance programs, like reduced-price school meals or food pantries (Widome, et al., 2009). They also found that food-insecure youths did not have a greater amount of unhealthy food in their homes than food-secure youths (Widome, et al., 2009). If food assistance programs are utilized correctly and they offer healthy foods, the results of their study do make sense (Widome, et al., 2009). It is important to note that this study was only of one state and that the results from a sample population cannot always be generalized (Widome, et al., 2009).

Overall, data in the previous and following sections supports the presiding sentiment that food-insecure populations experience health and nutritional problems as a result of their food insecurity (Widome, et al., 2009).

This lack of access to healthy and affordable foods makes low-income populations more at risk for diet-related diseases including obesity, diabetes, cardiovascular disease, high-blood pressure and cancer. Latinos and African-Americans, who are disproportionately part of the low-income population, are already the most vulnerable to these diseases due to other socioeconomic factors, and the addition of food insecurity does not help. These diseases and poor nutrition in general also contributes to short life expectancies (Gottlieb et al., 1996). Food insecure elderly are adversely affected by these health consequences, and experience many health complications, as malnutrition can “exacerbate disease, increase disability, lower resistance to infection and extended hospital stays” (Bolen & Hecht, 2003, p. 6).

Obesity is another major health consequence that has been linked to food insecurity, and many studies have documented this link (Widome, Neumark-Sztainer, Hannan, Haines & Story, 2009). African-Americans and Latinos, a large part of the low-income population, are more likely in general to be food-insecure, and it has been shown that they also have a high prevalence of obesity, which is associated with a poorly balanced diet. Many studies have shown that increased access to supermarkets is associated with lower adolescent Body Mass Index (BMI) and that greater availability of convenience stores is associated with higher adolescent BMI (Powell, et al., 2007, as cited in Story et al., 2008).

Despite these statistics, a recent analysis has shown that density of small grocery stores and chain supermarkets is associated with higher BMI among women (Wang, et al., 2007, as cited in Story et al., 2008). Therefore, this analysis suggests that the reasons for the prevalence of obesity in low-income areas is still being debated, supported by the fact that some "studies have found no relation between food insecurity and weight in children and several studies found a negative association" (Widome, et al., 2009). For example, White (2006) finds the correlation between obesity and availability of supermarkets to be misleading: the author states that studies do not give evidence that people shopped in their census tract and do not include socioeconomic neighborhood factors; therefore it could just be that "fatter people live in poorer areas, served by fewer supermarkets and more convenience stores" (p. 103).

While there may not be a right answer at the moment, there is substantial data to support the fact that obesity is a major consequence of food insecurity, which is greatly experienced by low-income populations. Nutrition experts agree: a major reason for low-income residents' poor health is their limited access to stores that sell healthy foods (Bolen & Hecht, 2003).

Psychological and Social Consequences

Food insecurity also has a negative effect on low-income individuals' psychological and social well-being. On average, food-insecure households have higher odds of depression and stress because they likely are worried about the well-being of the family (Chilton & Rose, 2009). This psychological burden often lies with the women in the family who are usually the ones taking care of the food shopping. These women face high rates of depression and stress, as well as "alienation and anxiety coupled with

worries about family strife or losing their children" (Chilton & Rose, 2009, p. 1206). All food insecure individuals who are unable to find affordable and healthy food are often forced to trade-off paying for "basic needs such as housing, heating and medical care" (Chilton & Rose, 2009, p. 1206). The stress associated with low-income budgeting is then made worse through food insecurity.

Food-insecure individuals of all ages encounter negative psychological and social effects, but two groups within the low-income population experience the effects of food insecurity the most: infants and children and pregnant women (Bolen & Hecht, 2003). Food-insecure children, and therefore undernourished children, may have reduced cognitive development and learning capacities, have trouble concentrating, experience disruptive behavior, have poor mental development and social-emotional growth (Cohen, 2002; Bolen & Hecht, 2003). One study has shown that adolescents who live in food-insecure households have lower psycho-social functioning and a greater risk for suicidal symptoms than those in secure households (Widome et al., 2009). Children are in an important development stage, and experiencing these negative effects at this time can have life-long consequences for their future.

Food insecure pregnant women are also adversely affected, especially in regards to the intergenerational transmission of malnutrition. Pregnant women who are malnourished are more likely to have low-birth weight babies, which will result in children who are "more susceptible to under nutrition and poor cognitive development, which in turn effects the children's ability to earn enough money to support themselves and their families when they become adults" (Chilton, Chyatte & Breaux, 2007, as cited in Chilton & Rose, 2009, p. 1206). In addition, low birth-weight babies have more

complications, developmental delays and illness than babies born at regular weight (Bolen & Hecht, 2003). It is important for pregnant women to be healthy because their actions influence their unborn children; food insecurity can have dire consequences in this respect.

Community Consequences

While it is clear that food insecurity negatively affects low-income individuals, it also has an effect on neighborhoods and communities, in regards to both public health and economic costs, as well the overall community atmosphere (Cohen, 2002). In communities with high food insecurity rates, the corner stores often emphasize alcohol and tobacco, which "makes them magnets for litter, loitering, drug dealing and prostitution" (Public Health Law & Policy, 2009, p. 4). The food selection in these corner stores has an effect on the activities and culture of a community, as these stores are public shopping spaces for the residents and influence the atmosphere of community life. Corner stores with this kind of focus often contribute to the deterioration of low-income communities. As for public health concerns, it is obvious that if food insecure individuals experience poor health and nutrition, there will be an overall decrease in wellness in the community, which is simply unhealthy for all residents (Gottlieb et. al, 1996).

Economic costs to the community are also a problem: "food insecurity costs about $90 billion per year in increased medical care costs, lost educational attainment and worker productivity, and investment burden into the emergency food system" (Brown, Shepard, Martin & Orwat, 2009, as cited in Chilton & Rose, 2009, p. 1203). While this issue is problematic from an economic standpoint, it does not mean the effect on individuals is lost. The amount of money wasted as a result of food insecurity is not

helpful to the government or the residents. Since an impaired work performance and earnings potential in adults has been shown to be a result of food insecurity, there is a negative impact on the economic productivity of the community (Cohen, 2002). Returning to the fact that there are few supermarkets in low-income areas, economic development studies show that this lack of supermarkets has resulted in “lower sales and property taxes as well as increased blight for local governments, lower revenues and profits for retailers and fewer real estate possibilities for developers” (Bolen & Hecht, 2003, p. 4). Therefore, while the lack of supermarkets affects community food insecurity, it also affects community development in general. Also, all of these negative economic effects directly impacts all workers in the community.

Possible Solutions to Community Food Insecurity

While food insecurity seems like a massive issue to tackle, advocates and organizations across the nation are working to develop solutions that will allow low-income communities greater access to healthy and affordable food. There are many diverse possible responses to food insecurity, but the most popular initiatives have been the development of new supermarkets, the reform of existing corner stores and the starting of farmer’s markets. These of course are all examples of “local solutions to local manifestations of larger problems” (Pothukuchi et al., 2002, p. 3). There are groups who are working towards federal policy changes, but this section will solely focus on possible community responses to food insecurity. Although the various solutions are somewhat different from each other, they share the common goals of making nutritious food more accessible and revitalizing and empowering communities, while using progressive

planning, increased collaboration, community responsiveness and multi-sectoral strategies (Pothukuchi et al., 2002).

New Supermarket Development

One solution to improve food access in low-income communities is to institute the development of a new supermarket in the community. New grocery store developments can have a direct positive impact on the food-insecure community, as they "help revitalize these communities, contributing to economic development. In addition to creating jobs for local residents, new stores create local shopping opportunities" (PolicyLink, 2005, p. 12). New grocery stores also serve to recycle money into the local economy: residents spend money at a local businesses, which creates new jobs, which gives people more money to spend at local businesses, which also generates more local sales tax revenue (PolicyLink, 2005). Different case studies have shown the success of this approach, as "supermarkets that had entered deprived inner-city neighborhoods experienced significant business and customer loyalty" (Story et al., 2008, p. 261). In a New Jersey case study, surveys conducted after the development of a new supermarket was successfully implemented in a low-income area showed that residents saved time and as much as 38% on their food bills (Bolen & Hecht, 2003).

The development of large chain grocery stores is one option in this approach, but the establishment of independent grocery stores is another option. Independent grocery stores have the benefits of chain supermarkets, but usually have more loosely defined business models making them easier to implement in low-income, urban areas. There are two types of independent stores that are commonly successful: the specialty store and the ethnic market. The specialty store focuses on high quality, perishable items and is aimed

at those doing frequent, small-quality shopping trips; the ethnic market strives to serve an ethnic community, usually low-income immigrants, with culturally appropriate foods (Bolen & Hecht, 2003).

Corner Store Reform

Another possible solution to the problem of food insecurity is reforming existing corner stores in low-income neighborhoods. This strategy works to enhance access to healthy food in underserved communities by building upon existing community resources, and then "improving the product mix at these stores and addressing…pricing, food quality and freshness, and customer service" (PolicyLink, 2005, p. 28). The goal of corner store reform is to have existing small stores stock healthier options, which also promotes "local small business development, in some cases turning a place seen as a community problem into an asset" (PolicyLink, 2005, p. 4). Advocates establish relationships with corner store owners to improve the availability, quality and affordability of healthy foods, which benefits both the residents as well as the owners – who are often residents themselves. There are a few different approaches to healthy corner store projects, including conducting full-scale conversions, connecting existing distribution networks with stores, improving the nutritional profile of currently offered foods, and implementing social marketing tactics in stores (Public Health Law & Policy, 2009).

Farmer's Markets

The establishment of farmer's markets in food-insecure communities is a non-market-based and non-traditional approach that has become popular in the last ten or so years, as "nationwide, more farmer's markets are locating in low-income communities,

providing convenient access to fresh, affordable and nutritious food" (PolicyLink, 2005, p. 32). By definition, farmer's markets are markets where farmers sell directly to the public in a public space, weekly during the local growing season (Bolen & Hecht, 2003). This "direct farmer-to-market connection usually means that market produce is fresher than that found in urban supermarkets" (Bolen & Hecht, 2003, p. 22). Farmer's markets help to decrease food insecurity in a supplemental manner by increasing the community's access to fresh produce. They also help to "sustain small farmers while providing fresh food for residents, opportunities for small business development, and a public space for increased social interaction" (PolicyLink, 2005, p. 4). Research has shown that farmer's markets seem to be successful when implemented: for example, an evaluation of Philadelphia farmer's markets operating in low-income communities found that 57% of visitors to the market had increased their fruit and vegetable consumption since they started coming (PolicyLink, 2005).

Additional Solutions

In addition to the three aforementioned solutions to combat food insecurity, there are many other methods that advocates and organizations are using in various communities. Community gardens are another nontraditional method that is used to help low-income residents supplement their diets with home-grown produce (Cohen, 2002). A popular way for these to start is for groups to establish community gardens in vacant lots in inner-cites (PolicyLink, 2005). Another possible solution is community-supported agriculture programs, which is when urban residents purchase shares of a season's produce harvest grown by nearby farmers (Bolen & Hecht, 2003). This approach helps to

provide small farmers with economic stability and consumers with high-quality produce at affordable prices (Cohen, 2002).

Other solutions include food co-operatives that help families save money by pooling food purchases, food stamp outreach programs to increase the number of eligible households, initiatives for food banks to have fresh produce and healthy foods, shuttle programs to improve transportation, the development of public markets, and nutritional education efforts to ensure that people have nutritional knowledge about making the right healthy food choices (Cohen, 2002; PolicyLink, 2005; Story et al., 2008). In addition to this list, some communities have neighborhood churches and community centers purchase produce from local farmers to sell after service or have health clinics provide local produce to patients as part of a health-promotion initiative (Story et al., 2008). All of these solutions, while using different non-traditional methods, are each trying to improve low-income communities' access to healthy and affordable food.

Hypothesis

One way to investigate the food security of a specific community or geographic area is to perform a community food security assessment. A community food security assessment can be succinctly defined as a "community assessment…[that] includes the collection of various types of data to provide answers to questions about the ability of existing community resources to provide sufficient and nutritionally sound amounts of culturally acceptable foods to households in the community" (Cohen, 2002). In other words, "a community food assessment examines a range of food issues, and the links between these issues and community…Conducting an assessment is a way to explore and understand the many ways that food is connected (or not) to…[a] community, and their

implications for quality of life, food security, social justice, and other community values" (Pothukuchi, Joseph, Burton, & Fisher, 2002). In order to understand and analyze the problem of community food security, a small-scale community food security assessment of the Smith Hill neighborhood in Providence, RI will be completed and evaluated. Key stakeholders in the community who work within the area of food access will also be interviewed. In conjunction with the literature, the hypothesis is that the Smith Hill community, as a low-income, urban neighborhood, will experience a moderate level of community food insecurity, as they will experience the various factors and barriers noted in the literature that contribute to problems accessing healthy and affordable food. The various factors of food availability and affordability will likely be the most problematic for the community and its residents.

Method

Sample

This study of the barriers to accessing healthy and affordable food uses both existing quantitative data and original qualitative data to examine the Smith Hill neighborhood, as an example of a low-income community. Much of the existing quantitative information used for this study was collected from the Smith Hill residents during the 2000 Census, making those residents samples for the study. The original data for this study was derived through interviews with key stakeholders on the issue of food security in the Smith Hill community. The participants interviewed for this study were individuals who work in the Smith Hill area, with the residents of the community, in areas related to food access. They were interviewed in person, over the phone or through e-mail correspondence. The Chief Operating Officer and Emergency Services

Coordinator of a local community center with a food pantry; the Executive Director of a social service ministry with a food pantry and a meal kitchen; and the Agency Services Director of a local food bank were all interviewed.

Data Gathering

Condensed Community Food Security Assessment

The first half of the study used sections of the United States Department of Agriculture (USDA) Community Food Security Assessment Toolkit to examine whether or not the factors and barriers that often affect low-income communities and their ability to access healthy and affordable food are present for the Smith Hill community. It is important to note that a "community food assessment is not a distinct field of study with its own methods, concepts, and issues. It builds on other kinds of assessments, including those from the fields of community planning (asset mapping), social work (needs assessment), [and] public health (nutrition assessment)", and the USDA Toolkit combines these three kinds of assessments into one designed for community food security (Pothukuchi, Joseph, Burton, & Fisher, 2002). Five different sections of the USDA Toolkit were utilized as a guide: demographic, social, economic, community food resources, household food security and food resource accessibility profiles were compiled (Cohen, 2002). The data to complete the toolkit was obtained through an in-depth investigation of electronic and print resources pertaining to Providence, RI and the Smith Hill community. The community profile was created from 2000 Census data, while community food resource data, household food security data and food resource accessibility data was obtained through the 2000 Census, the Rhode Island Department of

Human Services, the Rhode Island Community Food Bank, the USDA Food and Nutrition Service, the Yellow Pages, and Google Maps.

Interviews with Key Stakeholders

The second half of this study involved interviews with key stakeholders on the issue of food security in the Smith Hill area. Two versions of an original questionnaire (see Appendixes A and B) were developed to guide the interviews, and included questions about their work with and perceptions of Smith Hill residents and their barriers to accessing healthy and affordable food. Questions were posed concerning transportation, supermarket access, corner store access, food assistance programs, food pantries, perceptions of the price of healthy food, education about healthy food and diet-related disease, and psychological or social impact of food insecurity.

Data Analysis

The data collected from the Community Food Security Assessment is organized into tables according to the various community profiles (Appendix C). The data was analyzed in comparison with the common characteristics and barriers of low-income, urban communities in regards to community food insecurity. The interviews with key stakeholders were analyzed both individually and in conjunction with the other stakeholders to find commonalities, trends and possible answers about community food security in the Smith Hill community.

Results

Condensed Community Food Security Assessment

A small-scale Community Food Assessment, using five sections of the USDA Community Food Assessment Toolkit, was completed for the Smith Hill neighborhood of

Providence, RI and the descriptive data gathered was compiled into a statistical profile of the community. All of the data, unless noted, is from the 2000 Census. The complete results table can be found in its entirety in Appendix C. Demographic, social, economic, community food resource, household food security and food resource accessibility profiles were all completed under guidance of the USDA Toolkit, as well as a health profile of the community. In this section, the most relevant results will be noted.

The Smith Hill neighborhood is located in Providence, RI and includes the zip codes of 02903 and 02908. Traditionally, "Smith Hill is defined as the area bounded by the Woonasquatucket River to the south near Promenade Street and the Chad Brown public housing complex on the north, and includes the area surrounding the State Capitol between Route 44 (Smith Street), the railroad downtown, the West River, and Interstate 95" (City of Providence, 2010). See Appendix D for a map of Smith Hill. The Demographic Profile for the Smith Hill neighborhood indicates a total population of 6,216 people, with a 32.4% of its residents under the age of 18 years (Providence Plan, 2007). Smith Hill is racially diverse, comprised of 42.2% white, and 57.8% nonwhite, with a highest percentage of Hispanics (36.4%) (Providence Plan, 2007). Also pertinent is that 35% of households encompass single-parent families.

The Social Profile shows that about a third of the residents are foreign-born (33.7%) and 68% of that population are not citizens (Providence Plan, 2007). 59% of the residents speak a language other than English at home, and 56% of that population indicates that they speak the language "less than well" (Providence Plan, 2007). Also, 43% of the residents have not received a high school diploma. The Economic Profile indicated that the median family income was $21,432 and the median household income

was $22,014 (Providence Plan, 2007). The incidence of poverty in Smith is high; more than one in three residents is poor (36%) and the most afflicted groups in this population are children (46% are under eighteen) and Hispanics (44%) (Providence Plan, 2007). Approximately 33% of families are living under the poverty level; 92% of these families have children, and 63% of these families are female-headed (Providence Plan, 2007).

The Community Foods Resources Profile for Smith Hill showed that all food assistance programs are available to its residents, and notably there are three WIC (Supplemental Nutrition Assistance Program for Women, Infants and Children) program sites in the neighborhood, and despite the lack of a program site for SNAP (Supplemental Nutrition Assistance Program), residents can apply for food stamps online. Almost all of the retail food stores accept SNAP and WIC benefits, though there is only one major supermarket (Aldi) and a multitude of small groceries and convenience stores. There are many emergency food assistance providers, with four food pantries and two meal sites.

The Household Food Security Profile displayed that 14% of households in Smith Hill are on public assistance, but no other neighborhood data was available. Citywide statistics were applied to Smith Hill, but are likely still quite accurate (Providence Plan, 2007). In Providence, 4.2% of households are food insecure, which totals over 50,000 households. In the city, 50,557 people are served monthly at food pantries; 116,253 are enrolled in SNAP, which is 1 in 10 residents; and 25,000 people are enrolled in WIC (Rhode Island Community Food Bank, 2009). The Food Resource Accessibility Profile indicated that 31% of Smith Hill residents do not have a car and 38% only have one vehicle (Providence Plan, 2007). Public transportation usage data was unavailable, but

there are three Rhode Island Public Transit Authority (RIPTA) bus routes in the Smith Hill neighborhood (Rhode Island Public Transit Authority, 2010).

In addition to the profiles taken from the USDA Toolkit, a Health Profile was added in this assessment. The Health Profile displayed the prevalence and indicators for two prevalent diet-related diseases, diabetes and obesity, for the city of Providence. Regarding income, 13% of those with diabetes and 26% of those who are obese have a median income of under $25,000 (Center for Health Data and Analysis & Diabetes Prevention and Control Program, 2008; Center for Health Data and Analysis & Initiative for Healthy Weight, 2009). Regarding races who consume the recommended fruit and vegetable intake, the Hispanic population were the least likely to do so (23.3%) (Office of Minority Health, 2007). After Native Americans (29.4%), they also had the highest incidence of the disease (24.2%) (Office of Minority Health, 2007).

Interviews with Key Stakeholders: Individual Data

Key stakeholder “A” was the Chief Operating Officer of a local community center. She stated that she thought Smith Hill residents were able to access healthy and affordable food due to the recent opening of Aldi Supermarket and the center’s “client-choice” food pantry. The store and the pantry are in walking distance from most people since it’s a small neighborhood, and it’s also on the bus route. She was under the impression that there were equal numbers of residents who have cars (young families and college students) and those who walk or use the RIPTA (senior citizens and residents of a local housing complex). She did not think that not having a car impacted access to healthy and affordable food and did not think that many residents shopped at the small corner stores in the neighborhood. She expressed that federal food assistance helped

residents tremendously in accessing healthy and affordable food since stores in the neighborhood accept SNAP and WIC. She stated that their food pantry also helps a lot by serving over 400 families monthly and, every Wednesday, distributing 3000-5000 pounds of free produce to residents.

Stakeholder “A” stated that she thought that there was an accurate perception among residents that eating healthy is expensive because fresh fruits and vegetables, as well as lean meats, are high-priced. She said that some residents are educated about a healthy diet, but some are not. She cited that URI’s Feinstein Hunger Institute and Brown University’s “Your Healthy Life” are two collaborative efforts in place to educate the families that utilize the food pantry and attend the early childhood and school age programs or the senior center. She stated a high incidence of diet-related disease in the neighborhood, but thought those people’s diets were a matter of choice. She did not seem to think that relying on food assistance programs or food pantries negatively affected the residents, since it is a way of life for them; it is part of the neighborhood culture. She expressed that society and the media, who classify Smith Hill as an at-risk neighborhood because of the predominance of low income residents, had more of a negative effect, as the “experts” classified the residents as depressed, anxious or underachievers.

Key stakeholder “B” was the Emergency Services Coordinator at a local community center. She stated that Smith Hill residents were able to access healthy and affordable food, mainly as a result of the food pantries, although there were some families who did not have enough money to go to the supermarket. Clients can come to their Food Pantry once a month for no cost, in addition to attending their weekly produce distribution for free. She indicated that the Aldi supermarket has done a lot to help

residents purchase healthy and affordable food because it is close by and has better prices and fresh food. Before Aldi supermarket came into the Smith Hill neighborhood, residents shopped at local convenience stores that often charged significantly more money for food. If they went to a supermarket, they had to commute, where now, if they have a car, it is closer, or they can easily walk there. She said that residents mainly walk or use the RIPTA to do their shopping, but did not think this negatively impacted their food access.

In regards to small corner stores, stakeholder “B” stated that some residents shopped there because it was convenient, but that they have expensive and unhealthy food. She expressed that food pantries immensely help residents access healthy and affordable food because the selection at food pantries allows them to get food they are not able to afford after their household bills are paid. She believed that there was an accurate perception among residents that healthy food is expensive because after paying for essentials for daily living, most people cannot afford fresh and healthy food, since supermarkets are expensive. Like stakeholder “A”, she cited the center’s collaborative “Your Healthy Life” program with Brown University, where by taking a survey, clients can receive information on better eating choices. She also agreed that the neighborhood had a high incidence of diet-related disease. She said that food insecurity and food assistance did negatively impact residents, since if they cannot afford all of the food they need or the food assistance program does not provide enough benefits for food, this can exacerbate existing conditions of depression, anxiety or other illnesses.

Key Stakeholder “C” was the Executive Director of a social services ministry with a food pantry and a meal kitchen. She stated that Smith Hill residents can access

healthy and affordable foods, but only if they choose to. She indicated that education was the key to understanding healthy choices regarding food, but budgeting was also a huge problem. She said that the residents have access to the Aldi supermarket, which provides an easy location and low prices, but for many people “healthy” and “affordable” are not connected; unless educated, most will choose affordable foods that are usually unhealthy. She stated that most residents use the bus, walk or carpool with friends to buy groceries, but not having a car does not impact their food access. She expressed that residents no longer shopped at the small corner stores since Aldi has arrived, but even then, education about smart food choices could have allowed residents to access healthy food.

In regards to food assistance programs and food pantries, stakeholder “C” said that these help residents by “giving them a little more money in their pocket for other things” (other than food). Also, at the food pantry, volunteers help the residents shop to educate them on eating healthier and try to suggest foods that are better for them. She expressed belief in the perception that healthy food is expensive, as she said that education and budgeting are major parts of this problem. She stated that most residents are not educated about a healthy diet, since they are just trying to get by and this issue is low on their list of worries. In regards to diet-related disease, she again said that education is the key to this problem, since most residents do not understand the connection between food and their health and well-being. She did not think that food insecurity was a problem in the neighborhood, but that affordable housing, utility bills, accountable landlords and childcare are the bigger problems in the community.

Key Stakeholder “D” was the Agency Services Director at a local food bank, and was asked the same questions, but about low-income Providence residents, not

specifically those in Smith Hill. She stated that low-income residents are able to access healthy and affordable food because of food pantries and SNAP outreach programs. She expressed that most residents do not have easy access to a supermarket because of transportation issues; convenience stores are often easier to get to, but their food selections are minimal, more costly, and less nutritious than that of a supermarket. She said that some food pantry clients use cars, but most city residents walk or use the bus to buy groceries; the lack of a car can sometimes impact food access, especially for city residents where there is no larger supermarket. And while most food stores accept SNAP and WIC benefits, the residents often use more benefits for less selection at convenience stores. In regards to these questions about food shopping, she cited the RI Food Banks' Hunger in America study in 2009 that showed that out of the 360 food pantry clients interviewed around the state, 66.6% shop mostly at supermarkets, 14% at discount stores such as Wal-Mart and Target, and 5.8% at convenience stores. Out of this sample, she also shared that 57.1% of these residents were also currently receiving SNAP benefits. She expressed the belief that food assistance programs and food pantries greatly help residents access healthy and affordable food, often by working together, as exemplified in the data. She stated that the average SNAP benefit lasts for about 2.6 weeks, so food pantries are vital resources that meet that gap, often offering fresh produce, cereals and pasta, which are all elements of the food guide pyramid.

Stakeholder "D" indicated that some residents have the perception that healthy food is expensive, while others have learned to understand how nutrition labels work and how that indicates the value of the food item. She cited education as key for residents to learn about healthy foods: education about food is learned behavior that begins when we

are children watching the food parents cook, so homes that had healthy food will likely know about a healthy diet, while homes where this did not happen may likely not know about it. She also noted that there are many non-profit programs that offer healthy eating on a budget classes or other trainings to low-income people through community centers and WIC, which are helpful to residents. In regards to diet-related disease, she again cited facts from the Hunger in America study that showed that out of the RI sample, 10.8% reported that they were in excellent health, 14.9% in very good health, 27% in good health, 29.8% in fair health, and 17.5% in poor health. She expressed that this indicated negative health factors that might be influence by food choices. She also said that food access problems can affect residents negatively psychologically or socially because many people have lost their jobs this year and are finding it difficult to ask for food assistance, but are forced to go to food pantries and apply for SNAP.

Discussion

Condensed Community Food Assessment

The descriptive results from the condensed Community Food Assessment show that the Smith Hill neighborhood has many of the factors that indicate that a community has food access or insecurity issues. Individuals and families most likely to be affected by food insecurity include households with incomes below the poverty line, minority households, female-headed households and households with children. The Smith Hill neighborhood experiences a high incidence of poverty, as the median household income was $22,014, which is about 30% lower than the citywide median incomes (Providence Plan, 2007; Cicilline, 2009). Approximately one third of all families are living under the poverty level; the vast majority of these families have children, and about two-thirds of

these families are female-headed (Providence Plan, 2007). High poverty rates are very clearly associated with food access and food insecurity problems, and Smith Hill fits this description.

The Smith Hill population was found to have a large minority population: over one-third of residents are Hispanic, over one-third are foreign born and over half speak a language other than English at home (Providence Plan, 2007). Data has show that minority households have twice the rate of food insecurity as Caucasian households (Huddleston-Casas, Charnigo & Simmons, 2008). It was found that over one-third of all families are single parent families, and data has indicated that female-headed households are almost three times as likely to be food insecure than other families (Providence Plan, 2007; Chilton & Rose, 2009). It was also found that approximately one-third of the population is made up of children under the age of 18 and about 45% of those in poverty are children; households with children are almost twice as likely to be food-insecure than those without (Providence Plan, 2007; Huddleston-Casas, Charnigo & Simmons, 2008). Specifically regarding food insecurity rates, 14% of Smith Hill residents are on public assistance (Providence Plan, 2007). Providence data supports this statistic, suggesting that the high rates of food insecurity, use of food pantries and food assistance programs found in the city are also found in the Smith Hill neighborhood.

A lack of access to supermarkets in low-income and minority neighborhoods is associated with food insecurity problems, and Smith Hill was found to only have one supermarket, but an abundance of small corner stores. Federal food assistance programs, in addition to places to spend benefits, and emergency food assistance providers were found to be available in the community, which can be viewed as a positive guard against

food access problems. Transportation barriers have shown to be a problem for food access, and Smith Hill residents do experience low vehicle ownership (about one-third do not own a car), but public transportation is adequately available. Food insecurity and food access problems have been shown to cause increased rates of diet-related disease, such as diabetes and obesity, and Providence data indicated that 13% of the diabetes population and 26% of the obese population is low-income (Center for Health Data and Analysis & Diabetes Prevention and Control Program, 2008; Center for Health Data and Analysis & Initiative for Healthy Weight, 2009).

Interviews with Key Stakeholders

Each key stakeholder who was interviewed for this study worked with Smith Hill or Providence residents in the area of food access, either at a food bank or social services agency. They each had their own thoughts and perceptions about food security and access in the community, but many common themes were shared among them. All four participants believed that residents were able to access healthy and affordable food as a result of food pantries, SNAP, and the new Aldi supermarket. “C” stated that residents had to choose to access this food, since education and budgeting were problems that influenced this choice. “B” also indicated that while most residents can access this kind of food, having money for the supermarket can be an issue. Everyone agreed wholeheartedly that the new Aldi supermarket was one of the most important reasons that residents were able to access nutritious food because it is close by, has good prices and ample food choices - even though as the one supermarket in the neighborhood it is far outnumbered by corner stores. “C” did add that healthy and affordable is not always the same for some, who will choose cheap foods that are not nutritious.

In general, all participants agreed that most residents no longer shop at the small corner stores since Aldi was built, but “B” noted that before that, most residents did shop there or had to commute to a supermarket, which was expensive and/or inconvenient. Also, participants differed on whether or not the food at these stores was low-quality and expensive, but it seems that most residents do not shop there, so it is not significant to this study. In regards to transportation, all participants generally agreed that while some residents have cars, a lot of them walk or use public transportation, but that this does not negatively impact their food access. Only “D” indicated that transportation is sometimes a barrier. All of the participants agreed that federal food assistance programs and food pantries greatly increase residents’ access to healthy and affordable food, and also allows them to spend money on other expenses. All agreed that most stores in the area accept SNAP and WIC benefits. “D” identified that food pantries help to meet the gap for when SNAP benefits run out, since more than half of the residents at food pantries also receive these benefits.

All four participants agreed that there is a perception among residents that nutritious food is expensive, but that it can depend on whether or not they are educated about nutrition and budgeting. In regards to being educated about nutrition, participants did not agree on whether residents were educated. “A” and “B” said that some were, and discussed the work done by the Feinstein Hunger Institute and Brown University’s “This Is Your Healthy Life” program. “D” also stated that some were, and that it depended on their learned family behavior about healthy food and budgeting. “C” said that most were not, since they were more concerned about other problems. All participants agreed that Smith Hill residents experience high rates of diet-related disease, which “A” said

happened because of their bad personal food choices. Participants disagreed to a great degree about whether or not residents experienced negative psychological or social problems as a result of food access problems. “A” and “C” both said no: “A” said that the media has labeled residents as having these problems since they live in a low-income and high-risk neighborhood, while “C” stated that other problems were more pressing than food insecurity. “B” and “D” both said yes: “B” said that food problems make existing psychological problems worse, while “D” stated that people feel stigmatized when they receive SNAP or visit food pantries.

Limitations

It is important to note that this study has its limitations. The community food security assessment was only a “condensed assessment”, so it only included census data available to the researcher. The data used was from the 2000 Census, so community statistics could have changed since then. As for the interviews, only four key stakeholders in the community were interviewed, which is a small sample size; also only three of them worked directly in Smith Hill, while the other worked in Providence. So while their thoughts, ideas and perceptions were helpful in understanding the community food security of Smith Hill, they only represent the opinions of four people in the community.

Conclusion

This study focused on the issue of community food security, which refers to a situation where all residents in a community can access affordable and nutritionally adequate foods. When a community has difficultly accessing healthy and affordable food, it is an issue of community food insecurity; low-income and urban communities, often with large minority populations, experience this problem greatly. To understand this

problem, a small-scale community food security assessment of the Smith Hill neighborhood in Providence, RI was completed and evaluated. A community food security assessment consists of compiling data and information about residents' ability to access nutritious and affordable food, and this one included descriptive data about the community and interviews with key stakeholders in the community who work in areas related to food access.

The hypothesis of this study was that the Smith Hill community, as a low-income and urban neighborhood, would experience a moderate level of community food insecurity, as they would exhibit the various factors and barriers noted in the literature that contribute to problems accessing healthy and affordable food. The various factors of food availability and affordability were hypothesized to likely be the most problematic for the community and its residents. The results from the condensed Community Food Security Assessment indicated that the Smith Hill neighborhood included a high rate of households with incomes below the poverty line, minority households, female-headed households and households with children, all of which are factors that indicate food access or food insecurity problems, which supports the study's hypothesis. Federal food assistance programs, including places to spend their benefits, and emergency food assistance programs were ample in the community, which does not support the hypothesis that food availability and affordability would be problems. Also, the existence of one near-by and affordable supermarket was enough to discredit support for the hypothesis.

The results from the interviews with key stakeholders who work in the area of food access provided some support for the study's hypothesis. The responses from the

interviews indicated that residents were able to access healthy and affordable food as a result of the food pantries and federal food assistance programs, which on its own does not support the hypothesis. Also, all participants were enthusiastic about the existence of Aldi in the neighborhood, as it's relatively new location there has expanded food access for residents; this does not support the hypothesis that food accessibility and affordability would be problems in the community. It was still clear from the interviews that residents do experience some food access problems, including not having enough money to go food shopping or to buy food after SNAP benefits run out, which is why so many clients visit food pantries and receive food benefits. The interviews also showed that residents experience problems with nutritional education and budgeting, which can negatively impact their ability to access healthy and affordable food.

The hypothesis was not completely proven or disproven, as the study's hypothesis was supported in some areas, but in others it was not. The results from the study suggest that the Smith Hill community experiences some food access and food insecurity problems, as a result of many residents living below the poverty level and experiencing other factors influencing poverty (minority status, female-headed households, etc.), but the existence of food pantries, federal food assistance programs and Aldi supermarket do a great deal to alleviate these problems. It would have been interesting to complete this study before Aldi existed, as its existence greatly increased residents' access to healthy and affordable food, and it seems that residents experienced higher indicators of food insecurity problems before it was built. The fact that the hypothesis was somewhat disproven was not seen as a negative result of the study since it meant that the Smith Hill community was doing better than the researcher originally believed.

The results from this study provide implications for social work practice, research and policy work. Food insecurity mainly affects low-income, urban and minority populations, who are the populations that social workers work with, so social workers need to be educated and informed about it as one of the issues that affects clients. Being knowledgeable about federal and emergency food assistance programs, as well as other nutritional education and budgeting programs, will be helpful for social workers to help their clients overcome food access problems. This study is one example of how social workers can do research in the area of food insecurity in order to understand the causes and effects for clients experiencing food access problems. Social workers should continue to do research in their respective communities and states to examine food access problems that affect client populations. The connection of food insecurity to poverty and the structural inequalities in society is tremendous and research needs to be done to examine this issue further. Addressing community food security is also imperative within the area of policy work. Policies in place at federal, state and local levels greatly influence access to federal and emergency food assistance programs, so social workers need to educate themselves on these policies and proposed changes in order to ensure that they benefit the needs of disadvantaged populations.

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Appendix A

Smith Hill Residents and Barriers to Accessing Healthy and Affordable Food

1) Do you think that Smith Hill residents are able to access healthy and affordable food?

    a. What do you think some reasons are for this ability or inability to access it?

2) Do you think that the Smith Hill residents have easy access to a supermarket where they can buy healthy and affordable food? Why or why not?

    a. How has the Aldi supermarket allowed for residents to more easily purchase this kind of food?

3) Do you think that most of the Smith Hill residents have cars, or do many walk or use the RIPTA to buy groceries?

    a. Does not having a car impact their access to healthy and affordable food, since they must walk or rely on the RIPTA?

4) Do many Smith Hill residents do their grocery shopping at the small corner stores in the neighborhood?

    a. Do you think that these stores have low-quality and expensive food?

    b. How does this impact the residents' ability to buy healthy and affordable food?

5) How do you think federal food assistance programs and local food pantries impact Smith Hill resident's access to healthy and affordable food?

    a. Do most stores in the area accept Food Stamps and/or WIC?

    b. How many residents use these programs to buy healthy food?

    c. How do food pantries help residents' access healthy food?

6) Do you think there is a perception that healthy food is expensive on a budget? Why or why not?

    a. Do you personally think this is true? Why or why not?

7) Do you think that residents are educated about what a healthy diet is? Why or why not?

8) Do you think that recent changes in the Smith Hill area – such as the new Aldi supermarket and the new Farmer's Market in Davis Park – have made it easier for residents to access healthy and affordable food? Why or why not?

9) Do you think that Smith Hill residents have a high incidence of diet-related disease, like heart disease, obesity, or diabetes? Could their unhealthy diet be a result of lack of access to healthy and affordable food?

10) Do you think that food insecurity and reliance on food assistance programs impacts Smith Hill residents psychologically or socially, such as depression, anxiety or poor cognitive development? Why or why not?

Appendix B

Low-income Residents and Barriers to Accessing Healthy and Affordable Food

1) Do you think that low-income residents are able to access healthy and affordable food?

    a. What do you think some reasons are for this ability or inability to access it?

2) Do you think that the low-income residents all have easy access to a supermarket where they can buy healthy and affordable food? Why or why not?

3) Do you think that most low-income residents have cars, or do many walk or use the RIPTA to buy groceries?

    b. Does not having a car impact their access to healthy and affordable food, since they must walk or rely on the RIPTA?

4) Do many low-income residents do their grocery shopping at the small corner stores in their neighborhoods?

    c. Do you think that these stores have low-quality and expensive food?

    d. How does this impact the residents' ability to buy healthy and affordable food?

5) How do you think federal food assistance programs and local food pantries impact low-income resident's access to healthy and affordable food?

    e. Is it easy for them to find stores that accept Food Stamps and/or WIC?

    f. How many residents use these programs to buy healthy food?

    g. How do food pantries help residents' access healthy food?

6) Do you think there is a perception held by low-income residents that healthy food is expensive? Why or why not?

    h. Do you personally think this is true? Why or why not?

7) Do you think that low-income residents are educated about what a healthy diet is? Why or why not?

8) Do you think that low-income residents have a high incidence of diet-related disease, like heart disease, obesity, or diabetes? Could their unhealthy diet be a result of lack of access to healthy and affordable food?

9) Do you think that food insecurity and reliance on food assistance programs impacts low-income residents psychologically or socially, such as depression, anxiety or poor cognitive development? Why or why not?

Appendix C

I. Demographic Profile of Smith Hill, Providence, RI

Total Population	6,216
Gender	
Male	3,065
Female	3,151
Household Structure	
Total households	2,229
Persons per household	2.8
Family Households	
Married-couple families	30.5%
Single parent families	35%
Age	
< 18 years of age	32.4%
Median Age	26.6
Race/Ethnicity	
White	42.2%
African-American	14.6%
Non-Hispanic White	28.9%
Hispanic Origin	36.4%
Asian or Pacific Islander	14.4%
American Indian	0.8%
Other	20.5%
Two or more races	7.6%

II. Social Profile of Smith Hill

Nativity and Birthplace	
Born in the state	43.3%
Born in another U.S. state	17.6%
Native residents born outside of U.S.	5.3%
Foreign born residents	33.7%
Not a citizen	68%
Linguistic Ability	
Language other than English spoken at home	59%
Speaks language less than very well	56% (of those who speak another language)
Spanish speakers	64% (of those who speak another language)
Education Level	
No diploma attained	43%
High school graduate or equivalent	28%

Some college, no degree	11%
Associate's degree	3%
Bachelor's degree	9%
Graduate/professional degree	2%

III. Economic Profile of Smith Hill

Median Household Income	$21,432
Median Family Income	$22,014
Poverty Status	
Families below poverty level	33.1%
With children under age 18	92% of those in poverty
Female householder, single parent	63% of those in poverty
Individuals below poverty level	36%
Under age 18	46% of those in poverty
65 and over	5%
White	34%
Black	15%
Asian or Pacific Islander	17%
Hispanic	44%
Employment Status	
Employed	56%
Unemployed	9%
Not specified	65%

IV. Community Food Resource Profile of Smith Hill

Federal Food Assistance Programs

Food Assistance Program	**Program Participation**	**Number of Offices or Program Sites in Community**	**Location Details**
Supplemental Nutrition Assistance Program (SNAP) ("Food Stamps")	Yes	0	Providence DHS Can apply online
Special Supplemental Nutritional Program for Women, Infants & Children (WIC)	Yes	3	Chad Brown Health Center, Capital City Community Center, Chad Brown Satellite at International Institute
National School Lunch Program	Yes	Varied	N/A
School Breakfast Program	Yes	Varied	N/A

Child and Adult Care Food Program (CACFP)	Yes	Varied	N/A
Emergency Food Assistance Program (TEFAP)	Yes	0	Providence DHS
WIC Farmer's Market Nutrition Program	Yes	1	Davis Park Farmer's Market
Meals on Wheels	Yes	1-3	N/A

Availability of Retail Food Stores (Same as Authorized Food Stamp Retailers)

Food Store Type	**Number of Retailers**
Supermarkets	1
Small groceries or corner stores	10+
Convenience stores	2-5

Emergency Food Assistance Providers

Type of Emergency Food Program	**Number in Community**	**Provider Name**
Food pantries or banks	4	Church of God Shalom Gospel Tabernacle Mary House Capital City Community Center
Soup kitchens/meal sites	2	Gospel Tabernacle Mary House
Shelters with meals	0	
Food rescue programs	0	

V. Household Food Security Profile of Smith Hill and Providence, RI

Smith Hill Community	
Households on public assistance	14%
Providence, RI	
Food insecure households	4.2% (over 50,000 households)
People served monthly at food pantries	50,557
People enrolled in SNAP	116,252 (1 in 10 Rhode Islanders)
People enrolled in WIC	25,000
Children enrolled in National School Lunch Program	51,000
Children enrolled in School Breakfast Program	20,600

VI. Food Resource Accessibility Profile of Smith Hill

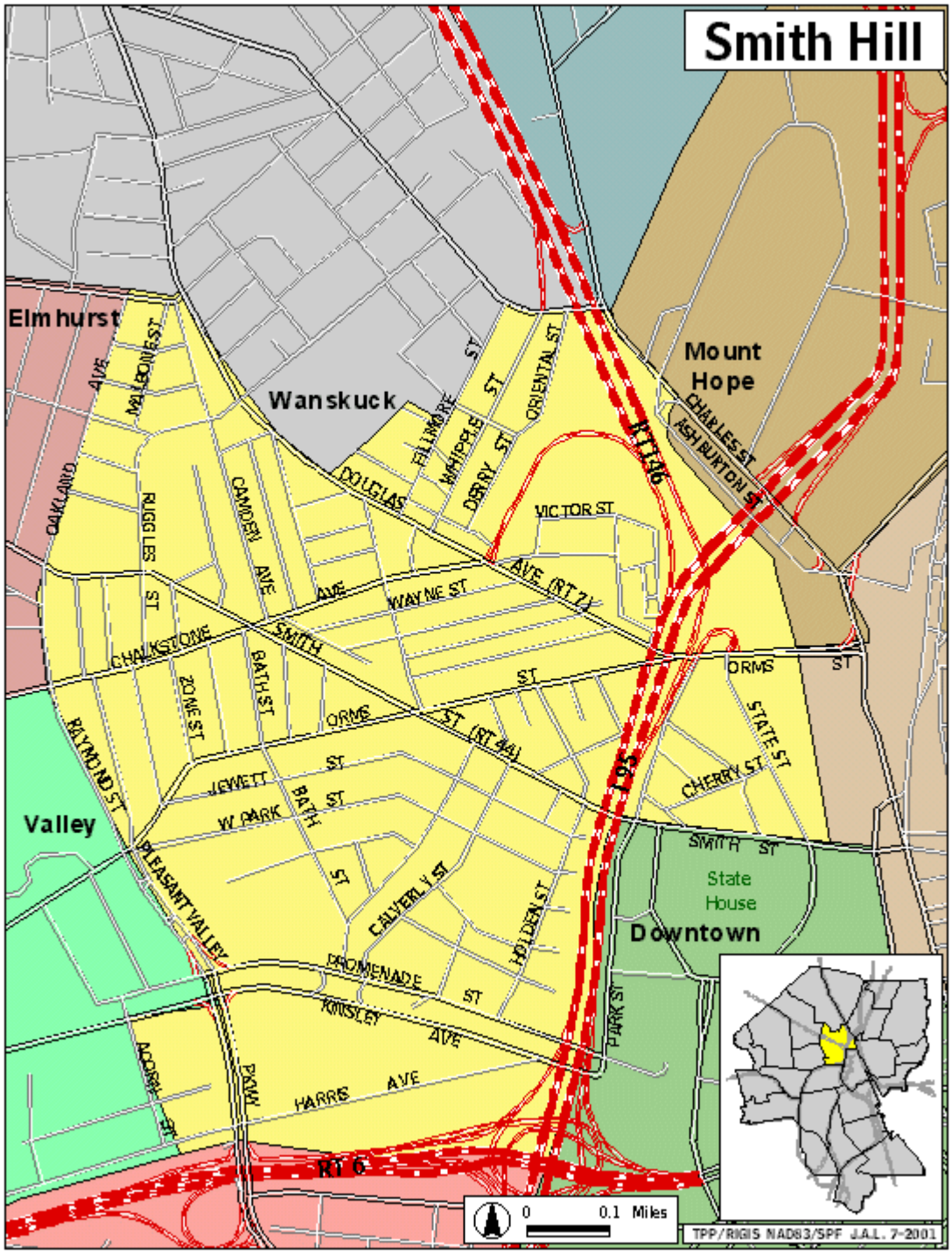
Private Transportation Resources	
Individuals without a car	31%
1 vehicle	38%
2 vehicles	26%
3 or more vehicles	5%
Public Transportation Resources	
Rhode Island Public Transportation Authority (RIPTA) bus	3 routes available

VII. Health Profile for Providence, RI

Rates of Diet-related Disease	
Diabetes	
Median Income < $25K	13% of diabetes population
Urban neighborhood	9% of diabetes population
Obesity	
Median Income <$25K	26% of obese population
Urban neighborhood	23.5% of obese population
Percentage who Consume Recommended Fruit and Vegetable Intake	
Native American	24.3%
African-American	26.5%
Asian or Pacific Islander	29%
Hispanic	23.3%
White (Non-Hispanic)	27.9%
Obesity by Race	
Native American	29.4%
African-American	22.3%
Asian or Pacific Islander	11.1%
Hispanic	24.2%
White (Non-Hispanic)	19.2%

(Providence Plan, 2007; RI Community Food Bank, 2009; Center for Health Data and Analysis & Diabetes Prevention and Control Program, 2008; Center for Health Data and Analysis & Initiative for Healthy Weight, 2009; The Office of Minority Health, 2007)

Appendix D



(Providence Plan, 2007)