DESIGN FOR HEALTH

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Key Questions:

Food Access

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Version 2.0

DESIGN FOR HEALTH is a collaboration between the University of Minnesota and Blue Cross and Blue Shield of Minnesota that serves to bridge the gap between the emerging research base on community design and healthy living with the every-day realities of local government planning. This Food Access Key Question is part of a series with a focus on identifying and interpreting evidence-based research linking public health with planning.

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Overview

Food has always been front and center on the public-health agenda. Today's major public-health challenges and health-care costs are related to such chronic diseases and conditions as cardiovascular disease, hypertension, stress, cancer, diabetes, low birthweight, obesity, and anemia, all of which are associated with inadequate nutrition. A significant contributor to dietary quality lies in access to healthy foods at a reasonable cost.

This is an emerging research area with many unanswered questions. In terms of the built environment, a key question is whether people who live closer to stores and restaurants—particularly those with healthier options—eat better than those who live further away. Because such research is very time-consuming, few researchers have looked at this issue directly but, rather, have focused on two related issues: do poor people have fewer nearby healthy food options or more nearby unhealthy ones, and do poor people eat less healthy foods. The answer to both these questions has been a very qualified: yes. It is not clear, however, that the reason poor people have less healthy diets is distance to food stores, as there are many other potential explanations, including price and preferences (Drenowski 2004).

Metropolitan Design Center

Farmers' Market, Minneapolis, MN

Things for certain (or semi-certain)

- Poor people and people of color often live in environments that, compared with middle- and upper-middle class areas, are less likely to have access to supermarkets and other venues selling a variety of higher quality food items also such places have more fast food restaurants and more places to purchase alcohol (Cummins et al. 2005; Zenk et al. 2005; Moore and Diez Rioux 2006).

  Example: A study of 155 fast-food restaurants in 156 census tracts in New Orleans found that, "Predominantly Black neighborhoods have 2.4 fast-food restaurants per square mile (2.6 square km) compared to 1.5 restaurants in predominantly white neighborhoods" (Block et al. 2004, 211).

  Example: A study that surveyed available foods in over 300 stores in East Harlem and the Upper East Side of New York found that 26 percent of East-Harlem residents had recommended foods on their blocks as compared to 30 percent on the Upper East Side; in East Harlem, 50 percent had non-recommended foods on their blocks compared to 24 percent on the Upper East Side. The two areas were, thus, roughly equal on recommended foods, but the low-income area had more stores without good foods (Horowitz et al. 2004).

  Example: Studies in various parts of the U. S. have found that Black residents—particularly with very low incomes—typically have to go further to their nearest supermarkets, although they often live in areas with grocery stores (defined as smaller than supermarkets) (Zenk et al. 2005; Morland et al. 2002a, 2002b).

- Planners may assume that access to supermarkets is the key issue linking food and planning. However, the key issue is access to healthy foods. They should consider improving the quality of other smaller food venues.

- Fast-food restaurants tend to cluster around schools (Austin et al. 2005).

  Example: In a study of 613 fast-food restaurants and 1292 schools in Chicago, Illinois, Austin et al. (2005) found "three to four times as many fast-food restaurants within 1.5 km (.93 miles) from schools than would be expected if the restaurants were distributed throughout the city in a way unrelated to school locations" (1575).

- Poorer people have fewer transportation options and may be more reliant on local food sources than those with easy access to automobiles (Kaufman 1999; Chung and Myers 1999).

- Poor people often eat less nutritious food (Drenowski 2004)

Things up in the air

- Because such studies are extremely expensive, very few studies have explored whether people who live closer to sources of poor-quality food or people who live further from high-quality food sources actually have poorer diets or are more overweight. The few studies with such measures have inconclusive findings, although living near a supermarket does seem to help those without cars.

  Example: Burdette and Whitaker (2004) examined the obesity levels of 7020 children, ages 36-59 months, who were overweight and participating in the USDA's Women, Infants and Children (WIC) program. They found that, "Within a population of urban low-income preschoolers, overweight was not associated with measured proximity to playgrounds and fast-food restaurants or with the level of neighborhood crime" (57). Thus, there was no effect on obesity of these children from living near a fast-food restaurant.

  Example: In one of the few studies that measured actual food intake, Laraia et al. (2004) performed food frequency questionnaires with 918 pregnant women in Wake County, North Carolina. Many relationships were not significant, but they did find that "women living greater than 4 miles (6.4 km) from a supermarket were [had] more than twice the odds (adjusted odds ratio = 2.16; 95 percent confidence interval = 1.2, 4.0) of falling in the lowest compared to highest DQI-P [diet quality] tertile compared to women living within 2 miles of a supermarket, after controlling for individual characteristics, other food retail outlets" (869). That is, pregnant women in this lower- and middle-class sample ate better if they lived closer to a supermarket.

  Example: In another study, Morland et al. (2002) surveyed approximately 12,000 people in Maryland, North Carolina, Mississippi, and suburban Minneapolis about "(1) servings of fruits and vegetables per day, (2) percentage of calories from fat, (3) saturated fat, and (4) dietary cholesterol" (1761). They also mapped food stores and restaurants, although only 75 percent were precisely located. They found living near a supermarket increased consumption of fruits and vegetables for all, but more for African Americans than whites. This may have been because "white Americans living in the areas under study had three times greater access to private transportation than Black Americans living in similar locations" (1765). Thus, living near a supermarket increased one aspect of diet quality—consumption of fruits and vegetables—but this was less the case for those with cars.

- Even if people who live nearer unhealthy foods or further from healthy food choices eat worse, is this due to location or other factors, such as economics or choice? Unhealthy foods are often cheaper and, therefore, more financially accessible to low-income families (Drenowski 2004, 154).

Working thresholds for HIA

Access to healthy foods appears to be the key issue, particularly for people without cars. A conservative threshold would be to provide supermarkets, or fruit and vegetable stores,

within a mile of each residence or, alternatively, to provide convenient transit going to such stores within half a mile (.8 km).

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