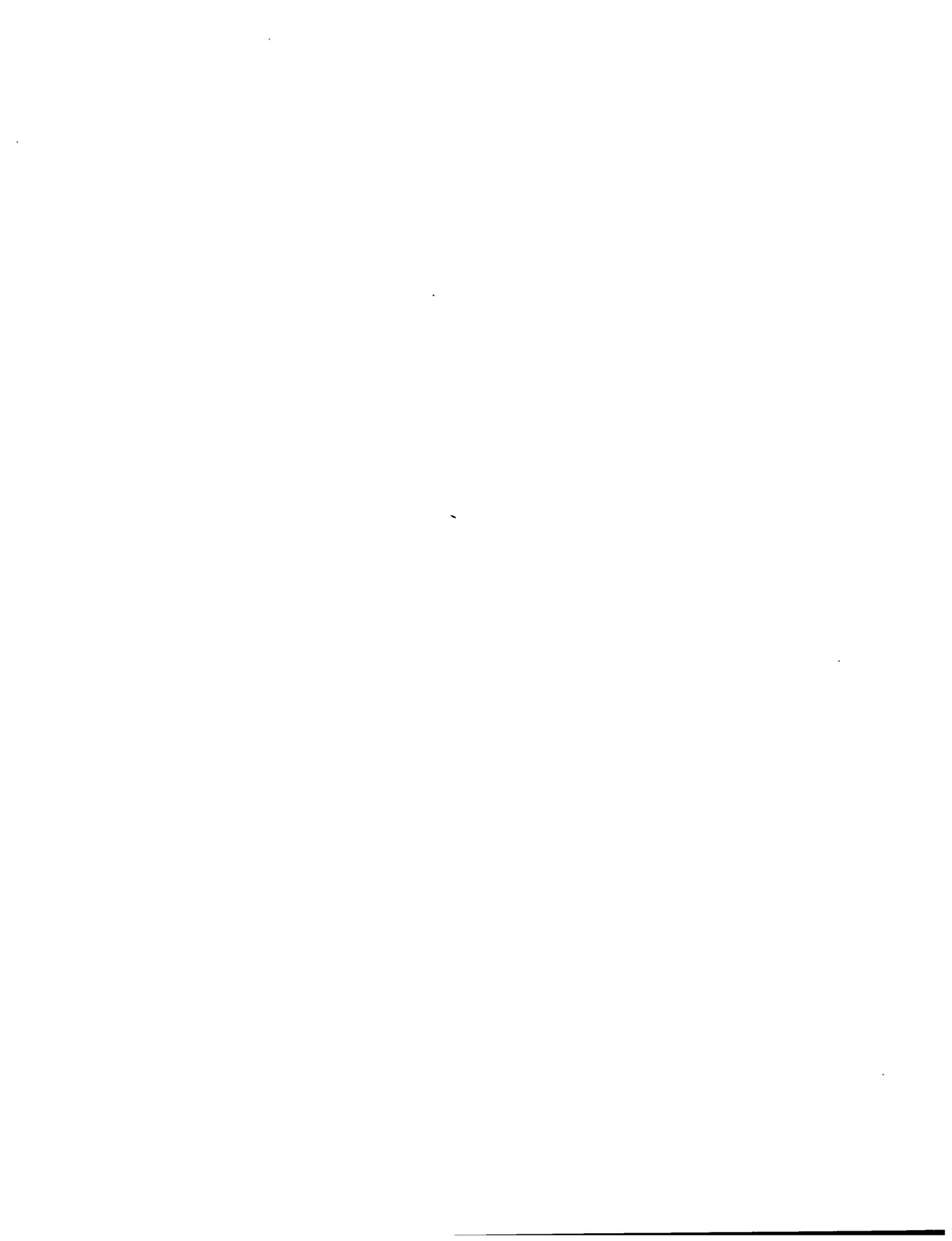


United States
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Food Consumption and Dietary Levels of Households in Puerto Rico, Summer and Fall 1977

Nationwide Food Consumption
Survey 1977-78,
Preliminary Report No. 9



ABSTRACT

This report presents findings on the money value, quantity, and nutritive value of food used at home and on expenditures for food away from home for 2,967 Puerto Rican households in the summer and fall (July-December) of 1977. Also included are data on the nutrient return per dollar's worth of food and on nutrient density (nutrients per 1,000 calories). The nutrient content of the food used at home was derived from information collected on the kinds and quantities of food used by households during 7 days and from U.S. Department of Agriculture food composition tables. The nutrient levels of food used by households are expressed as percentages of the 1974 Recommended Dietary Allowances set by the Food and Nutrition Board of the National Research Council, National Academy of Sciences. Findings are given for households grouped by urbanization, income, and household size.

KEYWORDS: Dietary levels, food away from home, food consumption survey, food cost, household food, money value of food, nutritive value of diets, Puerto Rican food use, Recommended Dietary Allowances.

The Puerto Rican survey is the first islandwide study to be carried out in conjunction with one of the U.S. Department of Agriculture's periodic Nationwide Food Consumption Surveys. Although data collection was completed in December 1977, the survey is the primary source of information on quantities and money value of food consumption and dietary levels among Puerto Rican households. The results are still valid and may be used in coming years in the evaluation of many issues including food consumption and nutrition education.

Human Nutrition Information Service, Nationwide Food Consumption Survey 1977-78,
Preliminary Report No. 9, June 1982

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**FOOD CONSUMPTION AND DIETARY LEVELS
OF HOUSEHOLDS IN PUERTO RICO,
SUMMER AND FALL 1977¹**

SUMMARY

The food consumption survey of 2,967 housekeeping households in Puerto Rico during the summer and fall of 1977 indicated that--

- o Housekeeping households in Puerto Rico averaged four members and used food at home and away with a money value (value of food used at home plus expense for food eaten away from home) of \$73 in a week. Food at home accounted for \$65 (89 percent) and food purchased and eaten away from home for \$8 (11 percent).
- o Money value of food per household member averaged \$18 in a week. Value of food used in central cities, suburban, and nonmetropolitan areas averaged within \$1 to \$2 of the average in Puerto Rico as a whole. Money value of food was higher at each successively higher income level principally due to the greater expense for food away from home at upper income levels. Value of food used per member was twice as great in one-member households as in households of six or more.
- o Compared with U.S. mainland households (48 conterminous States only) in the spring of 1977, Puerto Rican households used 14 percent more milk and milk products and 70 percent more grain products in the summer and fall. Also slightly more vegetables, fats and oils, and sugars and sweets but less meat, fruit, and alcoholic beverages per person were consumed in Puerto Rico than in the United States.
- o Average nutrient levels in households in Puerto Rico as a whole exceeded the 1974 Recommended Dietary Allowances (RDA); however, averages for some groups of households did not. The 300 households of 7 or more persons had calcium levels 6 percent below the RDA and vitamin A and vitamin B₆ levels only 3 to 4 percent above.
- o Vitamin A was the nutrient for which the fewest household diets met allowances (62 percent), followed by vitamin B₆ (73 percent) and calcium (75 percent).
- o About one-half (49 percent) of the households surveyed in Puerto Rico had diets that furnished the RDA in all 11 nutrients studied (protein, calcium, iron, magnesium, phosphorus, vitamin A, thiamin, riboflavin, vitamin B₆, vitamin B₁₂, and ascorbic acid). Households with low money value of food and those having income under \$2,000 met allowances less often than their counterparts. Diet quality of large households was

¹Prepared by the Consumer Nutrition Center, Human Nutrition Information Service, U.S. Department of Agriculture, Hyattsville, MD 20782.

notably low, with only 16 percent of households of 7 or more persons meeting allowances for all 11 nutrients.

- o Household diets in Puerto Rico (summer and fall) supplied the RDA for the 11 nutrients as often as diets in the United States (spring)--49 percent compared with 47 percent, respectively. Puerto Rican diets were notably less likely than U.S. diets to meet the RDA for vitamin A but more likely to meet the RDA for calcium.

SCOPE OF THE 1977-78 SURVEY

This is the first time the U.S. Department of Agriculture (USDA) has conducted a comprehensive food consumption survey in Puerto Rico. From July to December 1977 a stratified probability sample of 3,040 households was surveyed. Of these, 2,967 (98 percent) were housekeeping households with at least 1 person having 10 or more meals from the household food supply during the 7 days preceding the interview.

The Puerto Rico survey was 1 of 5 supplemental surveys made in addition to the Nationwide Food Consumption Survey 1977-78 (NFCS) of 15,000 households and 34,000 individuals in the 48 conterminous States (4-6).² The 1977-78 survey was the sixth nationwide survey to be made since the USDA began conducting food consumption surveys in 1936. The last nationwide survey was conducted in 1965-66. The 1977-78 and the 1965-66 surveys are the only studies that included all four seasons of the year and obtained information nationwide on intakes of selected individual household members as well as on food consumption for the total household.

The survey in Puerto Rico provides detailed information on food consumption of households (at home) and food intake of individuals (at home and away from home), from which the nutritional quality of household food supplies and individual intakes can be appraised. It provides data on home production and preservation of food, household income, participation in food programs, education and employment of household heads, and other factors that might affect food consumption. Also, it provides information on eating habits of 8,400 individuals, such as the time of day foods were eaten, how many times individuals ate per day, and where meals and snacks were obtained. Information on intakes of individuals in Puerto Rico will be reported at a later time.

The other 4 supplemental surveys yielded similar information for about 5,000 households in which at least 1 member was over 64 years of age, 4,700 households with members participating or eligible to participate in the Food Stamp Program, 1,100 urban households in Alaska, and 1,250 households in Hawaii. The supplemental surveys of the Nationwide Food Consumption Survey 1977-78 (7-11) provided information on household food consumption and individual intakes. Preliminary reports 1-8 give partial information on food consumption in the 48 States (spring only), Hawaii, and Alaska.

²Underlined numbers in parentheses refer to Literature Cited at the end of this report.

DATA COLLECTION

In Puerto Rico data were collected under contract by Clapp and Mayne, Inc., San Juan, Puerto Rico. Information on food used by a surveyed household was obtained in an interview with the person identified as most responsible for food planning and preparation. Trained interviewers, who were residents of Puerto Rico, used an aided recall schedule to collect data on the kind (such as ground beef and skim milk), the form (such as fresh, canned, or frozen), the quantity used, and the cost, if purchased, of each food or beverage used in each household during the 7 days prior to the interview. The questionnaire was as nearly identical as possible to the questionnaire used in other phases of the NFCS 1977-78; however, it was printed in Spanish and listed food items commonly used in Puerto Rico. Households were contacted at least 7 days prior to the interview and asked to keep informal notes, such as shopping lists, menus, and prices of foods used, to assist them in recalling the food used during the 7-day period.

In addition to information on food used, respondents reported the number of meals eaten from home food supplies during the week by household members and others. They also provided information needed to classify households by income, size, and other characteristics.

Data on household food consumption in Puerto Rico were collected by use of the same methodology used in the NFCS 1977-78 in the 48 conterminous States. Because data were collected in Puerto Rico from July to December 1977 only, comparisons with the data from the 48 conterminous States should be interpreted with caution.

ESTIMATION OF NUTRITIVE VALUE OF FOOD USED

Nutritive values given in this report were calculated from information on food used by the households in Puerto Rico during 7 days and from tables of the nutritive value of foods. Nutritive values are for the edible portion of food as brought into the household except that vitamin values were adjusted for losses during cooking. Edible portion in this report includes all food as brought into the household except those parts, such as bones in meat, that are clearly inedible. All fat on meat cuts is considered edible, and its energy and nutrient content are included in the nutritive value of food used by the household, as reported here.

The nutritive value of household food includes not only values of food eaten by people in the household but also of some food that is not eaten, such as food discarded in the kitchen and at the table and leftovers fed to animals. Some households customarily do not eat all edible parts of certain foods, such as fat that can be trimmed from meat. The present data, therefore, reflect the nutrient levels available to households from food they reported having used, but overestimate somewhat the amount of the food energy and nutrient levels of foods actually eaten in many households.

The basis for nutritive values is "Composition of Foods...Raw, Processed, Prepared," U.S. Department of Agriculture Handbook No. 8 (18), its revised supplements (1-3), and "Pantothenic Acid, Vitamin B₆, and Vitamin B₁₂ in Foods" (15). Some values from these sources were updated to reflect nutritive values

of foods available to households at the time of the survey. The updating was done by the Nutrient Data Research Group, Consumer Nutrition Center (CNC), of the Department's Human Nutrition Information Service. Updating was based on results from new food composition research, on information from industry about new food products, on enrichment of foods in accordance with new regulations, and on other known changes in the food supply. When a nutritive value was not available for a food reported, CNC staff members imputed a value from a similar food. Nutritive values of some foods specific to Puerto Rico were supplied through a contract with Applied Social Research, Inc., San Juan, Puerto Rico. Although nutrient data are limited for some foods and for some nutrients, particularly magnesium, vitamin B₆, and vitamin B₁₂, the data used were considered the best available at the time of the survey.

USE OF RECOMMENDED DIETARY ALLOWANCES

The nutritive value of food used by the household is compared with recommended amounts of nutrients for persons eating in the household. The Recommended Dietary Allowances (RDA) published in 1974³ by the Food and Nutrition Board, National Research Council - National Academy of Sciences (14), are used as the standard.

The RDA are intakes of nutrients judged to be adequate for maintaining good nutrition in essentially all healthy persons in the United States. In use of the RDA for assessing the nutritional quality of diets, the following statement by the Food and Nutrition Board (14, p. 3) should be considered:

"RDA should not be confused with requirements. Differences in the nutrient requirements of individuals that derive from differences in their genetic makeup are ordinarily unknown. Therefore, as there is no way of predicting whose needs are high and whose are low, RDA (except for energy) are estimated to exceed the requirements of most individuals, and thereby insure that the needs of nearly all are met."

By use of a special procedure, nutrient levels were compared among households and groups of households that differed in composition and number of meals provided from household food supplies. Nutrient levels for a household were expressed as the amount of each nutrient in the household food per nutrition unit. A nutrition unit is equal to the RDA for a nutrient for males from 23 to 50 years of age. The number of nutrition units for a given nutrient in a household is the sum of the RDA for that nutrient for persons eating in the household (adjusted for meals eaten away from home) divided by the RDA for the adult male. The percentage of the RDA provided by food used by a household or by a group of households is calculated by dividing the nutritive value per nutrition unit for the household or group of households by the RDA for the adult male.

Diets of some individual household members may not meet their RDA even though the household diet as calculated meets the RDA. Unless the household food is

³The revision of the Recommended Dietary Allowances in 1980 is not believed to change substantially the results reported here. The major revision was an increase in the allowance for ascorbic acid from 45 mg to 60 mg for adults. Puerto Ricans averaged 141 mg of ascorbic acid per person per day.

divided according to nutritional need, some members may have diets with lower levels than household food use indicates. On the other hand, if the household food does not meet the RDA, some, if not all, household members have diets that do not meet the RDA.

CHARACTERISTICS OF HOUSEHOLDS

Researchers have found that certain characteristics of households may be related to food consumption and dietary levels of the household. Such characteristics reported here (table 1) are urbanization, income, number of persons living in the household, tenure, race, and age and educational attainment of the male and female head of the household. Food shopping practices and participation in the Food Stamp Program during the survey week are also reported.

The degree of urbanization was determined by the location of the residence. Income is the household's money income before taxes in 1976. Status in the Food Stamp Program, as discussed in this report, refers to the household's participation during the survey week. Race was recorded as observed by the interviewer.

More than one-half, 55 percent, of households interviewed were in the non-metropolitan areas of the island. These are areas outside the central cities and suburbs that are not included in a Standard Metropolitan Statistical Area. Of the metropolitan households, 27 percent were located in the cities of San Juan, Ponce, Mayaguez, and Caguas and about 18 percent in the suburbs.

Puerto Rican households averaged \$6,100 income before taxes in 1976.⁴ Non-metropolitan household income was lower (\$4,900) than central city (\$7,400) and suburban income (\$7,900). Income averaged between \$5,400 and \$7,100 for households of two to seven or more members and below \$4,000 for one-member households.

Households participating in the survey averaged 4 members per household but as many as 16 people occupied some of the dwelling units. Of the income groups, households with income under \$2,000 had the fewest members--3.6; at higher income levels, the households were larger--4.0 to 4.2 members. About one in three of the nonmetropolitan households had five or more members; central city and suburban households had proportionately fewer large households.

More than three-fourths of the respondents owned the home in which they lived. Homeowners were more prevalent in the suburban and nonmetropolitan areas (79 and 82 percent) than in the central city (60 percent). Over two-thirds in each income and household size class owned their homes. Households having high income and many members most often owned homes.

Only 3 percent of the Puerto Ricans in the survey considered themselves to be of other than Spanish descent. The interviewer recorded the race of over 10 percent as black, however, and 1 percent as other than black or white.

About one-fourth of the female heads of households were under 35 years old and one-eighth averaged 65 and older. Approximately one-fifth of the male

⁴Households surveyed in the 48 conterminous States, spring 1977, averaged \$14,500 income in 1976.

TABLE 1.--Selected characteristics of households¹ in Puerto Rico

Household characteristics	All households	Urbanization			Income before taxes (1975)					Household size (21 meals at home = 1 person)						
		Central city	Suburban	Non-metro-politan	Under \$2,000	\$2,000-\$3,999	\$4,000-\$5,999	\$6,000-\$9,999	\$10,000 and over	1	2	3	4	5	6	7 or more
Total households (number).....	2,967	815	509	1,643	559	637	470	569	456	259	564	651	574	415	210	295
People living in the household (number)	3.99	3.46	3.99	4.25	3.57	4.01	4.23	4.10	4.19	1.22	2.16	3.22	4.21	5.12	6.08	8.11
Income before taxes in 1976 (dollars)	6,120	7,419	7,927	4,927	1,166	2,901	4,801	7,540	16,268	3,857	5,980	6,325	7,098	6,569	6,155	5,375
-----Percent of households ² -----																
Tenure:																
Owned.....	76	60	79	82	68	76	74	80	85	67	73	77	73	82	78	80
Rented for cash.....	20	36	18	13	23	21	24	18	14	28	25	20	22	15	16	15
Occupied without rent.....	4	4	3	4	9	3	2	2	1	5	2	3	5	4	6	6
Race:																
White.....	88	83	88	90	86	86	84	90	91	87	90	89	87	88	84	83
Black.....	11	15	11	9	13	13	14	9	7	10	9	10	11	11	15	15
Other.....	1	2	1	1	1	1	2	1	2	2	1	1	2	(³)	1	2
Female head education:																
None.....	8	6	3	10	19	11	6	2	1	12	12	8	5	5	6	9
Elementary.....	45	38	33	52	62	58	47	35	14	45	42	42	39	46	46	64
High school.....	32	34	41	28	16	27	39	43	35	21	25	33	40	36	36	23
College.....	16	22	23	10	2	4	8	20	51	22	21	17	16	13	12	4
Female head age:																
Under 35 years.....	27	23	29	29	20	26	30	28	29	14	21	28	35	36	31	18
35 to 64 years.....	60	61	63	59	58	58	60	63	67	49	55	60	59	59	65	76
65 years and over.....	12	16	8	12	22	16	10	9	4	37	24	12	6	5	4	6
Male head education:																
None.....	5	3	2	7	15	8	4	1	0	7	7	8	2	3	3	6
Elementary.....	44	36	31	51	67	62	51	31	10	52	40	40	38	44	48	60
High school.....	33	34	39	30	16	25	35	45	36	24	31	32	39	36	31	26
College.....	19	27	27	12	3	4	10	22	53	17	21	20	21	18	18	10
Male head age:																
Under 35 years.....	22	20	22	23	18	18	22	22	23	23	20	25	26	23	20	10
35 to 64 years.....	60	60	68	58	51	55	63	65	71	47	47	56	61	67	68	79
65 years and over.....	18	20	10	19	31	26	15	13	6	30	32	19	12	10	12	11
Status in Food Stamp Program:																
Participating.....	46	38	31	55	84	64	45	22	4	34	36	40	44	52	63	75
Not participating.....	54	62	69	45	16	36	55	78	96	66	64	60	56	48	37	25
Major shopping frequency:																
More than weekly.....	10	9	10	11	12	10	10	12	7	19	13	8	8	10	10	9
Weekly.....	33	36	31	32	26	33	36	37	35	30	33	32	36	29	31	36
Every other week.....	28	27	34	26	23	24	27	29	41	22	27	28	28	30	29	29
Monthly.....	28	27	24	30	38	31	27	22	17	26	26	32	27	30	28	26
Never.....	1	1	1	2	1	2	1	1	(³)	3	2	1	2	1	1	1
Kind of store:																
Supermarket.....	66	81	85	52	48	56	69	76	86	63	68	70	69	64	61	51
Small store.....	6	2	3	9	11	9	5	4	2	7	7	6	6	5	5	7
Open marketplace.....	(³)	1	(³)	(³)	1	(³)	(³)	(³)	(³)	1	1	(³)	(³)	1	(³)	0
"Old style" market.....	26	14	9	37	40	33	24	18	8	29	23	21	22	27	32	39
Other.....	2	2	3	2	1	1	2	2	4	1	2	2	3	3	1	3

¹Housekeeping household only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview.

²Parts may not total 100 due to rounding.

³Less than 0.5 percent.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

household heads were in each of those two age groups. Proportionately more heads aged 65 and over lived in the central cities and nonmetropolitan areas than in the suburbs. Also, elderly persons more often than younger ones headed one- and two-person households and households with income under \$2,000.

The level of educational attainment varied somewhat among the heads of Puerto Rican households. A small percentage had never been to school. Over 40 percent had attended or completed elementary school only. About 30 percent had attended high school. More male than female heads had continued their education after high school. Most of the heads of households who had earned a college degree lived in the central cities and over two-thirds of them headed households with income of \$10,000 and over. About 1 in 10 of the females who headed households of 7 or more persons had no schooling, and 6 in 10 had not gone beyond elementary school.

Most households (56 percent) did their major food shopping less frequently than once a week. Only one-third of the homemakers reported doing their major shopping once a week compared with slightly over one-fourth who shopped every 2 weeks and another one-fourth or more, once a month. About 66 percent shopped at the supermarket, but 26 percent bought groceries at the "old style markets." For the most part, "old style market" shoppers lived in nonmetropolitan areas, represented low- rather than high-income groups, and lived in large rather than small households.

During the interview period, 46 percent of the households were participating in the Food Stamp Program (FSP). Participation varied among the three urbanizations, and was 55 percent in nonmetropolitan, 38 percent in central city, and 31 percent in the suburban areas. Households of each size participated, but participation was reported by about three-fourths of the households of seven or more persons, one-half of the five-person households, and just over one-third of the one-person households. Use of food stamps declined at each successively higher income level from 8 out of 10 households with less than \$2,000 income to 2 out of 10 households with \$6,000-\$9,999 income. Even at the highest income level, a few households purchased some food with food stamps during the week. Since the majority--84 and 64 percent--of households in the two lower income groups received food stamps, findings in this report are not presented for households classified by their status in the FSP.

MONEY VALUE OF FOOD AT HOME AND AWAY

The money value of food used by housekeeping households in Puerto Rico averaged \$73 in a week during the survey period, July to December 1977 (table 2). The value of food consumed at home accounted for \$65 of this amount and included the expense for purchased food and the money value⁵ of food used at home but received without direct expense. In addition, about \$8 was spent by the household

⁵Includes value of food used at home by household members, roomers, boarders, employees, and guests. Value of food received without direct expense by a household is based on the average price per pound paid for that food by survey households in Puerto Rico.

TABLE 2.--Money value of food used in a week by households¹ in Puerto Rico

Urbanization, income, and number of people in household	People living in household ²	Money value per household ³					Money value per household member ³				
		Total	At home ⁴	Bought away from home			Total	At home ⁴	Bought away from home		
				Total	Meals	Snacks			Total	Meals	Snacks
		-----Dollars-----									
All households.....	3.99	73.49	65.07	8.42	6.11	2.31	18.43	16.31	2.11	1.53	0.58
Urbanization:											
Central city.....	3.46	68.28	60.16	8.11	6.52	1.60	19.71	17.37	2.34	1.88	.46
Suburban.....	3.99	77.08	66.45	10.64	9.00	1.63	19.32	16.66	2.67	2.26	.41
Nonmetropolitan.....	4.25	74.97	67.08	7.89	5.01	2.88	17.64	15.79	1.86	1.18	.68
Income (1976) before taxes:											
Under \$2,000.....	3.57	57.65	55.21	2.44	.99	1.44	16.16	15.47	.68	.28	.40
\$2,000-\$3,999.....	4.01	68.36	63.43	4.93	2.57	2.36	17.03	15.81	1.23	.64	.59
\$4,000-\$5,999.....	4.23	75.87	68.48	7.39	5.33	2.06	17.92	16.17	1.75	1.26	.49
\$6,000-\$9,999.....	4.10	78.58	67.54	11.04	8.45	2.59	19.19	16.49	2.70	2.06	.63
\$10,000 and over.....	4.19	95.37	76.58	18.79	15.21	3.58	22.77	18.29	4.49	3.63	.86
Not reported.....	3.81	66.67	58.87	7.80	6.08	1.72	17.48	15.44	2.04	1.59	.45
People living in household: ²											
1.....	1.00	28.84	26.83	2.01	1.40	.60	28.84	26.83	2.01	1.40	.60
2.....	2.00	53.85	48.44	5.41	4.14	1.27	26.92	24.22	2.71	2.07	.64
3.....	3.00	66.83	59.49	7.33	5.32	2.02	22.27	19.83	2.44	1.77	.67
4.....	4.00	78.51	68.05	10.46	7.85	2.60	19.63	17.01	2.61	1.96	.65
5.....	5.00	86.35	74.74	11.60	9.01	2.60	17.27	14.95	2.32	1.80	.52
6 or more.....	7.26	101.77	91.28	10.49	6.70	3.80	14.01	12.57	1.44	.92	.52

¹ Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview. See table 4 for count of households.

² Excludes roomers, boarders, and employees. Average money value per household member is calculated using population ratio procedure--aggregate value for all households divided by aggregate number of members in all households.

³ Parts may not total to the whole because of rounding.

⁴ Includes value of food used by household members and guests that was bought, home produced, or received as gift or pay. Value of food received without direct expense by a household is based on average price per pound paid for that food by survey households in Puerto Rico.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

on meals and snacks eaten outside the home. This expense excluded the value of expense account meals, for which the household was reimbursed, and the total or partial cost of federally subsidized school breakfasts or lunches. Household members received some free meals away from home as guests or in return for work, but value of those meals was not included.

On the average, Puerto Rican households included four members. Money value of food per member⁶ for the week of the interview was as follows:

All food.....	\$18.43
Money value of food at home.....	16.31
Expense for meals away.....	1.53
Expense for snacks away.....	.58

Food used at home accounted for 89 percent of the money value of all food and food bought and eaten away accounted for 11 percent. Approximately 8 percent of the expense away was for meals, and the remainder, 3 percent, was for snacks household members bought and ate outside the home.

The average expenditure for eating out was based on all households, but less than half (46 percent) reported having such expenditures. About one-third (32 percent) of all households incurred expense for meals eaten away from home and fewer had members who purchased and ate snack items away (28 percent).

Differences by Urbanization⁷

Households in the suburban and nonmetropolitan areas of Puerto Rico used food in a week worth \$77 and \$75, respectively. The money value of all food consumed by the smaller households in the central city averaged \$68. Money value of food used at home also was lower in the central city than in the other two urbanization classes. Suburbanites spent slightly more for food away--\$11 compared with \$8 for central city and nonmetropolitan dwellers (fig. 1).

On the average, household size was 4.2 members in nonmetropolitan, 4.0 in suburban, and 3.5 in central city households. Money value of food per household member differed \$1 to \$2 per member among urbanization classes in both value of food at home and the amount spent away. Among urbanization classes, money value of food eaten at home and away was lowest for nonmetropolitan households with the most household members and the lowest income. Puerto Ricans in the suburbs spent the most and residents of nonmetropolitan areas the least for eating out.

⁶Average values per household member (table 3) and per 21-meal-at-home-equivalent person (tables 4-6 and 9) were calculated by population ratio procedure--aggregate value for all households divided by aggregate number of household members or 21-meal-equivalent persons in all households.

⁷Central city--has a population of 50,000 or more and is the main or core city within a Standard Metropolitan Statistical Area (SMSA); suburban--generally those areas within boundaries of SMSA but not within legal limits of central city of SMSA; and nonmetropolitan--all areas not within SMSA.

Differences by Income

Generally households at high-income levels had high average money value of food at home and high expense for food away from home (fig. 2). Households with incomes of \$10,000 and over used food at home worth \$77, almost 1-1/2 times the \$55 worth of food used by households with incomes under \$2,000. In the middle-income groups, food at home for the week was valued at \$63-\$68. The difference among income groups in money value of food undoubtedly was reduced by participation in the Food Stamp Program. Participation of households during the survey period was 84 percent at incomes under \$2,000 and 64 percent at incomes \$2,000-\$3,999 (table 1).

The expense for food away increased sharply with income and ranged from \$2.44 at the lowest level to \$18.79 at the highest (fig. 3). These expenditures for food bought and eaten away from home represented a relatively small share of the food dollar in Puerto Rican households (fig. 4). As would be expected, eating out took a smaller share at the lowest than at the highest income, 4 cents and 20 cents, respectively. Also, the proportion of meals eaten out was lower at the lowest than at the highest income--6 percent and 13 percent, respectively (table 3).

Differences by Number of People Living in the Household

The relationship between household food costs and the number of household members is familiar--they increase together. Puerto Rican households were no exception. The value of food at home was more than three times as great for households of six or more as for one-member households. Cost of food purchased and eaten away from home was five times as great for households of six or more members as for one-member households.

The money value of all food per member, however, decreased as the number of members living in the household increased (fig. 5). This finding is consistent with results from other USDA food consumption surveys. In Puerto Rico, the decrease was, for the most part, associated with the decrease in money value of food at home. The \$27 value of food at home per member in one-member households decreased to about one-half that value, \$13, in households of six or more. Cost of food eaten away from home per member differed little between large and small households. The exception was the six-or-more-member households who spent substantially less per member than other households for meals away.

FOOD AT HOME

This section presents data on the kind, quantity, and money value of food used at home by households in Puerto Rico during the summer and fall of 1977. The quantity and money value of food per person and the household size categories used in this report are based on an equivalent person--one who ate 21 meals per week from the home food supplies. The equivalent person was used in an attempt to adjust for variation among households in the number of meals eaten from home food supplies. Household size in terms of equivalent persons was determined by first adding the following three components: (1) meals reported as eaten at home (adjusted proportionately with meals eaten away from home to total 21 meals in a week--3 meals for each of 7 days--to account for skipped meals and snacks that might substitute for or supplement meals); (2) meals eaten from household supplies

TABLE 3.--Meals at home and away from home in a week by households¹ in Puerto Rico

Urbanization, income, and number of people in household	Meals eaten by household members		
	From home food supplies	Away from home	
		Purchased	Gift or pay
	-----Percent-----		
All households.....	91	4	5
Urbanization:			
Central city.....	91	5	4
Suburban.....	90	6	4
Nonmetropolitan.....	90	4	6
Income (1976) before taxes:			
Under \$2,000.....	94	1	5
\$2,000-\$3,999.....	92	2	6
\$4,000-\$5,999.....	90	4	6
\$6,000-\$9,999.....	89	6	5
\$10,000 and over.....	87	9	4
Not reported.....	90	6	4
People living in household: ²			
1.....	95	3	2
2.....	93	4	3
3.....	92	5	3
4.....	90	5	5
5.....	88	6	6
6 or more.....	91	3	6

¹ Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview. See table 4 for count of households.

² Excludes roomers, boarders, and employees.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977, (preliminary).

by guests, boarders, roomers, and employees; and (3) meal equivalents of refreshments served to guests (one or two foods equal one-fourth meal; over two foods equal one-half meal). Then that total number of meals was divided by 21; the quotient was the household size in 21-meal-at-home-equivalent persons.

Money Value of Food at Home

The money value of food at home in Puerto Rico averaged \$17 per 21-meal-equivalent person during the week of the interview (table 4). Almost one-fifth of the households used food worth less than \$12 per equivalent person in a week. Food for a few households was valued under \$8 per person. On the other hand, 1 household in 10 averaged more than \$30 per person during the week.

Distributions of households by money value of food used were similar for the three urbanization groups and all except the highest income group. Many more small than large households, however, used food at money value levels of \$16 and over. For example, about 85 percent of the one- and two-person households used food valued above \$16 per person per week while about 20 percent of the households of seven or more persons used food worth more than \$16.

Of households at the two lower money value levels, 66 and 61 percent, respectively, participated in the FSP. Many participating households used food in a week worth more per equivalent person than the weekly food stamp allotment at the time of the survey for a household of their size. For example, the weekly allotment for a one-person household was \$12 in the summer and fall of 1977; yet 92 percent of the households of one member reported food worth more than \$12. Most larger households also used food worth more than \$12 per person even though the allotment for larger households was well below \$12, as shown below:

<u>Item</u>	<u>Number of household members</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u> <u>or more</u>
Food stamp allotment per member, July 1977.....dollars.....	12.00	10.84	10.46	9.92	9.42	¹ 8.90
Participants in the FSP using food per person worth--						
Under \$8.00.....percent.....	2	1	4	5	4	11
\$8.00-\$11.99.....do.....	6	6	11	18	24	33
\$12.00 or more.....do.....	92	93	85	77	72	56

¹Household of 7 members

Share of Home Food Dollar

Meat, poultry, and fish accounted for the largest share, 33 cents, of the home food dollar in Puerto Rican households (table 5). The next largest, 20 cents,

TABLE 4.--Households¹ by money value of food used at home² in a week per person³ in Puerto Rico

Urbanization, income, and household size (21 meals at home = 1 person)	Total household ⁴	Household size ³	Money value ⁵ per 21-meal person	Households using food worth--					
				Under \$8.00	\$8.00-\$11.99	\$12.00-\$15.99	\$16.00-\$19.99	\$20.00-\$29.99	\$30.00 and over
	-----Number-----		Dollars	-----Percent-----					
All households.....	2,967	3.80	17.14	4	15	21	21	28	11
Urbanization:									
Central city.....	815	3.35	17.93	3	11	20	24	30	13
Suburban.....	509	3.75	17.70	3	13	19	22	31	10
Nonmetropolitan.....	1,643	4.03	16.64	4	18	23	20	26	10
Income (1976) before taxes:									
Under \$2,000.....	559	3.45	15.98	6	17	22	19	27	10
\$2,000-\$3,999.....	637	3.89	16.31	4	17	23	21	26	8
\$4,000-\$5,999.....	470	4.05	16.92	3	15	23	26	22	11
\$6,000-\$9,999.....	569	3.87	17.47	3	14	20	22	32	10
\$10,000 and over.....	456	3.87	19.79	2	9	16	22	34	17
Not reported.....	274	3.59	16.39	6	19	24	15	28	8
Household size:									
1.....	259	1.02	26.55	1	4	9	14	40	32
2.....	564	1.99	24.00	1	4	11	20	41	22
3.....	651	2.99	20.21	2	9	20	25	34	10
4.....	574	3.95	17.51	3	17	25	24	27	4
5.....	415	4.91	15.63	7	20	30	24	17	2
6.....	210	5.90	14.70	6	29	28	22	13	2
7 or more.....	295	8.10	12.55	12	36	32	12	7	1

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¹Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview.

²Includes value of food used by household members and guests that was bought, home produced, or received as gift or pay. Value of food received without direct expense by a household is based on average price per pound paid for that food by survey households in Puerto Rico.

³21 meals at home in a week is equivalent to 1 person.

⁴Counts weighted to compensate for different sample rate used in various segments of population. Parts may not total to the whole because of rounding.

⁵Average money value per person is calculated using population ratio procedure.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977, (preliminary).

TABLE 5.--Money value of food at home per person¹ and share of food dollar used by households² in a week in Puerto Rico

Food group ³	Money value ⁴ of food per person by income ⁵							Share of food dollar by income ⁵						
	All income	Under \$2,000	\$2,000-\$3,999	\$4,000-\$5,999	\$6,000-\$9,999	\$10,000 and over	Not reported	All income	Under \$2,000	\$2,000-\$3,999	\$4,000-\$5,999	\$6,000-\$9,999	\$10,000 and over	Not reported
	-----Dollars-----							-----Percent-----						
Milk, cream, cheese.....	2.42	2.20	2.30	2.36	2.50	2.83	2.39	14.1	13.7	14.1	14.0	14.3	14.3	14.6
Meat, poultry, fish.....	5.59	5.03	5.16	5.43	5.81	6.82	5.38	32.6	31.5	31.6	32.1	33.2	34.4	32.9
Eggs, dry legumes, nuts ⁶....	.75	.72	.74	.73	.78	.79	.74	4.4	4.5	4.5	4.3	4.5	4.0	4.5
Vegetables.....	2.32	2.23	2.25	2.35	2.32	2.51	2.27	13.5	13.9	13.8	13.9	13.3	12.7	13.8
Fruit.....	1.04	.86	.89	.99	1.11	1.46	.99	6.1	5.4	5.4	5.9	6.4	7.4	6.0
Grain products.....	1.90	1.97	1.93	1.95	1.84	1.89	1.72	11.1	12.3	11.8	11.5	10.5	9.6	10.5
Fats, oils.....	.73	.72	.73	.70	.72	.79	.71	4.2	4.5	4.5	4.2	4.1	4.0	4.3
Sugar, sirup, jelly, candy..	.34	.37	.33	.33	.32	.36	.30	2.0	2.3	2.0	2.0	1.9	1.8	1.9
Soft drinks, punches, prepared desserts.....	1.03	.96	1.03	1.08	1.07	1.12	.97	6.1	5.9	6.3	6.4	6.1	5.7	5.9
Alcoholic beverages.....	.20	.08	.09	.16	.25	.49	.17	1.2	.5	.6	.9	1.4	2.5	1.1
Other food.....	.82	.84	.86	.84	.75	.73	.75	4.7	5.5	5.4	4.8	4.3	3.6	4.5
Total food.....	17.14	15.98	16.31	16.92	17.47	19.79	16.39	100	100	100	100	100	100	100
Household size in number of 21-meal persons.....	(3.80)	(3.45)	(3.89)	(4.05)	(3.87)	(3.87)	(3.59)	---	---	---	---	---	---	---

Continued--

TABLE 5.--Money value of food at home per person¹ and share of food dollar used by households² in a week in Puerto Rico--Continued

Food group ³	Money value ⁴ of food per person by household size ¹								Share of food dollar by household size							
	All households	1	2	3	4	5	6	7 or more	All households	1	2	3	4	5	6	7 or more
	-----Dollars-----								-----Percent-----							
Milk, cream, cheese.....	2.42	3.63	3.30	2.90	2.51	2.33	2.04	1.68	14.1	13.7	13.7	14.4	14.3	14.9	13.8	13.4
Meat, poultry, fish.....	5.59	8.00	7.95	6.61	5.81	5.05	4.82	4.03	32.6	30.1	33.1	32.7	33.2	32.3	32.8	32.1
Eggs, dry legumes, nuts ⁵....	.75	1.32	1.07	.87	.75	.67	.65	.55	4.4	5.0	4.5	4.3	4.3	4.3	4.4	4.4
Vegetables.....	2.32	4.03	3.60	2.77	2.32	2.02	1.87	1.64	13.5	15.2	15.0	13.7	13.2	13.0	12.7	13.1
Fruit.....	1.04	1.82	1.48	1.27	1.08	.95	.83	.72	6.1	6.8	6.2	6.3	6.2	6.1	5.7	5.7
Grain products.....	1.90	2.37	2.26	2.06	1.92	1.78	1.84	1.63	11.1	8.9	9.4	10.2	11.0	11.4	12.5	13.0
Fats, oils.....	.73	1.15	1.03	.86	.73	.64	.61	.56	4.2	4.3	4.3	4.3	4.2	4.1	4.2	4.5
Sugar, sirup, jelly, candy..	.34	.51	.41	.39	.35	.32	.32	.26	2.0	1.9	1.7	1.9	2.0	2.0	2.2	2.1
Soft drinks, punches, prepared desserts.....	1.03	1.47	1.30	1.27	1.07	.96	.92	.77	6.1	5.6	5.4	6.3	6.1	6.2	6.2	6.2
Alcoholic beverages.....	.20	.47	.31	.27	.19	.21	.15	.10	1.2	1.8	1.3	1.3	1.1	1.3	1.0	.8
Other food.....	.82	1.78	1.29	.94	.78	.70	.65	.61	4.7	6.7	5.4	4.6	4.4	4.4	4.5	4.7
Total food.....	17.14	26.55	24.00	20.21	17.51	15.63	14.70	12.55	100	100	100	100	100	100	100	100
Household size in number of 21-meal persons.....	(3.80)	(1.02)	(1.99)	(2.99)	(3.95)	(4.91)	(5.90)	(8.10)	---	---	---	---	---	---	---	---

¹21 meals at home in a week is equivalent to 1 person. Average money value per person is calculated using population ratio procedure.

²Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview. See table 4 for count of households.

³Mixtures and soups included with group totals of main ingredients.

⁴Includes value of food used by household members and guests that was bought, home produced or received as gift or pay. Value of food received without direct expense by a household is based on average price per pound paid by survey households in Puerto Rico.

⁵Money income before taxes in 1976.

⁶Includes plate dinners with main ingredients mostly meat, poultry, and fish.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

went to vegetables (including viandas⁸) and fruit (including juice). Milk, cream, and cheese took about 14 cents of each food dollar; flour, cereal, and bakery products took 11 cents; and sugars and sweets took 8 cents. Fats, eggs, legumes, beverages, and other food took the remaining money.

Allocation of the food dollar differed between high- and low-income households. At incomes of at least \$10,000 in comparison with incomes of less than \$2,000, more was spent for meat, poultry, and fish; fruit; and alcoholic beverages but less for vegetables; grain products; fats and oils; and sugars and sweets.

As household size increased, the share of the dollar going to grain products also increased; the share going to vegetables and fruits decreased; while the share allotted to milk and milk products remained the same. In the warm island climate, soft drinks, punches, etc., accounted for 5 to 6 cents of each dollar in each size household. Alcoholic beverages, on the other hand, took a larger portion of the dollar in small (1.8 cents) than in large households (0.8 cents) partly because small households contained proportionately more adults.

Quantity of Food Used

Puerto Rican households used the following quantities of food per person per week, on the average: 4-1/2 quarts of milk and milk products (calcium equivalent); about 4-1/2 pounds of meat, poultry, and fish; 4 medium eggs; 1/3 pound of dry beans and legumes; 8-1/2 pounds of vegetables and fruit; about 3-3/4 pounds of grain products; a little less than a pound of fats and oils; and 1-1/3 pounds of sugars and sweets (table 6).

Puerto Rican households used a little more poultry (1.3 lb) than beef (1.2 lb) or pork (0.9 lb) and included 0.5 pound of fish, mostly dried codfish, and 0.3 pound of vienna sausage and other luncheon meats per person in their diets during the survey week. The most popular vegetables were viandas (2.5 lb). Almost 1 pound of tomatoes per person was used as tomato products, principally tomato sauce, and fresh tomatoes.

During the week of the interview, food consumption in Puerto Rico (summer and fall 1977) differed from that on the mainland (spring 1977) (13). Puerto Ricans consumed more of the milk group per person than their counterparts in the United States--an amount equivalent to a pint more milk per person in terms of calcium equivalent. Puerto Ricans also used about three times as much dry beans and over two-thirds more grain products, probably associated with the use of beans and rice as a prominent item in Puerto Rican diets. Households in the 48 States used more dark-green vegetables and substantially more fruit, particularly citrus fruit, than did households in Puerto Rico. Households in Puerto Rico and the United States used somewhat similar quantities per person of the meat, poultry, and fish group; however, within the group, Puerto Ricans used more poultry while mainland households used more meat, mainly beef and pork. The per-person quantities of groups of food used by U.S. and Puerto Rican households are shown by the following tabulation:

⁸Puerto Rican starchy vegetables, including green and ripe plantains, green bananas, white tanniers, white sweetpotatoes, and cassava.

<u>Food group</u>	<u>Puerto Rico</u>	<u>United States</u>
	<u>Summer and fall</u>	<u>Spring</u>
	<u>1977</u>	<u>1977</u>
	-----Pounds-----	
Milk, cream, cheese (calcium equivalent)....	9.50	8.34
Meat, poultry, fish, and other protein food		
Meat, poultry, fish.....	4.49	4.78
Eggs (fresh equivalent).....	.53	.66
Dry beans (dry weight).....	.37	.12
Nuts (shelled weight).....	.01	.13
Vegetables.....	5.94 ¹	5.09
Potatoes (fresh equivalent).....	.95	1.59
Dark green.....	.07	.30
Deep yellow.....	.21	.24
Tomatoes.....	.95	.71
Fruit.....	2.54	3.94
Citrus (single-strength juice equivalent).	.76	1.71
Grain products (flour equivalent).....	3.71	2.16
Enriched or whole-grain (flour equivalent)	3.66	2.05
Fats, oils.....	.96	.70
Sugar, sirup, jelly, candy.....	.90	.83
Soft drinks, punches, prepared desserts		
(sugar equivalent).....	.42	.34
Alcoholic beverages.....	.23	.94

¹Includes 2.5 lb of viandas

Metropolitan and high-income households consumed the largest quantities per person of milk and milk products; meat, poultry, and fish; and fruit (fig. 6-7). In central city households, milk consumption, in terms of calcium equivalent, exceeded that of other households by as much as 1-1/2 pints per person. The high consumption of the meat, poultry, and fish group by metropolitan and high-income households was due to their high use of beef. Compared with other households, those with incomes \$10,000 and over and households in the central city and suburbs used up to 1-1/2 pounds more fruit, particularly citrus fruit.

Nonmetropolitan households and low-income households were alike in their high consumption of dry beans and legumes, grain products (principally rice), and viandas--foods often associated with Puerto Rican diets. Households with incomes under \$2,000 used 1-1/2 times as much dry beans and legumes, over one-third more grain products, and one-fifth more viandas than households having incomes of \$10,000 and over. Use of these items was also more prevalent in nonmetropolitan than in central city and suburban households. These staple and comparatively low-cost foods comprise the basic stock of the "old style markets" where more than one-third of the nonmetropolitan residents reported doing their major food shopping.

As household size increased, per-person consumption of most foods decreased. Households with seven or more persons used about one-half as much of three major food groups--milk products; meat, poultry, fish; and vegetables, fruit--as small households used (fig. 8). This variability was not found in the grain group, however, of which large and small households used similar quantities per person.

TABLE 6.--Quantity of food used per person¹ in a week by urbanization, income, and household size in Puerto Rico

Food group ²	Urbanization			Income before taxes (1976)					Household size (21 meals at home = 1 person)								
	All households	Central city	Sub-urban	Non-metro-politan	Under \$2,000	\$2,000-\$3,999	\$4,000-\$5,999	\$6,000-\$9,999	\$10,000 and over	Not reported	1	2	3	4	5	6	7 or more
-----Pounds-----																	
Milk, cream, cheese (calcium equivalent).....	9.50	9.96	9.35	9.34	8.85	9.26	9.31	9.72	10.63	9.17	14.17	12.62	11.25	9.71	9.11	8.27	6.84
Meat, poultry, fish.....	4.49	4.70	4.70	4.34	4.31	4.32	4.40	4.58	5.04	4.20	6.32	6.19	5.22	4.62	4.07	4.00	3.36
Beef.....	1.19	1.42	1.39	1.03	1.01	1.02	1.14	1.30	1.58	1.11	1.63	1.72	1.44	1.28	1.08	1.02	.77
Pork.....	.93	.90	.94	.93	.92	.92	.92	.93	.99	.86	1.04	1.19	1.06	.95	.88	.89	.72
Luncheon meat.....	.31	.28	.31	.32	.31	.29	.30	.32	.34	.29	.43	.37	.35	.33	.27	.29	.25
Poultry.....	1.29	1.24	1.23	1.33	1.32	1.34	1.31	1.25	1.28	1.19	2.03	1.78	1.46	1.30	1.13	1.17	1.04
Fish.....	.50	.57	.49	.48	.51	.51	.50	.49	.53	.44	.90	.76	.58	.50	.47	.38	.37
Other protein foods ³	1.19	1.19	1.22	1.18	1.23	1.20	1.16	1.23	1.16	1.09	1.96	1.67	1.35	1.19	1.09	1.06	.89
Eggs (fresh equivalent).....	.53	.59	.54	.50	.51	.53	.51	.55	.58	.50	1.01	.75	.58	.52	.48	.49	.41
Dry legumes (dry weight).....	.37	.31	.35	.41	.43	.42	.38	.38	.28	.29	.44	.50	.42	.38	.34	.34	.31
Nuts (shelled weight), nut butter.....	.01	.01	.02	.01	.01	.01	.01	.01	.03	.02	.02	.02	.02	.01	.02	.01	(⁴)
Vegetables.....	5.94	5.91	5.76	6.00	6.07	5.95	6.04	5.80	5.91	5.81	9.73	9.08	6.92	5.91	5.09	4.91	4.52
Potatoes (fresh equivalent).....	.95	.95	.95	.94	.94	.93	.99	.93	.97	.91	1.59	1.42	1.11	.96	.82	.84	.66
Viandas.....	2.50	2.14	2.41	2.67	2.69	2.57	2.65	2.38	2.21	2.43	3.94	3.82	2.82	2.42	2.08	2.04	2.12
Dark green.....	.07	.07	.07	.08	.09	.07	.08	.07	.08	.06	.10	.11	.10	.07	.06	.06	.06
Deep yellow.....	.21	.22	.18	.21	.19	.21	.20	.21	.25	.20	.28	.34	.25	.23	.18	.14	.15
Tomatoes.....	.95	1.07	.96	.89	.89	.94	.92	.98	1.03	.91	1.61	1.39	1.16	.97	.86	.74	.65
Fruit.....	2.54	2.89	2.95	2.27	2.12	2.10	2.39	2.78	3.57	2.32	4.46	3.71	3.04	2.66	2.27	1.88	1.81
Citrus (single strength juice equivalent).....	.76	1.07	1.11	.53	.54	.54	.59	.91	1.37	.65	1.66	1.22	.94	.81	.70	.58	.39
Grain products (flour equivalent)..	3.71	3.31	3.27	3.99	4.21	4.09	3.89	3.41	3.04	3.28	3.98	4.17	3.86	3.63	3.46	3.58	3.67
Enriched or whole grain (flour equivalent).....	3.66	3.26	3.22	3.95	4.16	4.05	3.84	3.36	2.99	3.24	3.90	4.11	3.81	3.59	3.42	3.53	3.64
Fats, oils.....	.96	.91	.86	1.01	1.02	.99	.96	.91	.93	.94	1.46	1.31	1.11	.94	.85	.86	.78
Sugar, sweets (sugar equivalent)...	1.32	1.21	1.17	1.41	1.42	1.36	1.30	1.28	1.27	1.22	1.82	1.67	1.52	1.32	1.24	1.19	1.07
Sugar, sirup, jelly, candy.....	.90	.79	.72	.99	1.03	.94	.87	.85	.79	.94	1.29	1.16	1.01	.88	.84	.82	.74
Other sweets (sugar equivalent) ⁵ ..	.42	.42	.44	.42	.38	.42	.43	.43	.47	.38	.53	.51	.50	.45	.40	.38	.32
Alcoholic beverages.....	.23	.30	.36	.17	.07	.12	.16	.32	.56	.19	.56	.28	.33	.22	.27	.16	.11

¹ 21 meals at home in a week is equivalent to 1 person. Average quantity per person is calculated using population ratio procedure.

² Mixtures and soups included with group totals of main ingredients.

³ Includes soups, mixtures, and plate dinners with main ingredients mostly meat, poultry, fish or legume.

⁴ Less than 0.005 pound but more than 0.

⁵ Puerto Rican starchy vegetables including green and ripe plantains, green bananas, white tanners, white sweetpotatoes, and cassava.

⁶ Includes soft drinks, beverage and dessert powders; ades, punches, nectars with sugar; coffee, tea, cocoa mix; prepared desserts.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

NUTRIENTS PER DOLLAR'S WORTH OF FOOD

A dollar's worth of food generally provided more food energy and all nutrients, except vitamins A and B₁₂, in nonmetropolitan than in metropolitan areas of Puerto Rico (table 7). A dollar's worth of food also provided more energy and nutrients, except vitamins A and B₁₂, in low-income and large households than in other classes of households.

In general, households that use food with the lowest money value receive the highest return per dollar. A high average return in nutrients per food dollar does not mean that households consciously choose highly nutritious food. Low-cost diets usually include large quantities of relatively inexpensive foods. Some of those foods, such as dry beans and other legumes and enriched grain products, contribute substantial amounts of some nutrients to Puerto Rican diets (17) and were used in larger quantities in nonmetropolitan and low-income than in other households.

Return in nutrients per dollar generally was greatest for households of seven or more persons, partly because they used much less food per person and a greater share of it was grain products. As will be shown, diets in many large households, however, did not meet the RDA despite higher nutrient return per dollar.

NUTRIENTS PER 1,000 CALORIES IN FOOD USED

The nutritive value per 1,000 calories of household food (nutrient density) is one basis for evaluating the relative nutrient content of diets. The nutritive value of food used by households in this survey includes not only the value of food eaten but also the value of edible food that was discarded during the week.

The values per 1,000 calories for most nutrients were similar among households classified by urbanization, income, and household size. However, metropolitan, high-income, and small households used food that furnished the most vitamin A and calcium per 1,000 calories (table 8). On the other hand, diets of nonmetropolitan, low-income, and large households supplied more grams of carbohydrate and less fat per 1,000 calories of food energy than diets in other households.

NUTRITIVE VALUE OF FOOD USED

Average nutritive value of food used by households is expressed in three ways. Table 9 presents daily nutritive value per 21-meal-equivalent person for food energy, fat, carbohydrate, protein, 4 minerals, and 7 vitamins. Table 10 presents daily nutritive value per nutrition unit or per day's RDA for the male adult. The value of food used as a percentage of the RDA appear in table 11 and the percentage of households that used food furnishing the RDA in table 12.

Puerto Rican diets, on the average, were sufficient to provide the RDA for food energy and the 11 nutrients evaluated--protein, calcium, iron, magnesium, phosphorus, vitamin A, thiamin, riboflavin, vitamin B₆, vitamin B₁₂, and ascorbic acid. Values averaged one-third more than the RDA for calcium and vitamin B₆; more than twice the RDA for protein, phosphorus, and vitamin B₁₂; and three

TABLE 7.--Nutrients per dollar's worth of food used at home¹ by households² in Puerto Rico

Urbanization, income, and household size (21 meals at home = 1 person)	Food energy	Protein	Cal-cium	Iron	Magne-sium	Phos-phorus	Vita-min A	Thia-min	Ribo-flavin	Pre-formed niacin	Vita-min B ₆	Vita-min B ₁₂	Ascorbic acid
	<u>Cal</u>	<u>G</u>	<u>Mg</u>	<u>Mg</u>	<u>Mg</u>	<u>Mg</u>	<u>IU</u>	<u>Mg</u>	<u>Mg</u>	<u>Mg</u>	<u>Mg</u>	<u>Mcg</u>	<u>Mg</u>
All households.....	1,347	42.9	463	9.0	179	744	2,355	0.83	0.99	11.3	0.92	2.62	57
Urbanization:													
Central city.....	1,241	41.5	448	8.3	167	712	2,564	.77	.96	10.6	.89	2.81	56
Suburban.....	1,245	41.7	440	8.5	168	716	2,647	.78	.96	10.7	.91	2.94	61
Nonmetropolitan.....	1,425	44.0	477	9.5	188	767	2,172	.88	1.01	11.9	.94	2.45	57
Income (1976) before taxes:													
Under \$2,000.....	1,492	45.9	482	10.1	200	791	2,226	.93	1.03	12.6	.97	2.56	58
\$2,000-\$3,999.....	1,446	44.9	485	9.7	192	785	2,357	.89	1.03	12.2	.96	2.78	57
\$4,000-\$5,999.....	1,369	43.1	464	9.2	183	752	2,368	.85	1.00	11.6	.94	2.57	56
\$6,000-\$9,999.....	1,287	42.1	457	8.6	172	731	2,391	.79	.97	10.8	.91	2.60	58
\$10,000 and over.....	1,166	39.4	430	7.7	153	672	2,376	.71	.92	9.8	.85	2.49	58
Not reported.....	1,308	41.8	460	8.7	175	723	2,435	.80	.99	11.0	.90	2.83	57
Household size:													
1.....	1,177	38.7	439	7.5	175	683	2,432	.68	.92	10.4	.83	2.64	55
2.....	1,244	40.6	433	8.2	175	701	2,491	.74	.93	10.6	.89	2.63	57
3.....	1,290	41.8	457	8.5	174	727	2,246	.78	.96	10.8	.89	2.52	57
4.....	1,321	42.6	461	8.9	175	738	2,456	.82	.99	11.2	.92	2.69	56
5.....	1,359	43.5	482	9.2	180	760	2,238	.85	1.01	11.4	.92	2.56	58
6.....	1,423	44.9	478	9.6	182	778	2,368	.90	1.04	12.0	.96	2.73	57
7 or more.....	1,527	46.1	479	10.3	194	791	2,337	.96	1.04	12.7	.99	2.67	60

¹ Includes value of food used by household members and guests that was bought, home produced, or received as gift or pay. Value of food received without direct expense by a household is based on average price per pound paid for that food by survey households in Puerto Rico.

² Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

TABLE 8.--Nutrients per 1,000 Calories in food used at home by households¹ in Puerto Rico

Urbanization, income, and household size (21 meals at home = 1 person)	Food energy per person per day	Nutrients per 1,000 Calories													
		Pro-tein	Fat	Carbo-hydrate	Cal-cium	Magne- sium	Phos- phorus	Vita- min A	Thia- min	Ribo- flavin	Pre- formed niacin	Vita- min B ₆	Vita- min B ₁₂	Ascorbic acid	
	Cal	G	G	G	Mg	Mg	Mg	Mg	IU	Mg	Mg	Mg	Mg	Mcg	Mg
All households.....	3,297	31.9	41.4	124.4	344	6.7	133	553	1,749	0.62	0.73	8.4	0.68	1.95	43
Urbanization:															
Central city.....	3,179	33.4	42.7	120.1	361	6.7	135	574	2,067	.62	.77	8.5	.72	2.26	45
Suburban.....	3,148	33.5	42.1	120.9	353	6.8	135	575	2,127	.62	.77	8.6	.73	2.36	49
Nonmetropolitan.....	3,388	30.8	40.7	127.0	335	6.7	132	538	1,524	.61	.71	8.3	.66	1.72	40
Income (1976) before taxes:															
Under \$2,000.....	3,407	30.7	39.9	129.1	323	6.8	134	531	1,492	.62	.69	8.5	.65	1.72	39
\$2,000-\$3,999.....	3,369	31.0	40.3	127.8	335	6.7	133	543	1,630	.62	.71	8.4	.66	1.92	40
\$4,000-\$5,999.....	3,310	31.5	40.6	126.4	339	6.7	133	549	1,729	.62	.73	8.5	.68	1.87	41
\$6,000-\$9,999.....	3,212	32.7	41.9	122.3	355	6.7	134	568	1,858	.62	.76	8.4	.70	2.02	45
\$10,000 and over.....	3,297	33.8	44.2	115.9	369	6.6	131	576	2,038	.61	.79	8.4	.73	2.14	50
Not reported.....	3,062	32.0	42.6	122.0	352	6.7	134	553	1,862	.61	.75	8.4	.68	2.16	43
Household size:															
1.....	4,463	32.9	44.3	117.0	373	6.4	149	580	2,067	.58	.78	8.8	.71	2.25	47
2.....	4,267	32.6	43.5	119.6	348	6.6	141	563	2,002	.60	.74	8.6	.72	2.12	46
3.....	3,724	32.4	42.3	121.8	354	6.6	135	564	1,741	.60	.74	8.4	.69	1.95	44
4.....	3,304	32.2	41.6	123.6	349	6.8	133	558	1,859	.62	.75	8.4	.70	2.03	43
5.....	3,035	32.0	41.0	125.2	355	6.8	132	559	1,647	.63	.75	8.4	.68	1.88	43
6.....	2,988	31.6	40.8	125.7	336	6.8	128	547	1,665	.63	.73	8.5	.67	1.92	40
7 or more.....	2,738	30.2	38.8	131.6	314	6.8	127	518	1,530	.63	.68	8.3	.64	1.75	39

¹ Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

TABLE 9.--Average nutritive value¹ per person² per day of food used by households³ in Puerto Rico

Urbanization, income, and household size (21 meals at home = 1 person)	Food energy	Protein	Fat	Carbohydrate	Calcium	Iron	Magnesium	Phosphorus	Vitamin A	Thiamin	Riboflavin	Preformed niacin	Vitamin B ₆	Vitamin B ₁₂	Ascorbic acid
	Cal	G	G	G	Mg	Mg	Mg	Mg	IU	Mg	Mg	Mg	Mg	Mcg	Mg
All households.....	3,297	105.1	136.4	410.1	1,134	22.1	439	1,822	5,764	2.03	2.42	27.8	2.25	6.43	141
Urbanization:															
Central city.....	3,179	106.3	135.6	381.7	1,148	21.2	428	1,823	6,569	1.96	2.45	27.1	2.28	7.19	142
Suburban.....	3,148	105.5	132.5	380.6	1,112	21.5	425	1,810	6,695	1.97	2.43	27.0	2.29	7.44	154
Nonmetropolitan.....	3,388	104.5	137.9	430.4	1,135	22.6	448	1,824	5,164	2.08	2.40	28.3	2.23	5.82	136
Income (1976) before taxes:															
Under \$2,000.....	3,407	104.7	135.9	439.7	1,101	23.0	457	1,807	5,083	2.12	2.35	28.9	2.22	5.85	134
\$2,000-\$3,999.....	3,369	104.5	135.6	430.4	1,129	22.5	447	1,830	5,491	2.08	2.39	28.4	2.23	6.47	133
\$4,000-\$5,999.....	3,310	104.2	134.4	418.5	1,123	22.2	441	1,817	5,724	2.05	2.41	28.0	2.26	6.20	137
\$6,000-\$9,999.....	3,212	105.0	134.7	392.9	1,140	21.5	430	1,824	5,968	1.98	2.43	26.9	2.26	6.49	144
\$10,000 and over.....	3,297	111.5	145.7	382.1	1,217	21.9	433	1,899	6,718	2.02	2.59	27.7	2.40	7.04	163
Not reported.....	3,062	97.8	130.5	373.6	1,077	20.4	409	1,694	5,701	1.87	2.31	25.7	2.10	6.61	133
Household size:															
1.....	4,463	146.6	197.8	522.3	1,664	28.4	663	2,589	9,224	2.57	3.48	39.4	3.17	10.03	209
2.....	4,267	139.2	185.5	510.5	1,485	28.0	602	2,404	8,542	2.55	3.17	36.5	3.07	9.03	195
3.....	3,724	120.7	157.6	453.7	1,320	24.5	503	2,099	6,486	2.25	2.76	31.2	2.56	7.28	164
4.....	3,304	106.5	137.4	408.4	1,153	22.4	438	1,845	6,142	2.05	2.47	27.9	2.30	6.72	141
5.....	3,035	97.2	124.3	379.9	1,077	20.5	401	1,696	4,997	1.90	2.26	25.5	2.06	5.72	130
6.....	2,988	94.4	122.1	375.6	1,004	20.3	382	1,634	4,975	1.89	2.19	25.3	2.01	5.74	120
7 or more.....	2,738	82.7	106.2	360.2	858	18.5	347	1,418	4,189	1.72	1.86	22.8	1.77	4.79	107

¹ Average nutritive value per person calculated using population ratio procedure.
² 21 meals at home in a week is equivalent to 1 person.

³ Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

TABLE 10.--Average nutritive value per nutrition unit¹ per day of food used at home by households² in Puerto Rico

Urbanization, income, and household size (21 meals at home = 1 person)	Food energy	Pro-tein	Cal-cium	Iron	Magne-sium	Phos-phorus	Vita-min A	Thia-min	Ribo-fla-vin	Vita-min B ₆	Vita-min B ₁₂	Ascor-bic acid
	<u>Cal</u>	<u>G</u>	<u>Mg</u>	<u>Mg</u>	<u>Mg</u>	<u>Mg</u>	<u>IU</u>	<u>Mg</u>	<u>Mg</u>	<u>Mg</u>	<u>Mcg</u>	<u>Mg</u>
All households.....	3,998	128.9	1,043	16.2	512	1,681	7,051	2.50	2.93	2.59	7.19	144
Urbanization:												
Central city.....	3,881	128.9	1,068	15.9	495	1,702	7,955	2.42	2.97	2.56	7.90	145
Suburban.....	3,794	129.8	1,019	15.6	497	1,664	8,223	2.41	2.93	2.64	8.34	158
Nonmetropolitan.....	4,106	128.7	1,039	16.6	524	1,677	6,335	2.56	2.90	2.58	6.55	139
Income (1976) before taxes:												
Under \$2,000.....	4,139	128.3	997	17.1	530	1,642	6,195	2.61	2.84	2.54	6.50	137
\$2,000-\$3,999.....	4,079	128.0	1,034	16.8	521	1,682	6,693	2.56	2.89	2.56	7.24	136
\$4,000-\$5,999.....	4,007	128.5	1,028	16.2	517	1,670	7,043	2.52	2.91	2.62	6.98	140
\$6,000-\$9,999.....	3,879	128.6	1,050	15.7	502	1,688	7,287	2.43	2.93	2.59	7.25	147
\$10,000 and over.....	3,982	135.9	1,128	15.9	503	1,767	8,183	2.48	3.12	2.73	7.84	167
Not reported.....	3,796	121.4	1,014	15.1	487	1,603	7,088	2.35	2.84	2.44	7.53	136
Household size:												
1.....	5,716	165.0	1,650	25.3	726	2,568	10,557	3.26	4.33	3.19	10.07	209
2.....	5,331	158.5	1,443	22.7	666	2,341	9,880	3.20	3.86	3.18	9.30	195
3.....	4,559	143.8	1,241	18.4	577	1,980	7,765	2.79	3.34	2.83	7.89	166
4.....	4,014	131.6	1,072	16.3	516	1,724	7,582	2.53	3.00	2.67	7.61	145
5.....	3,698	123.0	994	15.1	482	1,573	6,286	2.36	2.77	2.47	6.65	135
6.....	3,584	119.5	898	14.5	455	1,468	6,213	2.32	2.66	2.41	6.63	124
7 or more.....	3,234	103.6	749	12.9	407	1,243	5,173	2.08	2.21	2.09	5.45	110

¹ Average nutritive value per nutrition unit calculated using population ratio procedure. Nutrition unit is adult male equivalent of persons eating in the household in terms of 1974 Recommended Dietary Allowances for a nutrient.

² Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

TABLE 11.--Nutritive value of food¹ used as a percentage of Recommended Dietary Allowances (1974) in Puerto Rico

Urbanization, income, and household size (21 meals at home = 1 person)	Food energy	Protein	Calcium	Iron	Magnesium	Phosphorus	Percent					
							Vitamin A	Thiamin	Riboflavin	Vitamin B ₆	Vitamin B ₁₂	Ascorbic acid
All households.....	148	230	130	162	146	210	141	179	183	129	240	320
Urbanization:												
Central city.....	144	230	134	159	141	213	159	173	186	128	263	322
Suburban.....	141	232	127	156	142	208	164	172	183	132	278	351
Nonmetropolitan.....	152	230	130	166	150	210	127	183	182	129	218	310
Income (1976) before taxes:												
Under \$2,000.....	153	229	125	171	151	205	124	186	178	127	217	304
\$2,000-\$3,999.....	151	229	129	168	149	210	134	183	181	128	241	303
\$4,000-\$5,999.....	148	230	129	162	148	209	141	180	182	131	233	311
\$6,000-\$9,999.....	144	230	131	157	144	211	146	173	183	130	242	327
\$10,000 and over.....	147	243	141	159	144	221	164	177	195	136	261	371
Not reported.....	141	217	127	151	139	200	142	168	177	122	251	302
Household size:												
1.....	212	295	206	253	207	321	211	233	271	159	336	463
2.....	197	283	180	227	190	293	198	228	241	159	310	434
3.....	169	257	155	184	165	248	155	199	209	141	263	370
4.....	149	235	134	163	148	215	152	181	187	134	254	321
5.....	137	220	124	151	138	197	126	168	173	124	222	300
6.....	133	213	112	145	130	183	124	166	166	120	221	276
7 or more.....	120	185	94	129	116	155	103	148	138	104	182	245

¹ Average nutritive value calculated using population ratio procedure.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

TABLE 12.--Households¹ using food that met the Recommended Dietary Allowances (1974) in Puerto Rico

Urbanization, income, and household size (21 meals at home = 1 person)	Food energy	Protein	Calcium	Iron	Magnesium	Phosphorus	Vitamin A	Thiamin	Riboflavin	Vitamin B ₆	Vitamin B ₁₂	Ascorbic acid	All 11 nutrients ²
	-----Percent of households-----												
All households.....	85	98	75	87	84	96	62	92	92	73	87	92	49
Urbanization:													
Central city.....	85	98	78	86	84	96	70	91	94	75	91	94	54
Suburban.....	83	98	72	86	83	95	69	89	91	77	87	96	52
Nonmetropolitan.....	86	98	74	87	85	96	55	92	91	71	84	89	45
Income (1976) before taxes:													
Under \$2,000.....	86	97	70	87	85	94	55	91	90	72	82	89	44
\$2,000-\$3,999.....	85	98	73	88	84	96	57	90	90	72	86	90	46
\$4,000-\$5,999.....	88	99	73	89	86	97	59	94	93	75	85	92	46
\$6,000-\$9,999.....	85	98	76	85	84	98	67	91	93	73	88	93	51
\$10,000 and over.....	85	99	84	85	85	98	74	93	95	80	94	96	61
Not reported.....	79	95	72	84	81	94	62	88	89	68	85	88	45
Household size:													
1.....	89	96	85	94	90	97	78	91	95	80	91	92	62
2.....	95	98	87	95	93	99	77	96	97	85	92	95	67
3.....	91	99	84	91	90	98	66	94	95	79	90	94	57
4.....	84	98	76	85	85	97	61	91	91	74	88	93	47
5.....	79	98	67	82	80	95	51	88	89	66	86	89	37
6.....	76	99	58	75	73	93	48	86	86	63	82	86	33
7 or more.....	66	96	42	72	64	86	34	86	82	48	69	85	16

¹Housekeeping households only: Households with at least 1 person having 10 or more meals from household food supply during 7 days preceding interview.

²Excludes food energy.

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

times the RDA for ascorbic acid (table 11). Averages, however, conceal the variation in the nutritive value of household diets. Diets of more than 90 percent of the households provided the RDA for protein, phosphorus, thiamin, riboflavin, and ascorbic acid (table 12). Diets of about 85 percent furnished the RDA for food energy, iron, magnesium, and vitamin B₁₂. Allowances for calcium and vitamin B₆ were met by 75 percent or fewer of the households. Fewest (62 percent) met the allowance for vitamin A. About one-half (49 percent) of the household diets met the RDA for all 11 nutrients evaluated; diets of the other half (51 percent) were below the RDA in one or more nutrients.

Compared with household diets in the United States, diets in Puerto Rico were much less likely to meet the RDA for vitamin A. In the spring, 80 percent of the U.S. households used food providing sufficient amounts of vitamin A to meet the RDA. Calcium, one of the nutrients in short supply in Puerto Rico, was also often below allowances in the United States in the spring of 1977, but 75 percent of Puerto Rican households with their greater use of milk and milk products met the RDA for calcium compared with 67 percent in the United States. When all 11 nutrients were evaluated, Puerto Rican diets met the RDA as often as diets in the United States--49 percent compared with 47 percent, respectively. Because the RDA for one or more nutrients is not met, it should not be assumed that food practices are poor or that malnutrition exists.

An islandwide survey conducted in Puerto Rico in 1966 (12) revealed that diets were low in vitamin A, calcium, and riboflavin. Nutrition educators on the island strongly recommended the use of more milk and milk products, and "greens and yellows" (including yellow fruit as well as yellow vegetables) as a means of increasing levels of those nutrients (16). Results from the 1977 NFCS reported here showed that food used in about two-thirds of the households furnished the RDA for vitamin A and food used in three-fourths supplied the RDA for calcium. Almost all households met the RDA for riboflavin.

Differences by Income

Average amounts of nutrients in food used by households exceeded the RDA in every income group. For most nutrients the margin over allowances increased with income. Levels of calories, iron, magnesium, and thiamin, however, were slightly higher among low- than among high-income households, probably reflecting the high grain content of low-income diets.

Although nutrient averages at each income level were well over recommendations, some households at all levels of income failed to meet the RDA (fig. 9). Proportions meeting the RDA for all 11 nutrients ranged from 44 percent for the lowest to 61 percent for the highest income group. More of the highest than lowest income households met the allowances for most nutrients studied, particularly vitamin A (74 vs. 55 percent) and calcium (84 vs. 70 percent) (table 12 and fig. 10). Households with the highest income used more milk and milk products and more fruit than other households; these foods contributed substantial amounts of vitamin A and calcium to their diets.

Differences by Household Size

Food supplies of different sized households in Puerto Rico generally provided, on the average, food energy and nutrients in excess of the RDA. For households of

one or two persons, average nutrient levels exceeded the RDA substantially for each nutrient studied. Average food energy and nutrient levels decreased markedly as household size increased. Diets of households of seven persons or more averaged 6 percent below the RDA for calcium, 3 or 4 percent above the RDA for thiamin, vitamin A and vitamin B₆, and well above the RDA for protein, phosphorus, thiamin, riboflavin, vitamin B₁₂, and ascorbic acid. Nevertheless, average nutrient levels for households of seven or more were below those for other households.

The percentage of household diets meeting the RDA for all nutrients except protein decreased as household size increased (fig. 11). Food used by fewer than one-half of the households of seven or more persons furnished calcium and vitamin B₆ in amounts sufficient to meet allowances. Diets of only one-third of the largest households met the vitamin A recommendation.

Food used by small households furnished the RDA for all 11 nutrients studied much more often than food used by large households. Over 60 percent of the one- and two-person, 33 percent of the six-person, and only 16 percent of the seven- or more-person households used food that provided the RDA for all 11 nutrients (fig. 12).

Differences by Money Value Level

The money value of food used at home in Puerto Rico varied from less than \$8 to \$30 or more per person per week (table 4). The increases in money value were accompanied by increases in the proportion of households whose food supplied the RDA in all nutrients studied (fig. 13). No household with food worth less than \$8 per person and only 2 percent of those with food valued between \$8 and \$12 met the RDA for all 11 nutrients.⁹ Conversely, at money value levels of \$30 or more almost all (94 percent) of the households met allowances for all nutrients studied.

When diets failed to meet allowances, nutrient shortages were most common in vitamin A, calcium, and vitamin B₆. Especially for those nutrients and food energy, notable increases in the percentage of households meeting recommendations were found by money value level as shown by the following tabulation:

	<u>Food</u> <u>energy</u>	<u>Calcium</u>	<u>Vitamin</u> <u>A</u>	<u>Vitamin</u> <u>B₆</u>	<u>All 11</u> <u>nutrients</u>
	-----Percent meeting-----				
Under \$8.00.....	8	9	6	3	0
\$8.00-\$11.99.....	51	34	22	22	2
\$12.00-\$15.99.....	85	68	42	61	20
\$16.00-\$19.99.....	97	86	67	90	54
\$20.00-\$29.99.....	100	94	88	97	82
\$30.00 and over.....	100	98	98	99	94

⁹At the time of the survey, the food stamp allotment was between \$9 and \$12 per member per week depending on the size of the household.

High money value alone, however, did not insure diets satisfying nutrient recommendations. Nearly one-fifth of the diets in households at the \$20-\$30 money value level failed to meet the RDA in one or more nutrients. Some households with food valued at substantially less than \$20 per person, on the other hand, met the RDA in all 11 nutrients studied. Among households using food worth \$12-\$16 per person, one-fifth had diets furnishing the allowances in the 11 nutrients.

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Urbanization and Food at Home and Away

Value per household in a week in Puerto Rico

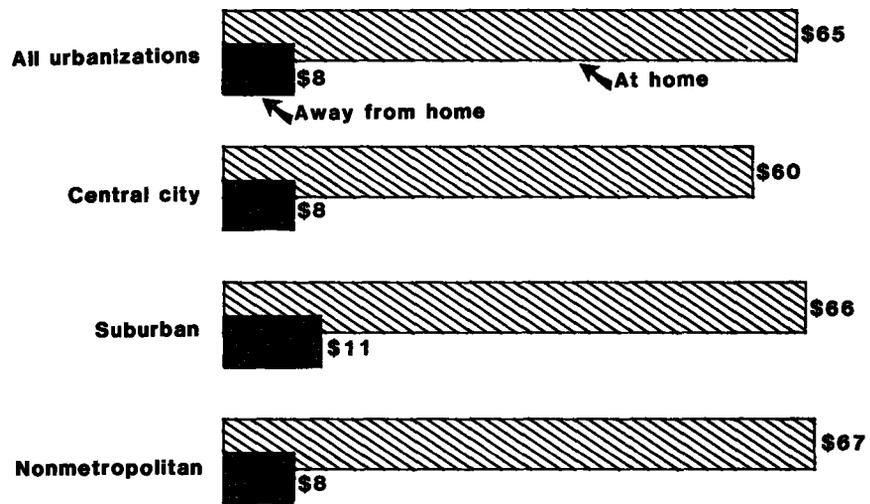


Figure 1

Income and Food at Home and Away

Value per household in a week in Puerto Rico

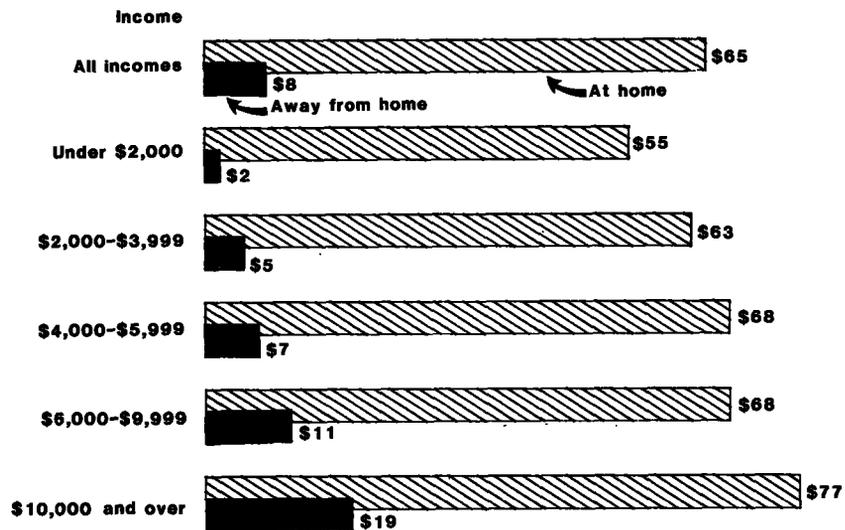


Figure 2

Source: USDA Nationwide Food Consumption Survey 1977-78.
Puerto Rico, summer and fall 1977 (preliminary).

Income and Expense for Food Away From Home

Value per household in a week in Puerto Rico

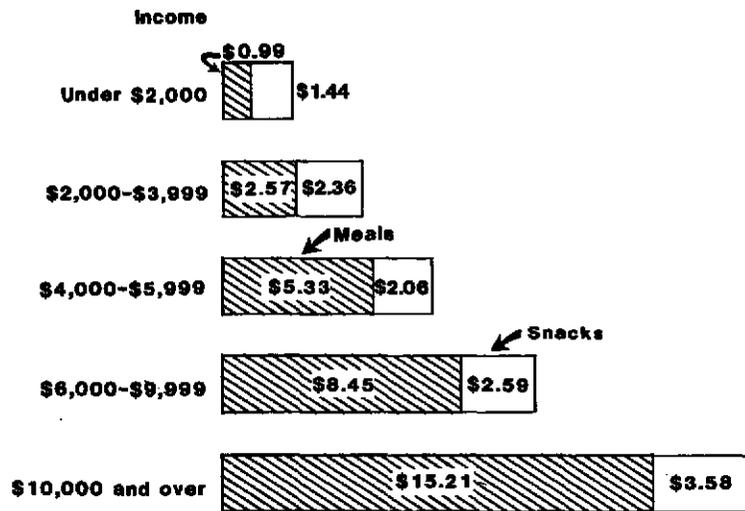


Figure 3

Household Food Dollar

By income groups in Puerto Rico

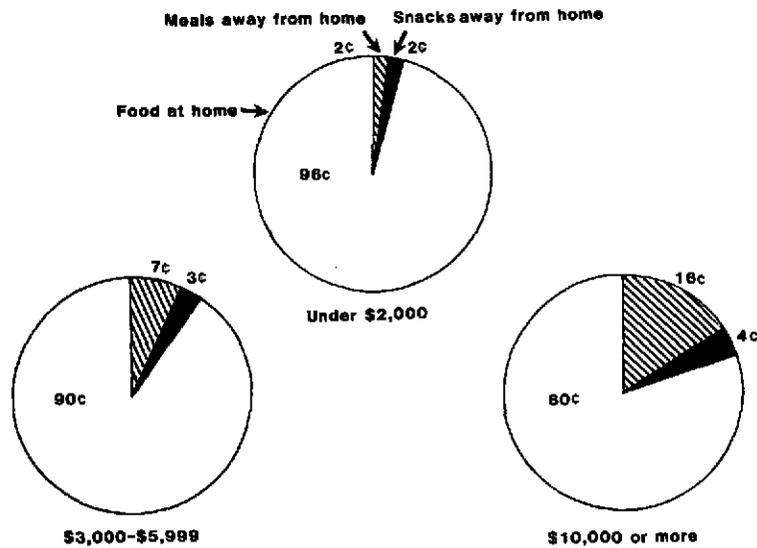


Figure 4

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 [preliminary].

Household Size and Value of Food in a Week in Puerto Rico

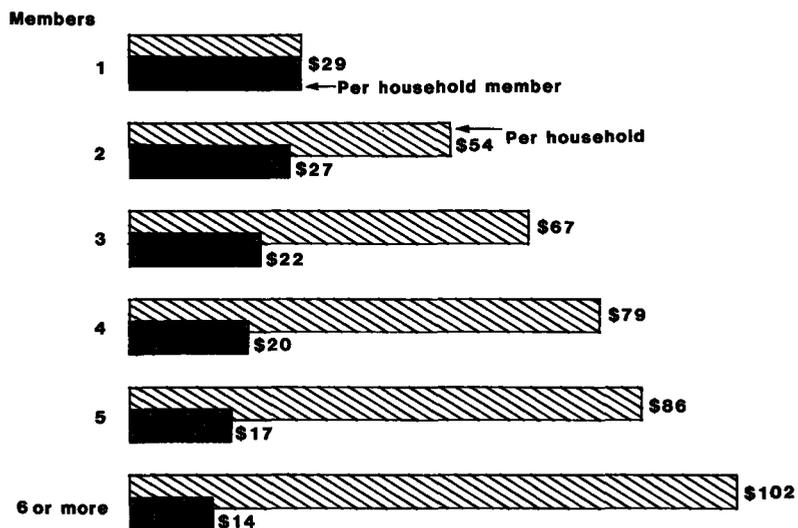


Figure 5

Food Use Per Person in a Week

By urbanization in Puerto Rico

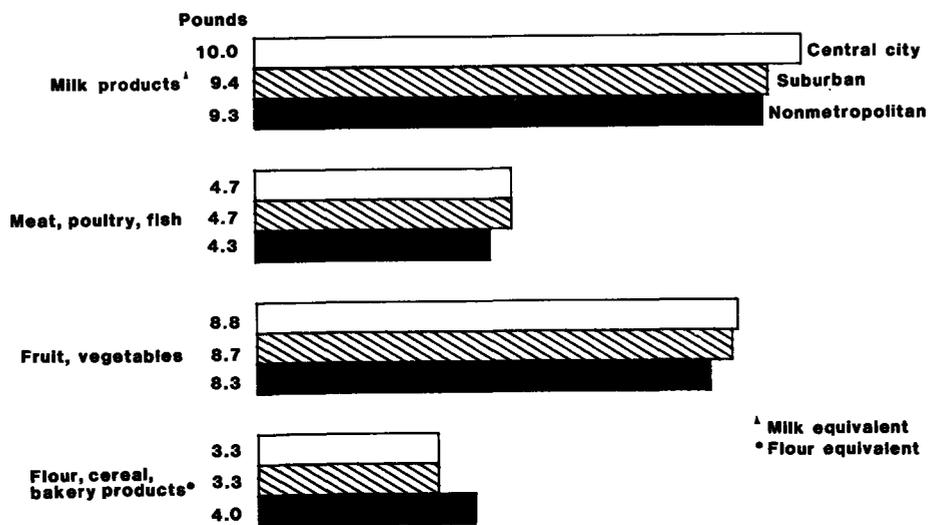


Figure 6

Source: USDA Nationwide Food Consumption Survey 1977-78.
Puerto Rico, summer and fall 1977 (preliminary)

Food Use Per Person in a Week

By income in Puerto Rico

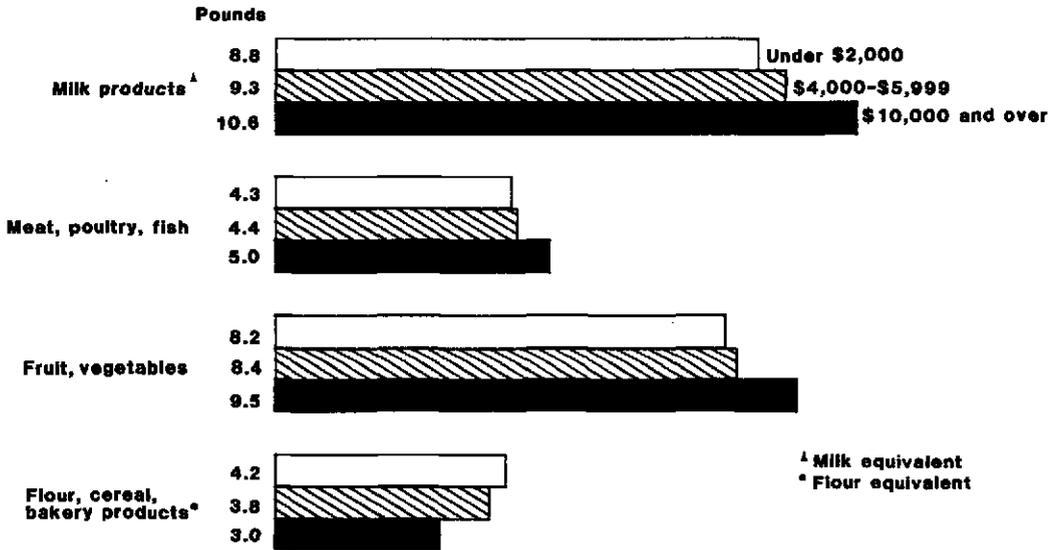


Figure 7

Food Use Per Person in a Week

By household size in Puerto Rico

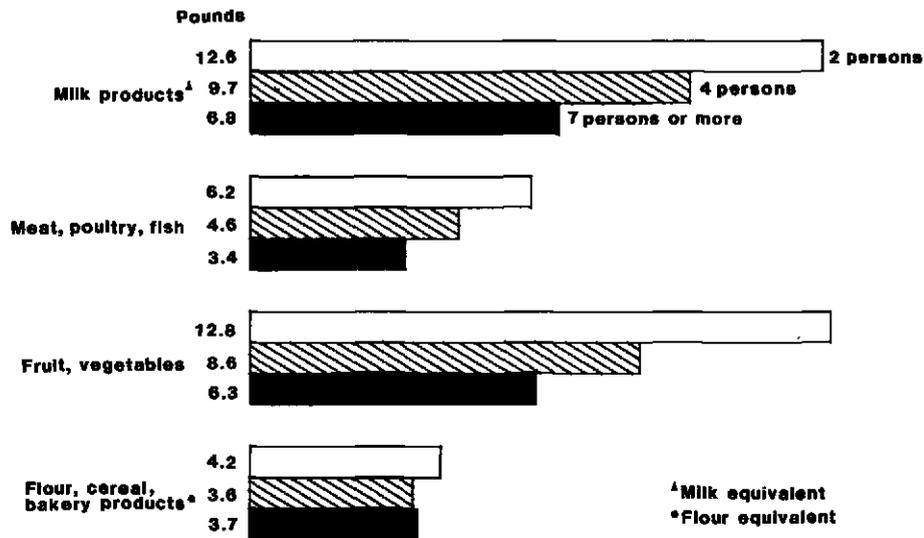


Figure 8

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary)

Diet Quality

By Income in Puerto Rico

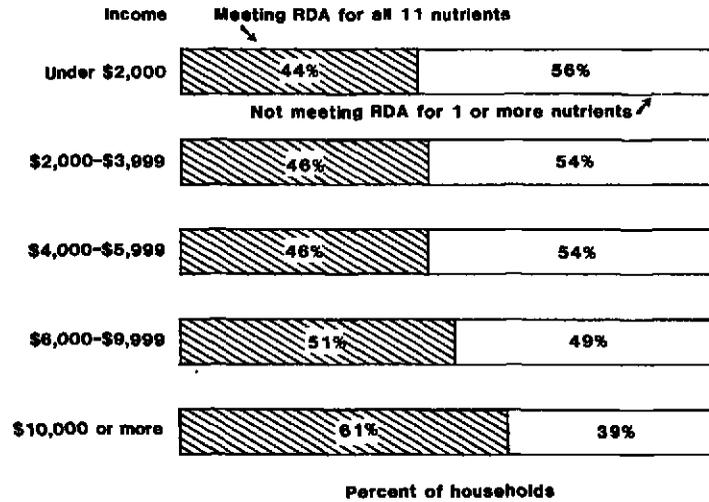


Figure 9

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

Household Diets Meeting RDA

By income in Puerto Rico

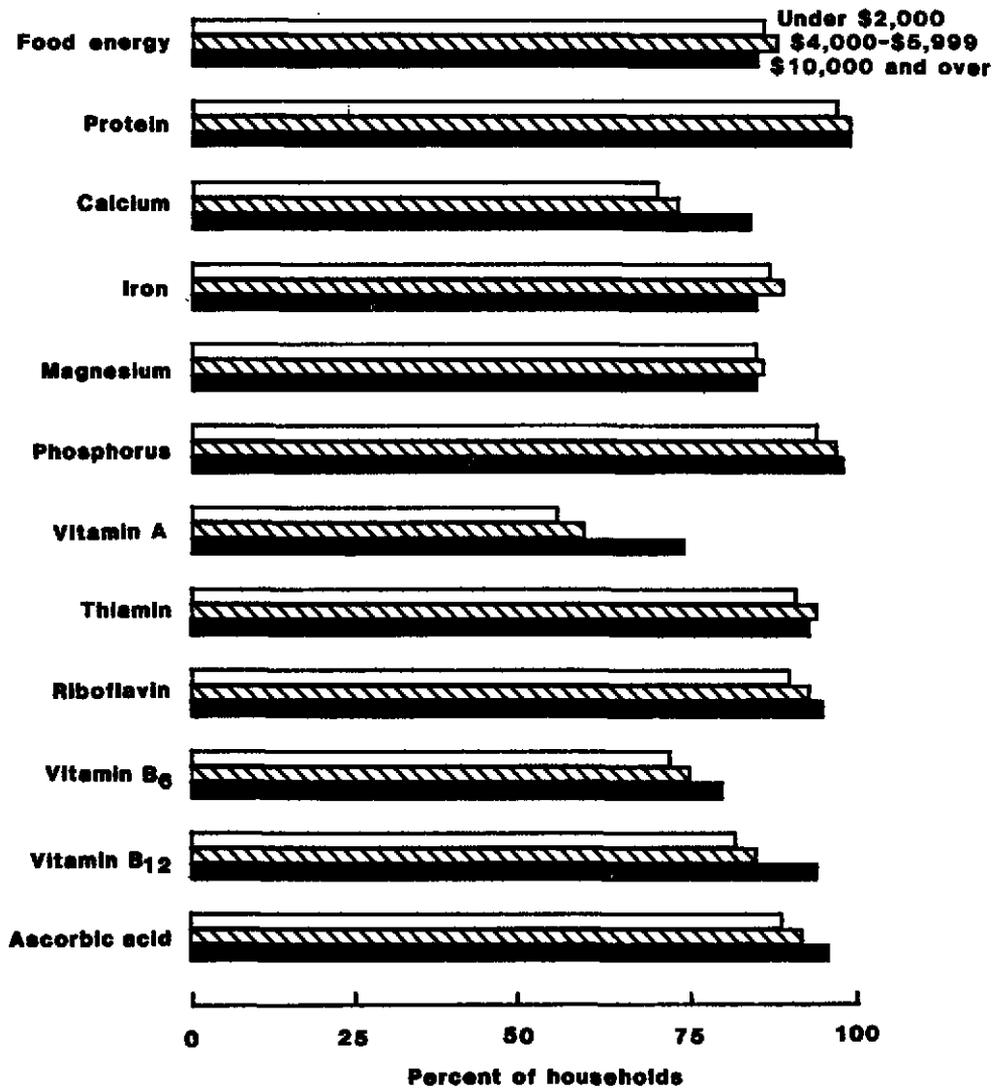


Figure 10

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

Household Diets Meeting RDA

By household size in Puerto Rico

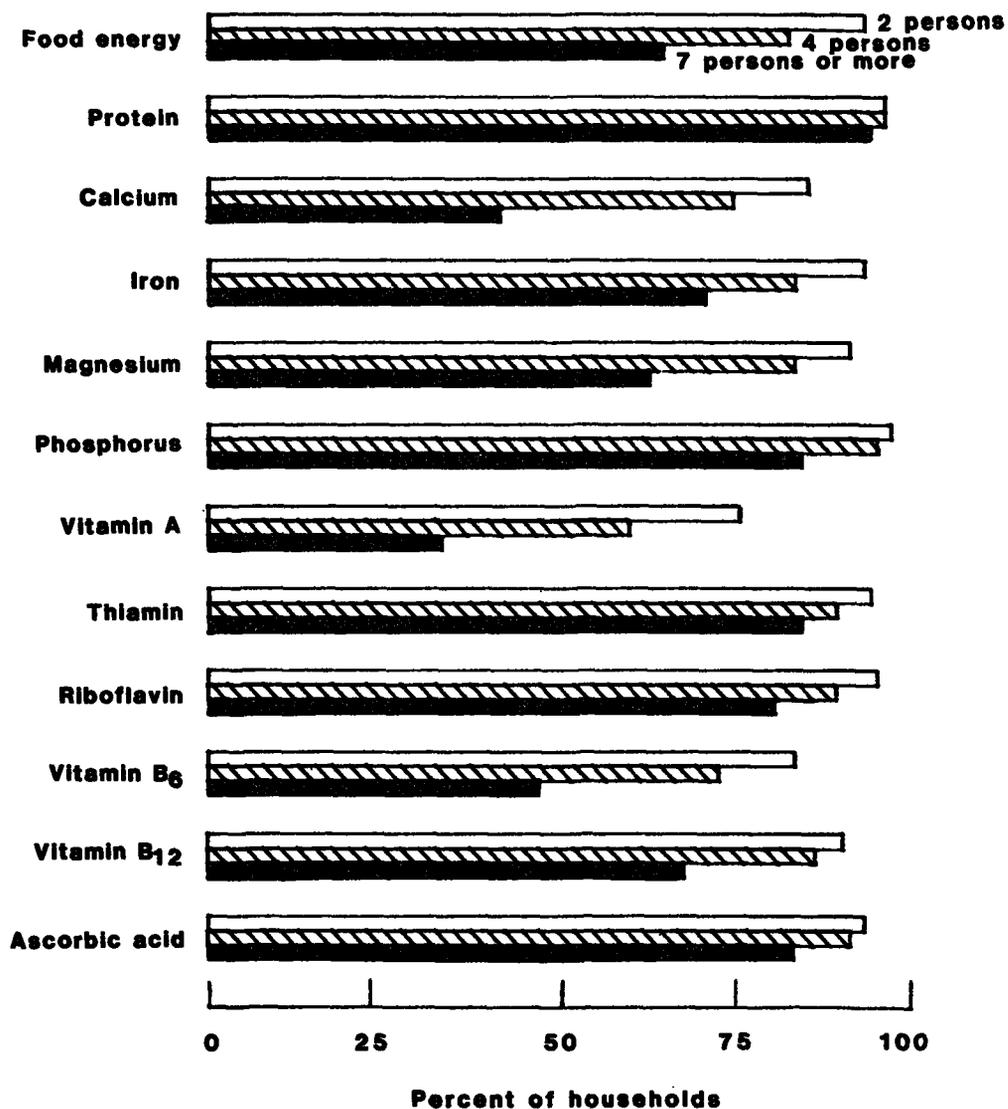
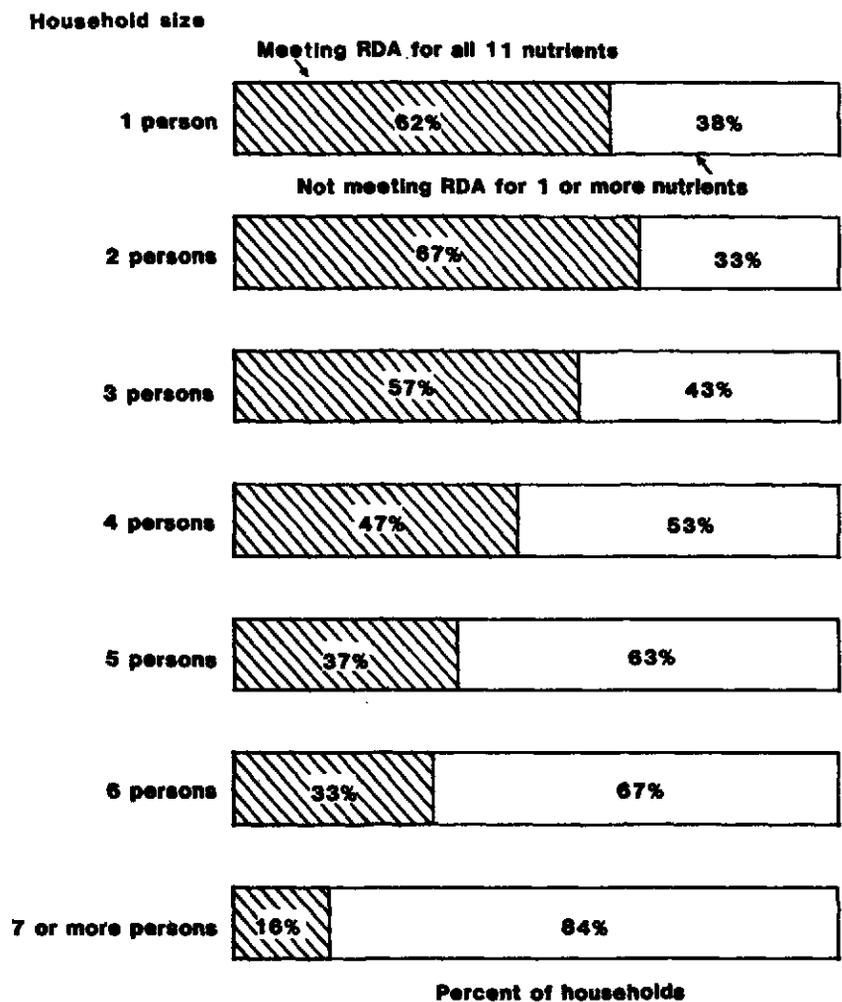


Figure 11

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

Diet Quality

By household size in Puerto Rico



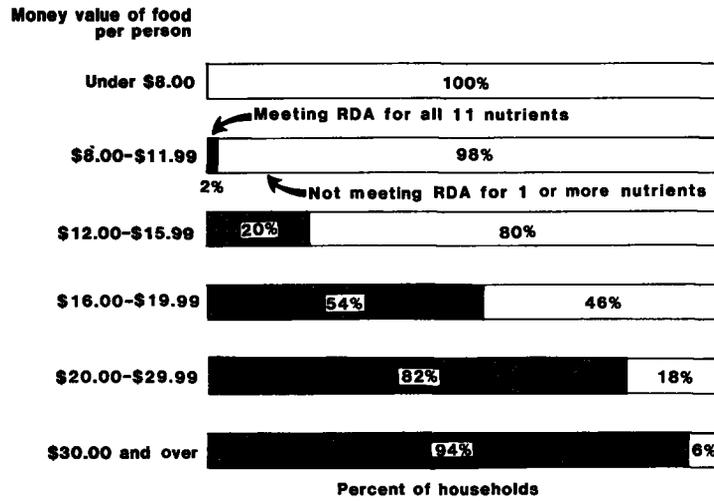
21 meals at home = 1 person

Figure 12

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

Diet Quality

By money value level in Puerto Rico



21 meals at home = 1 person

Figure 13

Source: USDA Nationwide Food Consumption Survey 1977-78, Puerto Rico, summer and fall 1977 (preliminary).

