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United States Department of Agriculture

Economic Research Service

Low-Income Households' Expenditures on Fruits and Vegetables

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Agriculture Information Bulletin 792-5 **October 2004**

Both public and private organizations have noted that Americans generally eat less fruits and vegetables than is recommended in the Food Guide Pyramid. For example, the Produce for Better Health Foundation found that only 38 percent of Americans consume the recommended number of servings of vegetables, while only 23 percent consume the recommended number of servings of fruit. Even more troubling, low-income households eat even less fruits and vegetables than higher income households.

One in Five Low-Income Households Buy No Fruits or Vegetables

Some have suggested that low-income households eat so little fruits and vegetables because they allocate their limited income to other items that the household deems more desirable, such as other foods, clothing, or housing. Indeed, compared with higher income households, low-income households spent, on average, about $1.43 less per person per week on fruits and vegetables in 2000. Suggested solutions have included subsidizing fruit and vegetable growers, providing free or low-cost fruits and vegetables in schools, or creating a food stamp that can be spent only on fruits and vegetables.

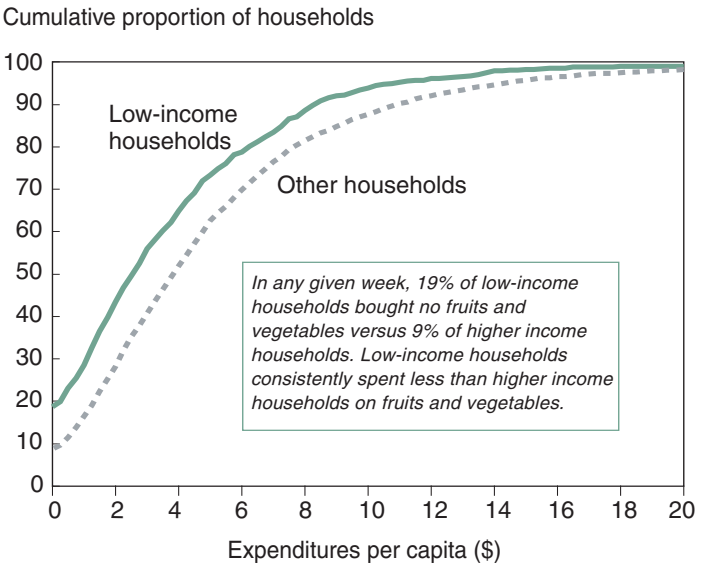
In any given week, approximately 19 percent of all low-income households bought no fruits and vegetables, compared with only about 9 percent of higher income households with no expenditures. This gap continued to hold at higher levels of expenditure, such as $4, and was found to be statistically significant over the entire expenditures distribution. Moreover, this result also held when we looked at just fresh fruits and vegetables, as well as just processed fruits and vegetables.

Small changes in income had no effect on fruit and vegetable expenditures by low-income households.

Income Less Influential Than Education

Small changes in income had no effect on fruit and vegetable expenditures by low-income households. For higher income households, however, small changes in income did translate to increased expenditures for fruits and vegetables; the increased expenditures, while small, were statistically significant. When we isolated the effect of food stamps, we again found no evidence of increased expenditures for fruits and vegetables. Interestingly, the largest positive influence on fruit and vegetable expenditures was a college-educated head of household, regardless of income level. In fact, college-educated households had the highest level of per capita expenditures for fruits and vegetables.

Distribution of fruit and vegetable expenditures by income level



How Was the Study Conducted?

We defined low-income households as those with income no greater than 130 percent of the poverty line, adjusted for household size. That threshold is the cutoff for eligibility for food stamps. All other households were higher income households.

In the first part of our study, we performed a statistical test on per capita fruit and vegetable expenditures to ascertain if there was a difference in expenditures between the two types of household. This is a stronger test than a comparison of average expenditures, since it ascertains if the expenditure distribution of higher income households is always greater than that of lower income households.

In the second part of our study, we used the same data, but estimated a traditional demand model for fruits and vegetables to ascertain if small changes in income induced a statistically significant increase in fruit and vegetable expenditures. In addition to income, we estimated the effects of other variables on fruit and vegetable expenditures. Those variables included region, season, household size, age composition, race, and educational attainment. We also refined the demand model to account for the impact of food stamps on fruit and vegetable expenditures.

Information Source

Blisard, Noel, Hayden Stewart, and Dean Jolliffe. *Low-Income Households' Expenditures on Fruits and Vegetables*, USDA/ERS, AER-833, May 2004.

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