Restaurant Realities: Inequalities in Access to Healthy Restaurant Choices

Healthy Eating Research
Building evidence to prevent childhood obesity

A Research Brief, July 2008

Eating at restaurants accounts for nearly half of the money spent on food in the United States.[1] Americans are expected to spend $558 billion on meals and snacks at the nation's 945,000 restaurants in 2008.[2] But what types of food are Americans eating at restaurants? The alarming rates of obesity among adults and children and the increase in restaurant dining call for an examination of the nutritional value of foods served in restaurants. Another important question is whether there are inequalities in access to restaurants offering healthy foods. While full-service restaurant meals tend to be calorie-dense and may promote weight gain, fast-food restaurants generally offer even fewer healthy choices.[3–9] This research brief examines studies of possible connections between restaurant availability, eating out, diet quality, and obesity.

Diet-related diseases and obesity are affecting a growing number of U.S. families. More than two-thirds of U.S. adults are overweight or obese.[10] In addition, almost one-third of American children and adolescents are either obese or overweight.[11, 12] The acceleration of the epidemic among children is especially alarming. During the past four decades, the obesity rate among children ages 6 to 11 has more than quadrupled (from 4 to 17 percent) and more than tripled among adolescents ages 12 to 19 (from 5 to 17 percent).[11, 13, 14] Overweight and obese children are increasingly being diagnosed with conditions previously considered adult illnesses, such as type 2 diabetes and hypertension.[15] They also have a higher lifetime risk for a host of serious health problems, including heart disease, stroke, diabetes, asthma and some forms of cancer.[15]

Poor diet plays a major role in the development of chronic disease and obesity.[16–18] Families and children from lower-income communities and racial/ethnic minority backgrounds are less likely to have diets that meet nutrition guidelines for good health and are at higher risk for obesity.[11, 19–27] Inequalities in access to healthy choices at restaurants may be a factor in accounting for these disparities. Environmental and policy changes could be necessary to correct these inequalities and improve access to healthy foods at restaurants for all.

Where are Americans dining out, and what are they eating?

The enormous diversity of restaurants available to U.S. diners includes bakeries, buffets, burger joints, coffee shops, ice cream parlors, pizzerias, steakhouses and more.[2] These restaurants can be broadly categorized as either full-service or limited-service (e.g., quick-service or fast-food restaurants).

Table 1. **Restaurants Categories***

Full-service or non-fast food restaurant: A restaurant where customers are seated and meals are brought to their tables by waiters and waitresses.

Quick-service or fast-food restaurant: A restaurant providing limited service; customers place orders and pay before eating at a counter or table. Food is generally cooked in bulk and in advance so it is ready when an order is placed. These restaurants are usually part of a chain or franchise operation, which ships standardized foodstuffs to each restaurant from central locations.

* Definitions of restaurant categories are not universally applied in research.

Adapted from: North American Industry Classification System. 2007. Available at *www.census.gov/epcd/www/naics.html*.

Wikipedia. Fast food restaurant. Available at *http://en.wikipedia.org/wiki/Fast_food_restaurant*.

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Foods and beverages purchased from restaurants, particularly limited-service establishments, tend to be more calorie-dense and of poorer nutritional quality than those consumed at home.[3, 4] In many cases, consumers lack access to the nutritional information they need to help make healthy choices at restaurants. Federal laws and most state laws do not require restaurants to provide nutritional information; only about half of U.S. restaurants provide this information to consumers.[28] Several studies of adults and children have related frequent away-from-home eating to higher intakes of fat, sodium and soft drinks, and lower intakes of nutrient-dense foods such as fruits, vegetables and milk.[6, 7, 22, 29–34] Research further suggests that frequency of eating in restaurants is related to greater weight gain and obesity.[7–9, 22, 33, 35–38]

How is access to restaurants related to diet and risk of obesity?

More recently, a limited number of research studies in adolescents and adults have found some evidence that neighborhood availability of restaurants and restaurant food prices are related to diet and obesity.[39–43] Results link access to full-service restaurants to some improvement in diet–and in contrast, lower prices for fast food have been related to lower fruit and vegetable intake and higher rates of obesity.

A nationally representative study of 72,854 adolescents (eighth- and tenth-graders) examined how access to different types of restaurants and the prices of restaurant foods are associated with weight and fruit and vegetable consumption.[39] The study showed the following results:

- Increased availability of full-service restaurants was related to a greater likelihood of fruit and vegetable consumption on all or most days.
- A 10 percent increase in the price of a fast-food meal was related to a 3 percent increase in the probability of regular fruit and vegetable consumption, a 0.4 percent decrease in body mass index (BMI = weight in kg/height in m^2) and a 5.9 percent decrease in the probability of obesity.

A study of black and white adults living in Maryland, Mississippi, North Carolina and Minnesota found the presence of full-service restaurants was related to black residents' saturated-fat intake.[40] Compared with residents living in areas without full-service restaurants, the proportion of residents meeting national recommendations for saturated fat was 26 percent higher among those living in neighborhoods with at least one full-service restaurant. Restaurant availability was unrelated to intake of saturated fat among white adults.

Research examining the relationship of fast-food restaurant availability to obesity has shown mixed results:[39, 41–47]

- Three nationally representative, state- and county-level analyses of fast-food availability and obesity rates in adults, adolescents and children show a direct association.[41, 43, 47] States ranking lowest in obesity tend to have fewer fast-food restaurants per resident. In one study, Colorado had the lowest prevalence of obesity (16 percent) and more than 13,000 residents per fast-food restaurant, while West Virginia had the highest prevalence of obesity (28 percent) and around 11,800 residents per restaurant.[43]
- However, four other studies that have examined fast-food availability and obesity rates reported no evidence of a relationship between restaurant availability and obesity.[39, 44–46]

What does research show about inequalities in access to different types of restaurants?

Given the research exploring possible links between restaurant access to diet and obesity, research indicating fast-food and full-service restaurants may be concentrated in neighborhoods depending on their racial/ethnic and socioeconomic composition is of concern. Despite some inconsistencies, several studies in the United States[48–51] and other nations[52–55] show residents of lower-income and minority neighborhoods are exposed to more fast-food restaurants than residents of high-income and predominantly white neighborhoods. Some research also suggests that fast-food restaurants tend to cluster in school neighborhoods.[56–58]

A nationally representative study covering 28,050 ZIP codes examined access to fast-food and full-service restaurants in the United States.[51] The study considered a number of factors that might explain differences in access, including population size, urbanization and region. These factors did not fully explain inequalities related to income and racial or ethnic minority status.

- Full-service restaurants and fast-food restaurants were approximately 1.2 and 1.3 times more readily available in low- and middle-income neighborhoods than in high-income neighborhoods. Within urban areas, low- and middle-income neighborhoods have a higher proportion of total restaurants categorized as fast-food restaurants compared with high-income neighborhoods.
- Within urban areas, predominantly black neighborhoods have a higher proportion of total restaurants categorized as fast-food restaurants compared with predominantly white neighborhoods.

At least three other studies have similarly examined the availability of fast food within U.S. urban or suburban areas.[48–50] One study of neighborhoods of Mississippi, North Carolina, Maryland and Minnesota showed fast-food restaurants were half as common in predominantly black versus predominantly white and racially mixed neighborhoods.[48] These studies, however, also tended to show the density or proportion of fast-food restaurants is greater, or that the proportion of full-service restaurants is smaller, in predominantly black versus predominantly white neighborhoods.

What does research among children and adolescents show about access to fast-food restaurants?

Several studies show fast-food restaurants tend to cluster in school neighborhoods.[56–58]

- In Chicago, a study found there were three to four times as many fast-food restaurants within 1.5 kilometers of schools (e.g., kindergartens, primary and secondary) than would be expected if the restaurants were distributed throughout the city in a way unrelated to school locations.[58] The study found that half the city's schools were no more than a five-minute walk (0.5 kilometers) from a fast-food restaurant.
- In East Los Angeles, 42 percent of fast-food restaurants were found to be within walking distance (0.5 kilometers) of a school.[57]

A nationwide study of 31,243 U.S. public secondary schools examined differences in fast-food restaurant availability according to neighborhood characteristics.[56]

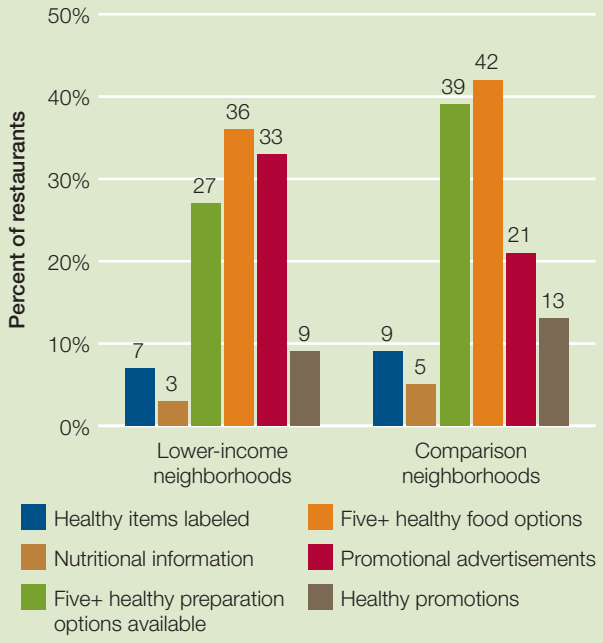
- Of all U.S. public secondary schools, 37 percent were within walking distance (0.5 miles) of at least one fast-food restaurant.
- Examining only the 1,718 schools in the 20 largest cities, an even higher proportion (68 percent) of schools were within walking distance of at least one fast-food restaurant.
- Schools in middle- and high-income neighborhoods respectively had 16 percent and 32 percent fewer fast-food restaurants within walking distance than did schools in the lowest-income neighborhoods.
- Schools in predominantly black neighborhoods had 30 percent fewer fast-food restaurants than did schools in predominantly white neighborhoods. In contrast, schools in predominantly other racial/ethnic background (non-black and non-white) neighborhoods had 10 percent more fast-food restaurants than did schools in predominantly white neighborhoods.

What are the differences in access to healthy food choices at restaurants?

Some research suggests restaurants in affluent neighborhoods are more likely to offer healthy options.[50, 59] One study conducted in South Los Angeles examined promotions and the availability, quality and preparation of food in 659 restaurants across 19 ZIP codes (see Figure 1).[50]

- Results showed 7 percent of restaurants in low-income neighborhoods labeled healthy food options, compared with 9 percent of restaurants in the more affluent neighborhoods.
- Almost 40 percent of restaurants in affluent neighborhoods provided patrons with five or more healthy preparation options (such as stir-fry or sauté, broil, bake, boil, raw, steam, roast or rotisserie, grill or other). Only 27 percent of restaurants in lower-income neighborhoods did so.
- In affluent neighborhoods, 42 percent of restaurants offered at least five healthy food options (green salad, entrée salad, side order of cooked vegetables without added fat, baked potato without butter, brown rice, fresh fruit, turkey burgers, soy/tofu, vegetarian or other). Only 36 percent of restaurants in lower-income neighborhoods did so.

Figure 1. **Marketing and Availability of Healthy Options in South Los Angeles**



Lewis L, Sloane D, Nascimento L, et al. "African Americans' access to healthy food options in South Los Angeles restaurants." *American Journal of Public Health*, 95(4): 668–673, April 2005.

What strategies could improve the accessibility and selection of healthy food in restaurants?

A number of strategies have been proposed to improve access to healthy foods in restaurants and encourage consumers to make healthier choices (see Table 2).[60, 61] Some strategies such as reducing prices for healthy options and providing point-of-purchase information have been tested and found promising. However, much research is still needed to identify the most effective strategies in different communities.[60] In particular, few studies have looked at the effectiveness of implementing interventions in restaurants that serve low-income communities.[60]

Table 2. **Potential Strategies for Improving the Accessibility and Selection of Healthy Food in Restaurants**

Strategies for local governments to encourage restaurants to improve the availability of healthy menu options include:

- Requiring restaurants that do not meet nutritional standards to locate a minimum distance from youth-oriented facilities (e.g., schools, playgrounds)
- Limiting the total number per capita of restaurants that do not meet nutritional standards in a community
- Prohibiting restaurants that do not meet nutritional standards from offering drive-through service

Strategies for encouraging consumers to make healthy choices in restaurants include:

- Increasing the availability and identification of healthful foods on restaurant menus
- Offering healthful foods at reduced prices on restaurant menus
- Promoting healthy foods at the point of purchase (e.g., provide signage at the order counter, recommend that wait-staff encourage patrons to try healthier foods).

Adapted from Glanz and Hoelscher 2004; Ashe et al 2003.

What should guide further research into access to healthy foods at restaurants?

Multiple studies have documented inequitable access to restaurants and healthy foods. The next step is examining what solutions are most effective at correcting the problem. Leading experts in the fields of nutrition and public health offer these research objectives:[51, 62–64]

- **Develop valid, reliable measures of nutrition environments and policies.**

  Studies reporting on neighborhood access to different types of restaurants and the availability of healthy food choices in restaurants have not applied a standard set of definitions or measures, and there is no consensus regarding best practice. A combination of measures and data sources may be needed.[65]

- **Longitudinal and multilevel studies, in representative samples, must be conducted to determine the effect of environmental change on diet and obesity.**

  To better understand the relative importance of environmental, demographic, psychological and social factors–and their interaction–on restaurant use and obesity, it is critical to examine hypothesized pathways of influence and the contributions of each factor within the same study. In particular, few studies have reported longitudinal designs or research in children or adolescents.

- **Studies must better define and characterize the multiple environments in which people live.**

  How should we define environments that can affect restaurant choices, diet and obesity rates? Not only neighborhoods, but work and school environments may also affect dietary intake and obesity. For example, families may go to a restaurant because of its convenient proximity to their home or children's school. Studies should define environments specific to the nutrition concerns of the population and their available transportation options. Relevant definitions may vary by socioeconomic status, age group, health status or other characteristics.

- **Describe the extent to which recent increases in the availability of fast-food restaurants differ by income, race and ethnicity.**

  The number of fast-food restaurants in the United States has doubled over the past decade, according to one study.[51] Additional research is needed to understand how these restaurants are distributed and what foods are being offered. It is possible that healthy food options are available at these new restaurants.

Americans are eating out more frequently–today, nearly half of all food expenditures are spent eating out, up from 34 percent in 1974 and nearly double from what it was in 1955.[1, 2] In addition, restaurant meals tend to be more calorie-dense and of poorer nutritional quality than foods and beverages consumed at home. Several studies have linked frequent eating out to higher caloric intake, weight gain and obesity. There is evidence of differential availability and affordability of healthy foods in low-income neighborhoods that may contribute to disparities in diet-related chronic diseases and obesity rates. The majority of studies have shown that the availability of fast-food restaurants is greater in low-income and minority

neighborhoods than in high income and predominantly white neighborhoods. Other research suggests there is greater availability of healthy options at restaurants in affluent neighborhoods compared with low-income neighborhoods. There is further some evidence that a greater number of fast-food restaurants are located near secondary schools in low versus high-income and racially-mixed versus predominantly white census tracts. The inequitable access to restaurants and healthy foods in low-income and minority neighborhoods is of concern because of the potential impact on health disparities. More comprehensive assessments are needed of neighborhood food environments, the different types of restaurants available, and the types of foods and beverages sold. Doing so will require better validated and more reliable measurement tools. Future research is needed to develop, implement and evaluate effective policies and interventions to promote healthier food choices when eating out.

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About Healthy Eating Research

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