

Nationwide Food Consumption Survey 1977-78  
Preliminary Report No. 7

FOOD CONSUMPTION AND  
DIETARY LEVELS OF HOUSEHOLDS  
IN ALASKA, WINTER 1978

U.S. Department of Agriculture  
Science and Education Administration

June 1981

## 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 991 urban housekeeping households surveyed in Alaska in the winter of 1978. Also included are data on the percentage of meals eaten at home, their average cost, and their nutrient return per dollar's worth of food. The nutrient content of food used at home was derived from information collected on the kinds and quantities of food used by the households during the 7-day survey and from U.S. Department of Agriculture food composition tables. The nutrient levels of food used for each household 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 classified by income, number of people living in the household, and head of household.

**KEYWORDS:** Alaskan food use, dietary levels, food away from home, food consumption survey, food cost, food expenditures, household food, meals at home, meals away from home, Recommended Dietary Allowances.

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Science and Education Administration, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 7, June 1981

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Published by the Office of the Director, Science and Education Administration, U.S. Department of Agriculture, Washington, D.C. 20250

# FOOD CONSUMPTION AND DIETARY LEVELS OF HOUSEHOLDS IN ALASKA, WINTER 1978<sup>1</sup>

## SUMMARY

The food consumption survey of 991 housekeeping households in urban centers in Alaska during the winter of 1978 indicated that--

- o Housekeeping households in Alaska averaged 3.1 members and used food at home and away valued at \$87 in a week (money value of food at home plus expense for food bought and eaten away from home). The value for food used at home amounted to \$66 (76 percent), and the expense for food away from home averaged \$21 (24 percent).
- o Money value of home food increased as household income increased. However, expenditures for food away from home increased more sharply with increased income than did the money value of food used at home. Expense for food away from home was almost twice as high for households with incomes over \$30,000 as for those with incomes under \$15,000.
- o On a per-member basis, small households used food at home and away from home with higher money value than large households did. Households headed by a male only used food with higher value both at home and away than other types of households.
- o Foods used were grouped into nine major categories. Households at successively higher income levels used larger quantities per person of all the food groups except grain products and sugar and sweets, for which low-income households had the largest quantities.
- o Quantities of food used by Alaskan households in a week were sufficient, on the average, to provide the 1974 Recommended Dietary Allowances (RDA) for food energy, protein, calcium, iron, magnesium, phosphorus, vitamin A, thiamin, riboflavin, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, and ascorbic acid. Averages, however, conceal the variation in nutrient levels among households. Fifty-one percent of the Alaskan households met the 1974 recommended allowances for all 11 nutrients.
- o More than 90 percent of the households had nutrients from home food that met or exceeded the RDA for protein, phosphorus, riboflavin, vitamin B<sub>12</sub>, and ascorbic acid. Calcium and vitamin B<sub>6</sub> were the nutrients for which the smallest proportion of households (less than 75 percent) met the RDA.
- o Female-headed households did not fare as well nutritionally as the other types of households in the percentage meeting the RDA, especially for such nutrients as calcium, iron, magnesium, vitamin B<sub>6</sub>, and vitamin B<sub>12</sub>.

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<sup>1</sup>Prepared by the Consumer Nutrition Center, Human Nutrition, Science and Education Administration, U.S. Department of Agriculture, Hyattsville, Md. 20782.

## SCOPE OF 1977-78 SURVEY

This is the first time the U.S. Department of Agriculture has conducted a comprehensive food consumption survey in Alaska. From January through March 1978, an area probability sample of 1,131 households was surveyed in urban centers of Alaska, such as Anchorage, Juneau, and Fairbanks. Of these, 991 were housekeeping households with at least 1 person having 10 or more meals from the household food supply during 7 days preceding the interview. Eighty-eight percent of all reporting households in Alaska met this criterion.

The Alaska 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. The same methodology was used in Alaska as in the nationwide survey. The 1977-78 survey was the sixth such survey to be made since the Department of Agriculture began conducting food consumption studies in 1936. The most recent was in 1965-66 (4).<sup>2</sup> The 1977-78 and 1965-66 surveys are the only studies that include all four seasons of the year and provide information on diets of selected individuals within the household as well as on food consumption for the total household.

This survey provides detailed information on the food consumption of households at home from which the nutritional quality of household food supplies has been appraised. It also provides information on the money value of home food and the expense for food bought away from home by household members. These data are available by income class and other demographic factors associated with food consumption. In addition, detailed information on the eating habits of individuals was obtained, such as place, time of day, foods eaten, and how many times individuals ate per day, but the findings are not covered in this report (6).

The other 4 supplemental surveys yielded similar information on about 5,000 households in the 48 States where at least 1 member was 65 years of age or over, 4,700 households in the 48 States with members participating or eligible to participate in the Food Stamp Program, 3,100 households in Puerto Rico, and 1,250 households in Hawaii. All five supplemental surveys provided data on household food consumption and individual food intake.

## DATA COLLECTION

Information on food used in the 7-day period prior to the interview (from which this report was developed) was obtained through an interview with the person in the household identified as most responsible for food planning and preparation. Trained interviewers, who were residents of Alaska, used a detailed food list to obtain information on the kind of food used (such as ground beef and skim milk), the form in which the food came into the kitchen (such as fresh, commercially canned, or frozen), the quantity used, and the cost if it had been purchased. Households were contacted at least 7 days prior to the interview and asked to keep grocery checkout receipts, shopping lists, menus, package labels, or other aids to assist them in recalling the food used and the prices paid during the 7-day

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

period. In addition, respondents gave information on home food production and preservation, number of meals eaten at home and away, guests at family meals, income, and other data useful for classification purposes, such as participation in food programs, age, education, and employment of the male and female head of household.

Although the methodology for the household food consumption survey in Alaska was the same as that used for the NFCS in 1977-78 in the 48 conterminous States, the interviews in Alaska were made only during January through March of 1978, and the sample was limited to urban households. For this reason, care should be used in comparing the data from Alaska and the 48 conterminous States (3, 5, and 7).

### ESTIMATION OF NUTRITIVE VALUE OF FOOD USED

The nutritive value of diets and the nutrient levels (nutritive values compared to the Recommended Dietary Allowances) in this report were calculated from information collected on the kinds and quantities of food used by urban households in Alaska during the winter of 1978 and from food composition tables. The nutritive values used were for the edible portion of food as brought into the household, with vitamin values adjusted for losses expected during cooking. Edible portion in this report includes all food as brought into the household except those parts that are clearly inedible, such as bones in meat. All fat on meat cuts was considered edible, and its energy and nutrient content was a part of the nutritive value of food used by households.

The basis for the nutritive values was "Composition of Foods...Raw, Processed, Prepared," U.S. Department of Agriculture Handbook No. 8 (11), its revised supplements (1 and 2), and "Pantothenic Acid, Vitamin B<sub>6</sub>, and Vitamin B<sub>12</sub> in Foods" (9). Some values from these sources were updated, and new values were obtained for products relatively new on the market at the time of the survey from the Nutrient Data Research Group, Consumer Nutrition Center (CNC) of the Department's Science and Education Administration. Updating was based on results of new food composition research, on information from industry about new food products, and on changes in the enrichment of food in accordance with new regulations. When a nutritive value for a reported food was not available, a value was imputed from similar foods by the CNC staff members. Although nutrient data were somewhat limited for certain foods and for certain nutrients, particularly magnesium, vitamin B<sub>6</sub>, and vitamin B<sub>12</sub>, they were considered the best available at the time of the survey.

The nutritive value of household food includes values not only from food eaten by people in the households but also from some food that was not eaten, such as food that was discarded in the kitchen and at the table, food fed to pets, and food lost through spills and spoilage. Some households customarily do not eat all the edible parts of certain foods, such as visible fat that can be trimmed from meat. Therefore, although this report reflects the nutrient levels generally available to households from food they reported having used, levels shown somewhat overestimate the food energy and nutrients from food actually eaten in many households.

### USE OF RECOMMENDED DIETARY ALLOWANCES

The nutritive value of household diets was compared with the recommended amounts of nutrients for persons eating in each household. The Recommended Dietary

Allowances (RDA), published in 1974<sup>3</sup> by the Food and Nutrition Board (8), were the standard used to evaluate the diets.

When using the RDA to assess the nutritional quality of diets, one should remember that the RDA are intakes of nutrients judged to be adequate for maintaining good nutrition in essentially all healthy persons in the United States. The Food and Nutrition Board (8, p. 3) stated:

"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."

Nutrient levels below the recommended allowances do not necessarily mean household diets are inadequate or imply the existence of malnutrition. The nutritional status of groups or individuals must be judged on the basis of physical, biochemical, and clinical observations. Furthermore, findings should be viewed with caution since many factors affect the nutritional quality of diets. Multivariate analysis would be needed to more accurately identify the importance of various factors affecting the quality of diets.

Information on how household food was distributed among the people eating in the household was not obtained. Unless the household food was divided according to nutritional need, the diets of some individuals in the household may not have met the RDA even though the household diet as a whole met the RDA. On the other hand, if the total household food failed to meet the RDA, then some, if not all, household members failed to receive recommended amounts of nutrients.

A special procedure was used to compare nutrient levels of households and groups of households with different household composition and varying numbers of meals from household 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 in 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.

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<sup>3</sup>Use of the RDA as revised in 1980 would not 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. For Alaskan households, the average value for ascorbic acid per person per day was 137 mg.

## MONEY VALUE OF FOOD AT HOME AND AWAY

The average money value of food used at home<sup>4</sup> by housekeeping households in Alaska during a week in the winter of 1978 was \$66 (table 1). An additional \$21 was spent for meals and snacks bought away from home. Excluded from this survey were the value of expense-account meals, which were reimbursed, and the total or partial cost of school lunches and breakfasts, which were federally subsidized. Households averaged 3.14 members, and the per-member average<sup>5</sup> cost for food in 1 week was as follows:

All food.....	\$27.76
Money value of food at home.....	20.98
Expense for meals away from home.....	5.42
Expense for snacks away from home.....	1.36

Food used at home accounted for 76 percent of the money value for all food, and food bought and eaten away from home amounted to 24 percent. Of the expenditures for food away from home, 80 percent was for meals and 20 percent was for snacks.

### Differences by Income<sup>6</sup>

Households at successively higher income levels--especially those at \$30,000 and over--had food of greater value than those at lower income levels (table 1 and fig. 1). The value of food at home amounted to \$79 for households with incomes of \$30,000 and over (high income)--almost 40 percent more than the \$57 value for households under \$15,000 (low income).

With increasing income, the expenditure for food away from home also progressively increased. High-income households spent \$27 in the survey week for food purchased away from home--nearly 95 percent more than the low-income households

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<sup>4</sup>Includes value of food used at home by household members, roomers, boarders, employees, 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 Alaska.

<sup>5</sup>Average values per household member (table 1) were calculated using a population ratio procedure in which the aggregate value for all households was divided by the aggregate number of members in all households. The same procedure per 21-meal-at-home-equivalent person was followed for tables 3-5 and 7.

<sup>6</sup>Income refers to 1977 money income before taxes. According to the U.S. Bureau of the Census Survey of Income and Education conducted in the spring of 1976, the median incomes of Alaskan families and unrelated individuals was considerably higher than the median money income of their counterparts in all of the United States (10). The income categories in this report are appropriate for the higher incomes prevalent in Alaska. The "low-income" and "high-income" households referred to here are the lowest and highest 30 percent of households for those reporting income. Households with incomes not reported accounted for 25 percent of the 991 housekeeping households in Alaska. Their expense for food most closely paralleled that of households with incomes of \$30,000 and over.

TABLE 1.--Money value of food used in a week by households<sup>1</sup> in Alaska

Income, number of people in household, and head of household	People living in household <sup>2</sup>	Money value per household <sup>3</sup>					Money value per household member <sup>2</sup>				
		Total	At home <sup>4</sup>	Bought away from home			Total	At home <sup>4</sup>	Bought away from home		
				Total	Snacks	Meals			Total	Snacks	Meals
		-----Dollars-----									
All households.....	3.14	87.05	65.80	21.26	4.25	17.00	27.76	20.98	6.78	1.36	5.42
Income (1977) before taxes:											
Under \$15,000.....	3.20	71.06	57.06	14.00	3.55	10.45	22.23	17.85	4.38	1.11	3.27
\$15,000-\$29,999.....	3.21	82.88	63.17	19.72	4.09	15.63	25.82	19.68	6.14	1.27	4.87
\$30,000 and over.....	3.39	106.16	79.00	27.16	4.11	23.05	31.31	23.30	8.01	1.21	6.80
Not reported.....	2.74	88.37	64.21	24.16	5.25	18.91	32.23	23.42	8.81	1.91	6.90
People living in household: <sup>2</sup>											
1.....	1.00	45.34	33.79	11.56	2.72	8.84	45.34	33.79	11.56	2.72	8.84
2.....	2.00	76.15	54.04	22.11	4.74	17.37	38.08	27.02	11.06	2.37	8.68
3.....	3.00	87.91	64.57	23.34	5.46	17.88	29.30	21.52	7.78	1.82	5.96
4.....	4.00	100.33	75.71	24.62	3.79	20.83	25.08	18.93	6.16	.95	5.21
5.....	5.00	100.95	84.26	16.69	2.75	13.95	20.19	16.85	3.34	.55	2.79
6 or more.....	6.64	137.80	116.01	21.80	4.07	17.73	20.76	17.48	3.28	.61	2.67
Head of household:											
Male and female head.....	3.47	92.19	69.92	22.27	4.11	18.16	26.59	20.17	6.42	1.18	5.24
Female head only.....	2.04	61.23	49.58	11.65	1.90	9.75	30.04	24.33	5.72	.93	4.78
Male head only.....	1.53	77.30	50.22	27.08	9.81	17.27	50.52	32.82	17.70	6.41	11.29

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

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

<sup>3</sup>Parts may not total to the whole because of rounding.

<sup>4</sup>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 Alaska.

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

(fig. 2). High-income households used a higher percentage of their expenditures for food away from home for meals, whereas low-income households used a greater proportion for snacks, as shown by the following data:

<u>Income</u>	<u>Percent of total expense for food away from home</u>		
	<u>Total</u>	<u>Meals</u>	<u>Snacks</u>
Under \$15,000.....	100	75	25
\$15,000-\$29,999....	100	79	21
\$30,000 and over...	100	85	15

There was little difference among the income groups in the number of people in the household, but the money value of food at home per member was considerably greater for the high-income households. High-income households averaged \$5.45 more per member than the low-income households that had food at home valued at \$17.85 per member. Likewise, expenditures for food away from home were substantially higher for the high-income households--\$8.01 per member for households with incomes of \$30,000 and over compared with \$4.38 for households under \$15,000.

As income increased, food used at home accounted for a slightly smaller percentage of the total money value--74 percent for households with incomes of \$30,000 and over compared with 80 percent for households with incomes under \$15,000.

#### Differences by Number of People Living in Household

Large households used food worth more than small households but not in direct proportion to the number of persons living in the household (fig. 3). Households with six members or more had the highest total money value for food at home and expense for food away from home--\$138. This amount was three times greater than the total value of food for one-member households (\$45), and nearly twice the value for two-member households (\$76).

As in previous food consumption studies, the money value of food per household member decreased as the number of people living in the household increased. The average money value of all food per household member in households with six or more members was \$21--considerably less than the \$45 per member in one-member households.

#### Differences by Head of Household

Households headed by a male and female together averaged 3.5 members and used food at home valued at \$70. Households with only a female head (2.0 members) or with only a male head (1.5 members) used food at home valued at \$50 (table 1). On a per-member basis, however, the households with only a male head had by far the highest money value for food at home (fig. 4). They also had the greatest expense per member for food bought and eaten away from home, spending almost \$12 more per member per week for food away than either of the other types of households. Furthermore, the proportion of their away-from-home food bill for snacks was substantially greater (36 percent) than that of households with both a male and a female head (18 percent) and households with only a female head (16 percent). Compared with other types of households, female-headed households

spent the least for snacks bought outside the home--\$2 per household. Interestingly enough, they spent about the same amount for all their meals away from home during the week of the survey as households headed by males spent on snacks alone--\$10. Some factors that may have contributed to the higher expenditures for meals and snacks away from home for households headed by males include smaller households; indicating the presence of fewer children; age (male heads averaged 34 years compared with 46 years for female heads); and income (one-fifth with male heads had incomes under \$15,000 compared with one-third of the households headed by a female).

### MEALS AT HOME AND AWAY FROM HOME

In these Alaskan housekeeping households, 86 percent of the meals eaten by members were at home or carried from home as packed lunches; 10 percent were purchased and eaten away from home in restaurants, school cafeterias, and other eating places; and 4 percent were eaten away from home without direct expense to the household members--as guest meals, free school lunches, or meals received as gift or pay (table 2).<sup>7</sup> These proportions for urban Alaskan households in the winter of 1978 were similar to those found among urban households surveyed in the 48 conterminous States in the spring of 1977.

Little difference was found in the percentage of meals eaten at home by households with high and low incomes (88 and 85 percent). Except for one-member households, the percentage of meals eaten at home increased slightly as the number of household members increased--from 83 percent for two-member households to 90 percent for households of six or more. Two- and three-member households purchased 11 percent of their meals away from home compared with 7 percent of the households with six members or more. Furthermore, twice as many of the two-member households (6 percent) as of the larger households (3 percent) had meals away from home as gift or pay.

Difficulties arise in comparing the relative cost of meals at home and away from home and in defining "a meal" and isolating its cost from the cost of other food used. Costs per "meal unit" at home and away have been estimated based on information available for the survey using the procedure explained in a previous report (3):

"Cost of food at home could not be subdivided into costs of food that was eaten as meals and as snacks and that was eaten by household members and by guests, roomers, boarders, and employees. Therefore, the money value of all food at home was divided by the number of meals eaten by household members and others plus the meal equivalent of refreshments served to guests to determine the cost per meal unit at home. Meal units at home (meals and meal equivalent of snacks eaten were counted as meals) were counted in determining the household size in equivalent persons.

"The cost per meal unit away from home that could be derived from these survey data and is most comparable to the cost per meal unit at home was

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<sup>7</sup>If nonhousekeeping households (for which data were collected but not reported here) were included, the proportion of meals eaten at home would be lower--about 84 percent compared with 86 percent for housekeeping households only.

TABLE 2.--Meals at home and away from home in a week by households<sup>1</sup> in Alaska

Income, number of people in household, and head of household	Total households <sup>2</sup>	Meals eaten by household members		
		At home	Away from home	
			Purchased	Gift or pay
	<u>Number</u>	<u>-----Percent-----</u>		
All households.....	991	86	10	4
Income (1977) before taxes:				
Under \$15,000.....	232	88	8	4
\$15,000-\$29,999.....	278	86	10	4
\$30,000 and over.....	238	85	11	4
Not reported.....	243	85	10	5
People living in household: <sup>3</sup>				
1.....	108	86	9	5
2.....	283	83	11	6
3.....	228	84	11	5
4.....	213	87	10	3
5.....	93	89	8	3
6 or more.....	64	90	7	3
Head of household:				
Male and female head.....	788	86	10	4
Female head only.....	128	84	10	6
Male head only.....	75	83	12	5

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

<sup>2</sup> Counts weighted to compensate for different sample rate used in various segments of the population. Parts may not total to the whole because of rounding.

<sup>3</sup> Excludes roomers, boarders, and employees.

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

calculated as follows: The expense for meals and snacks away from home by household members was divided by the number of bought meals they reported as eaten away from home, adjusted to account for skipped meals and snacks that might substitute for or supplement meals."

Based on these procedures, the average cost per meal unit for food at home was \$1.10 and when purchased and eaten away from home was \$3.33—three times as much as shown by the following data:

	<u>Cost per "meal unit"</u>	
	<u>From home food</u>	<u>Purchased and eaten away from home</u>
	<u>Dollars</u>	<u>Dollars</u>
All households.....	1.10	3.33
Income (1977) before taxes:		
Under \$15,000.....	.92	2.61
\$15,000-\$29,999.....	1.03	3.00
\$30,000 and over.....	1.23	3.46
People living in household:		
1.....	1.61	6.42
2.....	1.42	4.70
3.....	1.16	3.30
4.....	.99	2.98
5.....	.88	1.92
6 or more.....	.90	2.32
Head of household:		
Male and female head.....	1.06	3.19
Female head only.....	1.28	2.80
Male head only.....	1.68	7.09

There was less variation in the cost per meal unit from home food supplies than from food purchased and eaten away from home. Regardless, households with incomes of \$30,000 and over, with one or two members, and with a male head only were found to have the highest cost per meal unit both for food at home and away from home.

### FOOD USED AT HOME

#### Money Value of Food at Home

The value of food used at home in a week by households surveyed in Alaska varied from under \$14 to more than \$40 per equivalent person, with nearly two-thirds of the households using food worth \$20 and over per equivalent person (table 3). An equivalent person is counted as 21 meals at home in a week. The average money value of food used at home per equivalent person was \$23.10, a value somewhat higher than the \$20.98 for food at home per household member shown in table 1. The equivalent person was calculated using the procedure from a previous report (3):

"The equivalent person (based on three meals a day for a week) is used to attempt to adjust for variation among households in the number of meals

TABLE 3.--Households<sup>1</sup> by money value of food used at home<sup>2</sup> in a week per person<sup>3</sup> in Alaska

Income, number of people in household, and head of household	Total house- holds <sup>4</sup>	House- hold size <sup>3</sup>	Money value per person <sup>5</sup>	Households using food worth--				
				Under \$14.00	\$14.00- \$19.99	\$20.00- \$29.99	\$30.00- \$39.99	\$40.00 and over
	---Number---		Dollars	-----Percent-----				
All households.....	991	2.85	23.10	12	25	34	17	11
Income (1977) before taxes:								
Under \$15,000.....	232	2.95	19.33	21	34	27	11	7
\$15,000-\$29,999.....	278	2.91	21.74	13	29	34	14	9
\$30,000 and over.....	238	3.05	25.87	6	19	37	24	14
Not reported.....	243	2.48	25.94	9	19	38	20	14
People living in household: <sup>6</sup>								
1.....	108	1.00	33.83	6	16	25	22	31
2.....	283	1.81	29.91	5	13	38	27	18
3.....	228	2.65	24.33	8	29	40	13	10
4.....	213	3.62	20.89	17	34	35	13	1
5.....	93	4.56	18.46	23	44	23	8	2
6 or more.....	64	6.17	18.80	36	25	30	9	2
Head of household:								
Male and female head.....	788	3.15	21.21	13	27	35	16	8
Female head only.....	128	1.84	26.97	11	20	34	19	17
Male head only.....	75	1.42	35.29	1	11	25	25	37

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

<sup>2</sup>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 Alaska.

<sup>3</sup>21 meals at home in a week = 1 person.

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

<sup>5</sup>Money value of home food per household divided by household size.

<sup>6</sup>Excludes roomers, boarders, and employees.

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

eaten from home food supplies. Household size in terms of equivalent persons was determined as follows: Total the number of (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 by guests, boarders, roomers, and employees, and (3) meal equivalents of refreshments served to guests (one or two foods = one-fourth meal; over two foods = one-half meal). Then divide the total meals by 21 to obtain the household size in 21-meal-at-home-equivalent persons."

Households headed by a male and households with one or two members were more likely to use food at high cost. As would be expected, households that could afford higher cost food were more likely to use food with higher money value than those that did not have as much income at their disposal, as shown by the following data:

<u>Income</u>	<u>Percent of households using food at home worth--</u>	
	<u>Under \$20 per equivalent person</u>	<u>\$20 and over per equivalent person</u>
Under \$15,000.....	55	45
\$15,000-\$29,999.....	42	57
\$30,000 and over.....	25	75

#### Share of the Home Food Dollar

In Alaskan households surveyed, the largest share of the home food dollar, 33 cents, went for meat, poultry, and fish and the next largest, 19 cents, for vegetables and fruit, including juices (table 4). Milk and milk products took 13 cents of each food dollar, and grain products accounted for 12 cents. About 6 cents was allotted to sugars and sweets, including soft drinks, punches, and prepared desserts, whereas 5 cents was designated for alcoholic beverages. Fats, eggs, legumes, nuts, and all other foods accounted for the remainder. These proportions for urban Alaskan households in the winter of 1978 were almost identical to those found for households surveyed in the 48 conterminous States in the spring of 1978.

Although there was little difference among the income groups in the share of the food dollar allotted to the various food groups, the money value per person for all food groups, except sugar and sweets, was highest for households with incomes over \$30,000. Alcoholic beverages showed the greatest percentage increase as income increased, followed by fruit and vegetables. In high-income households, the money value per person was \$1.55 for alcoholic beverages, \$2.22 per person for fruit, and \$2.86 per person for vegetables compared with low-income households, where the respective per-person values were \$0.57, \$1.35, and \$2.05.

Although the share of the food dollar for the milk, cream, cheese and the meat, poultry, fish groups was the same for each income category, the actual dollar amounts allocated to these food groups were considerably different. For instance, high-income households had food worth \$0.86 more per person in the

TABLE 4.--Money value of food at home per person<sup>1</sup> and share of food dollar used by households<sup>2</sup> in a week by income in Alaska

Food group <sup>3</sup>	Money value <sup>4</sup> of food per person by income <sup>5</sup>					Share of food dollar by income <sup>5</sup>				
	All income	Under \$15,000	\$15,000-\$29,999	\$30,000 and over	Not reported	All income	Under \$15,000	\$15,000-\$29,999	\$30,000 and over	Not reported
	-----Dollars-----					-----Percent-----				
Milk, cream, cheese.....	3.03	2.52	2.91	3.38	3.35	13.1	13.0	13.4	13.1	12.9
Meat, poultry, fish.....	7.58	6.41	7.07	8.59	8.37	32.8	33.2	32.5	33.2	32.3
Eggs, dry legumes, nuts <sup>6</sup> .....	1.02	.89	.97	1.03	1.24	4.4	4.6	4.5	4.0	4.8
Vegetables.....	2.61	2.05	2.50	2.86	3.12	11.3	10.6	11.5	11.1	12.0
Fruit.....	1.83	1.35	1.74	2.22	2.02	7.9	7.0	8.0	8.6	7.8
Grain products.....	2.79	2.66	2.73	2.95	2.84	12.1	13.8	12.6	11.4	10.9
Fats, oils.....	.68	.55	.65	.75	.80	2.9	2.8	3.0	2.9	3.1
Sugar, sweets.....	1.51	1.59	1.41	1.48	1.58	6.5	8.2	6.5	5.7	6.1
Alcoholic beverages.....	1.09	.57	.83	1.55	1.50	4.7	2.9	3.8	6.0	5.8
Other food <sup>7</sup> .....	.96	.74	.93	1.06	1.12	4.2	3.8	4.3	4.1	4.3
Total food.....	23.10	19.33	21.74	25.87	25.94	100	100	100	100	100
Household size in number of 21-meal persons.....	(2.85)	(2.95)	(2.91)	(3.05)	(2.48)	---	---	---	---	---

<sup>1</sup>21 meals at home in a week = 1 person. Average money value per person calculated using population ratio procedure--aggregate value for all households divided by aggregate number of persons in all households.

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

<sup>3</sup>Mixtures and soups included with main ingredients except those mostly meat, poultry, and fish, which are included with eggs, dry legumes, and nuts.

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

<sup>5</sup>Money income before taxes in 1977.

<sup>6</sup>Includes soups, mixtures, and plate dinners with main ingredients mostly meat, poultry, fish, or legume.

<sup>7</sup>Includes yeast, baking chocolate, chocolate sirup, baking powder; plain coffee, tea, and cocoa; dietetic jelly and dessert powders; and diet soft drinks.

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

milk group and \$2.18 more per person in the meat group than households with low incomes. In both food groups, this amounted to 34 percent more in per-person expenditures for the high-income households.

### Quantity of Food Used

Some of the food consumption differences reported here may be explained by factors other than those available in this report. They include household composition, occupation of the head of the household, food selections made, and the accuracy of the respondent in reporting food quantities used.

Households at successively higher income levels used larger quantities of all the food groups except grain products and sugar and sweets, for which the low-income households had larger quantities (table 5). As with money value, the greatest differences in food quantities used among the income groups were in the fruit group and alcoholic beverages. The use of the fruit group increased from 2.64 pounds per person in a week for households with incomes under \$15,000 to 3.74 pounds for those with incomes of \$30,000 and over--a difference of over 1 pound of fruit per person in a week. The quantity of alcoholic beverages reported as used by high-income households (1.57 pounds per person in a week) was 59 percent greater than that used by low-income households (0.99 pound per person).

Only a 15 percent difference in the total quantity of meat, poultry, and fish separated the high- and low-income groups. More beef than any other kind of meat was used by every income group. Alaskan households averaged a pound more beef than pork per person during the survey week. Poultry ranked third after pork and beef as the largest amount used within the meat, poultry, and fish group. Households with incomes under \$15,000 used more luncheon meat, whereas those \$30,000 and over used more beef, poultry, and fish. Households with incomes of \$15,000 to \$29,999 used more pork than either the high- or low-income households.

Households with only a male head consistently used larger quantities per person of all the food groups except the fruit and sugar and sweets groups. When compared with the other kind of households, their use of such protein-rich foods as meat, poultry, fish, eggs, dry beans, lentils, and nuts was especially high as was their use of alcoholic beverages. On a per-person basis, households with only a male head used a pound more beef, one-half pound more pork, one-third pound more fish, and nearly one-fourth pound more poultry and luncheon meat than did households with both a male and a female head. The latter used slightly more potatoes, sugar, and sirup, whereas the households with only a female head reported greater quantities of fruit, particularly citrus fruit.

### NUTRIENTS PER DOLLAR'S WORTH OF FOOD

In households with incomes under \$15,000, a dollar's worth of food provided substantially more of all nutrients than a dollar's worth of food for households of \$30,000 and over (table 6). The higher average return in nutrients per food dollar may not necessarily mean the low-income households consciously chose more nutritious foods, since diets that are low in cost usually include some relatively inexpensive foods that can be purchased in large quantities. Some of these foods, such as enriched and whole-grain flour, bread, rice, and some cereals, as well as dry beans and potatoes, furnish substantial amounts of a number of nutrients.

TABLE 5.--Quantity of food used per person<sup>1</sup> in a week by income and head of household in Alaska

Food group <sup>2</sup>	All households <sup>3</sup>	Income (1977) before taxes				Head of household		
		Under \$15,000	\$15,000-\$29,999	\$30,000 and over	Not reported	Both male and female	Female only	Male only
-----Pounds-----								
Milk, cream, cheese (calcium equivalent).....	9.18	8.25	9.08	9.68	9.74	9.08	9.80	9.98
Meat, poultry, fish, and other protein food <sup>4</sup> .	5.65	5.14	5.47	5.83	6.25	5.46	6.48	8.24
Meat, poultry, fish.....	4.40	4.00	4.27	4.61	4.79	4.24	5.13	6.49
Beef.....	1.83	1.69	1.71	1.96	1.99	1.76	2.07	2.83
Pork.....	.86	.70	.93	.84	.97	.84	.84	1.35
Luncheon meat.....	.32	.37	.32	.26	.35	.32	.32	.54
Poultry.....	.71	.66	.67	.77	.73	.69	.81	.90
Fish.....	.48	.40	.43	.54	.55	.44	.73	.74
Eggs (fresh equivalent).....	.68	.61	.62	.71	.79	.66	.80	.86
Dry beans, lentils (dry weight).....	.08	.08	.08	.09	.08	.08	.09	.20
Nuts (shelled weight).....	.19	.16	.19	.22	.19	.19	.13	.25
Vegetables.....	4.52	4.12	4.34	4.53	5.21	4.42	5.09	5.68
Potatoes (fresh equivalent).....	1.35	1.47	1.31	1.30	1.34	1.36	1.27	1.33
Dark green.....	.19	.15	.21	.21	.18	.19	.21	.25
Deep yellow.....	.31	.27	.25	.30	.43	.30	.33	.49
Tomatoes.....	.72	.67	.70	.65	.88	.69	.81	1.02
Fruit.....	3.42	2.64	3.50	3.74	3.82	3.30	4.51	3.89
Citrus (single-strength juice equivalent)..	1.77	1.32	1.69	1.94	2.16	1.68	2.48	2.12
Other vitamin C-rich.....	.05	.03	.06	.08	.05	.05	.07	.05
Grain products (flour equivalent).....	2.16	2.20	2.10	2.17	2.18	2.14	2.16	2.52
Fats, oils.....	.78	.74	.75	.79	.86	.78	.73	.84
Sugar, sweets (sugar equivalent).....	1.17	1.35	1.14	1.03	1.17	1.18	1.09	1.12
Sugar, sirup, jelly, candy.....	.76	.83	.75	.68	.79	.77	.67	.72
Other sweets (sugar equivalent) <sup>5</sup> .....	.41	.51	.39	.34	.39	.41	.42	.39
Alcoholic beverages.....	1.31	.99	1.03	1.57	1.75	1.09	.92	7.27
Other food <sup>6</sup> .....	.89	.68	.91	.87	1.13	.84	1.21	1.25

<sup>1</sup>21 meals at home in a week = 1 person. Average quantity per person was calculated using population ratio procedure--aggregate quantity for all households divided by aggregate number of persons in all households.

<sup>2</sup>Mixtures and soups included with main ingredients except those mostly meat, poultry, and fish, which are included with eggs, dry legumes, and nuts.

<sup>3</sup>Housekeeping households only: Households with at least 1 person having 10 or more meals from the

household food supply during 7 days preceding interview. See table 2 for count of households.

<sup>4</sup>Includes soups, mixtures, and plate dinners with main ingredients mostly meat, poultry, fish, or legume.

<sup>5</sup>Includes soft drinks, ades, punches, nectars, drinks; beverage and dessert powders; cake icing; coffee, tea, and cocoa mixes with sugar only; and prepared desserts.

<sup>6</sup>Includes yeast, baking chocolate, chocolate sirup, baking powder; plain coffee, tea, and cocoa; dietetic jelly and dessert powders; and diet soft drinks.

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

TABLE 6.--Nutrients per dollar's worth of food used at home<sup>1</sup> by households<sup>2</sup> in Alaska

Income, number of people in household, and head of household	Food energy	Pro- tein	Cal- cium	Iron	Magne- sium	Phos- phorus	Vita- min A	Thia- min	Ribo- flavin	Pre- formed niacin	Vita- min B <sub>6</sub>	Vita- min B <sub>12</sub>	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.....	895	31.1	346	6.2	123	551	2,207	0.56	0.77	8.2	0.64	1.98	41
Income (1977) before taxes:													
Under \$15,000.....	1,024	34.5	383	7.2	135	615	2,398	.64	.86	9.2	.71	1.98	43
\$15,000-\$29,999.....	928	32.1	362	6.3	128	570	2,216	.60	.81	8.6	.66	1.96	44
\$30,000 and over.....	816	28.9	321	5.6	115	508	1,990	.51	.71	7.6	.58	1.79	38
Not reported.....	845	29.6	328	5.8	118	525	2,295	.53	.73	7.7	.62	2.23	42
People living in household: <sup>3</sup>													
1.....	701	26.6	271	4.7	106	462	2,006	.39	.58	6.6	.53	1.96	36
2.....	764	27.3	279	5.1	111	477	1,985	.45	.62	7.0	.55	1.94	36
3.....	871	30.9	335	6.0	122	540	2,154	.53	.74	8.0	.62	1.80	41
4.....	967	32.5	380	6.4	129	582	2,286	.61	.84	8.6	.66	2.01	42
5.....	1,014	33.5	389	7.2	131	598	2,328	.69	.91	9.5	.73	2.03	48
6 or more.....	1,027	35.9	424	7.5	140	649	2,564	.73	.96	9.5	.74	2.34	48
Head of household:													
Male and female head.....	918	31.5	356	6.3	125	561	2,255	.58	.80	8.4	.65	1.96	42
Female head only.....	783	29.5	317	5.6	117	508	2,037	.50	.69	7.5	.60	2.33	44
Male head only.....	746	27.0	256	4.9	105	476	1,782	.43	.59	6.9	.56	1.69	32

<sup>1</sup>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 Alaska.

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

<sup>3</sup>Excludes roomers, boarders, and employees.

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

Large households had a greater return per dollar of all nutrients studied than small households had. Some of the difference might have been caused by the greater economy in buying and using food that can be achieved by larger than by smaller households.

Except for ascorbic acid and vitamin B<sub>12</sub>, households headed by both a male and a female head received the most nutrient return per food dollar. Households headed by males only showed the least nutrient return per dollar and those headed by females only were in between.

### NUTRITIVE VALUE OF FOOD USED

Average amounts of nutrients from food used by Alaskan households appeared to be adequate when compared with the RDA for persons eating in the households. It must again be stressed that the nutritive values were derived not only from household food that was available for consumption but also from food that was discarded in the kitchen and at the table because of spills, spoilage, and trimming, as well as food that was fed to pets.

The nutritive value of diets per person (table 7) gives some indication of the differences in food consumption patterns among Alaskan households. Although this measure indicates the level of nutrients available per 21-meal-equivalent-person on a daily basis from food used in a week, it does not adjust for differences in the sex-age composition of the household.

Based on a special procedure (see p. 4), the average nutritive value of food used by households in Alaska exceeded the RDA for all nutrients, with ascorbic acid having the greatest margin over the allowance and vitamin B<sub>6</sub> the least margin (table 8). Protein, phosphorus, riboflavin, vitamin B<sub>12</sub>, and ascorbic acid averages were twice the RDA or more.

Because averages conceal large variations in the nutrients obtained from food used by different households, it is more meaningful to examine the proportion of households with diets that met the RDA (table 9). More than 90 percent of the households had nutrients from home food that met or exceeded the RDA for protein, phosphorus, riboflavin, vitamin B<sub>12</sub>, and ascorbic acid. Over 75 percent of the households had food that provided the RDA for food energy, iron, magnesium, vitamin A, and thiamin, whereas slightly under this percentage met the RDA for calcium and vitamin B<sub>6</sub>. Fifty-nine percent of the Alaskan households met the RDA for all seven nutrients (protein, calcium, iron, vitamin A, thiamin, riboflavin, and ascorbic acid). When the RDA for magnesium, phosphorus, vitamin B<sub>6</sub>, and vitamin B<sub>12</sub> were considered in addition to the previous 7 nutrients, approximately half of the Alaskan households met the RDA for all 11 nutrients studied.

#### Differences by Income

The average nutritive value of food used by households in each of the three income groups exceeded the RDA for food energy and each of the nutrients studied (table 8). Nevertheless, some households at all income levels used food that failed to provide sufficient nutrients to meet the RDA (table 9). The percentage of households with food that provided the RDA generally increased as income increased (fig. 5). From the lowest to the highest income category, the proportion of households meeting the RDA for protein and phosphorus increased from 96 to 99 percent.

TABLE 7.--Average nutritive value<sup>1</sup> per person<sup>2</sup> per day by income and head of household in Alaska

Nutrient (unit)	All households <sup>3</sup>	Income (1977) before taxes				Head of household		
		Under \$15,000	\$15,000-\$29,999	\$30,000 and over	Not reported	Both male and female	Female only	Male only
Food energy.....Cal..	2,954	2,825	2,881	3,014	3,129	2,914	3,016	3,762
Protein.....g....	102.6	95.3	99.6	106.8	109.7	100.1	113.6	136.4
Fat.....g....	143.6	133.0	140.8	147.8	154.4	141.8	143.5	184.5
Carbohydrate.....g....	311.0	313.2	304.6	308.0	320.6	308.6	316.1	355.9
Calcium.....mg...	1,142	1,058	1,124	1,184	1,213	1,128	1,222	1,290
Iron.....mg...	20.3	19.9	19.5	20.6	21.6	20.0	21.6	24.7
Magnesium.....mg...	407	372	398	425	438	398	451	531
Phosphorus.....mg...	1,817	1,698	1,769	1,877	1,945	1,779	1,956	2,399
Vitamin A.....IU...	7,283	6,618	6,879	7,354	8,498	7,156	7,850	8,983
Thiamin.....mg...	1.86	1.75	1.87	1.87	1.97	1.85	1.92	2.15
Riboflavin.....mg...	2.55	2.39	2.52	2.61	2.71	2.52	2.67	2.98
Preformed niacin.....mg...	27.1	25.3	26.5	28.0	28.7	26.5	29.0	35.0
Vitamin B <sub>6</sub> .....mg...	2.10	1.95	2.05	2.14	2.30	2.05	2.29	2.84
Vitamin B <sub>12</sub> .....mcg...	6.55	5.48	6.10	6.63	8.27	6.23	8.98	8.52
Ascorbic acid.....mg...	137	118	136	140	156	133	170	161

<sup>1</sup>Average nutritive value per 21-meal person calculated using population ratio procedure.

<sup>2</sup>21 meals at home in a week = 1 person.

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

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

TABLE 8.--Nutritive value of food<sup>1</sup> used as percentage of Recommended Dietary Allowances (1974) by income and head of household in Alaska

Nutrient	All households <sup>2</sup>	Income (1977) before taxes				Head of household		
		Under \$15,000	\$15,000-\$29,999	\$30,000 and over	Not reported	Both male and female	Female only	Male only
-----Percent-----								
Food energy.....	135	136	132	135	138	134	141	143
Protein.....	229	228	225	234	232	226	253	255
Calcium.....	135	129	133	137	142	134	139	154
Iron.....	150	147	144	151	158	148	145	214
Magnesium.....	140	137	138	142	143	138	151	155
Phosphorus.....	216	210	210	219	229	213	222	285
Vitamin A.....	183	178	174	180	202	181	195	187
Thiamin.....	167	166	167	165	170	166	176	160
Riboflavin.....	196	193	195	198	199	195	211	191
Vitamin B <sub>6</sub> .....	125	126	124	123	127	124	126	145
Vitamin B <sub>12</sub> .....	254	231	240	248	299	245	322	287
Ascorbic acid.....	313	274	312	319	351	304	383	359

<sup>1</sup>Average nutritive value calculated using population ratio procedure.

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

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

TABLE 9.--Households<sup>1</sup> using food that met Recommended Dietary Allowances (1974) by income and head of household in Alaska

Nutrient	All households	Income (1977) before taxes				Head of household		
		Under \$15,000	\$15,000-\$29,999	\$30,000 and over	Not reported	Both male and female	Female only	Male only
-----Percent of households-----								
Food energy.....	79	77	77	82	80	79	76	81
Protein.....	98	96	99	99	99	98	96	98
Calcium.....	73	71	72	74	74	74	64	76
Iron.....	83	79	82	87	83	83	72	92
Magnesium.....	79	76	77	86	79	81	69	77
Phosphorus.....	98	96	97	99	99	98	95	100
Vitamin A.....	84	83	83	85	85	86	77	77
Thiamin.....	88	84	90	89	90	89	85	80
Riboflavin.....	94	94	94	96	94	95	91	91
Vitamin B <sub>6</sub> .....	69	67	69	71	68	70	55	79
Vitamin B <sub>12</sub> .....	91	92	90	94	88	92	81	93
Ascorbic acid.....	95	94	96	95	94	95	96	91
All 7 nutrients <sup>2</sup> ....	59	54	60	61	61	60	48	61
All 11 nutrients <sup>3</sup> ...	51	46	51	53	53	52	41	57

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

<sup>2</sup>Protein, calcium, iron, vitamin A, thiamin, riboflavin, and ascorbic acid.

<sup>3</sup>Excludes food energy.

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

Even at the highest income level, calcium and vitamin B<sub>6</sub> remained the two nutrients with the smallest proportion of households (less than 75 percent) meeting the RDA. For most nutrients, only a few percentage points separated the proportion of low- and middle-income households that met the RDA. For food energy, vitamin A, and riboflavin, the proportion meeting the RDA was exactly the same.

Of households meeting the RDA for seven nutrients (protein, calcium, iron, vitamin A, thiamin, riboflavin, and ascorbic acid), 61 percent with incomes \$30,000 and over met the RDA compared with 54 percent of the households under \$15,000. When the RDA for magnesium, phosphorus, vitamin B<sub>6</sub>, and vitamin B<sub>12</sub> were considered in addition to the seven nutrients, the proportion of households that met the RDA for all nutrients fell to 53 percent for those with incomes \$30,000 and over and declined to 46 percent for households under \$15,000. Nearly the same percentage in the middle-income group (\$15,000 to \$29,999) met the RDA in all 7 and in all 11 nutrients as did households of \$30,000 and over.

#### Differences by Head of Household

The average nutritive value of food used by each of the three household groups exceeded the RDA for all nutrients studied (table 8). The largest margins over the RDA were found for households headed by a male, whereas the smallest were for households with both a male and a female head. Yet, households with both a male and a female head had the highest percentage that met the RDA for magnesium, vitamin A, thiamin, and riboflavin, whereas male-headed households had the highest percentage for calcium, iron, phosphorus, and vitamins B<sub>6</sub> and B<sub>12</sub> (table 9).

Female-headed households, however, with the highest margin over the RDA for five nutrients (table 8), had the highest percentage meeting the RDA for only one nutrient--ascorbic acid (table 9). This may be attributed to their greater use of fruit, especially citrus. Although households with female heads had food in a week that provided generous margins over the RDA, a smaller proportion of them met the RDA compared with the other two types of households. Female-headed households fared less well nutritionally--they tended to fall in the low range of the distribution for nutritive values.

Averages conceal the great variation in nutrients from food used by different households. For example, the average amount of vitamin B<sub>12</sub> obtained from food used at home was greatest for households headed by a female (tables 7 and 8). Yet, as shown in table 9, only 81 percent of these households met the RDA for vitamin B<sub>12</sub> compared with 93 percent of the households headed by a male. High average amounts of vitamin B<sub>12</sub> for a few of the households with a female head skewed the distribution, raising the overall vitamin B<sub>12</sub> average for this group.

Overall, female-headed households fared less well than other types of households in calcium, iron, magnesium, and vitamins B<sub>6</sub> and B<sub>12</sub> (table 9). Only 48 percent of them met the RDA for the seven nutrients compared with 60 percent of the households with both a male and a female head and 61 percent with male heads. The proportion of female-headed households that met the RDA fell to 41 percent when all nutrients were examined compared with 52 percent of the households with both a male and a female head and 57 percent with male heads.

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## Income and Food at Home and Away

Value per household in a week in Alaska

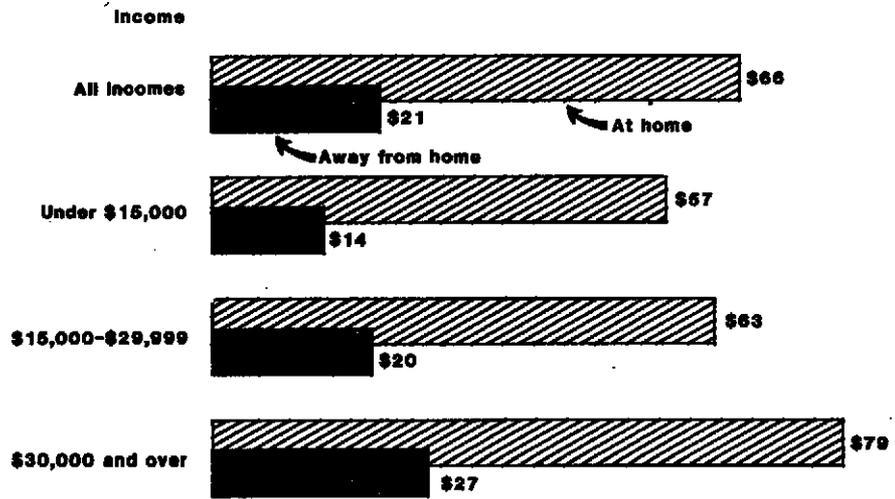


Figure 1

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

## Income and Expense for Food Away from Home

Value per household in a week in Alaska

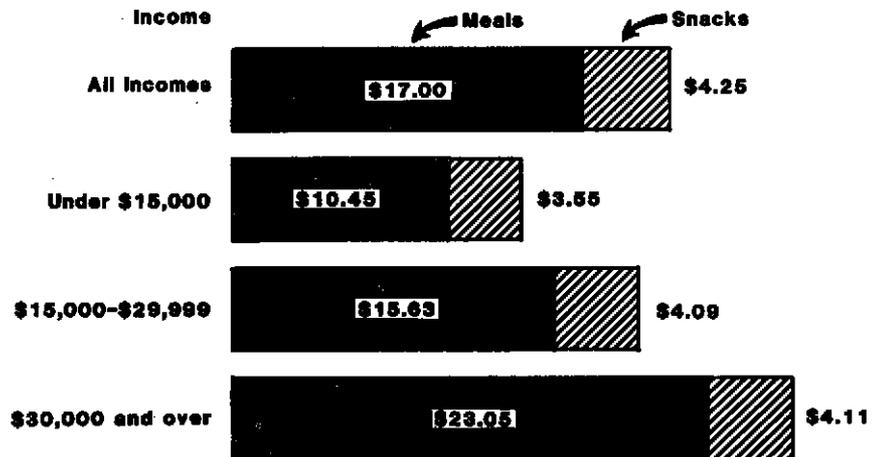


Figure 2

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

## Household Size and Value of Food in a Week in Alaska

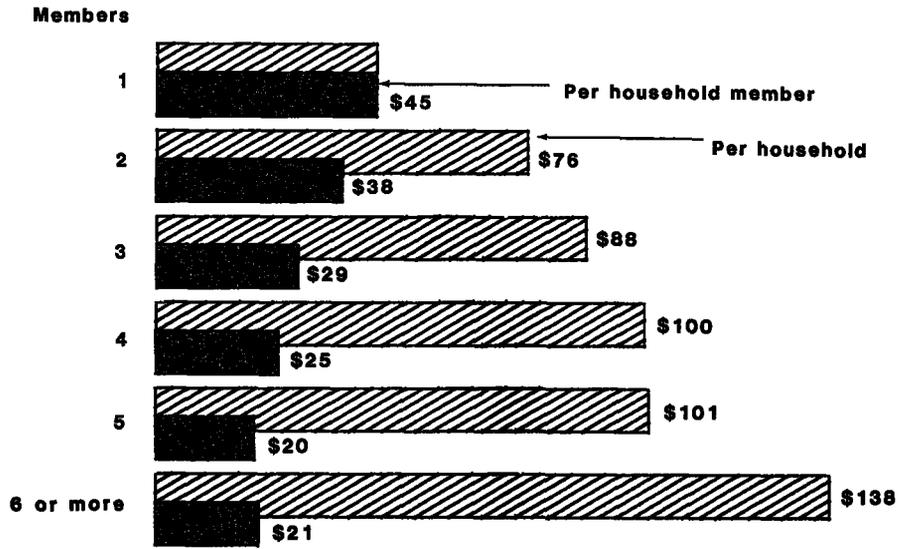


Figure 3

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

## Household Head and Food at Home and Away

Value per member in a week in Alaska

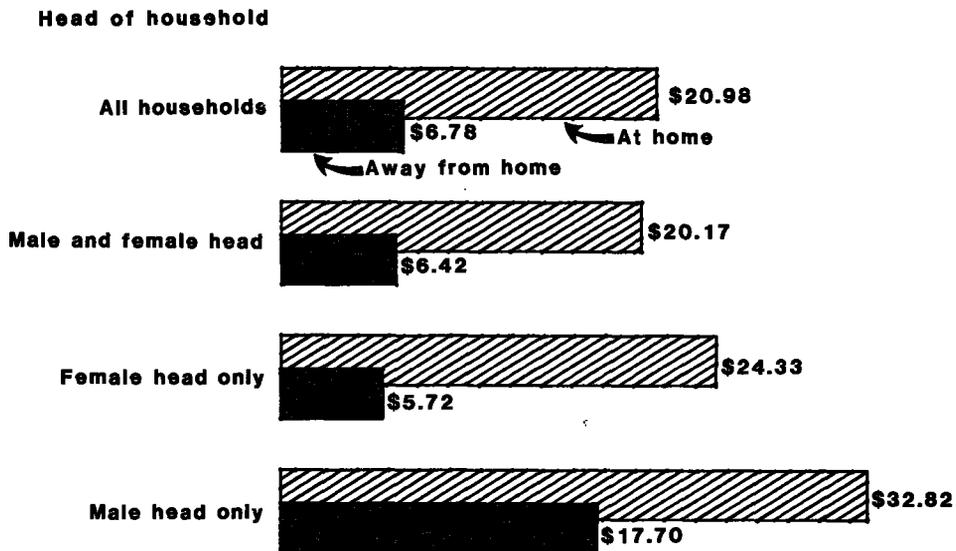


Figure 4

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).

# Household Diets Meeting the RDA by Income in Alaska

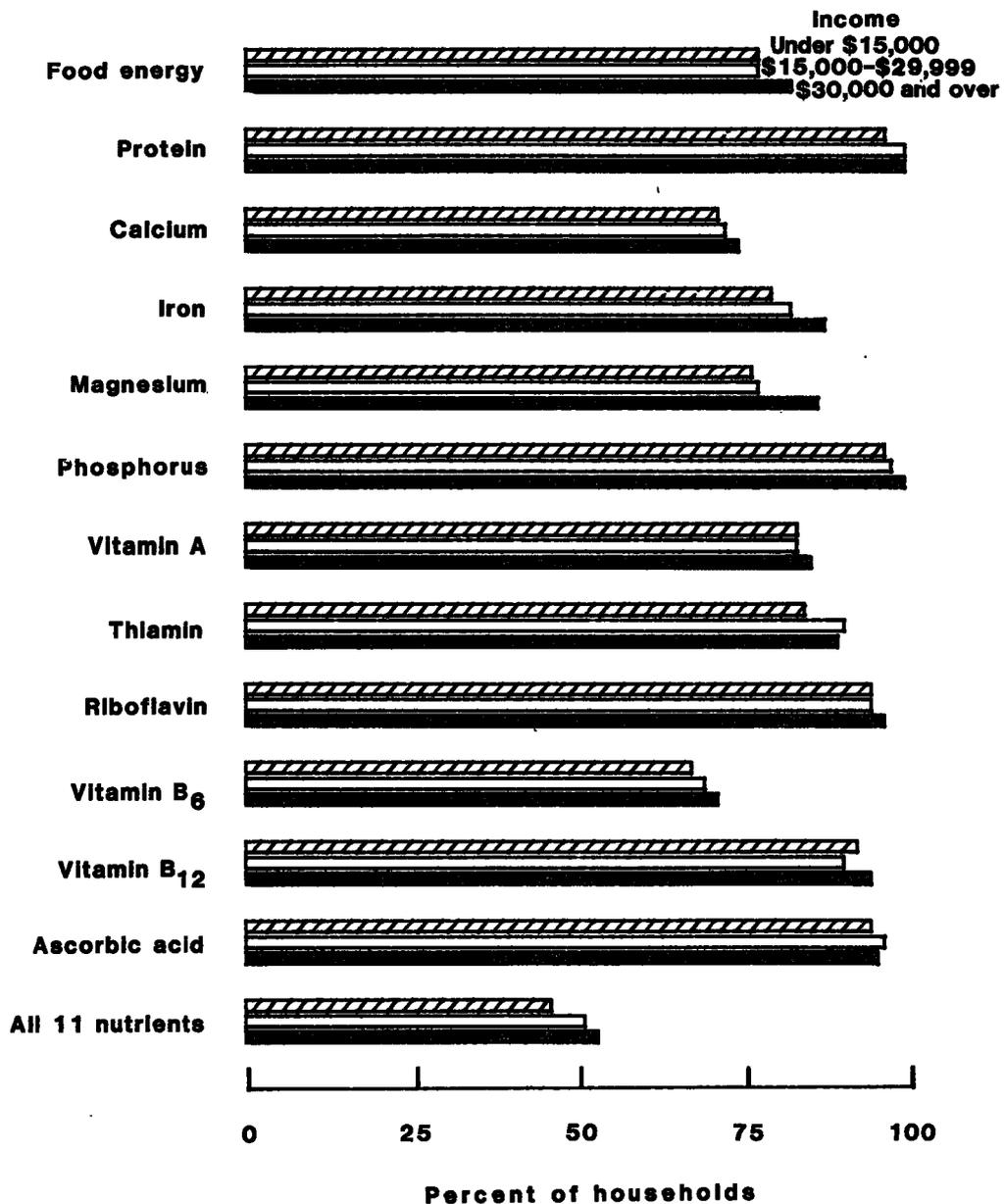


Figure 5

Source: USDA Nationwide Food Consumption Survey 1977-78, Alaska, winter 1978 (preliminary).