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Dietary Intake of Persons 1-74 Years of Age in the United States[a]

Information on food intake for 1 day was obtained during the Health and Nutrition Examination Survey (HANES) conducted by the National Center for Health Statistics April 1971 through June 1974 from a national probability sample of persons 1-74 years of age in the U.S. civilian noninstitutional population.

Dietary intake data in HANES were obtained at 65 primary sampling units on 28,043 sample persons selected to represent 194 million persons aged 1-74 years in the U.S. population. The program examined 20,749 persons, or 74 percent of the sample. This represents an effective response rate of 75 percent when adjustment is made for the effect of oversampling among the poor, preschool children, women of childbearing age, and the elderly. Detailed estimates of the distribution of calories and selected nutrient intakes ingested on a single day and the proportions of persons who did not ingest on that day the levels of nutrients necessary to meet the recommended daily allowance will be described and analyzed in a forthcoming report in the *Vital and Health Statistics* series.[1] Selected means as they relate to the recommended daily allowances from that report are presented here in tables 1-8 and in figures 1-3.

Information on food intake was obtained by the 24-hour recall method for the day, midnight to midnight, preceeding the interview. The 24-hour period accounted for all regular meals eaten as well as for between-meal foods or snacks. Food recall included foods eaten on Monday through Friday but excluded foods eaten on weekends which may pertain to unusual food intakes.

Individual nutrient intakes for the single day reported are evaluated in relation to recommended dietary allowances. The mean of the percentages of the nutrient standard is presented. This mean is a crude estimate of desirable or expected nutrient intakes, and it proves useful for comparisons of dietary intake data between population subgroups. However, percents of standard below 100 do not necessarily mean inadequate nutrient intakes. The recommended allowances are designed for the maintenance of good nutrition in healthy persons in the United States. They allow for some margin above what is really needed by most individuals with the objective of maintaining good health in all. As a guideline to interpreting the dietary data, a set of recommended daily allowances for the evaluation of HANES dietary data was developed with advice from an *ad hoc* advisory group. The groups considered recommended daily allowances from the World Health Organization,[2] the Interdepartmental Committee on Nutrition for National Defense Manual,[3] the National Research Council Food and Nutrition Board Recommended Dietary Allowances,[4] and from those used in the Ten-State Nutrition Survey.[5] Except for protein and calories, the recommended daily allowances as presented in table A are all related to age, physiological state, or to caloric intake.

Standards for assessing caloric and protein allowances for adults are based on expected median body weight for sex and height at ages 20-29 years. More specifically, an expected body weight at ages 20-29 years was computed for each individual adult based on height and sex. The median of the distribution of expected

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weight for each height and sex group was determined. The standardized allowance for each individual 20 years and over was then calculated by multiplying the median expected weight for height and sex by the recommended nutrient allowance per kilogram of body weight (table A). The resultant product was then taken as that individual's sex-height-standardized allowance. The reported caloric or protein intake for each individual was then divided by this standardized allowance to arrive at the "percent of recommended daily allowance." Height-sex-specific weight at ages 20-29 is used because at these ages it is thought to most closely approximate the body's cell mass. Cell mass, the metabolically active part of the body, is the major determinant of adult nutrient needs. Weight gain after 20-29 years is presumed to be fat, with little

Figure 1. Mean intake of calories and selected nutrients as a percent below recommended dietary allowance, by income level, sex, and age: United States, 1971-74.

[Based on 1-day diet; 24-hour recall]

Sex and age	Calories			Protein (gm)			Calcium (mg)			Iron (mg)		
	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]
Male												
1 year										xxxx	xxxx	xxxx
2-3 years										xxxx	xxxx	xxxx
4-5 years										x	x	x
6-7 years												
8-9 years	x	x	x									
10-11 years	x	xxx	x									
12-14 years	xx	xxx	xx							x	x	x
15-17 years	xx	xxx	xx							x	xxx	x
18-19 years	x	xx	x							x	xx	x
20-24 years	x	xx	x									
25-34 years	x	xx	x									
35-44 years	x	x	x									
45-54 years	xx	xxx	xx									
55-64 years	xx	xxxx	xx		x							
65 years and over	xxx	xxxx	xxx	x	x							
Female												
1 year										xxxx	xxxx	xxxx
2-3 years										xxxx	xxxx	xxxx
4-5 years										xx	xx	xx
6-7 years	x	x	x							x	xx	x
8-9 years	xxx	xx	xxx							x		x
10-11 years	xx	xx	xx							xxxx	xxxx	xxxx
12-14 years	xxx	xxx	xxx							xxxx	xxxx	xxxx
15-17 years	xxxx	xxxx	xxxx	x	xx					xxxx	xxxx	xxxx
18-19 years	xx	xx	xx							xxxx	xxxx	xxxx
20-24 years	xxx	xxx	xxx		x					xxxx	xxxx	xxxx
25-34 years	xx	xx	xx		x			x		xxxx	xxxx	xxxx
35-44 years	xx	xxx	xx		x			xx		xxxx	xxxx	xxxx
45-54 years	xx	xx	xx		x		x	x	x	xxxx	xxxx	xxxx
55-64 years	xx	xxx	xx	x	xx	x	x	x	x	x	xx	x
65 years and over	xxx	xxx	xxx	x	xx	x	x	xx	x	x	xx	x

KEY

x = Below by 1-10 percent
xx = Below by 11-20 percent
xxx = Below by 21-29 percent
xxxx = Below by 30 percent or more

[1]Excludes persons with unknown income.

NOTE: There was no one observed below the recommended dietary allowance for vitamins A and C, thiamine, and riboflavin.

increase of the body's cell mass. In fact, cell mass tends to decrease with age even as weight increases,[6] which indicates that these standardized allowances tend to overstate the nutrient needs of older people as compared with younger. This bias is much less, however, than the presentation of nutrient intake per kilogram of body weight. Those who weigh less than the height-sex-specific weight at 20-29 years of age are presumed to be underweight, and their nutrient needs may be presumed to be greater than their weight implied.

A similar method was used to obtain height-standardized allowances for assessing caloric and protein dietary intakes of children. The expected median body weight for age, sex, and height was derived from anthropometric data collected in HANES.

In addition to age and race, income status is another population characteristic considered when nutritional data are presented because quantity and quality of dietary intake have been known to be associated with level of income.

Table A. Standards for evaluation of daily dietary intake used in the Health and Nutrition Examination Survey, by age, sex, and physiological state: United States, 1971-74

Age, sex, and physiological state	Calories (per kg)	Protein (gm per kg)	Calcium (mg)	Iron (mg)	Vitamin A[1] (I.U.)	Vitamin C (mg)	B vitamins (all ages)
Age and sex							
1-5 years:							Thiamine 0.4 mg per 1,000 calories
12-23 months, male and female	90	1.9	450	15	2,000	40	
24-47 months, male and female	86	1.7	450	15	2,000	40	Riboflavin 0.55 mg per 1,000 calories
48-71 months, male and female	82	1.5	450	10	2,000	40	
6-7 years, male and female	82	1.3	450	10	2,500	40	Niacin 6.6 mg per 1,000 calories
8-9 years, male and female	82	1.3	450	10	2,500	40	
10-12 years Male	68	1.2	650	10	2,500	40	
Female	64	1.2	650	18	2,500	40	
13-16 years Male	60	1.2	650	18	3,500	50	
Female	48	1.2	650	18	3,500	50	
17-19 years Male	44	1.1	550	18	3,500	55	
Female	35	1.1	550	18	3,500	50	
20-29 years Male	40	1.0	400	10	3,500	60	
Female	35	1.0	600	18	3,500	55	
30-39 years Male	38	1.0	400	10	3,500	60	
Female	33	1.0	600	18	3,500	55	
40-49 years Male	37	1.0	400	10	3,500	60	
Female	31	1.0	600	18	3,500	55	
50-54 years Male	36	1.0	400	10	3,500	60	
Female	30	1.0	600	18	3,500	55	
55-59 years Male	36	1.0	400	10	3,500	60	
Female	30	1.0	600	10	3,500	55	
60-69 years Male	34	1.0	400	10	3,500	60	
Female	29	1.0	600	10	3,500	55	
70 years and over Male	34	1.0	400	10	3,500	60	
Female	29	1.0	600	10	3,500	55	
Physiological state							
Pregnancy (5th month and beyond), add to basic standard	200	20	200		1,000	[2]5	
Lactating, add to basic standard	1,000	25	500		1,000	5	

[1] Assumed 70 percent carotene, 30 percent retinol.
[2] For all pregnancies.

The income status for each examined person is expressed by the Poverty Income Ratio (table B). Families and unrelated individuals are classified as being above or below the low income or poverty level, using the poverty level index adopted by the Federal Interagency Committee in 1969. This index, in contrast with total family income, reflects the different consumption requirements of families based on their size, composition, sex, age of the family head, and farm-nonfarm residence.

For analysis, two groups of income levels are presented—income below poverty level, a ratio of less than one, and income at and above poverty level, a ratio of one or more. A later, more detailed analysis may show differences not apparent here. There were 723 persons (3.5 percent of the total) examined whose income was

Figure 2. Mean intake of calories and selected nutrients as a percent below recommended

[Based on 1-day diet;

Sex and age	Calories			Protein (gm)		
	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]
White male						
1 year						
2-3 years						
4-5 years						
6-7 years						
8-9 years	x	x	x			
10-11 years	x	xx	x			
12-14 years	xx	xxx	xx			
15-17 years	xx	xx	xx			
18-19 years	x	xx	x			
20-24 years	x	xx	x			
25-34 years	x	xx	x			
35-44 years	x	x	x			
45-54 years	xx	xx	xx			
55-64 years	xx	xxxx	xx		x	
65 years and over	xxx	xxx	xxx		x	
Negro male						
1 year						
2-3 years						
4-5 years						
6-7 years						
8-9 years	xx	xx	xxx			
10-11 years	xxx	xxxx	xx			
12-14 years	xxx	xxxx	xxx			
15-17 years	xxx	xxxx	xxx			
18-19 years	xx	xx	xx			
20-24 years	xx	xxx	xx			
25-34 years	x	xx	x			
35-44 years	xx	xx	xx			
45-54 years	xxx	xxxx	xxx			
55-64 years	xxxx	xxxx	xxx		xx	
65 years and over	xxxx	xxxx	xxxx	xx	xx	xx

[1] Excludes persons with unknown income.

NOTE: There was no one observed below the recommended dietary allowance for thiamine and riboflavin.

unknown. These persons were excluded from the two income classification groups, but they were included in the total group.

The mean nutritive content of diets consumed by different age, sex, race, and income groups was compared with the recommended dietary allowances for calories, protein, calcium, iron, vitamins A and C, thiamine, and riboflavin.

Iron, on the basis of mean intakes, was the nutrient most often found below the recommended dietary allowance in population groups. This was shown in nearly all age groups for white and Negro females in both income groups. Children of ages 1-3 years had means that were 41 to 68 percent below the recommended dietary allowance; adolescents 12-17 years had means that were 35 to 55 percent below the recommended allowance; and women of child-

dietary allowance for males, by income level, race, and age: United States, 1971-74.

24-hour recall]

Calcium (mg)			Iron (mg)			Vitamin A (I.U.)			Vitamin C (mg)		
All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]
			xxxx xxxx x	xxxx xxxx x	xxxx xxxx x						
			x x x	x xxx xx	x x x						
										xx	
										xx x	
			xxxx xxxx x	xxxx xxxx xx	xxxx xxxx x						
			x	x x							
			x xxx xx	xxxx x	x xxx xxx			x			

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bearing ages, 18-44 years, had means that were 41 to 53 percent below the recommended allowance.

White females aged 65 years and over in the upper income group approached the recommended allowance (96 percent of the recommended allowance), but white females in the lower income group and Negro females in both income groups had means ranging from 16 to 26 percent below the recommended allowance.

White and Negro males in most age groups for both income levels had iron intakes that either approached or were above the recommended allowance. The exceptions were boys aged 1-3 years who had means consistently below the recommended allowances for all race and income groups, 41 to 56 percent. White male youths 15-19 years in the lower income group had means that averaged 17 percent below the recommended allowance. Negro boys 4-5 years in the lower income group had means 13 percent below the recommended allowance. Ne-

Figure 3. Mean intake of calories and selected nutrients as a percent below recommended

[Based on 1-day diet;

Sex and age	Calories			Protein (gm)		
	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]
White female						
1 year						
2-3 years						
4-5 years						
6-7 years	x		x			
8-9 years	xxx	xx	xxx			
10-11 years	x	x	x			
12-14 years	xxx	xxx	xxx			
15-17 years	xxxx	xxxx	xxxx	x	xx	
18-19 years	xx	xxx	xx		x	
20-24 years	xxx	xxx	xxx		x	
25-34 years	xx	xx	xx			
35-44 years	xx	xxx	xx		x	
45-54 years	xx	xx	xx		x	
55-64 years	xx	xxx	xx		xx	
65 years and over	xxx	xxx	xxx	x	xx	x
Negro female						
1 year						
2-3 years						
4-5 years						
6-7 years	x	xx	x			
8-9 years	xxxx	xxx	xxxx			
10-11 years	xxx	xxx	xx			
12-14 years	xxx	xxx	xxx			
15-17 years	xxx	xxxx	xxx	x	x	
18-19 years	xx	xx	xxx			
20-24 years	xxx	xxx	xxx		x	
25-34 years	xx	xx	xxx	x	x	x
35-44 years	xxx	xxx	xxxx	xx	xx	xx
45-54 years	xxx	xxx	xxx	x	x	x
55-64 years	xxx	xxxx	xxx	xx	xxx	xx
65 years and over	xxxx	xxxx	xxx	xx	xx	xx

[1] Excludes persons with unknown income.

NOTE: There was no one observed below the recommended dietary allowance for thiamine and riboflavin.

gro male youths 15-17 years in the lower income group had means 30 percent below the recommended allowance, and those 15-19 years in upper income groups had means that averaged 26 percent below the recommended allowance.

Higher density iron food sources are needed, especially by women, if the recommended dietary allowances for iron are to be attained. The desirability of meeting these recommended dietary allowances cannot, however, be determined from data presented in this report, but must depend upon finding physiological and health related evidence of inadequate iron nutrition in the population. The second Health and Nutrition Examination Survey (HANES II), now in operation, will provide some additional data relevant to making such a determination.

White boys 1-9 years in both income groups had mean caloric intakes that approached or exceeded the recommended dietary allowances. This was also true for white girls and Negro boys 1-7 years. For Negro girls, however, the corre-

dietary allowance for females, by income level, race, and age: United States, 1971-74.

24-hour recall]

Calcium (mg)			Iron (mg)			Vitamin A (I.U.)			Vitamin C (mg)		
All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]	All incomes	Below poverty level[1]	Above poverty level[1]
			xxxx	xxxx	xxxx					x	
			xxxx	xxxx	xxxx						
			xx	xx	xx						
			x	xx	x						
			x		x						
			xxxx	xxxx	xxxx						
			xxxx	xxxx	xxxx						
			xxxx	xxxx	xxxx		x				
			xxxx	xxxx	xxxx		x				
			xxxx	xxxx	xxxx		xx				
			xxxx	xxxx	xxxx		x				
	x		xxxx	xxxx	xxxx		x				
			xxxx	xxxx	xxxx						
x		x		xx	x						
x	x	x	x	xx	x						
			xxxx	xxxx	xxxx						
			xxxx	xxxx	xxxx						
			xx	x	xx						
			x	x	x						
			xx	x	xxx						
			xxxx	xxxx	xxxx						
			xxxx	xxxx	xxxx				xx		
	x		xxxx	xxxx	xxxx	x	xxx				
x		xxx	xxxx	xxxx	xxxx						
xx	xx	xx	xxxx	xxxx	xxxx						
xxxx	xxx	xxxx	xxxx	xxxx	xxxx						
xxxx	xxxx	xxx	xxxx	xxxx	xxxx						
xxxx	xxx	xxxx	xxxx	xxxx	xxxx						
xxx	xxxx	xxx	xx	xxx	xx						
xxx	xxx	xxx	xxx	xxx	xx						

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xxxx = Below by 30 percent or more

sponding pattern was evident only at ages 1-5 years for those in the lower income group and at ages 1-7 years for those in the upper income group.

White boys and men 10 through 74 years in the lower income group generally had mean caloric intakes below the recommended dietary allowances. In the upper income group, this observation was evident only at ages 12-17 and 45-74 years. For those in the upper income group at ages 10-11 and 18-44, the mean caloric intake approached the standards.

Negro males and white and Negro females at all ages from 8 through 74 years and in both income groups had mean caloric intakes below the standards.

The distribution of the mean caloric intake as a percent of the recommended dietary allowances in population subgroups does not correspond to the distribution of the lean and obese persons across similar population subgroups. Various possible explanations for this discrepancy range from reporting biases in the 24-hour recall method of dietary interview to differences in physical activity that are not reflected in the recommended dietary allowances or to the allowances themselves. The National Center for Health Statistics is presently collecting data for the purpose of examining the caloric-exercise-obesity relationship.

Mean protein intake for white boys and men approached or exceeded the recommended dietary allowances for all income groups. Negro boys and men 1-54 years in both income groups also had high protein in relation to the recommended dietary allowances, but at ages 55-64 years men in the lower income group and those 65 years and over in both income groups had mean protein intakes that averaged about 13 percent below the recommended dietary allowances.

Mean protein intake for white girls and women in the income group above poverty level approached or exceeded the recommended dietary allowances at all ages. Corresponding values for white girls and women in the lower income group were similar except for those aged 15-17 and 55 years and over whose mean values averaged about 16 percent below the recommended dietary allowances.

Table B. Weighted average thresholds at the low income level in 1971, by farm-nonfarm residence, sex of family head, and size of family: United States, 1971

Size of family	Total	Nonfarm			Farm		
		Total	Male head[1]	Female head[1]	Total	Male head[1]	Female head[1]
All unrelated individuals	$2,033	$2,040	$2,136	$1,978	$1,727	$1,783	$1,669
Under 65 years	2,093	2,098	2,181	2,017	1,805	1,853	1,715
65 years and over	1,931	1,940	1,959	1,934	1,652	1,666	1,643
All families	3,700	3,724	3,764	3,428	3,235	3,242	3,079
2 persons	2,612	2,633	2,641	2,581	2,219	2,224	2,130
Head under 65 years	2,699	2,716	2,731	2,635	2,317	2,322	2,195
Head 65 years and over	2,424	2,448	2,450	2,437	2,082	2,081	2,089
3 persons	3,207	3,229	3,246	3,127	2,745	2,749	2,627
4 persons	4,113	4,137	4,139	4,116	3,527	3,528	3,513
5 persons	4,845	4,880	4,884	4,837	4,159	4,159	4,148
6 persons	5,441	5,489	5,492	5,460	4,688	4,689	4,656
7 persons or more	6,678	6,751	6,771	6,583	5,736	5,749	5,516

[1] For unrelated individuals, sex of the individual.

Source: U.S. Bureau of the Census: Characteristics of the low-income population, 1971, *Current Population Reports*, Series P-60, No. 86. U.S. Government Printing Office, Washington, 1972.

Negro girls and women also had average protein intakes above the recommended dietary allowances in both income groups except for those women aged 35-44 and 55 years and over in both income groups whose values averaged about 16 percent below the recommended dietary allowances.

Other nutrients examined showed even less evidence of any inadequacy in the general diet.

White and Negro males and white females of all ages (1-74 years) and in both income groups had mean calcium intakes that approached or were above the recommended dietary allowances. Only Negro females at ages 20-74 years in the lower income group and at ages 18-74 years in the upper income group had calcium intakes that ranged from 12 to 39 percent, on the average, below the recommended dietary allowances.

Males had mean vitamin A intakes at all ages in both race and income groups that approached or exceeded the recommended allowances. This was also true for females in almost all age, race, and income groups. The exceptions were white females 20-24 years in the lower income group whose means were 12 percent below the recommended allowances, and Negro females 12-14 years in the upper income group and those 15-17 years in the lower income group whose means were 15 and 27 percent, respectively, below the recommended allowances.

Mean nutrient intakes of thiamine and riboflavin were above the recommended allowances for all age, race, sex, and income groups. Mean nutrients for vitamin C intakes were above the recommended allowances for all age, race, sex, and income groups, except for white males 25-34 and 45-54 years in the lower income group whose intakes averaged 15 percent below the recommended allowances.

CONCLUSION AND SUMMARY

The mean percent of dietary intake relative to recommended dietary allowances has been presented for calories, protein, calcium, iron, vitamins A and C, thiamine, and riboflavin. These data, however, did not consider the distribution of nutrient intakes because only the mean was presented. The mean intake has limited value in light of the variability of some nutrient distributions. High mean intakes can mask the fact that a substantial proportion of individuals within a group may have usual nutrient intakes far below the recommended dietary allowances. However, this habitual intake of individuals cannot be estimated from knowledge of a single-day's intake as collected in HANES I.[7] Single-day intake data, in contrast with intake data over larger periods of time, result in greater variability of nutrient intakes that leads to a higher prevalence of low intake when compared with the recommended dietary allowances, thus overestimating the prevalence of habitual low nutrient intakes.

In spite of the limitations of the single-day intake data to estimate individual habitual intake, the distributions of the means across population subsamples are useful in identifying influences on the diet related to population characteristics. The presentation of dietary intakes relative to the recommended daily allowances of nutrients permits a comparison across age and sex groups, which have different dietary requirements.

Some nutrients, namely riboflavin and thiamine, show adequate or more than adequate mean intake for all population subgroups defined by two levels of poverty, race, sex, and age. Other nutrients, namely protein, calcium, and vitamins A and C revealed some, but not most, population subgroups with lower mean intake than the recommended dietary allowance. Calcium mean intake was consistently lower than recommended allowances only for adult Negro women regardless of income. Vitamin A mean intake was below recommended daily allowance in white adolescents and young adult women in low income groups and among adolescent Negro women regardless of income. Protein mean intake was also below the recommended allowances for adolescents, adult women, and older men in the low income group. This pattern was also observed for adult Negro females and Negro older men and for older white females in the upper income group.

The mean dietary intakes of calories and iron were below the recommended daily allowances for most of the population subgroups. Caloric intake was below the recommended daily allowances for all except the younger child regardless of sex, race, and income group. Iron intake was below the recommended daily allow-

ance for all the female income, race, and age groups and for males in the preschool years and adolescence.

There is such a discrepancy between these patterns of nutrition adequacy of iron and calories as measured by the mean intake relative to recommended daily allowances, as compared with the much smaller extent of inadequacy as measured by physiological measures,[8,9] that one must reserve judgment about the relationships of income, race, sex, and age to malnutrition until these measures are interpreted together.

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Table 1. Mean caloric intake as a percent of recommended dietary allowance, by race, sex, and age for income levels: United States, 1971-74 (HANES I)

Age	White male		Negro male		White female		Negro female	
	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level
	Mean caloric intake							
1 year	139	125	115	116	126	125	117	126
2-3 years	132	124	126	128	116	119	111	116
4-5 years	124	121	103	120	124	109	104	111
6-7 years	127	112	107	108	104	98	88	91
8-9 years	99	95	87	77	87	78	72	65
10-11 years	87	95	68	82	94	98	78	81
12-14 years	78	84	69	74	75	72	74	76
15-17 years	80	88	66	71	66	69	69	71
18-19 years	81	94	87	82	79	85	89	71
20-24 years	86	97	78	84	78	78	78	79
25-34 years	80	93	87	94	81	83	81	79
35-44 years	98	90	83	85	78	85	74	70
45-54 years	82	85	67	75	89	86	71	72
55-64 years	70	81	57	78	77	81	66	74
65 years and over	71	75	67	64	72	79	68	71

Table 2. Mean protein intake as a percent of recommended dietary allowance, by race, sex, and age for income levels: United States, 1971-74 (HANES I)

Age	White male		Negro male		White female		Negro female	
	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level
	Mean protein intake							
1 year	256	236	224	224	254	244	217	224
2-3 years	243	228	238	214	232	221	203	225
4-5 years	232	235	195	222	247	214	206	214
6-7 years	293	265	237	249	243	226	197	209
8-9 years	233	216	187	162	214	180	164	142
10-11 years	192	200	135	179	185	172	161	154
12-14 years	156	164	127	135	126	119	110	125
15-17 years	142	159	120	123	85	101	93	101
18-19 years	147	161	138	122	99	119	124	106
20-24 years	124	148	122	119	95	105	92	106
25-34 years	137	142	149	142	100	107	94	97
35-44 years	154	134	110	134	97	104	88	87
45-54 years	113	126	114	122	98	109	95	91
55-64 years	92	116	87	115	85	100	73	87
65 years and over	92	103	88	85	83	92	85	85

Table 3. Mean calcium intake as a percent of recommended dietary allowance, by race, sex, and age for income levels: United States, 1971-74 (HANES I)

Age	White male		Negro male		White female		Negro female	
	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level
	Mean calcium intake							
1 year	234	213	174	160	252	207	134	182
2-3 years	218	196	160	159	181	199	152	162
4-5 years	207	234	152	206	214	204	157	166
6-7 years	219	260	204	242	248	234	163	172
8-9 years	238	276	205	194	243	132	155	164
10-11 years	189	192	115	158	135	183	119	124
12-14 years	181	211	120	140	144	156	118	108
15-17 years	250	239	139	144	109	139	99	114
18-19 years	209	242	148	164	119	143	112	79
20-24 years	238	294	247	162	106	116	88	85
25-34 years	210	276	157	198	100	113	74	69
35-44 years	331	228	146	194	99	104	66	72
45-54 years	207	217	161	145	104	102	74	61
55-64 years	204	198	134	160	102	98	68	76
65 years and over	155	188	140	135	91	98	78	72

Table 4. Mean iron intake as a percent of recommended dietary allowance, by race, sex, and age for income levels: United States, 1971-74 (HANES I)

Age	White male		Negro male		White female		Negro female	
	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level
	Mean iron intake							
1 year	49	51	44	59	32	51	43	46
2-3 years	53	56	58	52	49	47	45	58
4-5 years	92	95	87	97	86	82	93	89
6-7 years	124	112	94	105	89	97	90	98
8-9 years	116	112	107	111	111	98	98	74
10-11 years	130	128	94	133	66	57	61	59
12-14 years	95	97	105	90	65	56	56	61
15-17 years	78	95	70	77	45	53	49	59
18-19 years	88	94	95	71	51	58	57	51
20-24 years	143	171	132	140	52	56	54	59
25-34 years	174	168	174	159	53	58	54	53
35-44 years	174	160	136	149	52	59	47	49
45-54 years	129	148	123	133	54	59	48	50
55-64 years	111	140	108	139	86	99	75	84
65 years and over	113	125	112	104	81	96	74	84

Table 5. Mean vitamin A intake as a percent of recommended dietary allowance, by race, sex, and age for income levels: United States, 1971-74 (HANES I)

Age	White male		Negro male		White female		Negro female	
	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level
	Mean vitamin A intake							
1 year	276	187	179	138	138	175	181	266
2-3 years	190	179	213	154	144	147	195	464
4-5 years	196	186	198	239	187	178	171	160
6-7 years	174	164	203	243	145	141	176	153
8-9 years	183	191	139	194	258	153	138	108
10-11 years	167	211	151	196	184	165	138	129
12-14 years	161	157	170	112	126	167	129	85
15-17 years	133	178	101	97	95	108	73	108
18-19 years	109	174	105	106	94	117	139	126
20-24 years	113	148	215	159	88	106	134	103
25-34 years	148	151	149	158	96	127	121	104
35-44 years	195	149	126	166	98	121	100	133
45-54 years	121	148	167	158	260	150	142	141
55-64 years	109	165	257	197	136	180	164	170
65 years and over	97	167	167	170	125	157	128	160

Table 6. Mean vitamin C intake as a percent of recommended dietary allowance, by race, sex, and age for income levels: United States, 1971-74 (HANES I)

Age	White male		Negro male		White female		Negro female	
	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level
	Mean vitamin C intake							
1 year	109	191	163	148	97	161	139	242
2-3 years	195	220	177	147	167	189	152	154
4-5 years	173	226	194	199	153	198	220	238
6-7 years	158	214	203	260	166	203	190	227
8-9 years	183	200	165	211	275	207	223	123
10-11 years	133	232	118	180	178	213	215	208
12-14 years	163	200	175	247	126	176	170	194
15-17 years	156	203	190	130	149	147	127	142
18-19 years	170	228	151	106	181	192	164	136
20-24 years	147	185	138	185	151	155	138	140
25-34 years	88	155	107	139	107	140	123	139
35-44 years	115	139	164	150	111	150	127	135
45-54 years	82	143	156	129	107	155	106	118
55-64 years	112	163	122	203	124	182	123	199
65 years and over	95	158	148	128	130	174	132	167

Table 7. Mean thiamine intake as a percent of recommended dietary allowance, by race, sex, and age for income levels: United States, 1971-74 (HANES I)

Age	White male		Negro male		White female		Negro female	
	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level
	Mean thiamine intake							
1 year	158	175	173	193	163	198	163	205
2-3 years	168	173	195	163	175	173	163	188
4-5 years	168	165	193	208	163	163	180	188
6-7 years	165	163	165	163	150	163	168	163
8-9 years	145	152	152	170	180	163	168	165
10-11 years	175	163	165	163	167	150	175	173
12-14 years	170	150	165	163	170	158	160	165
15-17 years	152	152	158	143	135	158	152	198
18-19 years	147	145	163	140	167	157	150	163
20-24 years	155	145	152	145	160	160	172	170
25-34 years	163	156	162	150	160	163	167	155
35-44 years	157	147	165	147	163	163	157	165
45-54 years	145	155	172	172	147	170	198	170
55-64 years	160	165	177	163	172	180	167	177
65 years and over	167	172	182	172	180	185	190	170

Table 8. Mean riboflavin intake as a percent of recommended dietary allowance, by race, sex, and age for income levels: United States, 1971-74 (HANES I)

Age	White male		Negro male		White female		Negro female	
	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level	Income below poverty level	Income above poverty level
	Mean riboflavin intake							
1 year	256	242	233	222	293	260	200	247
2-3 years	215	207	193	175	218	215	211	180
4-5 years	185	200	173	218	198	205	176	180
6-7 years	169	202	196	189	198	196	173	167
8-9 years	181	202	162	175	202	195	156	173
10-11 years	196	195	164	167	167	193	164	160
12-14 years	184	187	189	145	178	187	165	142
15-17 years	185	175	149	142	158	181	142	185
18-19 years	173	169	129	145	149	173	140	149
20-24 years	167	158	169	132	158	167	156	136
25-34 years	162	160	145	140	162	175	149	134
35-44 years	181	158	129	153	178	167	142	163
45-54 years	162	163	154	156	222	178	193	158
55-64 years	180	173	205	154	191	196	153	171
65 years and over	169	178	158	200	194	196	176	165

TECHNICAL NOTES

The sampling plan for the 65 preselected examination locations in the Health and Nutrition Examination Survey (HANES) followed a highly stratified multistage probability design in which a sample of the civilian noninstitutionalized population of the conterminous United States 1-74 years of age was selected. Successive elements dealt with in the process of sampling were the primary sampling unit, census enumeration district, segment (a cluster of households), household, eligible person, and finally, sample person. The sampling design provided for oversampling among persons living in poverty areas, preschool children, women of childbearing age, and the elderly.

The caloric and selected nutrient intake values are shown as population estimates, that is, the dietary intake findings for each individual have been "weighted" by the reciprocal of the probability of selecting the person. An adjustment for persons in the sample who were not examined and poststratified ratio adjustments were also made, so that the final sampling estimates of the population size agree exactly with the independent U.S. Bureau of the Census estimates for the civilian noninstitutionalized population of the United States as of November 1, 1972, by race, sex, and age.

Previous issues of *Advance Data From Vital and Health Statistics*

No. 1. Blood Pressure of Persons 6-74 Years of Age in the United States (Issued: October 18, 1976)

No. 2. Hypertension: United States, 1974 (Issued: November 8, 1976)

No. 3. Height and Weight of Adults 18-74 Years in the United States (Issued: November 19, 1976)

No. 4. Prevalence of Dermatological Diseases Among Persons 1-74 Years of Age, United States (Issued: January 26, 1977)

No. 5. A Comparison of Levels of Serum Cholesterol of Adults 18-74 Years of Age in the United States in 1960-62 and 1971-74