USDA 1983 Thrifty Food Plan

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The thrifty food plan has been revised. The proposal to use the revised thrifty food plan as the basis for benefits in the Food Stamp Program appeared on July 29, 1983, in the Federal Register (6). In July 1983, the revised plan replaced the thrifty food plan developed in 1975 as the basis for the "Cost of Food at Home," released monthly by USDA. The Cost of Food at Home for July 1983 also reflects 1983 revisions of the low-cost, moderate-cost, and liberal food plans.[1]

What is the Thrifty Food Plan?

The thrifty food plan is the least costly of four food plans developed by the Human Nutrition Information Service (HNIS) in 1983. Like the more costly plans, this plan specifies the quantities of different types of foods (food groups) that households might use to provide nutritious diets for household members. The thrifty food plan includes larger proportions of the foods that are economical sources of nutrients than the other plans.

The quantities of 31 food groups suggested in the thrifty food plan for men, women, and children of different ages are shown in table 1. These quantities can be totaled for household members to determine the food plan for any household.

Why was the Thrifty Food Plan Revised?

The Department has prepared guides for selecting nutritious diets at different levels of cost for almost 50 years. Such guides, or food plans, are revised from time to time to take into account new information about nutritional needs, nutritive values of foods, food consumption, and food prices.

Quantities of food groups in the thrifty food plan were last revised in 1975 (3). The 1975 plan was based on the Recommended Dietary Allowances (RDA) released in 1974 by the National Academy of Sciences-National Research Council (NAS-NRC) and food consumption data from a nationwide food consumption survey conducted by USDA in 1965-66.

The thrifty food plan was revised in 1983 for several reasons:

- Dietary standards used in the 1975 food plan needed revision. In 1980 NAS-NRC revised the RDA (2). Recommended amounts of ascorbic acid, vitamin B_6, vitamin B_{12}, thiamin, riboflavin, phosphorus, and magnesium were changed for some sex-age categories. The major changes were increases in ascorbic acid for all categories and in vitamin B_6 for some categories. The 1980 RDA were used to define the lower limit for nutrients and the level of food energy in the plan. Also fat, cholesterol, caloric sweeteners, and sodium were controlled at moderate levels in the 1983 food plan. Of these dietary factors, only fat was controlled in the 1975 plan, although attempts were made to control the level of cholesterol by limiting the number of eggs and to control the level of sweeteners by limiting the amount of sugar and sweets.
- New information on the content of nutrients in foods has become available since 1975. Also, the nutritive values of some foods have changed since 1975. For example, the enrichment levels for certain B vitamins in bread and flour were increased in 1975. The most recent food composition data available in HNIS's Nutrient Data Bank were used to estimate the nutrient content of foods in the food plan. Levels of food energy, fat, protein, calcium, iron, magnesium, vitamin A value, thiamin, riboflavin, niacin, vitamin B_6, vitamin B_{12}, and ascorbic acid were estimated for the earlier plan; in addition, levels of zinc, phosphorus, folacin, vitamin E, cholesterol, caloric sweeteners, and sodium were estimated for the 1983 plan.

[1] For information about the other USDA food plans see Family Economics Review 1983(2): 12-21.

Table 1. *Thrifty food plan, 1983: Quantities of food for a week*[1]

Food group	Child				Male				Female[2]		
	1-2 years	3-5 years	6-8 years	9-11 years	12-14 years	15-19 years	20-50 years	51 years and over	12-19 years	20-50 years	51 years and over
						Pounds[3]					
Vegetables, fruit:											
Potatoes (fresh weight)	0.47	0.82	1.04	1.11	1.29	2.22	1.50	1.55	1.27	1.16	0.90
High-nutrient vegetables	.52	.67	1.05	1.17	1.65	1.08	1.61	1.52	1.14	1.91	2.28
Other vegetables	.60	.70	.97	1.25	1.35	1.15	1.86	1.33	1.08	2.68	2.03
Mixtures, mostly vegetable; condiments	.01	.02	.05	.07	.02	.06	.13	.06	.07	.02	.02
Vitamin-C-rich fruit[4]	1.19	1.24	1.32	1.62	1.08	1.17	1.13	1.00	2.02	1.73	1.35
Other fruit[4]	.97	.92	1.61	1.86	1.11	1.04	1.20	1.41	1.30	.93	1.37
Grain products:											
Whole-grain/high-fiber breakfast cereals	[5].44	.33	.17	.24	.38	.27	.17	.13	.30	.12	.17
Other breakfast cereals	[5].30	.27	.19	.26	.05	.12	.21	.12	.39	.19	.27
Whole-grain/high-fiber flour, meal, rice, pasta	.11	.14	.12	.11	.20	.22	.15	.21	.16	.15	.18
Other flour, meal, rice, pasta	.88	1.23	1.85	1.73	2.15	2.34	1.81	1.87	1.32	1.81	1.32
Whole-grain/high-fiber bread	.09	.10	.09	.11	.15	.17	.24	.21	.21	.34	.29
Other bread	.38	.65	1.01	1.27	1.68	1.33	1.85	1.33	1.04	.59	.29
Bakery products, not bread	.06	.10	.42	.58	.19	.43	.56	.30	.36	.12	.10
Grain mixtures	.08	.06	.07	.11	.02	.13	.23	.15	.31	.37	.19
Milk, cheese, cream:											
Milk, yogurt (quarts)[6]	3.42	3.06	3.39	4.17	3.99	3.91	2.00	1.63	4.36	2.37	2.17
Cheese	.04	.05	.08	.11	.11	.11	.13	.12	.27	.29	.32
Cream, mixtures mostly milk	.15	.15	.34	.30	.10	.24	.41	.26	.35	.03	.26
Meat and alternates:											
Lower-cost red meats, variety meats	.93	.69	.70	.92	1.20	1.49	1.40	1.73	1.75	1.60	1.95
Higher-cost red meats, variety meats	.15	.11	.13	.19	.18	.26	.39	.54	.20	.35	.55
Poultry	.35	.48	.64	.70	.90	.90	.96	.71	.20	.95	.70
Fish, shellfish	.02	.02	.02	.03	.03	.02	.04	.04	.04	.04	.04
Bacon, sausage, luncheon meats	.18	.32	.31	.24	.26	.27	.56	.49	.24	.45	.45
Eggs (number)	3.00	2.90	1.90	2.50	2.20	3.10	4.10	4.30	4.10	4.40	4.10
Dry beans, peas, lentils (dry weight)[7]	.27	.18	.18	.24	.59	.58	.45	.59	.35	.41	.43
Mixtures, mostly meat, poultry, fish, egg, legume	.05	.06	.01	.01	.02	.03	.13	.15	.20	.13	.15
Nuts (shelled weight), peanut butter	.09	.24	.13	.15	.37	.14	.17	.22	.09	.28	.08
Other foods:[8]											
Fats, oils	.14	.33	.58	.67	.73	.93	.76	.60	.22	.28	.21
Sugar, sweets	.10	.36	.78	.87	1.20	.95	1.01	.76	.31	.21	.22
Soft drinks, punches, ades (single-strength)	.39	.57	.65	.87	.87	1.51	1.17	.32	1.12	.40	.38

[1]Quantities are for food as purchased or brought into the household from garden or farm. Food is for preparation of all meals and snacks for a week. About 5 percent of the edible parts of food is assumed to be discarded as plate waste, spoilage, etc.

[2]Pregnant and lactating females usually require added nutrients and should consult a doctor for recommendations about diet and supplements.

[3]Quantities in pounds, except milk which is in quarts, and eggs which are by number.

[4]Frozen concentrated juices are included as single-strength juice.

[5]Cereal fortified with iron is recommended.

[6]Quantities of dry and evaporated milk and yogurt included as their fluid whole milk equivalents in terms of calcium content

[7]Count 1 pound of canned dry beans--pork and beans, kidney beans, etc.--as 0.33 pound.

[8]Small quantities of coffee, tea, and seasonings are not shown. Their cost is a part of the estimated cost for the food plan.

- More recent information on food eaten by men, women, and children of different ages on a nationwide basis has become available. USDA's Nationwide Food Consumption Survey 1977-78 (NFCS) provided information on the food intake of individuals in the households eligible to receive food stamps (8). It also provided detailed information on the quantities and money value of food used (purchased, home-produced, or received as gift or pay) by the total household (7). Data from this study were used to estimate the quantities of foods used to prepare meals and snacks for men, women, and children of different ages. These quantities of foods made up the food consumption patterns which were used as starting points in developing the new plan. Quantities were specified for 31 food groups, an increase from the 17 groups in the earlier plan. The number of food groups was increased to group foods with high and low content of certain dietary components not considered in the 1975 plan and to help deal with the increased use of commercially prepared foods.
- Shifts have occurred in food prices since 1975. Prices for most foods increased, but some increased more sharply than others. Prices paid by survey households in 1977-78, updated to 1981 levels, were used in revising the plan.
- Food plans for older adults were changed from individuals 55 years and over in 1975 to 51 years and over in 1983 to be consistent with the RDA age groupings. Food plans for the infant and for pregnant and lactating women were discontinued in 1983.

Data and Procedures Used in Revising the Plan

Data from the Survey of Food Consumption in Low-Income Households, conducted as part of NFCS, were used as the basis for the food consumption patterns and base food prices in the thrifty food plan development. In this part of the survey, conducted from November 1977 through March 1978, data were collected for about 4,400 housekeeping households eligible for the Food Stamp Program. Data included quantities and prices (or costs) of foods used by the household during the week prior to the household interview (7) and the food intake of household members the day before, the day of, and the day following the interview (8). Food consumption behavior and prices paid by households eligible for the Food Stamp Program were considered most appropriate as a starting point for a thrifty food plan used to determine program benefits.

The food plan was developed by starting with usual food consumption patterns calculated from survey data. This approach was used because researchers believe that a nutritious diet that disrupts usual eating habits the least is most likely to be acceptable to families. These food consumption patterns are estimated quantities as purchased of foods (classified into 31 food groups) that survey households used to prepare a week's meals and snacks for people in given sex-age categories. Each food group has an average nutritive value and price associated with it, based on selections within groups typical of those made by survey households. A computerized mathematical model was used to find the combination of food groups at a given total cost that met dietary standards for each sex-age category with the least change from quantities in food groups in the consumption pattern. This combination of food groups is the food plan for the sex-age category.

Dietary standards for the 1983 plan, based on the 1980 RDA (2), were determined after extensive study of the dietary change needed in food consumption patterns to meet various sets of standards (1, 4, 5). These standards and the rationale for their use are described in the March 1983 issue of the Journal of Nutrition Education (1). Briefly they are:

- RDA for food energy, protein, six vitamins (A, B_{12}, thiamin, riboflavin, niacin, and C), and three minerals (calcium, magnesium, and phosphorus).
- RDA for iron, except 90 percent of the RDA for the child 1 to 2 years old.
- Eighty percent of RDA for zinc, folacin, and vitamin E. Levels below RDA were used in recognition of the limited food composition

data for all three of these nutrients. Another consideration was that the U.S. food supply does not provide enough zinc and folacin to meet RDA for the population.

- 0.02 milligrams of vitamin B_6 per gram of protein in the food plan. The Food and Nutrition Board based RDA for vitamin B_6 on this ratio.
- Moderate levels of fat (35 percent of energy or less), cholesterol (350 milligrams per day or less), caloric sweeteners (12 percent of energy or less), and sodium (1,600 milligrams per 1,000 calories or less).

None of the food consumption patterns for the food plan met all of the dietary standards (table 2). Nutritional shortcomings occurred despite the fact that, in deriving the consumption patterns, quantities of food in food groups were proportionately adjusted to make the patterns provide enough food to meet the midpoint of the RDA range for energy. Calcium, zinc, iron, magnesium, and folacin were the problem nutrients. Young children, teenage girls, and women had the greatest shortages. Levels of fat, sweeteners, and sodium in consumption patterns for almost all categories exceeded the specified standards, and also exceeded the cholesterol standard. Therefore, in developing the food plans, adjustment to the patterns was required for all sex-age categories.

In the food plan there is an allowance for some discard of edible food during preparation, as plate waste, or because of spoilage. Food specified in the 1983 food plan is sufficient to provide the dietary standard for calories and nutrients for each sex-age category and to allow for some food discard.

Table 2. ***Nutritional shortcomings in food consumption patterns[1] used as a basis for the 1983 thrifty food plan***

Nutrient	Sex-age category with pattern not meeting dietary standards
Below standard:	
Calcium, zinc	Children, 1-2 years; males, 51 years and over; females 12 years and over
Iron	Children, 1-2 years; females, 12-50 years
Magnesium	Males, 15-19 years and 51 years and over; females 12 years and over
Folacin	Males, 51 years and over; females, 12 years and over
Above standard:	
Fat	Most
Sweeteners	Most
Sodium	All
Cholesterol	Primarily males, 15 years and over

[1] Estimated quantities as purchased of foods in 31 food groups used to prepare all meals and snacks for a week. Developed using data from USDA's Survey of Food Consumption in Low-Income Households.

1983 Thrifty Food Plan

Table 3 summarizes the weekly quantities of food from 11 major food groups in the food consumption patterns and the 1983 and 1975 thrifty food plans, totaled for the four-person household.

The 1983 thrifty food plan meets all dietary standards and food cost specifications. To achieve these, adjustments to food consumption patterns were required. Generally, these adjustments increased the quantities of economical food sources of those nutrients which were short of goals in consumption patterns (table 2) and contain low to moderate levels of fat, cholesterol, caloric sweeteners, and sodium.

Differences in the 1983 and 1975 thrifty food plans result from differences in both food consumption patterns and dietary standards used in their development. For most sex-age categories, lower quantities of fats, sugars, bakery products, and eggs in 1983 than in 1975 resulted partly from lower consumption of foods in these food groups by households in the 1977-78 survey than in the

Table 3. ***Quantities of food for a week[1] for a 4-person household,[2] by food consumption pattern, and 1983 and 1975 thrifty food plans***

Food group[3]	Food consumption pattern	Thrifty food plan	
		1983	1975
		Pounds[4]	
Potatoes (fresh weight)	4.7	4.8	6.2
Other vegetables, fruit[5]	22.7	24.2	20.6
Cereal, flour	5.3	9.3	7.3
Bread	4.2	5.5	6.9
Other bakery products	2.9	2.5	3.9
Milk, cheese, ice cream (milk equivalent in quarts)[6]	15.4	14.2	14.5
Meat, poultry, fish	17.2	10.9	8.3
Eggs (no.)	16.5	12.9	13.8
Dry beans, peas, nuts (dry, shelled weight)[7]	1.1	2.0	1.7
Fats, oils	2.2	2.3	2.6
Sugar, sweets	3.8	2.9	3.6

[1]Quantities are for food as purchased or brought into the household from garden or farm. Food is for preparation of all meals and snacks for a week. Food quantities are increased by 5 percent above the amount required to meet dietary standards for the thrifty food plan to allow for nutrients lost as discarded edible food.

[2]Man and woman 20-50 years, children 6-8 and 9-11 years.

[3]Small quantities of coffee, tea, seasonings, soft drinks, punches, and ades that are a part of the food plan are not shown.

[4]Quantities in pounds, except milk which is in quarts, and eggs which are by number.

[5]Frozen concentrated fruit juices are included as single-strength juice.

[6]Quantities of dry and evaporated milk and yogurt included as their fluid whole milk equivalents in terms of calcium content.

[7]Count 1 pound of canned dry beans--pork and beans, kidney beans, etc.--as 0.33 pound.

1965-66 survey. More meats, dry beans, vegetables, fruit, cereal, and flour were needed in the 1983 plan than in the 1975 plan, partly to help provide desired levels of folacin and zinc, nutrients not considered in the earlier plan. Lower standards for fat and newly introduced standards for caloric sweeteners and cholesterol for the 1983 plan were also factors.

Another, and perhaps more understandable, way to show the 1983 thrifty food plan is in terms of household measures of food as served on a daily basis. Selected foods in the plan for four individuals are shown in table 4.

Procedures Used to Estimate Costs

To estimate the cost of foods in the thrifty food plan, an assumption is made that families following the plan select the kinds and amounts of foods in each of the food groups that low-income survey households selected on the average. For example, the percentage of total meat used by the selected survey families that was ground beef, beef chuck, stewing beef, and so forth, is assumed in the plan. These average selections are believed to provide the most reliable basis for food guides to be used nationwide.

The average prices paid for almost 2,400 different foods are used as a basis for estimating the costs. These prices reflect differences in container size, brands, quality of food, and price levels of stores selected by low-income families.

Table 4. ***A day's food as served for 4 individuals: 1983 thrifty food plan***

Food[1]	Unit	Child 6-8 years	Child 9-11 years	Woman 20-50 years	Man 20-50 years
		Number of units			
Vegetables, fruit	1/2 cup	3.4	4.0	4.9	4.3
Cereal, pasta, dry	1 oz[2]	2.7	2.9	2.6	2.7
Bread[3]	1 slice	6.2	6.7	5.8	8.4
Bakery products[3]	1 slice	.9	1.2	.3	1.2
Milk, yogurt	1 cup	1.7	2.1	1.1	.9
Cheese (per week)	1 oz	1.2	1.6	4.4	2.0
Meat, poultry, fish, boned[4]	1 oz	2.1	2.4	4.1	4.0
Eggs (per week)	no.	1.8	2.4	4.2	3.9
Cooked dry beans, peas, nuts	1/2 cup	.3	.4	.7	.7
Fats, oils	1 tbsp	2.3	2.7	.9	3.1
Sugar, sweets	1 tbsp	3.7	4.2	.7	4.9
Soft drinks, punches, ades	1 cup	.2	.2	.1	.3

[1]Excludes commercially prepared mixtures, except bread and bakery products.

[2]1 oz of dry cereal or pasta is about 1 serving.

[3]Bread is commercially prepared bread and bread assumed to be made at home from flour and meal and some milk, fat, and sugar, in terms of food as purchased. Ingredients used other than flour and meal in homemade bakery products in excess of those required to make bread are included in the group of the ingredient. Bakery products shown are only commercially prepared types.

[4]Lean parts of meat and poultry. Includes some bacon, sausage, and luncheon meats.

Cost of foods in the food plans are estimated each month by use of the following procedures:

1. Prices paid by the low-income survey households are updated by use of the percentage change in price indexes of detailed food expenditure categories from the time of the survey to the month of the estimate. Indexes for these food expenditure categories are based on prices collected each month by the Bureau of Labor Statistics (BLS) from a representative sample of stores in selected cities across the country. For example, survey households used as a basis for the thrifty food plan paid an average price of about $1.00 a pound for ground beef in 1977-78. If the index for the food expenditure category containing ground beef reported by BLS in a given month were 60 percent higher than the index reported in 1977-78, a price of $1.60 ($1.00 plus 60 percent of $1.00) would be used for ground beef in estimating the cost of the thrifty food plan for that month.

2. The updated prices for foods in each food group for each food plan are weighted by the average amounts of foods used by the survey households to derive prices per unit--pound, quart, or number--for the food groups.

3. The prices per unit are then multiplied by the number of the units of food groups in the plan for each sex-age category (table 1) to determine the cost of foods from each food group.

4. Costs for the food groups for each category are totaled. These totals, rounded to the nearest 10 cents, are released as the cost of food at home for a week. Unrounded weekly costs are multiplied by 4.333, then rounded to the nearest 10 cents to estimate the cost for the month.

The general cost level of the 1983 food plan is the same as for the 1975 food plan; however, the 1983 food plan for some sex-age categories cost more, while the plan for other categories cost less than in earlier plans. Costs for the new plans for women 51 years and over are substantially higher. The new plans for preschool-age children, teenage girls, women 20 to 50 years, and men 51 years and over are also more costly. Conversely, new plans for school-age children, teenage boys, and men 20 to 50 years are less costly. These changes in food cost relationships result from changes in food consumption patterns and the costs associated with changing patterns to meet the dietary standards for the various sex-age categories.

Sample Meal Plans

Sample meals, with recipes and lists of foods used in their preparation, have been developed for families of four persons following the revised thrifty food plan. These meal plans illustrate some of the many ways food in this revised food plan can be combined into economical and nutritious diets. Copies of the meal plans, Making Food Dollars Count--Nutritious Meals at Low Cost, USDA HG-240, are available for 50 cents from the Consumer Information Center, Pueblo, Colo. 81009.

Food Plan Development--An Ongoing Project

The maintenance of the USDA food plans--development, interpretation through publications for leaders and consumers, and periodic estimates of costs--is an ongoing project of HNIS. The food plans are evaluated and revised, as required, when new information becomes available on food consumption, food prices, food composition, and nutritional requirements.

Each food plan is only one of many combinations of food groups that could be developed at the given cost level. Amounts in food groups in the food consumption patterns could be changed in other ways to provide nutritious diets. While such other combinations would deviate further from consumption patterns, they might be acceptable to some families.

Other food plans at similar costs could be developed if selections of food groups were not assumed to be typical of the selections of survey households. If the foods within the groups were limited to those that are especially inexpensive or especially nutrient dense, the quantities in food groups in the food plans probably would not be required to deviate from food consumption to the extent the 1983 food plans do. For example, if only nonfat dry and fluid skim milk were used, the extra calories and cost of

the typical assortment of milk assumed in the 1983 food plans could be used for other foods in the food plan. For purposes of establishing food plans at different costs for use nationwide and estimating the nutrient content and cost of foods in the food plans, foods within food groups used on the average by households with different levels of food costs are believed to be most reasonable.

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Technical, Conceptual, and Administrative Lessons of the Income Survey Development Program

This publication contains papers presented at a conference in October 1982 evaluating the results of the Income Survey Development Program (ISDP). The ISDP was established in 1975 by the U.S. Department of Health, Education, and Welfare (now known as the U.S. Department of Health and Human Services) and the U.S. Department of Commerce to carry out research on measurement concepts, data collection, and data processing strategies needed for the Survey of Income and Program Participation (SIPP). The SIPP, which is scheduled to begin data collection in October 1983, will be a national longitudinal household survey to collect data on cash and in-kind income, assets and liabilities, taxes, expenses, program eligibility and participation, labor force history and status, disability, and pension coverage The SIPP will provide more comprehensive household data than either the Consumer Expenditure Survey or Current Population Survey, the primary sources of Federal data on households.

Seventeen papers that were background reading for conference participants are organized into seven chapters and cover what was learned from the ISDP and identify where further research is needed. A paper by the editor that was written after the conference, "Measuring Income and Program Participation," provides an overview by discussing the need for comprehensive income data and summarizing the papers and conference discussions. Extensive references include an annotated ISDP bibliography of materials generated over the 7-year history of the program. This publication is available for $5 from the Center for Coordination of Research on Social Indicators, Social Science Research Council, 605 Third Avenue, New York, N.Y. 10158.