

The Availability and Cost of Healthier Food Items

Karen M. Jetter and Diana L. Cassady¹

This study examines the availability of healthier food items in grocery stores and compares the cost of a standard market basket of foods to a healthier basket with low-fat meat and dairy, and whole grains. Our results show that most people had access to healthier foods, though there was sporadic availability of some healthier items in lower-income neighborhoods. The healthier market basket was more expensive by about \$32 to \$41 due to higher costs of whole grains, lean ground beef, and skinless poultry. This higher cost is equal to about 35 percent to 40 percent of low-income consumers' food budgets.

Chronic diseases and healthy eating

An alarming increase in such chronic diseases as obesity, diabetes, cardiovascular disease, hypertension and stroke, and some types of cancer has occurred over the past decade (Kant 2004). Improving diet quality by eating more whole grains and fruit and vegetables, and by eating less fat and refined sugar could help lower the incidence or severity of these diseases. Meeting these dietary recommendations does not necessarily require consumers to make major changes in their diet. Simple changes can be effective, such as substituting 100 percent whole wheat bread for white bread, lean ground beef for regular ground beef, low-fat milk for whole milk, or canned fruit in a light syrup for canned fruit in a heavy syrup.

Few Americans successfully follow the USDA dietary guidelines, and low-income consumers are even less likely to meet them. When asked about barriers that prevented them from eating healthier foods, low-income consumers frequently cited high prices and difficulty in accessing healthier choices. However, no comprehensive studies have compared the cost of standard market goods to the cost of healthier substitutes.

Measuring availability and prices

In this study we compare the availability and cost of the standard Thrifty Food Plan (TFP) market basket

to a market basket of healthier substitutes. The TFP is a low-cost meal plan developed by the USDA (1999) that demonstrates how people on a modest budget can meet the minimum USDA food pyramid guidelines. While the TFP meets the food pyramid guidelines, it does not include many of the healthier recommended substitutes.

The TFP contains two weeks of meal plans with grocery shopping lists that are the basis for market basket studies. We reviewed the list and identified healthier substitutes for dairy, meats, canned fruit, fats, breads and grain products, and the healthier market basket was developed using those substitutes (Table 1). For instance, the standard TFP market basket has white bread, whereas the healthier alternative has 100 percent whole wheat bread. The items not listed in Table 1, such as fresh fruits and vegetables, remained unchanged between the standard TFP market basket and the healthier basket. The TFP includes sufficient fruits and vegetables to meet the 5 a day general recommendations for men and women. We did not increase the number of fruit and vegetable servings consumed for this study.

Surveyors recorded the lowest price per unit in select grocery stores for each food item in the survey. In addition to price, data on fiber content, fat content, whether the food item was a store or name brand, and package size were collected. Three surveys were

¹Karen M. Jetter is an assistant research economist with the Agricultural Issues Center, University of California and Diana L. Cassady is director, Center for Advanced Studies in Nutrition and Social Marketing, University of California, Davis, and assistant adjunct professor with the Department of Health Sciences, UC Davis School of Medicine. This *AIC Issues Brief* reports results from a larger study developed for the Cancer Research Foundation grant agreement No. 01-15551 with the California Department of Health Services.

conducted in each store to account for seasonal fluctuations in prices (June 2003, September/October 2003, and March/April 2004).

Grocery stores were selected in Los Angeles and Sacramento from a core area of “very low” income neighborhoods in zip codes where the median household income was less than \$27,000 a year and from a five-mile radius around these neighborhoods to account for the area in which consumers typically may shop. Six grocery stores were selected from zip codes within the very low-income core area. An additional six stores were selected outside the core neighborhoods, but within the five-mile radius of the core area. The neighborhoods of these stores varied by median household income and distance from the core area. The neighborhoods were “low” income neighborhoods with a median household income in the low \$30,000s, “medium” income neighborhoods in the mid \$40,000s, and “high” income neighborhoods with a median household income over \$50,000. The stores were either chain supermarkets, small independent grocery stores, or grocery stores that sold bulk food items but were not club warehouses that charged membership fees. In three instances, stores had to be substituted when they closed between surveys. A total of 12 stores in

Los Angeles and 13 stores in Sacramento were surveyed during each time period.

Are healthier food items available in low-income neighborhoods?

Most stores carried a variety of the healthier items. When an item was unavailable, however, it was usually in an independent store in a very low- or low-income neighborhood. An item was determined to be unavailable if it was not found during any of the three surveys. The items most likely to be unavailable were 100 percent whole wheat breads and grain products (Table 2). Six stores never had 100 percent whole wheat spaghetti; three stores never had 100 percent whole wheat English muffins, higher fiber hamburger buns, or low-fat cheddar cheese; and two stores never had 100 percent whole wheat bagels or unbreaded frozen fish filets. Except for the frozen fish filets, all items that were never available were from stores in very low- or low-income neighborhoods.

The smaller independent stores had a much higher number of items that were never available (Table 2). Independent stores did not have low-fat cheddar cheese, 100 percent whole wheat English muffins, or high-fiber hamburger buns. Four of the six stores

Table 1. Thrifty Food Plan and healthy market basket comparison

Food item	Thrifty Food Plan	Healthier
Breads	Enriched	100% whole wheat
Canned peaches	In heavy & in lite syrup	In lite syrup
Canned pears	In heavy syrup	In lite syrup
Cheese	Whole fat	Low-fat
Chicken	With skin	Skinless
Cold cereal	Corn flakes	Bran flakes
Cooking oil	Vegetable	Canola
Egg noodles	Whole egg	Yokeless
Evaporated milk	Whole	Low-fat
Flour	White	Whole wheat
Frozen French fries	Frozen French fries	Potatoes
Frozen fish	Filets, breaded	Filets, unbreaded
Ground meat	Lean	Lowest fat
Milk	Whole, 1%	Nonfat, 1%
Rice	White	Brown
Salad dressing	Regular	Low-fat
Spaghetti	Enriched	100% whole wheat
Spreads	Margarine	“Healthy” spread
Tuna fish	Light	Albacore

that did not have 100 percent whole wheat spaghetti were smaller independent grocery stores. In all, 64 percent of the items unavailable in grocery stores in Sacramento were from the independent stores.

The general results for availability show that most stores carry the healthier substitutes recommended by nutritionists for a healthy diet. However, differences arise when the availability of items over time and the nutritional content of the healthier substitutes are examined. There were many cases where a grocery store did not have an item on at least one visit. For the small independent grocery stores, 100 percent whole wheat breads were frequently not available at the end of the month. Follow-up interviews with managers of small independent grocery stores in lower income neighborhoods indicated that they stock 100 percent whole wheat breads at the beginning of the month

because customers are only willing to purchase them at the beginning of the month. At the end of the month the higher priced 100 percent whole wheat bread sits on the shelf and goes stale.

In addition to the problem of sporadic availability, the nutritional quality of the food items available or the variety of healthier substitutes differed by neighborhood income or store type. Independent stores in lower income neighborhoods stock discount name brands that have less fiber per serving than premium name brands. Fiber per serving was about two grams for a discount 100 percent whole wheat bread, while the premium brand 100 percent whole wheat breads or other high fiber breads offered three to five grams of fiber per serving.

The selection of low-fat ground beef also varied widely by store, but it varied more by the company operating the store than by store type. The lowest

Table 2. Number of stores, by store type, where grocery item was not available during any of the three surveys

	Small	Bulk	Supermarket	Total
Sacramento				
Number of stores in survey	4	2	9	15
<i>Items unavailable</i>				
Bagels, 100% whole wheat	1	1	0	2
Bagels, plain	0	1	0	1
Beans, lima, dry	0	1	0	1
Beans, northern canned	0	1	0	1
Cheddar cheese, low-fat	3	0	0	3
English muffins, 100% whole wheat	2	1	0	3
English muffins, plain	1	0	0	1
Evaporated milk, low-fat	1	0	0	1
Fish, frozen unbreaded filets	1	0	1	2
Flour, whole wheat	1	0	0	1
Hamburger buns, high fiber	3	0	0	3
“Healthy” spread	1	0	0	1
Pears, canned in lite syrup	0	1	0	1
Pork, ground	0	1	0	1
Spaghetti, 100% whole wheat	4	1	1	6
Los Angeles				
Number of stores in survey	0	3	9	12
<i>Items unavailable</i>				
Cheese, mozzarella	N/A*	0	1	1
Fruit drink, prepared	N/A	0	1	1
Lemonade, prepared	N/A	0	1	1
Pears, canned in lite syrup	N/A	1	0	1
Spaghetti, 100% whole wheat	N/A	0	1	1

* N/A = not applicable

fat ground beef available in some stores had a 15 percent fat content, along with selections that offered 25 to 30 percent fat. Other stores did not sell any ground beef with a fat content higher than 22 percent (the maximum amount of fat that ground beef can have and still be labeled lean) but also sold ground beef with a fat content as low as 4 percent. Supermarkets belonging to the same company tended to carry the same selection of percentage fat in ground beef no matter where they were located. Chain and bulk supermarkets also had a wider selection than the independent grocery stores, usually having ground beef with higher and lower percentages of fat. Even though independent grocery stores offered a smaller selection, all stores had lean

ground beef and ground turkey during at least one survey.

Are healthier foods more expensive?

The healthier market basket was always significantly more expensive than the TFP market basket (Table 3). The average cost of the TFP was \$194 for two weeks and the cost of the healthier basket was \$230. The average increase in cost was \$36, and ranged from \$32 to \$41 depending on store location or store type.

The healthier market basket was between 16 percent and 18 percent higher than the TFP in Sacramento and between 17 percent and 22 percent higher in Los Angeles. The percentage increase was greater in Los Angeles because the total cost of the TFP in

Table 3. Average cost of the Thrifty Food Plan and the healthier market basket

	TFP (\$)	Healthier (\$)	Difference between the TFP and the healthier plan (\$)	Difference as a percentage of the TFP
ALL STORES	194	230	36	18
<i>By neighborhood median income^a</i>				
Sacramento				
Very Low	205	239	34 ^b	17
Low	188	220	32 ^b	17
Medium	203	240	37 ^b	18
High	205	238	33 ^b	16
Los Angeles				
Very Low	173	211	38 ^b	22
Low	161	196	35 ^b	22
Medium	218	255	37 ^b	17
High	204	245	41 ^b	20
<i>By store type</i>				
Sacramento				
Independent	196	226	30 ^b	15
Bulk Supermarket	161	192	31 ^c	19
Chain - Very Low and Low Income	201	236	36 ^b	18
Chain - Medium and High Income	204	239	35 ^b	17
Los Angeles				
Bulk Supermarket	167	204	36 ^b	22
Chain - Very Low and Low Income	185	224	38 ^b	21
Chain - Medium and High Income	211	250	39 ^b	18

^aVery low is less than \$27,000, low is low \$30,000, medium is mid \$40,000 and high is over \$50,000 a year

^bSignificant at the 1 percent confidence level

^cSignificant at the 5 percent confidence level

Los Angeles was slightly lower than the cost of the TFP in Sacramento for most neighborhood income levels and store types.

A family of four with a modest income would pay about \$850 to \$960 a year more for the healthier market basket. Families in very low-income households spend an average of \$2,410 each year on food at home. The higher cost of the healthier food plan is equivalent to 35 to 40 percent of their food budget.

Healthier substitutes cost more mostly due to 100 percent whole wheat breads and whole grains, low fat ground meats and skinless poultry. The cost difference was about equally divided between these two categories. All other items accounted for the remaining increased cost for the healthier market basket.

For breads and grains, the difference in prices was due to the unavailability of 100 percent whole wheat generic brands or to not having the item available in a larger package size that received a lower price per unit. At the time of the survey no store carried 100 percent whole wheat bread as a generic label. Although standard "wheat" bread was baked and sold as a generic brand, the fiber content was the same as white bread. The name brands that did bake 100 percent whole wheat breads also baked a variety of white breads. The price of name brand breads did not vary by the type of bread, so 100 percent whole wheat bread costs the same as the white bread; however, the name brands were more expensive than the generic store brands.

The other source of price differences for grains was from differences in package sizes. Standard items such as white flour and white rice are sold in larger package sizes than whole wheat flour and brown rice. Although prices for a 10-pound bag of white or wheat flour may be the same, because consumers can purchase a 20-pound bag of white flour at a lower per unit cost, white flour is less expensive to use.

Similar results were found for canned fruit and for canola versus vegetable oils. A generic brand for fruit packed in heavy syrup was generally available in a 24-ounce can; however, a name brand may sell a 15-ounce can of fruit packed in either heavy syrup or juice for the same price. Stores also sold a generic brand of vegetable oil in gallon containers, but canola

oil was sold through name brands in smaller containers.

The healthier substitutes for meat and poultry were higher priced because they had less fat. Ground meats (beef and turkey) were priced according to fat content and as the fat content went down, the price went up. In the TFP market basket, the price of ground beef and ground turkey was for the package with the lowest price per pound that was labeled lean. The price in the healthier basket was for the package with the leanest meat. The leanest meat package was more expensive than the lowest priced package labeled lean.

Poultry is served with skin in the TFP and without skin in the healthier market basket. The lowest cost method to consume poultry without skin is to purchase the poultry with skin and remove the skin when preparing a meal at home. Therefore the price of poultry in the TFP was the price on the package for meat and skin, and the price in the healthier market basket was that price for just meat, which raised the price per pound consumed.

For most items in our survey, the healthier substitutes were more expensive than the standard items. However, nonfat milk and potatoes (substituted for frozen French fries in the TFP market basket) were generally less expensive. In some cases, whole milk was less expensive, but most stores charged less for 1 percent fat or nonfat milk. For all stores, potatoes cost less per ounce than frozen French fries.

For most people, access to the recommended healthier substitutes is as easy as their access to a grocery store. Almost all stores stock a variety of the recommended substitutes. However, small stores often do not have the higher fiber breads and grains in stock. The items may never be available or only available some of the time. In Sacramento, the small, independent stores also serve communities not served by nearby supermarkets. Within these neighborhoods people who lack transportation may not have consistent access to healthier foods.

People do have to pay more for healthier substitutes. The healthier market basket costs 16 to 22 percent more than the standard TFP market basket. About half of the increased cost to consumers could be eliminated if all stores offered 100 percent whole wheat breads and larger package sizes for healthier substitutes.

References

Kant AK. Dietary patterns and health outcomes. *J Am Diet Assoc.* Apr 2004;104(4):615-635.
[http://www.ncbi.nlm.nih.gov/entrez/
query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15054348](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15054348)

USDA. The Thrifty Food Plan, 1999. Washington, DC: United States Department of Agriculture, Center for Nutrition Policy and Promotion; 1999. <http://www.usda.gov/cnpp/foodplans.html>

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One Shields Avenue, Davis, CA 95616-8514

E-mail: agissues@ucdavis.edu

Fax: 530 752 5451 — Telephone: 530 752 2320 — www.aic.ucdavis.edu

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Agricultural Issues Center
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