

### Purpose

The purpose of this study is to identify whether spending more money on food leads Supplemental Nutrition Assistance Program (SNAP) and other low-income households to purchase and consume more nutritious foods. Specifically, the study analyzed the percentage and absolute change in diet-quality measures that are associated with a 10-percent increase in food expenditures for SNAP participants and income-eligible nonparticipants (i.e., with incomes under 130 percent of poverty). The study also seeks to identify other factors or household characteristics that may affect this relationship.

### Data and Measures

The study uses data from three surveys which reflect different points in time, vary with respect to focus on household or individual, and measure diet quality in different ways:

- 1) 1996 National Food Stamp Program Survey (NFSPS), which includes a diary of foods purchased and used from the household food supply of program participants.
- 2) 2001-2002 and 2003-2004 National Health and Nutrition Examination Survey (NHANES), which identifies food consumption patterns across all low-income individuals.
- 3) diary component of the 2005 Consumer Expenditure Survey (CES), which examines food expenditures across a number of categories in low-income households.

The study uses six distinct measures, which examine both foods and nutrients, to determine diet quality. The measures are: Healthy Eating Index (HEI)-2005, nutrient

availability/intake, energy density, nutrient density, food shares (based on cup/ounce equivalents of specific foods and food groups per available 1,000 calories), and the share of food expenditures spent on food categories.

### Findings: Relationships Between Food Expenditures and Diet Quality

**Increased spending on food is consistently and positively associated with diet quality, but the improvement is very small.** While most increases in the diet-quality measures are statistically significant, almost all increases associated with a 10-percent increase in food expenditures are less than 3 percent, and many are under 1 percent. For instance, a 10-percent increase in spending on food correlates to an increase in a household's HEI-2005 score of 0.33 percent when examining NFSPS data and an increase of 0.30 percent when looking at NHANES data.

**Relationship between food expenditures and diet quality varies by food category.** Increased spending on food is associated with higher use and intake of both fruits and vegetables on many of the measures for both SNAP participants and eligible nonparticipants. For dairy, individuals do consume more milk and milk products, but they spend a higher portion on high-fat dairy products and a lower portion on other types of dairy. The results are mixed, with both positive and negative findings, for both grains and the category of desserts, sweets, and salty snacks. SNAP participants use more whole grains and grains that are more nutrient dense, but eligible nonparticipants had lower usage of grains. SNAP and other low-income households spend more on foods with solid fats, alcohol, and added sugar as food expenditures rise, but make choices that are higher in nutrient density.

**Findings by subgroup are similar to the overall findings for the low-income population.** In general, the associations between food expenditure and diet quality by age, gender, education, and income subgroups mirrored the overall study findings. For example, there is a positive correlation between food expenditures and consumption of less energy-dense vegetables and more energy-dense grains and grain products for children, but the relationship was not statistically significant for adults.

### Context and Implications

The goal of this study was to address a “link” in the causal chain that assumes that SNAP participation can lead to improved diet-quality outcomes. While it has been previously documented that SNAP participation leads to increased spending on food, this study sought to determine whether that increased spending necessarily leads to a better quality diet.

Analysis of the data sets consistently showed that a 10-percent increase in spending on food led to an increase in overall diet quality, but the extra amount spent on food led only to a slight improvement in the total nutritional

value of a household’s diet. Increasing the household food budget by more than 10 percent may lead to a greater improvement in diet quality, but that improvement might not be proportional. For example, increasing the food budget by 20 percent versus 10 percent, may not lead to twice the improvement in diet quality. The study did find, however, that improvements in diet quality were higher within certain categories – notably fruits and vegetables – suggesting that it may be worthwhile to target certain foods towards the goal of improving overall diet quality.

While this study did find consistent associations between spending on food and diet quality among SNAP and other low-income households, it is not possible to interpret the implications of these associations for nutrition or health status.

### For More Information

Castner, L, and Mabli, J. (2010). *Food Expenditures and Diet Quality Among Low-Income Households and Individuals*. The report was prepared by Mathematica Policy Research for the Food and Nutrition Service. This report is available online at [www.fns.usda.gov/ora](http://www.fns.usda.gov/ora).

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