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# Revision of USDA's Low-Cost, Moderate-Cost, and Liberal Food Plans

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The Center for Nutrition Policy and Promotion has revised the Low-Cost, Moderate-Cost, and Liberal Food Plans—three fundamental components of the U.S. food guidance system. These plans provide representative healthful market baskets at three cost levels. This revision of the plans incorporates recent developments in nutrition standards and dietary guidance, as well as updates that reflect food consumption patterns of Americans and the nutrient content of foods. This revision also maintains a constant real cost for each plan.

**T**he U.S. Department of Agriculture's (USDA) Low-Cost, Moderate-Cost, and Liberal

Food Plans are national standards for nutritious diets at various costs. These three plans—as well as the fourth, the Thrifty Food Plan<sup>1</sup>—are the official food plans maintained by the USDA Center for Nutrition Policy and Promotion (CNPP). Each plan represents a set of market baskets applicable to 1 of 12 age-gender groups. Each market basket contains a selection of foods in quantities that reflect dietary recommendations, food consumption patterns, food composition data, and food prices. The three plans have various policy uses:

- Bankruptcy courts often use the value of the Low-Cost Plan to determine the portion of a bankruptee's income to allocate to necessary food expenses.
- The Department of Defense uses the value of the Moderate-Cost and Liberal Food Plans to set the Basic

Allowance for Subsistence rate for all enlistees.

- Many divorce courts use the value of the food plans to set alimony payments, and all three plans are used in USDA's Expenditures on Children by Families report, which is used to set State child support guidelines and foster care payments.
- Policymakers and others use the food plans as national standards in educational programs and as references for policies that are designed to help families budget their food dollars effectively and improve their diets.

This study presents the revision of the previous market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans. Each plan reflects recent changes in dietary guidance, as well as updated information on food composition, consumption patterns, and food prices. Data and methods used in revising the food plan market baskets are described; then, the revised baskets are discussed.<sup>2</sup>

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<sup>1</sup>The Thrifty Food Plan, which is the basis for food stamp allotments, was revised in 1999 (USDA, 1999).

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<sup>2</sup>For more details on this revision, as well as market baskets for specific age-gender groups, see Carlson, Lino, Gerritor, and Basiotis (2003).

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## Data

CNPP used two main data sources to revise the market baskets of the food plans: (1) USDA's 1989-91 Continuing Survey of Food Intakes by Individuals (CSFII) and (2) the Food Price Database, which was created by CNPP by merging foods from the CSFII with data on national food prices.

The CSFII, administered to a nationally representative sample of households in the 48 conterminous States, assesses the food and nutrient intake by individuals both at home and away from home. One-day food intakes by 9,961 individuals, ages 1 and over, were used for this revision. One-day data have been shown to be reliable measures of usual food intakes by groups of people (Basiotis, Welsh, Cronin, Kelsey, & Mertz, 1987).

In the 1989-91 CSFII, people were asked what foods they consumed in a day both at home and away from home, resulting in about 4,800 different foods reported as being consumed. For children under age 12, the parent or main meal planner provided the information, often with the assistance of the child. These data were collected by using in-person interviews and a 24-hour dietary recall method. Information on the ingredients, nutrient content, and amount consumed of each of these foods is contained in the data set. CNPP used CSFII sampling weights that make the data representative of the U.S. population and weighted all the data in this study.

The CSFII does not contain information on food prices or expenditures for consumed foods (i.e., information needed to assign a price to a market basket). Thus, CNPP developed a method to estimate the price of foods "as consumed" in the survey and created the Food Price Database.

To do so, CNPP used information on national average food prices from several sources: the Scantrack system developed by A.C. Nielsen; the retail prices database from the Bureau of Labor Statistics, U.S. Department of Labor; wholesale prices for fresh produce from the Agricultural Marketing Service, USDA; and fish prices from the National Marine Fisheries Service, U.S. Department of Commerce. Because the USDA food plans provide the cost of eating at home, for purposes of calculating the cost, CNPP assumed that all foods that people said they ate were prepared at home.

The Food Price Database was created by first identifying all foods reported in the CSFII as being consumed at home and away from home and using recipes to disaggregate foods into their specific ingredients and adjusting ingredient quantities for cooking and waste factors, when appropriate, to convert foods to a purchasable form. The database was completed by pricing the purchasable ingredients by using the data on national retail prices and then converting the priced retail ingredients back to the consumed form of the food with a price now attached to it. (For more details on the creation of the Food Price Database, see Bowman [1997].)

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## Methods

An overview of the methods used to update the market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans is shown in figure 1. For each plan, CNPP calculated a revised market basket for 12 age-gender groups: children whose ages were 1, 2, 3-5, 6-8, and 9-11; females whose ages were 12-19, 20-50, and 51 and older; and males whose ages were 12-14, 15-19, 20-50, and 51 and older. For modeling purposes, CNPP assigned

each of the 4,800 foods reported in the CSFII into 1 of 44 food categories. These foods were assigned to food categories based on similarity of nutrient content, food costs, use in meals, and their placement in the Food Guide Pyramid. A food-waste factor was a component of each plan.

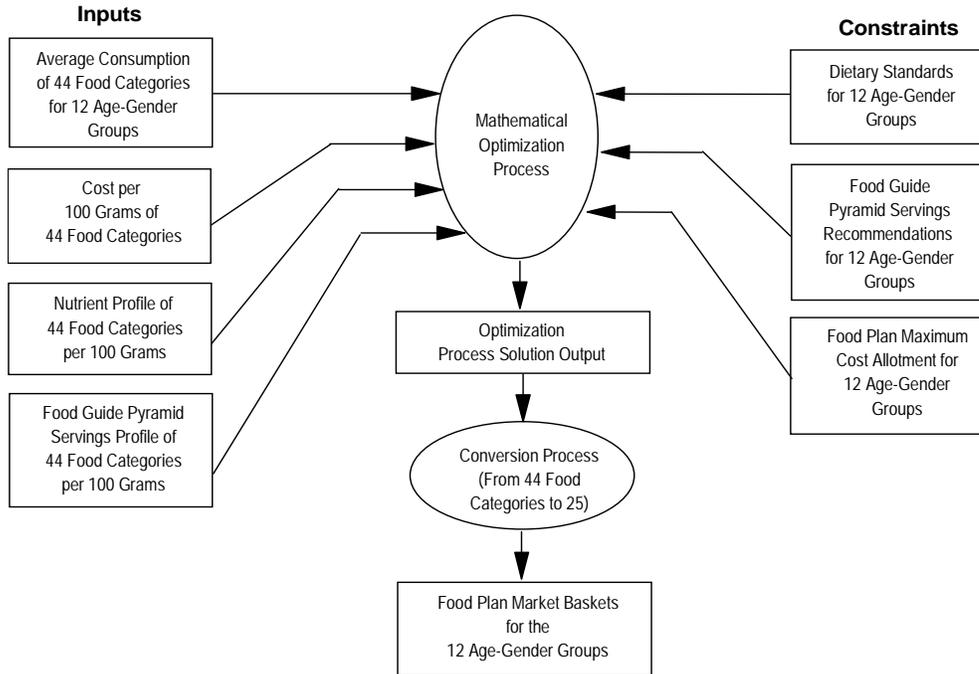
To calculate a market basket of each food plan for each of the 12 age-gender groups, CNPP used mathematical optimization models that minimize deviations from average consumption patterns for the 44 food categories, that suggest new consumption patterns that meet required dietary standards, and that maintain constant cost levels. Each model consists of four sets of inputs and is subject to three constraints (fig. 1). The inputs relate to each of the 44 food categories and include average consumption, a price for each food category, a nutrient profile, and the servings profile of the Food Guide Pyramid. The constraints in each model are dietary standards—including serving specifications of the Food Guide Pyramid—and the cost<sup>3</sup> of the Food Plan.

Table 1 shows the exact dietary standards the market baskets met. Forming the nutritional basis of the market baskets are the 1989 Recommended Dietary Allowances (RDAs), the 1995 Dietary Guidelines for Americans, the National Research Council's Diet and Health report, and the serving recommendations of the Food Guide Pyramid. This revision of the market baskets is the first one to impose serving recommendations of the Food Guide Pyramid, which is important to their revision because the Pyramid specifies the number of

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<sup>3</sup>Food Plan costs are those for 1989-91 that correspond to the period when the food consumption data were collected.

Figure 1. Food Plan Methods



servings of the five major food groups (grains, vegetables, fruits, milk products, and meat/meat alternates) that people of different age-gender groups need to eat to have a healthful diet.

*Cost in real terms was a primary constraint that needed to be met by the new market baskets: None could cost more than the previous market baskets.* Thus, the real value of the food plans was kept constant across the years. CNPP, however, considered other food-cost options. The costs of the previous Low-Cost, Moderate-Cost, and Liberal Food Plans were set at the midpoint of the respective 1977-78 quartiles of food spending for each age-gender group. For example, the Low-Cost Plan for a male age 20-50 was set at the 37.5-percent level on the distribution of food spending (the midpoint of the 25<sup>th</sup> to 50<sup>th</sup> quartile) for a male in this age group. The midpoints of the quartiles of this distribution of estimated food

costs were similar to the published costs of the Low-Cost and Moderate-Cost Food Plans; the midpoints were higher for the Liberal Plan. CNPP ultimately decided to keep the real value of the food plans consistent across the years.

## Food Plan Market Baskets

The optimization model yielded 12 market baskets (one for each age-gender group) for each of the three food plans, with the optimization solution in “as consumed” quantities of the 44 food groups. The final market baskets were simplified to pounds per week that an individual would need to purchase to consume the recommended amounts. The market baskets were also based on 25 food categories, which many grocery shoppers can relate to, that were combinations of the original 44 food categories.

To examine how the market baskets differ from each other, CNPP calculated an average market basket for each plan. Average baskets were derived by weighting each age-gender group by its population size and calculating a weighted mean for each food plan. Table 2 shows these average food plan market baskets (in pounds per week per person).

The total amount of food in each average market basket increases—from that in the Low-Cost to the Moderate-Cost and then to the Liberal Food Plan. The primary reason for this is related to increases in food-waste factors in the more expensive food plans: 10 percent for the Low-Cost Plan, 20 percent for the Moderate-Cost Plan, and 30 percent for the Liberal Plan.

Quantities of food for each of the Pyramid food groups also increase across the food plans, with one exception, the “other” food group

(fats, oils, and sweets). For the “other” food group, the Low-Cost Plan contains slightly higher quantities than does the Liberal Plan. Because the “other” food group is an inexpensive source of calories, it is more prominent in the Low-Cost Plan. This also represents the preference of the average person who consumes a low-cost diet. Although containing more of these “other” foods, the Low-Cost Plan still meets all the dietary standards, including serving requirements of the Pyramid that were used in this revision.

Quantities differ in each of the 25 food categories in the average market baskets of the three food plans. These differences reflect two things: First, as the plans increase in cost, more options are available to the optimization program. The plans that cost more represent more variety. Second, because the plans reflect the diets of individuals consuming foods at different cost levels, those who spend more on food are likely choosing foods that are more costly. The following are some of the more noticeable differences among food groups.

### Grains

The amount of breakfast cereals in the Low-Cost Food Plan is greater than the amount in the other two food plans. The amount of breads also increases as the cost of the food plans rises (table 2).

### Vegetables

Dark-green and deep-yellow vegetables, as well as other vegetables (e.g., corn, lettuce, and onions), increase in quantity across the food plans. These two vegetable categories are relatively expensive, compared with potatoes, so they increase in amount as the cost of the food plans rises.

**Table 1. Dietary standards of the revised market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans**

Dietary standard	Description of constraint
<b>Recommended Dietary Allowances (RDAs) for each age-gender group</b>	1989 RDA
Food energy	Average energy allowance
Protein, vitamins (A, C, E, B <sub>6</sub> , B <sub>12</sub> , thiamin, riboflavin, niacin, folate) and minerals (calcium, phosphorus, magnesium, iron, zinc)	100% RDA
<b>Dietary Guidelines</b>	
Total fat	30% or less of total calories for adults and children ages 5 <sup>1</sup> and older; at average consumption for children ages 2 to 4; unrestricted for children age 1
Saturated fat	Less than 10% of total calories for adults and children ages 5 and older; at average consumption for children ages 2 to 4; unrestricted for children age 1
<b>Other recommendations</b>	
Sodium	No more than 100% of average consumption; unrestricted for children age 1
Cholesterol	300 mg/day or less; unrestricted for children age 1
Fiber	No less than 100% of average consumption
Carbohydrate	55% or more of total calories/day
Caloric sweeteners/added sugars	No more than 100% of average consumption
<b>Food Guide Pyramid servings</b>	
Grains	Minimum of 6; maximum of 11 servings/day <sup>2</sup>
Vegetables	Minimum of 3; maximum of 5 servings/day <sup>2</sup>
Fruits	Minimum of 2; maximum of 4 servings/day <sup>2</sup>
Milk products	Minimum of 2; maximum of 3 servings/day <sup>2</sup>
Meat/meat alternates	Minimum of 2; maximum of 3 (5 to 7 ounces) servings/day <sup>2</sup>
Fats, oils, and sweets	No more than 100% of average consumption

<sup>1</sup>All ages are in years.

<sup>2</sup>Minimum and maximum servings vary by age-gender group. Maximum servings are specified to ensure that the minimum number of servings from all Pyramid food groups are included in the market baskets before the maximum number of servings of any one of the food groups is exceeded. Serving sizes for children through 3 years old are modified by reducing the serving size by one-third, except for servings of milk products.

**Table 2. Average market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans, pounds of food<sup>1</sup> per week**

Food category	Low-cost	Moderate-cost	Liberal
	<i>Pounds per week</i>		
<b>Grains</b>			
Breads, yeast and quick	1.25	1.48	1.61
Breakfast cereals, cooked and ready to eat	.44	.42	.39
Rice and pasta	1.33	1.33	1.62
Flours	.47	.53	.58
Grain-based snacks and cookies	.17	.22	.18
<b>Total Grains</b>	<b>3.66</b>	<b>3.98</b>	<b>4.38</b>
<b>Vegetables</b>			
Potato products	2.39	2.27	2.59
Dark-green and deep-yellow vegetables	.56	.77	.94
Other vegetables (corn, lettuce, onions, etc.)	2.73	3.29	3.57
<b>Total Vegetables</b>	<b>5.68</b>	<b>6.33</b>	<b>7.10</b>
<b>Fruits</b>			
Citrus fruits, melons, berries, and juices	2.48	2.61	1.68
Noncitrus fruits and juices	1.84	2.46	4.78
<b>Total Fruits</b>	<b>4.32</b>	<b>5.07</b>	<b>6.46</b>
<b>Milk products</b>			
Whole milk, yogurt, and cream	1.69	1.86	1.87
Lower fat and skim milk and lowfat yogurt	5.03	5.33	6.27
Cheese	.30	.34	.29
Milk drinks and milk desserts	.34	.39	.44
<b>Total Milk products</b>	<b>7.36</b>	<b>7.92</b>	<b>8.87</b>
<b>Meat/meat alternates</b>			
Beef, pork, veal, lamb, and game	1.50	1.68	2.55
Chicken, turkey, and game birds	1.60	2.02	1.87
Fish and fish products	.48	.80	1.10
Bacon, sausages, and luncheon meats	.31	.33	.37
Eggs and egg mixtures	.41	.42	.44
Dry beans, lentils, peas, and nuts	.47	.44	.39
<b>Total Meat/meat alternates</b>	<b>4.77</b>	<b>5.69</b>	<b>6.72</b>
<b>Other foods</b>			
Table fats, oils, and salad dressings	.39	.45	.47
Gravies, sauces, condiments, spices, and salt	.23	.27	.29
Fruit drinks, soft drinks, and ades	4.84	3.82	4.64
Sugars, sweets, and candies	.39	.17	.44
Coffee and tea	.19	.17	.12
<b>Total Other foods</b>	<b>6.04</b>	<b>4.88</b>	<b>5.96</b>
<b>Total</b>	<b>31.83</b>	<b>33.87</b>	<b>39.49</b>

<sup>1</sup>Food as purchased includes uncooked grain products; raw, canned, and frozen vegetables; fruit juice concentrates; dry beans and legumes; and meat with bones. Coffee and tea are in dried weight. Also, while fruit drinks, soft drinks, and ades may appear to be large in quantity for some adults, they typically translate to less than one 16-oz bottle of such drinks per day.

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**More citrus fruits, melons, berries, and juices are in the Low-Cost Food Plan than are in the Liberal Food Plan; whereas, the amount of noncitrus fruits and juices are nearly three times higher in the Liberal Food Plan, compared with the Low-Cost Plan.**

### **Fruits**

More citrus fruits, melons, berries, and juices are in the Low-Cost Food Plan than are in the Liberal Food Plan; whereas, the amount of noncitrus fruits and juices are nearly three times higher in the Liberal Food Plan, compared with the Low-Cost Plan. Analysis of consumers' intake used as the basis for the Low-Cost Plan suggests that orange juice made from concentrate constitutes the bulk of the citrus fruits, melons, and berries group. Noncitrus fruits and juices are generally more expensive than orange juice.

### **Milk products**

Lower fat and skim milk and lowfat yogurt increase in quantity across the three food plans. The amount of milk drinks and milk desserts also increases across the food plans. Both increases are likely the result of taste preferences and economic considerations.

### **Meat/meat alternates**

More expensive meat/meat alternates increase in quantity across the three food plans, resulting in the greatest amount of beef, pork, veal, lamb, and game, and fish products being in the Liberal Food Plan. Less expensive meat/meat alternates generally decrease in quantity from the Low-Cost Food Plan to the Liberal Food Plan, with the smallest amount of dry beans, lentils, peas, and nuts in the Liberal Food Plan.

### **Other foods**

Food categories in "other" foods are inexpensive sources of calories and fat. So, after dietary standards are met, the amounts of these food categories increase in the less expensive food plans because of consumer preference.

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## **Average Food Plan Market Basket Versus Average Consumption**

To understand how actual reported diets would need to change to meet the dietary standards of the revised Low-Cost, Moderate-Cost, and Liberal Food Plans, CNPP compared the average market basket (in pounds per week) for each plan with people's average consumption (in pounds per week) based on the food expenditure quartile corresponding to each plan. (Those quartiles refer to the second quartile for the Low-Cost Plan, the third quartile for the Moderate-Cost Plan, and the highest quartile for the Liberal Plan.) Using the same technique that produced the average market basket, CNPP calculated an average consumption basket. Table 3 shows the percentage difference between the average market basket for each plan and the average consumption basket for people in the corresponding food expenditure quartile.

More breakfast cereals and rice and pasta are in all three market baskets of the food plans than are in the respective consumption baskets. The market basket of the Low-Cost Food Plan contains slightly fewer pounds of bread and flours than does the market basket based on people's consumption patterns. The market baskets of all three plans contain fewer grain-based snacks and cookies than do the baskets based on consumption.

More vegetables and fruits are contained in the markets baskets of all three food plans, compared with the market baskets based on consumption. The Low-Cost Food Plan contains 242 percent more citrus fruits, melons, berries, and juices than does a market basket based on people's consumption pattern. This is not surprising, because

**Table 3. Average market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans versus corresponding average consumption, percentage difference**

Food category	Low-cost	Moderate-cost	Liberal
	<i>Percent difference<sup>1</sup></i>		
<b>Grains</b>			
Breads, yeast and quick	-2.7	22.1	59.9
Breakfast cereals, cooked and ready to eat	24.2	23.6	16.8
Rice and pasta	199.2	214.7	264.1
Flours	-15.7	2.0	14.6
Grain-based snacks and cookies	-32.9	-26.9	-36.7
<b>Vegetables</b>			
Potato products	105.4	93.6	112.6
Dark-green and deep-yellow vegetables	30.6	42.1	66.1
Other vegetables (corn, lettuce, onions, etc.)	0.2	10.6	11.7
<b>Fruits</b>			
Citrus fruits, melons, berries, and juices	241.6	183.6	50.9
Noncitrus fruits and juices	48.7	60.3	203.6
<b>Milk products</b>			
Whole milk, yogurt, and cream	-21.0	-11.4	-12.1
Lower fat and skim milk and lowfat yogurt	81.5	83.7	157.1
Cheese	-37.5	-30.3	-39.2
Milk drinks and milk desserts	-34.4	-28.4	-32.8
<b>Meat/meat alternates</b>			
Beef, pork, veal, lamb, and game	1.1	-4.2	-1.4
Chicken, turkey, and game birds	5.8	38.6	21.1
Fish and fish products	61.1	134.8	148.9
Bacon, sausages, and luncheon meats	-20.2	-8.2	27.6
Eggs and egg mixtures	-22.5	-13.3	-0.3
Dry beans, lentils, peas, and nuts	19.4	32.2	14.1
<b>Other foods</b>			
Table fats, oils, and salad dressings	-21.3	-17.1	-15.4
Gravies, sauces, condiments, spices, and salt	-21.1	-15.5	-21.3
Fruit drinks, soft drinks, and ades	-26.0	-38.4	-13.0
Sugars, sweets, and candies	-27.8	-67.2	-19.7
Coffee and tea	-22.1	-7.6	-19.3

<sup>1</sup>These percentages may not match the text because of rounding.

the market baskets of the food plans represent a nutritious diet at various cost levels—and the consumption of vegetables and fruits generally needs to increase (Basiotis et al., 2002).

Fewer pounds of whole milk, yogurt, and cream; cheese; and milk drinks and milk desserts are contained in the market baskets of all three food plans

versus the market baskets based on consumption. The market baskets of all three food plans provide calcium and protein from lower fat milk products while reducing the total fat and saturated fat available from these foods.

The three food plans have meat/meat alternate components that are rela-

tively lower in fat. More chicken, turkey, and game birds; fish and fish products; and dry beans, lentils, peas, and nuts are in the market basket of each food plan than is the case for the market baskets based on consumption. The market baskets of the three food plans contain fewer pounds of “other” foods (fats, oils, and sweets) than do the market baskets based on

**Table 4. Average revised market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans versus average previous market baskets, in pounds of food per week<sup>1</sup>**

	Low-Cost market basket			Moderate-Cost market basket			Liberal market basket		
	Previous	Revised	Difference	Previous	Revised	Difference	Previous	Revised	Difference
	<i>Pounds</i>			<i>Pounds</i>			<i>Pounds</i>		
Grains	4.11	3.27	-20%	4.29	3.56	-17%	4.63	3.89	-16%
Vegetables	4.40	5.08	+15%	5.28	5.59	+6%	5.78	6.32	+9%
Fruits	3.75	5.16	+38%	4.54	6.11	+35%	5.21	7.12	+37%
Milk products	8.35	8.08	-3%	9.25	8.84	-4%	9.45	9.76	+3%
Meat/meat alternates	4.04	4.24	+5%	4.84	5.06	+5%	5.50	5.88	+7%
Other foods (fats, oils, and sweets)	3.74 <sup>2</sup>	5.28		4.03 <sup>2</sup>	6.42		4.69 <sup>2</sup>	5.13	
<b>Total</b>	<b>28.39</b>	<b>31.11</b>		<b>32.23</b>	<b>35.58</b>		<b>35.26</b>	<b>38.11</b>	

<sup>1</sup>Figures are an unweighted average in terms of pounds of food per week for all age-gender groups.

<sup>2</sup>Does not contain added fats, oils, and sugars. These items are included in the food groups to which they apply; therefore, no meaningful comparisons can be made.

consumption. Foods in this group are typically high in fat and calories and are not nutritionally dense, so they represent a smaller share of nutritious market baskets than do market baskets based on average consumption.

## New and Previous Food Plans

CNPP also compared the average market basket of the new and previous Low-Cost, Moderate-Cost, and Liberal Food Plans. Such a comparison shows how dietary guidance has changed over time (table 4). New and previous market baskets represent an unweighted average for pounds of foods per week for all age-gender groups.

Compared with their respective previous market baskets, the new market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans contain fewer pounds of grains (16 to 20 percent), more vegetables (6 to 15 percent), more fruits (35 to 38 percent), and slightly more meat/meat alternates (5 to 7 percent). The

new market baskets of the Low-Cost and Moderate-Cost Food Plans contain slightly fewer pounds of milk products, compared with the previous market baskets (3 to 4 percent); whereas, the new market basket of the Liberal Food Plan contains slightly more milk products (3 percent) than its previous market basket.

These percentage changes from the previous market baskets are likely distorted, because for the previous baskets, added fats, oils, and sugars were allocated to their respective food group component (e.g., fats added to vegetables were allocated to the vegetable category). Thus, for vegetables, fruits, and meat/meat alternates, the percentage changes from the previous to the new market baskets are likely underestimates; whereas, for grains, the percentage changes are likely overestimates. For milk products, the percentage change is likely an underestimate for the Liberal Food Plan and overestimates for the other two food plans. A true comparison of the “other” food category (fats, oils, and sweets) cannot be made between the respective previous and revised

market baskets because the “other” category in the previous baskets does not contain added fats, oils, and sugars; whereas, it does for the new baskets.

It is important to note the larger quantity of food (measured in pounds per week) in the revised market baskets of the food plans, compared with the previous ones. This partly reflects changes in dietary guidance. For example, the previous food plans allowed up to 35 percent of calories from fat, compared with 30 percent for the revised plans. This translates to higher food weight (pounds). However, all three revised food plans provide the Recommended Energy Allowance for each age-gender group.

## Cost Update of the Food Plans

Each month CNPP uses the method described here to update the cost of the market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans for each of the 12 age-gender groups. This method was approved by an expert

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interagency panel of economists and uses the monthly Consumer Price Indexes (CPIs) for specific food categories to update prices for the food categories of each food plan's market baskets. Each of the 25 food categories of the food plans has a corresponding CPI or set of corresponding CPIs that are applied to update the appropriate food-category cost for the market basket of each age-gender group. For food categories with more than one corresponding CPI, CNPP uses a weighted average of the appropriate CPIs. The weights are based on expenditure patterns. After the CPIs are applied to each food category, the costs of the food categories are summed to determine the total cost of the food plan market basket for each age-gender group.

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## A Final Word

The revised market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans successfully incorporate recent dietary guidance and nutrient recommendations and maintain constant real-cost levels. The market baskets serve as a valuable framework for providing advice to households regarding nutritious food selection at various cost levels. This is especially important because most people have a diet that needs improvement. This revision of the market baskets of the Low-Cost, Moderate-Cost, and Liberal Food Plans is an important step in helping households eat more healthfully.

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## References

- Basiotis, P.P., Carlson, A., Gerrior, S.A., Juan, W.Y., & Lino, M. (2002). *The Healthy Eating Index: 1999-2000* (CNPP-12). U.S. Department of Agriculture, Center for Nutrition Policy and Promotion.
- Basiotis, P.P., Welsh, S.O., Cronin, F.J., Kelsey, J.L., & Mertz, W. (1987). Number of days of food intake records required to estimate individual and group nutrient intakes with defined confidence. *The Journal of Nutrition*, 117(9), 1638-1641.
- Bowman, S.A. (1997). A methodology to price foods consumed: Development of a food price database. *Family Economics and Nutrition Review*, 10(1), 26-33.
- Carlson, A., Lino, M., Gerrior, S., & Basiotis, P.P. (2003). *The Low-Cost, Moderate-Cost, and Liberal Food Plans, 2003 Administrative Report* (CNPP-13). U.S. Department of Agriculture, Center for Nutrition Policy and Promotion.
- U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. (1999). *The Thrifty Food Plan, 1999 Administrative Report* (CNPP-7).