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Height and Weight of Adults 18-74 Years of Age in the United States¹

The height and weight measurements in this report were obtained as a part of the Health and Nutrition Examination Survey (HANES). HANES is a program in which measures of nutritional status are collected for a scientifically designed sample representative of the civilian non-institutionalized population of the United States in a broad range of ages, 1-74 years.²

The HANES findings are based on examinations of the 13,671 persons aged 18-74 years from a total group of 20,749 examined persons aged 1-74 years in the 65 primary sampling units (PSU's) which make up the total sample. A nationwide probability sample of 28,043 persons was selected to be examined in 65 PSU's, which were visited between April 1971 and June 1974. The HANES nutrition examination included a

general medical examination for indicators of nutritional deficiencies by a physician, a skin examination by a dermatologist, and a dental examination by a dentist. Body measurements were taken by a trained technician; a dietary interview, consisting of a 24-hour recall of food consumption and a food frequency questionnaire, was administered; and numerous laboratory tests were performed on whole blood, serum, plasma, and urine. A description of the sampling process, HANES operation, and response rates has been published.²

Estimates in this report are based on weighted observations. The data obtained for the examined persons were inflated to the level of the total population using the appropriate weights to account for both sampling fractions and response results. National estimates of the distribution of height and weight among the U.S. population based on findings from the HANES program will be analyzed and discussed in a future report: "Height and Weight Measurements of Adults 18-74 Years: United States, 1971-74," *Vital and Health Statistics*, Series 11. Selected data from that report are discussed here and shown in tables 1-7.

¹This report prepared by Sidney Abraham, Clifford L. Johnson, and Matthew F. Najjar, Division of Health Examination Statistics.

²National Center for Health Statistics: Plan and operation of the Health and Nutrition Examination Survey, United States, 1971-1973. *Vital and Health Statistics*. Series 1-Nos. 10a and 10b. DHEW Pub. Nos. (HRA) 76-1310 (10a) and (HSM) 73-1310 (10b). Health Resources Administration. Washington. U.S. Government Printing Office, Feb. 1973.

Advance Data from Vital and Health Statistics replaces the supplements to the *Monthly Vital Statistics Report* as the means for early release of selected findings from the health and demographic surveys conducted by the NCHS. Most of these releases will be followed by detailed reports in the *Vital and Health Statistics* series.

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PRINCIPAL FINDINGS

The mean weight of men aged 18-74 years was 172 pounds. The mean weight of men increased from 165 pounds in age group 18-24 years to 178 pounds in age group 35-44 years. Thereafter, it decreased with age to 175 pounds in age group 45-54 years, 171 pounds at 55-64 years, and a low of 164 pounds in the oldest age group measured, 65 years and over.

The mean weight of women was 143 pounds, 29 pounds less than that for men. The mean weight increased with age from a low of 132 pounds at 18-24 years to a high of 149 pounds at ages 45-64 years and then declined to 146 pounds in the oldest age group.

The cross-sectional data on body measurements of adults were obtained on different age cohorts. The age trends show the mean body measurements for successive cohorts of persons of different age groups and reflect the effect of different environmental as well as hereditary influences. The limitations of cross-sectional data are recognized in considering group age changes.

The mean height for men aged 18-74 was 69.0 inches. The highest mean height, 69.7 inches, was found in the youngest age group,

18-24 years, and is 2.4 inches taller than the height in age group 65 years and over, 67.3 inches. This corresponds with a small decrease in height with increasing age, which averages less than one-half inch per decade of age over the range 18-74 years.

Among women the mean height was 63.6 inches, 5.4 inches less than the mean height among men. The mean height for women was highest (64.3 inches), in the youngest age group, as it was for men. The mean height decreased slightly to 64.1 inches at 25-34 years, remained constant at 35-44 years, and then declined to 63.6 inches at 45-54 years, 62.8 inches at 55-64 years, and 62.3 inches in the oldest age group, 65 years and over. The difference between the youngest and oldest age groups is 2.0 inches. The decrease in height with age averages less than one-half inch per decade over the age range of 18-74 years.

In each of the five age groups in the range 18-64 years white men were taller than Negro men. The average difference between heights of white and Negro men in the same age group was about one-half inch. At age group 65 years and over, however, the mean height for Negro and white men was the same. This pattern by age and race is not observed for women. At age groups 18-24 and 25-34 years, white women were, on the average, 0.25 inches taller than Negro women. At ages 35-44, Negro women were

Figure 1. MEAN HEIGHT IN INCHES OF U.S. ADULTS 18-74 YEARS BY AGE AND SEX.

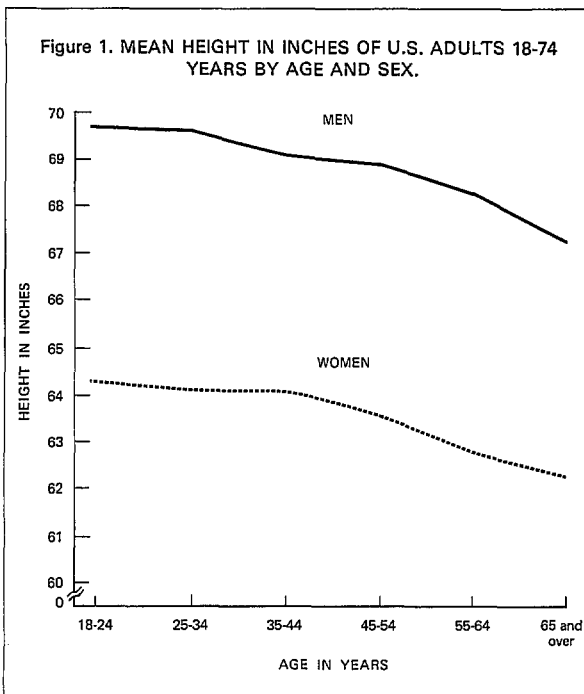
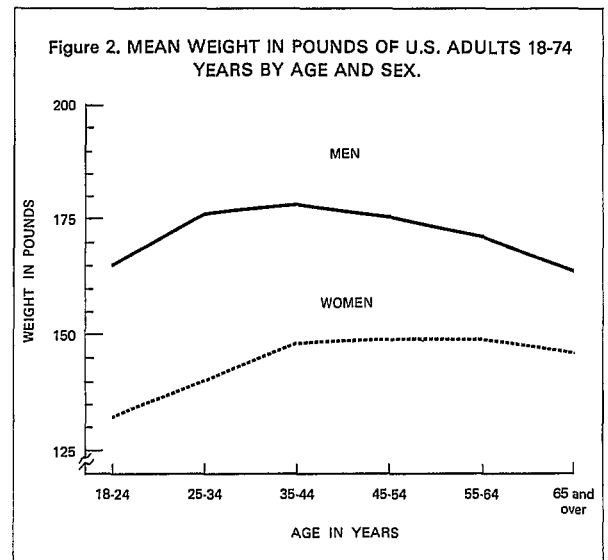


Figure 2. MEAN WEIGHT IN POUNDS OF U.S. ADULTS 18-74 YEARS BY AGE AND SEX.



0.1 inch taller than white women; at ages 45-54, they were 0.2 inch taller; and at ages 65 and over, they were 0.3 inch taller. At ages 55-64 years, the mean height for both races was the same.

Mean weights increased among white men from a low of 165 pounds at 18-24 years to a high of 178 pounds at 35-44 years. Among Negro men, mean weight increased consistently with age from 166 pounds at ages 18-24 years to 182 pounds at ages 35-44 years. The mean weights of both Negro and white men decreased with age from the group 45-54 years on. Negro and white men showed little consistent difference in mean weights among the different age groups.

Data on weight by age for Negro and white women tend to parallel those seen for men, with the exception that the increase in mean weight of women continued up to the age group 45-54 years and then declined. However, at each age Negro women had larger mean weights than white women, with the differences between races being very large, averaging about 20 pounds heavier for the age groups 35-64 years.

Although heights of U.S. adults as measured from the Health and Nutrition Examination Survey, 1971-74, were taller than those from the

Health Examination Survey (HES), 1960-62,³ the differences are numerically small. HANES data for men's heights range from less than one-half inch to an inch taller than the HES data. Corresponding values for women are from less than one-half inch to slightly more than three-quarters of an inch taller.

U.S. adults in HANES were heavier than those in HES. The HANES data on weights for men are consistently higher by an average of 6 pounds across the age range 18-74 years; for women they are higher by an average of 3 pounds for this age range.

Relatively more men and women in the most recent survey, 1971-74, are taller than those in HES, 1960-62. Fifty-one percent of the men in HANES were 69 inches or taller as compared to 38 percent in HES across the age range of 18-74 years. The corresponding values for HANES and HES for heights of 70 inches or more are 36 percent and 28 percent, respectively. In this age range, 45 percent of the women in HANES were 64 inches or taller as

³National Center for Health Statistics: Weight, height, and selected body dimensions of adults, United States, 1960-1962. *Vital and Health Statistics*. Series 11-No. 8. DHEW Pub. No. (HRA) 76-1074. Health Resources Administration. Washington. U.S. Government Printing Office, June 1965.

Figure 3. MEAN HEIGHT IN INCHES OF U.S. ADULTS 18-74 YEARS BY AGE, SEX, AND RACE.

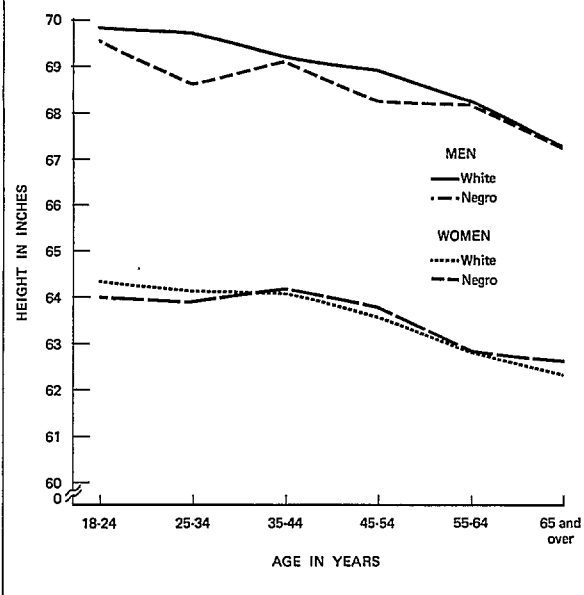
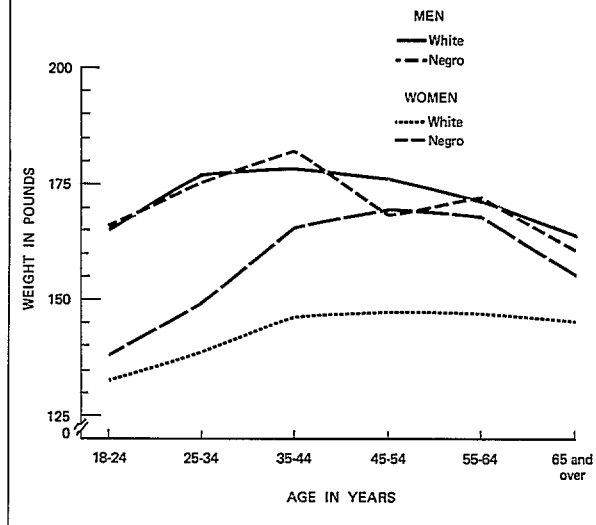
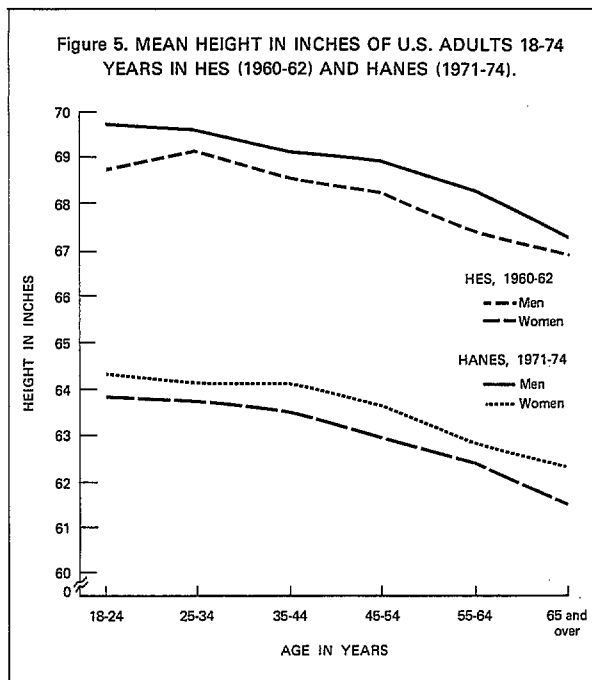


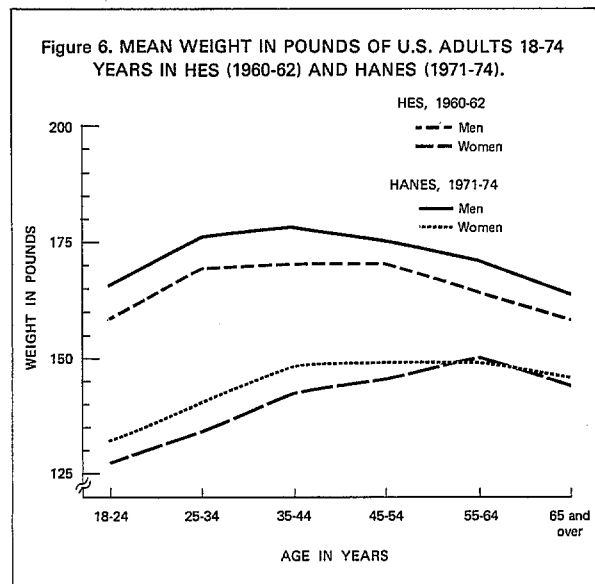
Figure 4. MEAN WEIGHT IN POUNDS OF U.S. ADULTS 18-74 YEARS BY AGE, SEX, AND RACE.





compared to 37 percent for HES. The corresponding values for HANES and HES for 65 inches and more are 30 percent and 21 percent, respectively.

The proportions of men and women whose height exceeded any other specified height may be found from the data presented in tables 4 and 6.



TECHNICAL NOTES

The sampling plan of the Health and Nutrition Examination Survey (HANES) followed a highly stratified multistage probability design in which a sample was selected of the civilian non-institutionalized population of the coterminous United States 1-74 years of age. Successive elements dealt with in the process of sampling were the primary sampling unit (PSU), census enumeration district (ED), segment (cluster of households), household, eligible person, and finally, sample person. The sampling design focused special attention on groups of people known to be at greater risk of malnutrition by oversampling these groups—the poor, preschool children, women of childbearing ages, and the elderly.

All height and weight data presented are based on "weighted" observations. That is, data recorded for each sample person were inflated to characterize the subuniverse from which that sample person was drawn. For each examined person, this is a product of the reciprocal of the probability of selecting the person, an adjustment for nonresponse cases (i.e., persons not examined), and a poststratified ratio adjustment which increases precision by bringing survey results into closer alignment with known U.S. population figures for 20 age, race, and sex groups as of November 1, 1972, the approximate midpoint of HANES.

SYMBOLS

- Data not available-----
- Category not applicable-----
- Quantity zero-----
- Quantity more than 0 but less than 0.05--- 0.0
- Figure does not meet standards of reliability or precision----- *

Table 1. Height in inches of adults aged 18-74 years, by sex and age: sample size, estimated population in thousands, mean, standard deviation, standard error of the mean, and selected percentiles, United States, 1971-74

Sex and age	Sample size	Estimated population in thousands	Mean	Standard deviation	Standard error of the mean	Percentile						
						5th	10th	25th	50th	75th	90th	95th
<u>Men</u>												
18-74 years-	5,260	60,565	69.0	2.8	0.07	64.4	65.5	67.1	69.0	70.8	72.6	73.6
18-24 years-----	772	11,351	69.7	2.8	0.18	65.1	66.1	67.8	69.7	71.5	73.4	74.4
25-34 years-----	804	12,766	69.6	2.9	0.12	64.8	66.0	67.6	69.5	71.5	73.4	74.3
35-44 years-----	665	10,804	69.1	2.7	0.13	64.7	65.8	67.3	69.2	71.1	72.6	73.4
45-54 years-----	765	11,260	68.9	2.6	0.13	64.7	65.6	67.1	68.8	70.6	72.4	73.2
55-64 years-----	597	8,888	68.3	2.6	0.16	64.1	65.1	66.7	68.2	70.1	71.7	72.5
65 years and over-	1,657	5,496	67.3	2.6	0.08	63.2	64.2	65.6	67.3	69.1	70.6	71.6
<u>Women</u>												
18-74 years-	844	67,372	63.6	2.5	0.04	59.5	60.5	62.0	63.7	65.3	66.8	67.8
18-24 years-----	1,524	12,111	64.3	2.5	0.08	60.2	61.2	62.6	64.3	65.8	67.4	68.4
25-34 years-----	1,896	13,996	64.1	2.4	0.08	60.2	61.2	62.4	64.0	65.7	67.3	68.2
35-44 years-----	1,663	11,772	64.1	2.5	0.09	59.9	60.8	62.3	64.1	65.7	67.3	68.4
45-54 years-----	836	12,264	63.6	2.3	0.10	59.9	60.6	62.1	63.7	65.2	66.7	67.3
55-64 years-----	670	9,953	62.8	2.4	0.10	58.6	59.6	61.2	62.8	64.5	65.6	66.6
65 years and over-	1,822	7,277	62.3	2.4	0.08	58.2	59.3	60.8	62.3	63.9	65.3	66.2

NOTE: Height was measured without shoes.

Table 2. Weight in pounds of adults aged 18-74 years, by sex and age: sample size, estimated population in thousands, mean, standard deviation, standard error of the mean, and selected percentiles, United States, 1971-74

Sex and age	Sample size	Estimated population in thousands	Mean	Standard deviation	Standard error of the mean	Percentiles						
						5th	10th	25th	50th	75th	90th	95th
<u>Men</u>												
18-74 years-	5,260	60,565	172	31.1	0.64	128	137	152	170	189	211	225
18-24 years-----	772	11,351	165	29.6	1.64	124	132	145	161	180	204	222
25-34 years-----	804	12,766	176	35.0	1.45	132	140	153	172	193	217	233
35-44 years-----	665	10,804	178	30.0	1.56	132	143	160	176	196	213	225
45-54 years-----	765	11,260	175	29.2	1.12	130	139	157	175	192	215	225
55-64 years-----	597	8,888	171	30.0	1.28	125	137	152	170	187	208	222
65 years and over-	1,657	5,496	164	27.0	0.88	122	130	147	163	180	198	211
<u>Women</u>												
18-74 years-	8,411	67,372	143	32.3	0.53	104	110	122	137	159	185	203
18-24 years-----	1,524	12,111	132	27.4	0.69	100	106	114	128	142	163	181
25-34 years-----	1,896	13,996	140	32.0	0.82	103	109	119	132	152	181	202
35-44 years-----	1,663	11,772	148	35.0	1.14	109	114	124	139	163	195	215
45-54 years-----	836	12,264	149	32.0	1.39	109	114	127	145	164	191	213
55-64 years-----	670	9,953	149	33.3	1.26	104	111	128	144	166	191	203
65 years and over-	1,822	7,277	146	29.1	1.07	105	112	126	142	163	183	195

NOTE: Total weights of all clothing ranged from 0.20 to 0.62 lb., which is not deducted from weights shown in table.

Table 5. Weight in pounds of adults aged 18-74 years, by sex, race, and age: sample size, estimated population in thousands, mean, standard deviation, standard error of the mean, and selected percentiles, United States, 1971-74

Sex, race, and age	Sample size	Estimated population in thousands	Mean	Standard deviation	Standard error of the mean	Percentile						
						5th	10th	25th	50th	75th	90th	95th
MEN												
White												
18-74 years----	4,343	54,109	173	30	0.75	129	138	153	171	190	211	224
Weight in pounds												
18-24 years-----	625	9,849	165	28	1.89	125	133	146	162	182	205	222
25-34 years-----	672	11,191	177	32	1.40	134	142	155	173	194	217	232
35-44 years-----	570	9,857	178	29	1.66	133	145	160	177	195	211	224
45-54 years-----	628	10,117	176	29	1.23	129	141	158	176	193	214	225
55-64 years-----	504	8,125	171	29	1.49	125	136	153	171	187	208	220
65 years and over----	1,344	4,970	164	27	0.99	123	131	148	164	180	198	210
Negro												
18-74 years----	847	5,730	171	40	2.54	125	134	145	163	189	217	239
18-24 years-----	132	1,287	166	37	4.04	123	131	142	159	176	202	227
25-34 years-----	119	1,377	175	51	8.17	124	134	148	162	193	219	235
35-44 years-----	87	820	182	37	4.59	130	137	151	180	201	236	255
45-54 years-----	130	1,087	168	32	3.75	135	136	145	162	185	220	230
55-64 years-----	85	672	172	41	6.34	119	138	145	163	186	237	249
65 years and over----	294	486	161	30	2.31	121	127	137	156	179	205	218
WOMEN												
White												
18-74 years----	6,758	59,482	142	31	0.59	104	110	121	136	157	182	199
18-24 years-----	1,165	10,298	132	26	0.82	100	106	115	128	142	162	177
25-34 years-----	1,539	12,338	138	31	1.02	104	109	118	131	150	179	201
35-44 years-----	1,301	10,250	146	34	1.29	109	114	124	137	159	191	213
45-54 years-----	705	11,091	147	30	1.32	109	113	126	143	162	188	204
55-64 years-----	552	8,905	147	30	1.35	103	111	127	143	164	187	201
65 years and over----	1,496	6,601	145	28	1.08	105	113	126	142	162	180	192
Negro												
18-74 years----	1,557	7,268	156	41	1.53	104	111	129	148	176	207	228
18-24 years-----	329	1,618	138	34	2.47	100	107	114	130	150	184	203
25-34 years-----	335	1,540	149	37	3.20	100	108	127	141	170	190	226
35-44 years-----	334	1,354	165	39	2.68	112	121	136	158	185	216	238
45-54 years-----	126	1,131	169	42	4.53	115	128	139	162	186	215	244
55-64 years-----	115	971	168	48	6.37	104	118	139	156	191	215	297
65 years and over----	318	654	155	36	3.28	94	109	133	153	177	202	219

NOTE: Total weights of all clothing ranged from 0.20 to 0.62 lb., which is not deducted from weights shown in table.

Table 6. Cumulative percent distribution of height in inches of adult females, according to age: United States, HES (1960-62) and HANES (1971-74)

Height in inches	Age														
	18-74 years		18-24 years		25-34 years		35-44 years		45-54 years		55-64 years		65 years and over		
	1960-62	1971-74	1960-62	1971-74	1960-62	1971-74	1960-62	1971-74	1960-62	1971-74	1960-62	1971-74	1960-62	1971-74	
Cumulative percent distribution															
Under 55-----	0.2	0.1	-	0.1	-	0.0	0.1	0.0	0.2	0.0	0.0	0.6	0.0	-	0.2
Under 56-----	0.4	0.3	-	0.1	0.1	0.2	0.1	0.1	0.5	0.0	1.0	1.0	1.0	1.3	0.6
Under 57-----	0.7	0.6	0.1	0.3	0.3	0.2	0.5	0.3	0.5	0.4	1.6	1.8	2.0	2.0	1.2
Under 58-----	2.3	1.4	0.3	0.8	0.9	0.8	1.3	0.6	2.2	0.6	3.3	3.0	8.3	8.3	4.0
Under 59-----	4.4	3.0	2.1	2.1	1.6	1.9	2.2	1.5	4.0	1.0	7.3	6.2	13.9	13.9	8.1
Under 60-----	10.8	6.8	5.1	4.1	6.7	4.0	6.9	5.2	11.5	5.1	14.9	11.8	27.5	27.5	14.8
Under 61-----	18.5	13.5	12.0	8.5	12.2	7.8	14.1	11.2	20.8	13.4	22.9	20.7	38.4	38.4	27.2
Under 62-----	32.8	24.6	24.6	16.6	22.4	18.2	27.2	19.5	34.0	23.7	43.5	36.7	58.0	58.0	43.3
Under 63-----	50.7	39.6	40.1	29.8	42.0	33.1	43.8	32.9	55.2	39.9	62.2	52.3	72.1	72.1	61.3
Under 64-----	63.2	54.8	51.3	45.0	53.5	49.3	57.6	47.2	68.1	55.0	76.3	67.9	82.9	82.9	75.5
Under 65-----	78.8	69.7	70.6	60.3	71.7	63.2	75.4	63.6	82.5	72.4	87.0	82.1	92.6	92.6	86.2
Under 66-----	87.1	83.0	81.2	76.7	83.1	77.9	83.9	79.4	89.4	84.4	92.4	92.4	97.5	97.5	94.0
Under 67-----	94.8	90.8	91.9	86.5	93.9	87.8	94.6	87.8	94.4	92.9	96.4	96.7	99.0	99.0	97.4
Under 68-----	97.2	95.4	95.3	93.3	97.2	93.9	97.0	93.3	97.2	96.8	98.1	98.6	99.2	99.2	98.7
Under 69-----	99.3	98.1	98.8	96.6	99.0	97.7	99.1	97.3	99.8	98.7	99.4	99.4	99.8	99.8	99.8
Under 70-----	99.6	99.2	99.5	98.4	99.3	98.9	99.8	99.0	99.9	99.5	99.4	99.8	99.8	99.8	100.0
Under 71-----	99.9	99.7	99.9	99.3	99.6	99.7	99.9	99.6	99.9	99.7	100.0	100.0	100.0	100.0	100.0
71 and over----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 7. Comparison of mean heights and weights in HES (1960-62) and HANES (1971-74), by sex and age: United States

Age	Men			Women		
	HES, 1960-62	HANES, 1971-74	Excess of HANES over HES	HES, 1960-62	HANES, 1971-74	Excess of HANES over HES
Height in inches						
18-74 years-----	68.3	69.0	+0.7	63.1	63.6	+0.5
18-24 years-----	68.7	69.7	+1.0	63.8	64.3	+0.5
25-34 years-----	69.1	69.6	+0.5	63.7	64.1	+0.4
35-44 years-----	68.5	69.1	+0.6	63.5	64.1	+0.6
45-54 years-----	68.2	68.9	+0.7	62.9	63.6	+0.7
55-64 years-----	67.4	68.3	+0.9	62.4	62.8	+0.4
65 years and over-----	66.9	67.3	+0.4	61.5	62.3	+0.8
Weight in pounds						
18-74 years-----	166	172	+6	140	143	+3
18-24 years-----	158	165	+7	127	132	+5
25-34 years-----	169	176	+7	134	140	+6
35-44 years-----	170	178	+8	142	148	+6
45-54 years-----	170	175	+5	145	149	+4
55-64 years-----	164	171	+7	150	149	-1
65 years and over-----	158	164	+6	144	146	+2

NOTE: Height was measured without shoes. 2 lb. are deducted from HES data to allow for weight of clothing; total weights of all clothing for HANES ranged from 0.20 to 0.62 lb., which is not deducted from weights shown.

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