



# Food Geography:

## How Food Access Affects Diet and Health

### *Introduction*

In the United States, nutrition-related health problems are reaching epidemic levels. Reports from the Surgeon General indicate that the number of adults and children who are obese or at-risk for obesity has increased dramatically during the past decade. Furthermore, low-income and minority communities are by far the hardest hit as obesity and diet-related disease rates skyrocket across America.<sup>1</sup> Health disparities among US population groups are related to inequalities in socioeconomic status<sup>2</sup> – disparities which may be affected by unequal access to healthy food.<sup>3,4</sup> Emerging evidence suggests that access to healthy food in neighborhoods is associated with a health-promoting diet<sup>5,6</sup> and that poor access is associated with poor health outcomes.<sup>7</sup>

Mirroring national data, in Philadelphia many low-income and minority adults and children suffer from diet-related health problems at rates significantly higher than those of the city's population as a whole.<sup>8,9</sup> With the second lowest number of supermarkets per capita in the United States, Philadelphia and its residents struggle with the economic, social, and health impact of food retail disinvestment from urban communities. In many neighborhoods in Philadelphia, individuals and families struggle to maintain a healthy diet due to limited access to healthy food in their communities.

In order to investigate the extent of access to food disparities within Philadelphia, The Food Trust, in partnership with the Philadelphia Health Management Corporation (PHMC), has analyzed data from PHMC's Community Health Data Base 2004 Southeastern Pennsylvania Household Health Survey to describe the nature of the problem in Philadelphia. Conducted in the summer of 2004, this telephone survey of more than 10,000 households in the region examines access to food among residents in Bucks, Chester, Delaware, Montgomery, and Philadelphia counties. Information regarding consumption of fruits and vegetables, perceptions of grocery quality and required travel to reach a supermarket is examined by age, race, poverty status, health status and by the City's twelve Planning Analysis Sections (PAS) designations.

### *Quality of Groceries Available*

The absence of supermarkets and the inability to find quality groceries can lead to food insecurity, hunger, and obesity. In Philadelphia, nearly 228,000 residents believe that the quality of the groceries available in their neighborhood is fair or poor. Certain population subgroups, such as the poor and certain minority groups, are more likely to report poor quality of the groceries.

<sup>1</sup> Prevention Institute, "Eliminating Health Disparities: The Role of Primary Prevention." 2002; p. 1.

<sup>2</sup> US Department of Health and Human Services. Healthy people 2010. 2nd ed. Washington, DC: US Government Printing Office, 2000.

<sup>3</sup> James WP, Nelson M, Ralph A, Leather S. Socioeconomic determinants of health: the contribution of nutrition to inequalities in health. *BMJ* 1997; 24:1545-9.

<sup>4</sup> Sharpe DL, Abdel-Ghany M. Identifying the poor and their consumption patterns. *CNPP Fam Econ Nutr Rev* 1999;12:15-25.

<sup>5</sup> Morland K., Wing S, Roux A. The Contextual Effect of the Local Food Environment on Residents' Diets: The Atherosclerosis Risk in Communities Study. *American Journal of Public Health*.2002; 92,11:1761.

<sup>6</sup> Sturm R, Datar A. Body Mass Index in Elementary School Children, Metropolitan Area Food Prices and Food Outlet Density. *Public Health*. 2005, 1-10.

<sup>7</sup> Morland K. et al., 2002; 92, 11:1761.

<sup>8</sup> Gordon-Larsen, P et al. "The Relationship of Ethnicity, Socioeconomic Factors and Overweight in US Adolescents." *Obesity Research*. Jan 1 2003;121-123

<sup>9</sup> Food For Every Child: The Need for More Supermarkets in Philadelphia, The Food Trust, 2001. <http://www.thefoodtrust.org/pdf/supermar.pdf>



*food for every child*



- One in three poor<sup>10</sup> adults in Philadelphia, representing 66,700 residents, report having fair or poor quality of groceries in their neighborhoods compared to 17.8% of non-poor adults.
- Adults in Upper North (40%), Southwest (38%), and Lower North Philadelphia (33%) are more likely to characterize the quality of groceries in their neighborhoods as fair or poor.
- Black adults (31%) are more likely to report having fair or poor quality groceries in their neighborhoods compared to Latino (24%), Asian (15%), and White (11%) adults.
- Overall, adults in fair or poor health were nearly twice as likely to report a poor quality of groceries compared to adults in good or excellent health (15% vs. 7.5%).

## Disparities in Access to Fruits and Vegetables in Philadelphia

Access to fruits and vegetables differs among adults in Philadelphia. Findings show that approximately 71,000 adult Philadelphia residents report that it is difficult to find fruits and vegetables in their neighborhood. Furthermore, more than eight out of ten adults who report poor quality groceries in their neighborhoods do not consume the recommended 5 servings of fruits and vegetables. Among those that do consume the recommended servings, 82% report having good or excellent neighborhood groceries.

IN ADDITION:

- Approximately one quarter (25%) of adults in Philadelphia in fair/poor health have a difficult time obtaining fresh fruits and vegetables in their neighborhoods compared to 9% of adults in excellent or good health.

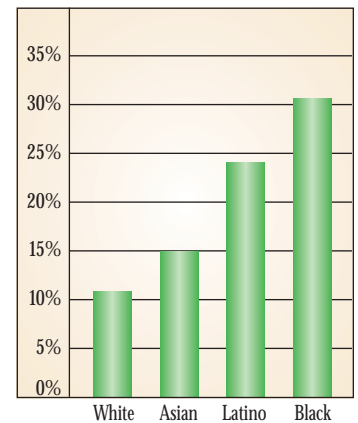
## Need for Travel Outside of the Neighborhood to Reach a Grocery Store

With the second lowest number of supermarkets per capita in the United States, Philadelphia and its residents struggle with the economic, social, and health impact of food retail disinvestment from urban communities. More than 363,000 residents of Philadelphia (32%) report traveling outside of their neighborhood to purchase groceries. Those living in the poorest communities in Philadelphia are more likely to report traveling outside of their neighborhood to a grocery store. Notably, residents of Lower North Philadelphia are disproportionately in need of traveling to a market; there, more than half (51.0%) of residents report traveling outside of their neighborhood to access a supermarket.

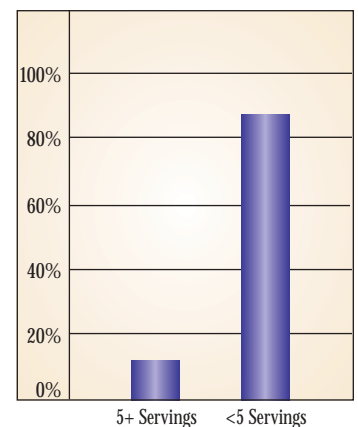
MOREOVER:

- Latino adults (43%) are the most likely to travel outside of their neighborhoods to a supermarket followed by Black (39%), Asian (30%), and White (24%) adults.
- There is a 50% greater need among poor adults to travel to a grocery store than among the non-poor; nearly half of poor adults (44%) travel outside of their neighborhood to a grocery store, compared to 30% of the non-poor.

Percentage of Respondents Reporting Grocery Quality as Fair or Poor: by Race/Ethnicity



Fruit and Vegetable Consumption Among Residents with Poor Grocery Quality



<sup>10</sup>In determining a resident's poverty status, the Federal Poverty Guidelines were followed. A resident was considered 'poor' if he/she was below the income threshold for their household size.



- Adults in fair or poor health are more likely to travel to a supermarket than are adults in good or excellent health; over 85% of adults in fair/poor health need to travel to a supermarket outside of their neighborhood. In addition, over 55% of adults in good/excellent health travel outside of their neighborhood for groceries.

### Consumption of Fast Food and/or Local Take-Out

National trends show that over the past 25 years the percentage of food consumed outside of the home has increased dramatically.<sup>11</sup> Almost 47% of all food dollars<sup>12</sup> are spent on prepared foods, with fast food being the largest single area of expenditure. Fast food and take-out often have higher fat, salt, and sugar content than foods prepared in the home. Furthermore, emerging research shows a correlation between the density of fast food outlets in a neighborhood and mortality from cardiac illnesses.<sup>13</sup> The loss of supermarkets and other food retail in Philadelphia has affected the food economy and food choices of residents throughout the city. In Philadelphia, more than 277,000 adults in Philadelphia consume fast food and/or local take-out 3 or more times a week.

- Adults living in Upper and Lower North Philadelphia are more likely to consume fast food and/or local take-out compared to other areas of the city (29.8% and 33.4%, respectively); Adults in these communities consume fast food and/or local take-out almost three times a week.
- About one-third of adults who consume fast food and/or local take-out 3 or more times a week report traveling outside of their neighborhoods to a supermarket, representing over 37,000 adults in Philadelphia.
- Adults ages 18-44 (34.5%) are more likely to consume fast food and/or local take-out 3 or more times a week as compared to adults ages 45-64 (18.2%). Older adults, aged 65 and older (6.8%) are least likely to consume fast food and/or local take-out 3 or more times a week.
- Black adults (30.0%) are more likely to consume fast food and/or local take-out 3 or more times a week followed by Asian (28.3%) and Latino (25.1%) adults. White adults (18.8%) were least likely to consume fast food and/or local take-out 3 or more times a week.

### Conclusion

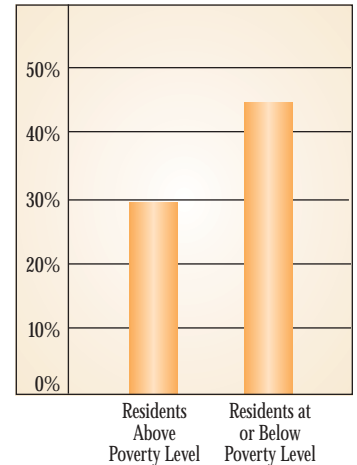
The data in this report show a strong association between poverty, poor health, and lack of access to fresh food through supermarkets. Furthermore, reduced access to supermarkets corresponds to higher levels of consumption of take-out food and decreased consumption of fruits and vegetables. Simply stated, access to fresh, high quality food is not equitable throughout the region, and this inequality has profound public health implications. Those with the fewest resources have the least access to the essential components of a healthy diet. A concerted effort to improve access to fresh food for the most vulnerable populations could have an important effect on public health concerns stemming from poor diet.

<sup>11</sup> Morland, K., Wing, S., Roux, A. The Contextual Effect of the Local Food Environment on Residents' Diets: The Atherosclerosis Risk in Communities Study. *American Journal of Public Health*. 2002; 92(11), 1761-7

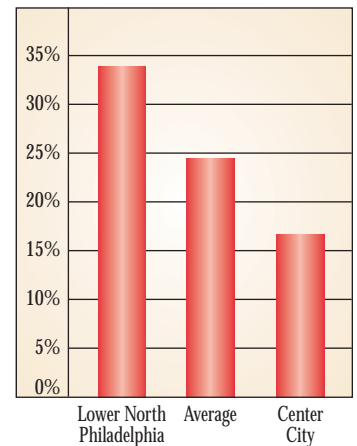
<sup>12</sup> Clauson, A. Share of Food Spending For Eating Out Reaches 47 Percent. *Food Review*. 1999; Vol 22 (3), 20-22.

<sup>13</sup> Alter, D.A. and Eny, K. The Relationship Between the Supply of Fast-food Chains and Cardiovascular Outcomes. *Canadian Journal of Public Health*. May-June 2005; 96(3), 173-7.

**Percentage of Respondents Requiring Travel to a Supermarket Outside of Their Neighborhood: by Poverty Level**



**Percentage of Respondents Consuming Take-Out/Fast Food More than 3 Times per Week: by PAS**





### *About the Authors*

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The Food Trust is a non-profit organization dedicated to ensuring that everyone has access to affordable, nutritious food. The Food Trust partners with schools, community groups, industry, and government to bring nutrition education into schools, operate farmers' markets, and stimulate food retail development in underserved areas.

PHMC is a non-profit, public health organization committed to improving the health of the community through outreach, education, research, planning, technical assistance, and direct services.