

VITAL and HEALTH STATISTICS
DATA FROM THE NATIONAL HEALTH SURVEY

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Weight by Height and Age of Adults

United States - 1960-1962

Age and sex distributions of weight by single inches
of height for adults 18-79 years of age in the civilian,
noninstitutional population of the United States.

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U.S. DEPARTMENT OF
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In accordance with specifications established by the National Health Survey, the Bureau of the Census, under a contractual agreement, participated in the design and selection of the sample, and carried out the first stage of the field interviewing and certain parts of the statistical processing.

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IN THIS REPORT is contained weight by height information for American adults as determined from Health Examination Survey findings in 1960-62. For the Survey a probability sample of 7,710 persons was selected to represent the 111 million adults in the U.S. civilian, noninstitutional population aged 18-79 years. Of these, 6,672 adults, or more than 85 percent, were examined.

National estimates based on findings of weight by single inches of height for men and women within the various age groups in the study are included. Averages and certain percentiles are shown to describe the distributions of weight for given height.

Comparison of these findings is made with three studies on which widely used height-weight standards are based: The 1959 Society of Actuaries study in the United States and Canada, the 1953 Canadian height-weight survey, and the 1943 British height-weight survey.

The study shows that in general American men range in average weight from 146 pounds at 62 inches in height to 190 pounds at 73 inches; while for American women this average progresses from 129 pounds at 58 inches to 157 pounds at 67 inches.

Adults in the United States weigh 5 to 6 pounds more on the average than their Canadian counterparts did in 1953, 14 to 19 pounds more than the British in the study findings of 1943, and 6 to 11 pounds more than insured Americans in the 1959 study of the Society of Actuaries. Comparisons are made without adjustments for clothing.

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-----	*

WEIGHT BY HEIGHT AND AGE OF ADULTS

Jean Roberts, *Division of Health Examination Statistics*

INTRODUCTION

This report presents additional weight and height findings among adults in the United States as determined in the Health Examination Survey during 1960-62.

The Health Examination Survey from which these data come is one of three programs of the National Health Survey. It collects such data as can best or only be secured by direct examination, tests, and measurements, using a nationwide probability sample of individuals. Other programs of the National Health Survey obtain health related data through household interview and through available medical records.

The first cycle for the Health Examination Survey was concerned mainly with the determination of the prevalence of certain chronic diseases, dental health status, and the distribution of certain sensory and other physiological and anthropometric characteristics among the adult civilian, noninstitutional population of the United States. During the study, which extended from October 1959 through December 1962, 6,672 persons were examined out of a nationwide probability sample of 7,710 persons 18-79 years of age selected from the 111 million of the population in that age group. Medical and other Survey staff performed the standard examination, which lasted about 2 hours, in mobile clinics specially designed for this purpose.

Previous publications in this series describe the general plan and initial program of the Health Examination Survey,¹ the sample population, the response, and the effect of nonresponse on the findings.²

An introductory report on weight, height, and certain of the other physical measurements obtained in this cycle has already described the measurement techniques used and the distributions of those measurements in the population by age and sex.³

This report presents national estimates based on findings of weight by single inches of height for men and women within the various age groups included in the study. Averages and certain percentiles are used to describe the curves of weight. A brief explanation of the estimation methods used in smoothing these data is also included.

Comparison of these findings is made with three studies on which widely used height-weight standards are based: the 1959 Society of Actuaries study in this country and Canada, the 1953 Canadian height-weight survey, and the 1943 British height-weight survey.

The Measurements

As previously reported, all measurements were made with the examinee stripped to the waist and without shoes but wearing paper slippers and a lightweight, knee-length examining gown.

Weight, obtained with the examinee standing without support on the platform of an automatic balancing scale, was recorded immediately as the record was inserted in the scale's automatic printer. Weight was read off the record to the nearest half pound. A small series of representative clothing, checked following the study, showed the weight of men's clothing worn in the examination to be slightly *over* 2 pounds and that of women's clothing to be slightly *less* than 2

pounds. The values presented in this report are shown as measured and are not corrected for clothing.

For height measurement, the examinee stood erect on a horizontal platform with his back against a vertical 3-inch-wide measuring scale, looking straight ahead with his head in the Frankfort horizontal plane. A horizontal measuring bar (1½ inches wide) was then brought down snugly but not tightly on the top of the head. An adhesive strip with the examinee's case number was attached to the scale's pointer support and the position of the pointer on the scale was photographed. For examinees over 75 inches, who were too tall to be photographed, height was measured with an anthropometer. The examinee stood erect on the floor, heels together, looking straight ahead with his head in the Frankfort horizontal plane, arms hanging at his sides. The anthropometer was held perpendicular to the

floor in the midline of the examinee's back, and the movable bar was brought down into firm contact with the top of the head, compressing the hair if necessary. Height recordings in millimeters were used and then converted mechanically to measurements in tenths of an inch.

FINDINGS

The average weight among American men ranges from 146 pounds for those 62 inches in height to 190 pounds for those 73 inches tall and only slightly less for men measuring 74 inches, as estimated from the Health Examination Survey findings in 1960-62 for the adult civilian, noninstitutional population of the United States 18-79 years of age (table 1 and fig. 1).

Among American women, these findings show average weight ranges from 129 pounds at 58 inches to 157 pounds at 67 inches. Weights at

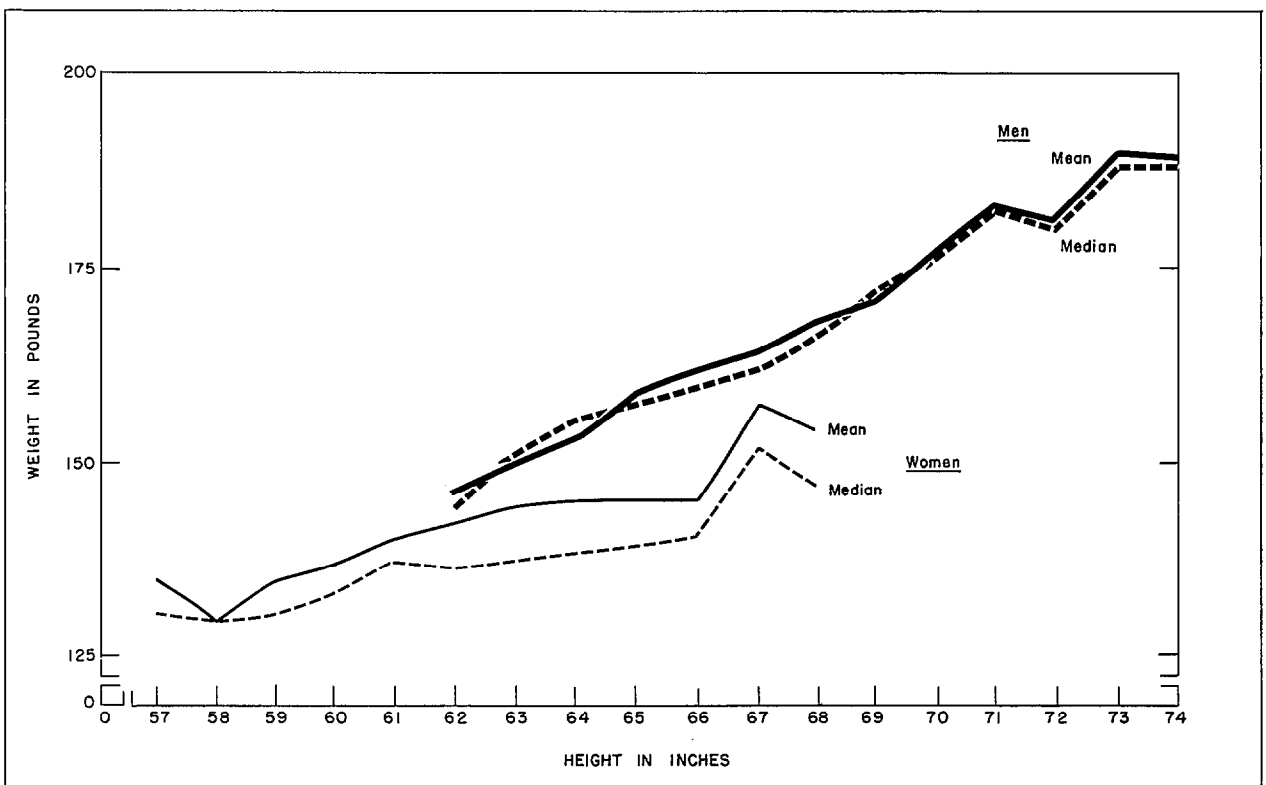


Figure 1. Unadjusted mean and median weight at each inch of height for men and women 18-79 years of age.

the extremes of the height range for which reliable estimates could be made deviated from this expected pattern somewhat. Those measuring 57 inches weighed 5 pounds more on the average than those 1 inch taller, while the tallest group—stature of 68 inches—averaged 3 pounds less than those 1 inch shorter, reflecting in part the greater sampling variability at these extremes.

Some indication of the variation in weight among individuals of the same height and age is shown by the range between the 25th (Q_1) and the 75th (Q_3) percentiles in table 2—the first of these points being the weight not exceeded by 25 percent of persons of the given height, age, and sex and the second the weight equaled or exceeded by 25 percent of that group. This range, which includes 50 percent of the population, varies between 29 and 43 pounds and averages 35 pounds over the height range for both men

and women, with no consistent pattern related to height.

Within each age group, the average weight tends to increase with height. Deviations from an orderly progression with respect to this, in general, probably reflect sampling error rather than any real weight difference in the population groups from one height interval to the next.

For persons taller or shorter than the extremes of the height range shown, the sample was too small to provide reliable estimates of the distribution of weights in the population. More complete weight and height distributions which contain some further information on these extremes are shown in tables 3 and 4.

The distribution of weight for any given height tends to be positively skewed with greater deviations existing above than below the average weight as reflected by the fairly consistent ex-

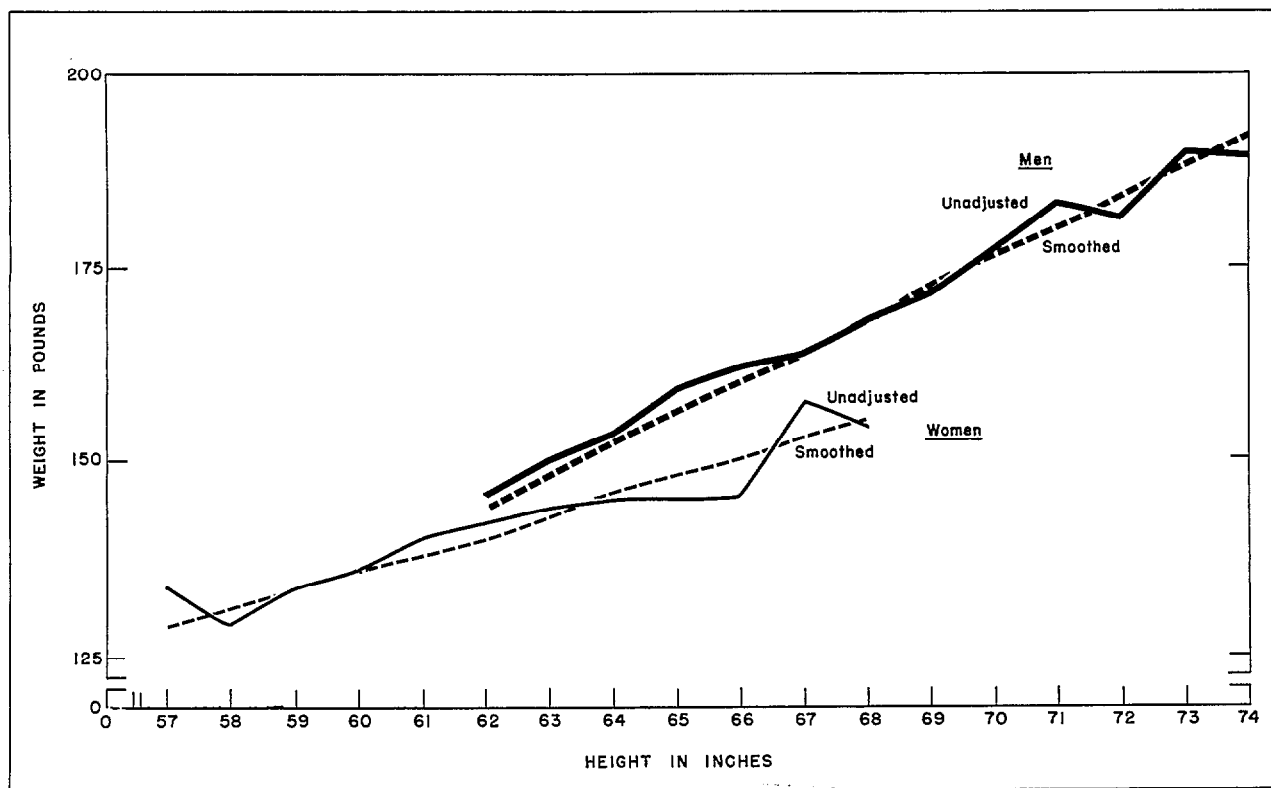


Figure 2. Unadjusted means and means from regression equations for weight at each inch of height for men and women 18-79 years of age.

cess of mean over median weights shown in figure 1.

While it is evident that the relationship between height and weight is not strictly linear—that is, weight does not increase precisely in set increments with increased height—the exact relationship, if it could be satisfactorily determined, would differ somewhat for each group. Yuan (1933)⁴ suggested that the bivariate distribution of weight by height could be fitted by a logarithmic surface. However, Kemsley (1952)⁵ tested this proposal on the height-weight data for the civil population in Great Britain obtained during 1943 and found the fit for that population to be poor. It seriously underestimated the variance of the distribution of weight for short heights and overestimated it for tall heights.

He found no way of improving the fit or making it suitable for graduation on the British data.

In this report, for the purposes of smoothing the findings from the present study and for making comparisons with other surveys on which certain existing height-weight standards are based, the regression of weight on height has been treated as linear.

Linear regression equations of weight on height have been fitted by the least squares method for each of the 14 age-sex groups included in the study (see Appendix). From these were obtained the smoothed averages shown in table 5. The differences between these and the averages obtained directly from the data are generally negligible (figs. 2 and 3), averaging less than half a pound over the height range.

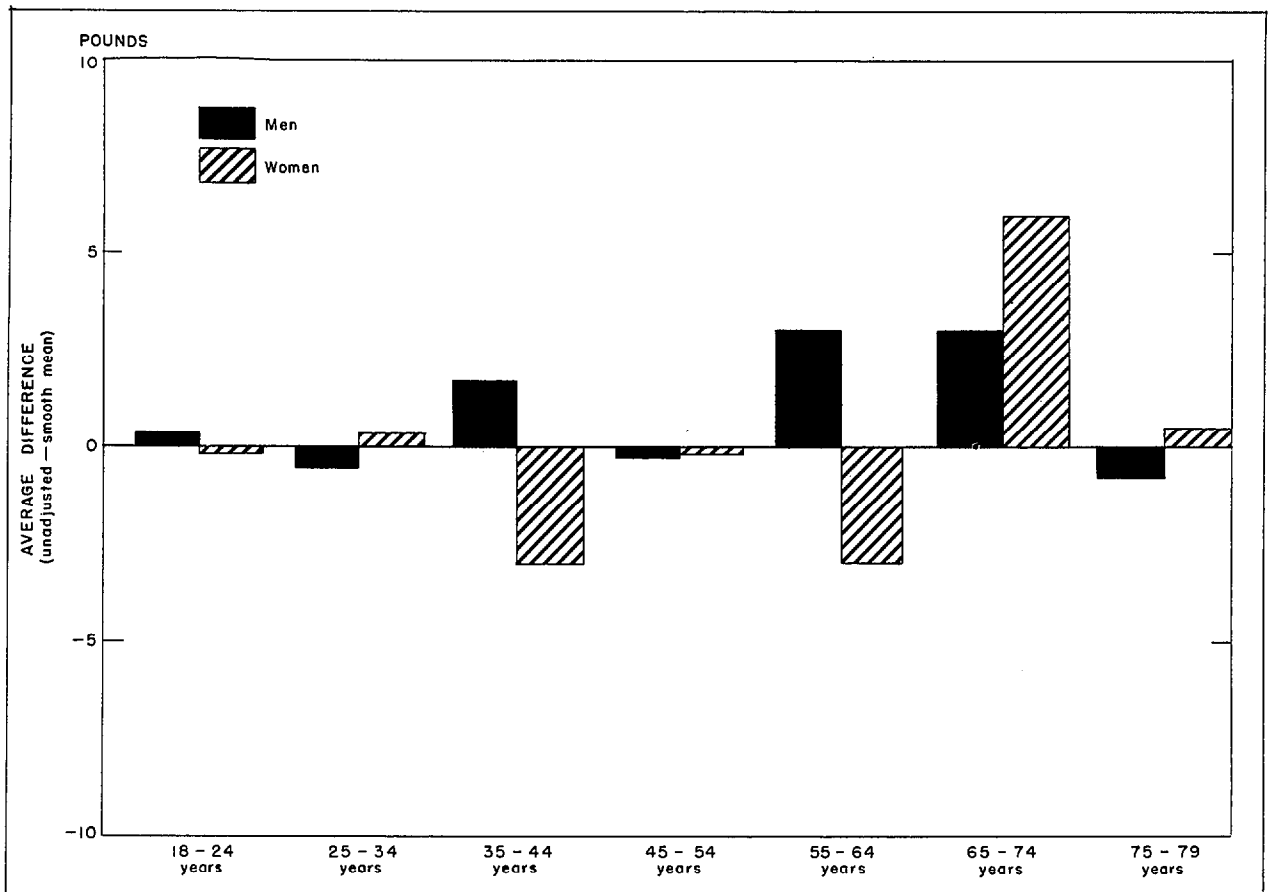


Figure 3. Average difference over height range between unadjusted mean weights and mean weights from regression equations for men and women, by age.

The only exceptions are for persons in the age groups 35-44 and 55-74 years, where the average deviation extends from 2 pounds among men 35-44 years of age to 6 pounds for women 65-74 years, due primarily to the influence of the less stable values at the extremes for the height distribution. There is no consistent pattern of poorer agreement for either taller or shorter persons. The correspondence is slightly better for men than for women, but among both groups the averages obtained in this way do not in general differ significantly from those determined by smoothing methods similar to those used in British and Canadian studies.

Also included in table 5 are the two points in the fitted distributions which bound the range of weights centered around the mean (from the regression equation) within which half of the population of a given height will fall. Unlike the 25th and the 75th percentiles, however, slightly more than one-fourth will weigh this or less, and slightly fewer will equal or exceed it.

The height-by-weight distributions of adults in the general population are shown in tables 6-21. Height-weight distributions of examination findings by age for men and women in the Health Examination Survey of 1960-62 are contained in tables I-XIV of the Appendix.

COMPARISON WITH OTHER HEIGHT-WEIGHT SURVEYS

Comparison is made here of the present findings for the adult population of the United States with those from three studies on which frequently used weight-for-height standards in Great Britain, Canada, and the United States are based.

The British body weight survey of 1943,⁶ carried out by the Ministry of Food, obtained the height and weight on a sample of 61,000 men and women 14-79 years of age in the civil population employed in industries of various sizes in England, Scotland, and Wales. Measurements were made in clothing and shoes. Comparison here is with the unadjusted weights and heights contained in Kemsley's report of these findings in 1952.⁵ A subsequent study of Kemsley, Billewicz, and Thomson in 1962,⁷ based on these data, discusses the representativeness of find-

ings from a civilian population during World War II, when so many were in service overseas and rationing was enforced. Subsequent studies have indicated that the effect of wartime rationing on body weight was trivial. Nor did average weight at each height differ significantly among three groups—civilians, those called up for national service, and more recent Army recruits.

In the Canadian height-weight survey of 1953,⁸ measurements were taken on a probability sample of some 22,000 Canadians, 2 years of age and older, in indoor clothing without shoes. Clothing weights for these persons were estimated as averaging 3 pounds for men (ranging from 1.5 to 5 pounds) and 2 pounds for women (ranging from 1 to 8 pounds).

The 1959 Society of Actuaries study⁹ among several million life insurance policy holders in the United States and Canada during 1935-53 has provided the basis for frequently used height-weight standards in this country. The imperfections in these data—heights and weights not always measured but frequently recorded only as reported verbally by the applicant and the variation in practice as to the amount of clothing worn for the measurements—have been noted in a previous report.³

Two factors need to be considered in making comparisons between these studies and the present one. First, the methods used in obtaining the smoothed averages differ somewhat for each study. This apparently will have a negligible effect on the comparability of the findings, however, since smooth averages obtained by applying the various methods to the data from the present study do not differ significantly from the linear regression estimates. The second factor—that of differences in clothing weights—will substantially affect comparability among the various studies. Clothing weights for the Canadian group will be most nearly like those for the present study, averaging about 1 pound more. In the other two studies, average clothing weights are substantially greater—the British were weighed in shoes and the American insurance holders with varying amounts of clothing.

Findings from the present study show adults in the United States generally weighed more on the average than their Canadian or British counterparts in 1953 and 1943, respectively, or than

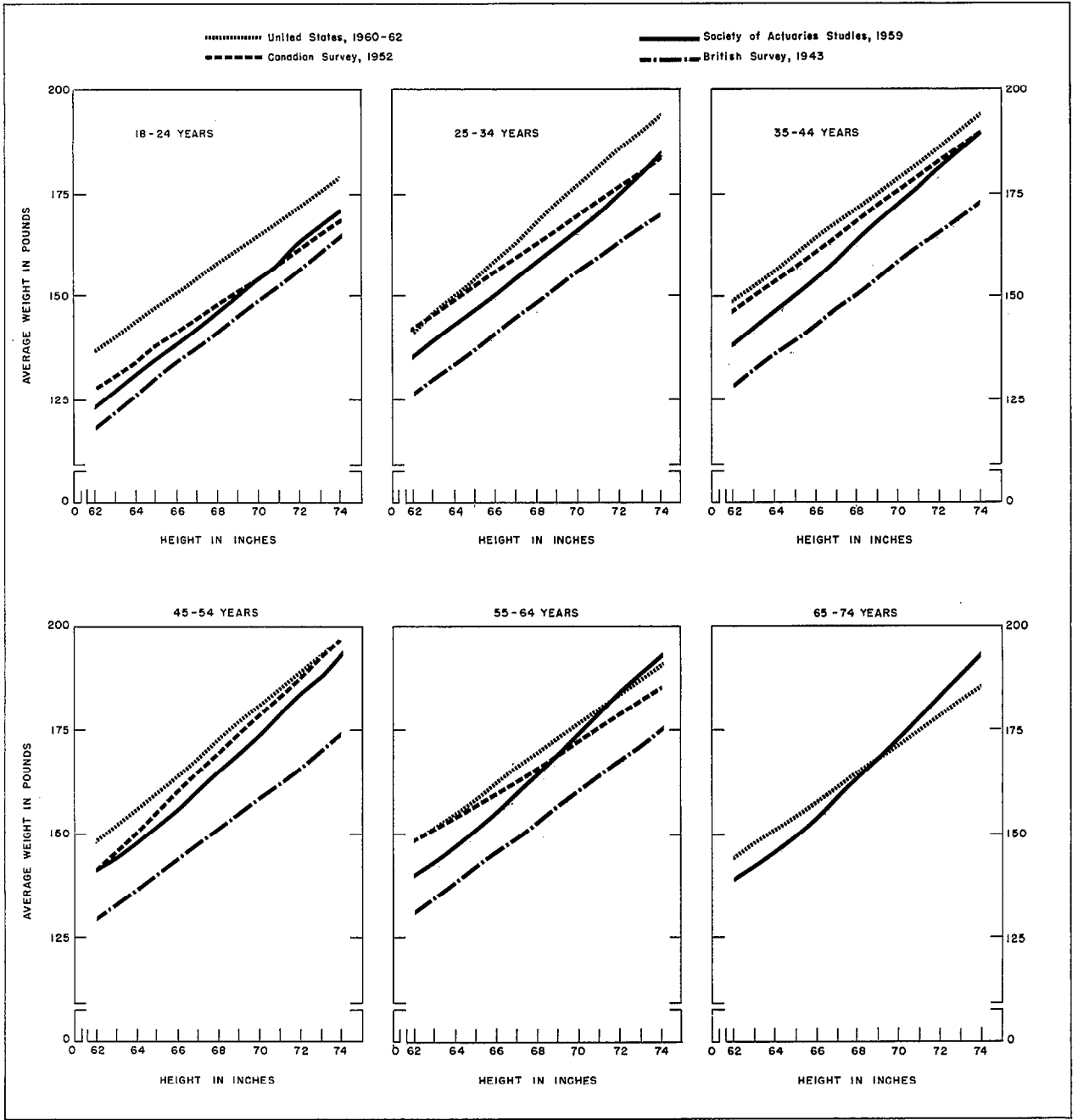


Figure 4. Average weight, by height for men in the United States, 1960-62; 1959 Society of Actuaries Study; 1953 Canadian survey; and 1943 British survey.

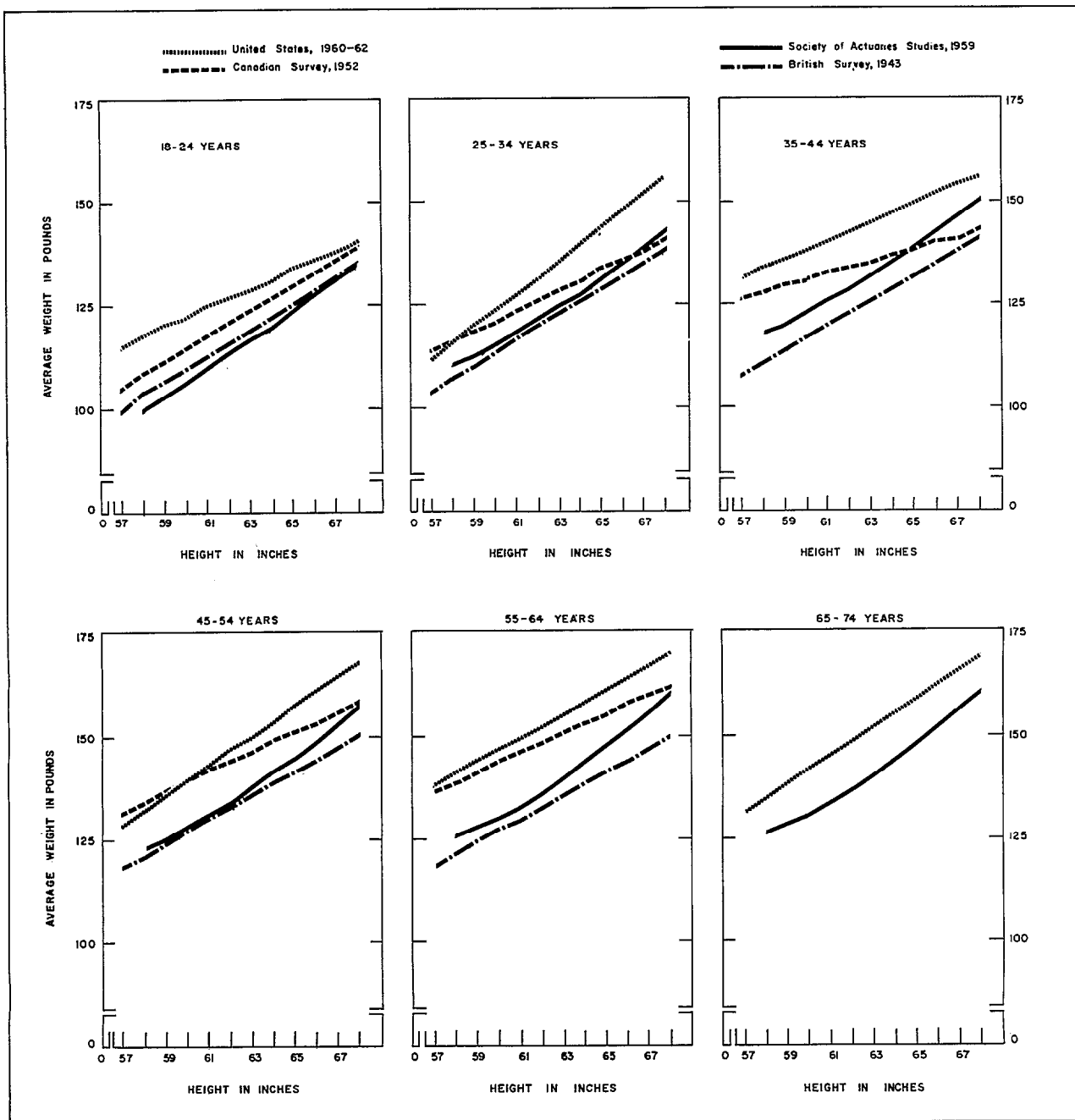


Figure 5. Average weight, by height for women in the United States, 1960-62; 1959 Society of Actuaries Study; 1953 Canadian survey; and 1943 British survey.

the insured Americans in the 1959 study. In the age groups from 18-64 years, Canadian men averaged 5 pounds lighter, the British men 19 pounds less, and the insured American men 6 to 7 pounds less. Among women of this age, the Canadians were 5 to 6 pounds lighter, British 14 to 15 pounds less, and insured Americans 10 to 11 pounds lighter. If adequate compensation could be made for disparities in clothing weight, the differences might be even greater.

The pattern of differences in average weight varies with height and with age, as indicated in figures 4 and 5. Among the youngest group, 18-24 years of age, the differences between averages from the present study and those from the other three diminish as height increases, more rapidly for women than for men. The one exception to this is found among Canadian men, whose average weight maintains a constant difference ranging between 9 and 11 pounds less than that of their counterparts in the United States over the height span.

At 25-34 years of age the pattern is reversed. The difference between the present averages for the United States and the other three studies increase as height increases; the rate of change again is more rapid for women than men.

From 35 years on the patterns of differences are less consistent.

At 35-44 years Canadian men average a fairly consistent 3 to 4 pounds less than present-day counterparts in the States and the British 20 to 21 pounds less, while insured Americans show differences that fall off with increased height. Differences for Canadian women increase with increased stature, while the reverse pattern is seen when comparison is made with the other two groups.

At 45-54 years, average weight difference between women of the United States and those from Canada and Britain becomes greater as height increases. However, Canadian men show a lessening in weight differential with increased stature. Other groups show a fairly constant difference throughout the height span.

By 55-64 years, Canadian men differ little in average weight from those in the United States, while for Canadian women there is some increase

in the difference with increased stature. Both British men and women maintain a fairly constant difference throughout the height range, while insured Americans show diminishing difference with greater stature. In fact, taller insured men (71 inches and over) weighed more on the average (4 to 13 pounds more) than present-day Americans.

The Society of Actuaries study for men 65-74 years of age, when compared with present findings, showed average weights less than those in the present study for shorter men, about the same as those for men of medium height, and greater than those for taller men. Among women the differences remain fairly constant at about 9 to 11 pounds less for the insured women throughout the height range. Canadian and British published data for persons 65 years and over include persons beyond the age range of the present study, hence are not strictly comparable.

SUMMARY

This report contains weight-for-height findings by age among the adult men and women in the civilian, noninstitutional population of the United States aged 18-79 years based on data from the Health Examination Survey in 1960-62. Tables of average weights and the 25th, 50th, and 75th percentiles for adult Americans, estimates from linear regression equations fitted to smooth the irregularities in the data, as well as height-weight distributions by age are included.

Comparison is made of the findings from the present study with those from three other studies on which frequently used weight-for-height standards in Great Britain, Canada, and the United States are based.

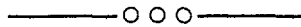
This study shows, in general, that:

1. American men range in average weight from 146 pounds at 62 inches in height to 190 pounds at 73 inches; while for American women this average progresses from 129 pounds at 58 inches to 157 pounds at 67 inches.

2. Within each age group, the average weight tends to increase with increasing height. Deviations from an orderly pattern with respect to this, in general, reflect sampling error primarily.
3. While the regression of weight on height (the rate at which weight increases with height) is not strictly linear, linear regression equations gave a better than expected fit when used to smooth the data for comparative purposes and to extend them at the extremes, where the sample was too small to produce reliable estimates.
4. Adults in the United States weigh more on the average than their Canadian and British counterparts in the 1953 and 1943 studies in those countries and than the insured Americans in the 1959 study of the Society of Actuaries. Among men 18-64 years of age, Canadians were found to average 5 pounds lighter, British 19 pounds less, and insured Americans 6 to 7 pounds less than American men. For women of this age Canadians were 5 to 6 pounds less, British 14 to 15 pounds lighter, and insured Americans 10 to 11 pounds less than American women.
5. The pattern of differences in average weights between the present study and each of the other three varies with height and age and differs somewhat among each of the three previous studies. Comparisons are made without adjustments for clothing.

REFERENCES

- ¹National Center for Health Statistics: Plan and initial program of the Health Examination Survey. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 1-No. 4. Public Health Service. Washington. U.S. Government Printing Office, July 1965.
- ²National Center for Health Statistics: Cycle I of the Health Examination Survey, sample and response. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 11-No. 1. Public Health Service. Washington. U.S. Government Printing Office, Apr. 1964.
- ³National Center for Health Statistics: Weight, height, and selected body dimensions of adults, United States, 1960-1962. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 11-No. 8. Public Health Service. Washington. U.S. Government Printing Office, June 1965.
- ⁴Yuan, P.: On the logarithmic frequency distribution and semi-logarithmic correlation surface. *Ann. Math. Stat.* 4:30-74, 1933.
- ⁵Kemsley, W. F. F.: Body weight at different ages and heights. *Ann. Eugenics* 16:316-334, 1952.
- ⁶Kemsley, W. F. F.: Weight and height of a population in 1943. *Ann. Eugenics* 15:161-183. 1950.
- ⁷Kemsley, W. F. F., Billewicz, W. Z., and Thomson, A. M.: A new weight-for-height standard based on British Anthropometric data. *Brit. J. Prev. & Social Med.* 16:189-195, 1962.
- ⁸Nutrition Division, Department of National Health and Welfare. The report on Canadian average weights, heights, and skinfolds. *Canadian Bulletin on Nutrition* 5(1):1-81, Sept. 1957.
- ⁹U.S. Department of Agriculture: *Heights and Weights of Adults in the United States*, by M. L. Hathaway and E. D. Foard. Home Economics Research Report No. 10, Washington. U. S. Government Printing Office, Aug. 1960.



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Table 1. Average weight for men and women, by age and height: United States, 1960-62¹

Height	Total, 18-79 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-79 years
<u>Men</u>		Weight in pounds						
62 inches-----	146	140	139	150	142	145	161	140
63 inches-----	150	151	143	154	150	155	152	135
64 inches-----	153	139	147	154	159	158	154	136
65 inches-----	159	149	156	169	163	152	159	153
66 inches-----	162	160	161	166	164	163	159	153
67 inches-----	164	153	167	165	168	168	155	169
68 inches-----	168	157	165	170	174	172	164	182
69 inches-----	171	166	173	174	172	173	164	158
70 inches-----	177	165	180	179	183	173	174	173
71 inches-----	183	166	181	190	191	178	179	² 179
72 inches-----	181	169	188	183	183	177	188	156
73 inches-----	190	183	191	193	187	212	183	² 189
74 inches-----	189	185	182	204	203	216	² 185	² 194
<u>Women</u>								
57 inches-----	134	117	128	122	144	132	136	132
58 inches-----	129	121	121	117	117	136	140	124
59 inches-----	134	121	118	138	135	141	143	133
60 inches-----	136	122	124	138	137	148	142	148
61 inches-----	140	124	127	137	150	147	146	146
62 inches-----	142	128	133	143	143	159	154	133
63 inches-----	144	126	135	146	146	160	145	145
64 inches-----	145	126	140	147	155	156	158	156
65 inches-----	145	135	142	140	156	161	145	144
66 inches-----	145	142	139	148	157	145	154	² 157
67 inches-----	157	140	154	154	171	172	219	² 160
68 inches-----	154	131	150	160	169	158	200	162

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

²Estimated values obtained from linear regression equations.

Table 2. Median and quartile weight¹ for men and women, by age and height: United States, 1960-62²

Height	Total, 18-79 years			18-24 years			25-34 years			35-44 years		
	P ₂₅	P ₅₀	P ₇₅	P ₂₅	P ₅₀	P ₇₅	P ₂₅	P ₅₀	P ₇₅	P ₂₅	P ₅₀	P ₇₅
<u>Men</u>	Weight in pounds											
62 inches--	128	144	164	122	132	175	131	141	152	141	146	152
63 inches--	134	151	163	127	138	162	130	151	158	132	158	178
64 inches--	136	155	167	121	128	156	129	147	163	137	158	167
65 inches--	139	157	177	131	139	159	129	156	174	151	165	183
66 inches--	144	160	177	141	153	170	144	160	174	151	162	180
67 inches--	146	162	180	138	151	168	147	164	187	150	163	178
68 inches--	149	166	185	144	153	168	146	159	182	154	168	184
69 inches--	153	172	187	145	161	184	156	174	188	156	175	189
70 inches--	159	176	195	148	163	177	163	178	196	164	179	195
71 inches--	166	182	201	152	163	177	163	180	200	175	186	204
72 inches--	162	179	198	153	166	183	169	188	208	165	182	197
73 inches--	177	188	208	171	184	195	178	188	206	184	191	202
74 inches--	166	188	209	164	174	207	164	183	201	203	211	215
<u>Women</u>												
57 inches--	119	130	149	³ 98	³ 116	³ 133	³ 90	³ 112	³ 133	115	125	132
58 inches--	109	129	147	101	107	155	103	110	118	107	118	132
59 inches--	114	130	149	98	112	142	104	118	131	113	128	157
60 inches--	117	133	150	106	117	131	112	123	138	116	132	156
61 inches--	119	137	156	110	121	136	112	120	143	118	130	151
62 inches--	119	136	158	113	125	143	115	127	145	119	135	159
63 inches--	123	137	158	113	122	132	115	128	145	125	138	160
64 inches--	124	138	159	116	126	136	122	133	152	126	140	158
65 inches--	126	139	157	118	132	143	124	134	157	121	137	154
66 inches--	128	140	158	124	137	148	125	136	146	133	142	160
67 inches--	134	152	177	123	134	148	131	147	171	132	150	178
68 inches--	128	147	165	120	129	145	118	147	163	131	148	168

Table 2. Median and quartile weight¹ for men and women, by age and height: United States, 1960-62²--Con.

Height	45-54 years			55-64 years			65-74 years			75-79 years		
	P ₂₅	P ₅₀	P ₇₅	P ₂₅	P ₅₀	P ₇₅	P ₂₅	P ₅₀	P ₇₅	P ₂₅	P ₅₀	P ₇₅
<u>Men</u>	Weight in pounds											
62 inches--	131	140	149	115	134	183	155	164	169	122	161	166
63 inches--	137	150	164	140	153	162	140	154	167	126	139	146
64 inches--	150	159	176	141	158	170	142	162	167	129	136	144
65 inches--	143	161	182	137	150	168	137	155	181	140	160	165
66 inches--	148	162	180	145	166	181	137	159	174	138	151	159
67 inches--	151	165	188	148	168	187	141	159	172	145	183	193
68 inches--	153	174	189	153	173	182	147	160	181	163	191	202
69 inches--	153	173	190	161	173	185	141	149	186	138	148	174
70 inches--	164	182	200	151	162	200	166	177	188	³ 156	³ 174	³ 191
71 inches--	174	187	208	166	177	194	157	183	204	³ 162	³ 179	³ 196
72 inches--	170	184	197	162	172	203	³ 159	³ 178	³ 198	³ 167	³ 184	³ 201
73 inches--	167	178	215	205	214	224	³ 162	³ 182	³ 201	³ 172	³ 189	³ 206
74 inches--	150	187	253	³ 171	³ 191	³ 211	³ 166	³ 185	³ 204	³ 177	³ 194	³ 212
<u>Women</u>												
57 inches--	115	138	166	122	126	130	125	144	150	120	125	130
58 inches--	103	116	130	126	136	148	119	141	159	120	135	163
59 inches--	119	131	148	123	137	149	121	142	160	118	130	146
60 inches--	119	133	150	133	149	165	130	139	154	118	152	162
61 inches--	130	145	166	131	143	162	131	145	162	115	149	183
62 inches--	121	139	159	135	152	178	130	153	172	114	135	154
63 inches--	126	141	160	135	149	180	132	144	163	122	146	156
64 inches--	133	150	176	133	149	176	136	157	174	131	155	191
65 inches--	136	149	177	143	149	184	128	146	157	³ 133	³ 153	³ 173
66 inches--	141	156	175	125	138	165	122	164	182	³ 137	³ 157	³ 176
67 inches--	149	159	179	156	179	186	³ 147	³ 166	³ 185	³ 140	³ 160	³ 180
68 inches--	145	155	170	129	157	180	³ 150	³ 170	³ 189	³ 144	³ 164	³ 183

¹Median - P₅₀, the percentile below which 50 percent of the population fall.

Quartiles - P₂₅ and P₇₅, the 25th and 75th percentile below which 25 and 75 percent of the population fall.

²Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

³Estimated values obtained from the linear regression equations.

Table 3. Height distribution, by age and sex: United States, 1960-62¹

Height	Total, 18-79 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-79 years
<u>Men</u>		Number of persons in thousands						
Total-----	52,744	7,139	10,281	11,373	10,034	7,517	4,972	1,428
Under 60 inches-----	90	-	-	10	22	-	37	21
60 inches-----	100	-	8	9	16	37	16	14
61 inches-----	485	11	15	42	30	173	107	107
62 inches-----	874	98	127	151	110	184	122	82
63 inches-----	1,720	157	164	224	304	527	166	178
64 inches-----	3,691	286	487	550	664	818	714	172
65 inches-----	3,488	360	453	698	772	540	614	51
66 inches-----	7,021	1,129	1,015	1,384	1,240	960	920	373
67 inches-----	6,249	908	1,121	1,325	1,281	927	556	131
68 inches-----	9,379	1,057	1,794	2,183	2,086	1,313	824	122
69 inches-----	5,421	895	1,233	1,342	926	632	320	73
70 inches-----	6,239	881	1,456	1,633	1,216	641	349	63
71 inches-----	3,216	375	800	1,018	508	338	177	-
72 inches-----	2,817	602	820	493	524	305	32	41
73 inches-----	1,103	225	348	186	235	91	18	-
74 inches-----	581	101	311	96	55	18	-	-
75 inches-----	126	38	29	29	30	-	-	-
76 inches and over-----	144	16	100	-	15	13	-	-
<u>Women</u>								
Total-----	58,343	8,430	11,291	12,325	10,542	8,121	6,192	1,442
Under 53 inches-----	57	-	-	-	-	40	-	17
53 inches-----	44	-	-	-	-	-	-	44
54 inches-----	43	-	-	17	18	8	-	-
55 inches-----	194	-	15	-	34	32	81	32
56 inches-----	193	9	24	49	-	48	43	20
57 inches-----	994	18	63	97	182	143	392	99
58 inches-----	1,259	152	76	109	188	318	342	74
59 inches-----	3,801	255	582	581	788	620	842	133
60 inches-----	4,482	578	613	881	985	654	677	94
61 inches-----	8,358	1,059	1,153	1,622	1,387	1,671	1,216	250
62 inches-----	10,498	1,312	2,218	2,041	2,237	1,518	874	298
63 inches-----	7,277	938	1,293	1,703	1,359	1,148	668	168
64 inches-----	9,023	1,631	2,065	2,191	1,521	865	599	151
65 inches-----	4,738	896	1,285	1,043	723	442	305	44
66 inches-----	4,389	896	1,222	1,324	528	325	94	-
67 inches-----	1,400	288	369	299	296	138	10	-
68 inches-----	1,199	300	208	256	272	106	39	18
69 inches-----	191	54	31	91	15	-	-	-
70 inches-----	136	33	36	12	-	45	10	-
71 inches and over-----	67	11	38	9	9	-	-	-

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 4. Weight distribution, by age and sex: United States, 1960-62¹

Weight	Total, 18-79 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-79 years
<u>Men</u>		Number of persons in thousands						
Total-----	52,744	7,139	10,281	11,373	10,034	7,517	4,972	1,428
Under 100 pounds-----	124	-	8	-	21	22	57	16
100-109 pounds-----	270	-	13	46	31	19	82	79
110-119 pounds-----	843	145	189	42	83	174	162	48
120-129 pounds-----	2,265	524	337	210	299	492	323	80
130-139 pounds-----	4,249	798	763	737	631	566	441	313
140-149 pounds-----	6,520	1,305	1,168	1,017	1,039	921	749	321
150-159 pounds-----	7,573	1,122	1,403	1,820	1,468	1,049	579	132
160-169 pounds-----	7,693	1,052	1,364	1,672	1,357	1,100	997	151
170-179 pounds-----	6,860	766	1,392	1,799	1,428	922	468	85
180-189 pounds-----	5,800	656	1,163	1,458	1,333	769	371	50
190-199 pounds-----	3,911	208	881	964	863	586	311	98
200-209 pounds-----	2,821	154	696	692	539	455	247	38
210-219 pounds-----	1,702	137	323	403	475	245	102	17
220-229 pounds-----	1,096	198	237	234	243	114	70	-
230-239 pounds-----	453	21	184	129	110	9	-	-
240-249 pounds-----	311	38	77	82	92	9	13	-
250 pounds and over-----	253	15	83	68	22	65	-	-
<u>Women</u>								
Total-----	58,343	8,430	11,291	12,325	10,542	8,121	6,192	1,442
Under 90 pounds-----	286	40	51	-	17	77	42	59
90-99 pounds-----	1,167	415	349	104	180	8	85	26
100-109 pounds-----	3,898	1,076	991	593	570	228	321	119
110-119 pounds-----	7,652	1,494	1,991	1,938	1,051	497	427	254
120-129 pounds-----	9,475	1,949	2,251	2,036	1,328	946	799	166
130-139 pounds-----	9,488	1,310	1,893	2,058	1,555	1,536	986	150
140-149 pounds-----	8,039	975	1,351	1,540	1,806	1,278	962	127
150-159 pounds-----	5,112	492	694	1,179	1,072	736	719	220
160-169 pounds-----	3,873	255	501	789	769	737	679	143
170-179 pounds-----	3,204	199	346	681	736	727	471	44
180-189 pounds-----	1,845	32	283	434	419	361	274	42
190-199 pounds-----	1,500	37	190	257	400	366	188	62
200-209 pounds-----	1,052	48	139	243	232	209	151	30
210-219 pounds-----	634	29	80	148	163	142	72	-
220-229 pounds-----	372	23	37	162	69	65	16	-
230-239 pounds-----	291	29	35	49	71	107	-	-
240-249 pounds-----	145	-	38	29	28	50	-	-
250-259 pounds-----	101	18	-	40	-	43	-	-
260-269 pounds-----	80	-	26	14	40	-	-	-
270-279 pounds-----	41	9	-	24	-	8	-	-
280 pounds and over-----	88	-	45	7	36	-	-	-

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 5. Smoothed averages and quartile weights¹ for men and women, by age and height: United States, 1960-62²

Height	18-24 years			25-34 years			35-44 years		
	P'_{25}	Average	P'_{75}	P'_{25}	Average	P'_{75}	P'_{25}	Average	P'_{75}
<u>Men</u>	Weight in pounds								
62 inches-----	120	137	154	121	141	161	131	149	167
63 inches-----	123	140	157	126	145	165	134	152	170
64 inches-----	127	144	161	130	150	170	138	156	174
65 inches-----	130	147	164	135	154	174	142	160	178
66 inches-----	134	151	168	139	159	178	146	164	182
67 inches-----	137	154	171	144	163	183	150	168	186
68 inches-----	141	158	175	148	168	187	153	171	189
69 inches-----	144	161	178	153	172	192	157	175	193
70 inches-----	148	165	182	157	177	196	161	179	197
71 inches-----	151	168	185	162	181	201	164	182	200
72 inches-----	155	172	189	166	186	205	168	186	204
73 inches-----	158	175	192	170	190	210	172	190	208
74 inches-----	162	179	196	175	194	214	176	194	212
<u>Women</u>									
57 inches-----	98	116	133	90	112	133	109	131	153
58 inches-----	100	118	135	94	116	137	111	134	156
59 inches-----	103	120	138	98	120	141	114	136	158
60 inches-----	105	122	140	102	124	145	116	138	160
61 inches-----	107	125	142	106	128	149	118	140	162
62 inches-----	110	127	144	110	132	153	120	143	165
63 inches-----	112	129	146	114	136	157	123	145	167
64 inches-----	114	131	149	118	140	161	125	147	169
65 inches-----	116	134	151	122	144	165	127	149	172
66 inches-----	118	136	153	126	148	169	129	152	174
67 inches-----	121	138	155	130	152	173	132	154	176
68 inches-----	123	140	158	134	156	177	134	156	178

Table 5. Smoothed averages and quartile weights¹ for men and women, by age and height: United States, 1960-62²--Con.

45-54 years			55-64 years			65-74 years			75-79 years		
P'_{25}	Average	P'_{75}	P'_{25}	Average	P'_{75}	P'_{25}	Average	P'_{75}	P'_{25}	Average	P'_{75}
Weight in pounds											
130	148	167	128	148	168	125	144	163	116	133	151
134	152	171	131	151	171	128	148	167	121	138	156
138	156	175	135	155	175	132	151	170	126	143	161
142	160	179	138	158	178	135	154	174	131	148	166
146	164	183	142	162	182	138	158	177	136	154	171
150	168	187	146	166	186	142	161	180	142	159	176
154	173	191	149	169	189	145	165	184	146	164	181
158	177	195	153	173	193	149	168	187	151	169	186
162	181	199	156	176	196	152	171	191	156	174	191
166	185	203	160	180	200	156	175	194	162	179	196
170	189	207	163	184	204	159	178	198	167	184	201
174	193	211	167	187	207	162	182	201	172	189	206
178	197	215	171	191	211	166	185	204	177	194	212
107	129	151	116	138	160	112	132	151	106	125	145
110	132	154	119	141	163	116	135	154	109	129	149
114	136	158	122	144	166	119	138	158	113	132	152
118	140	161	125	149	169	123	142	161	116	136	156
121	143	165	128	150	171	126	145	164	120	139	159
125	147	169	131	152	174	130	149	168	123	143	163
128	150	172	134	155	177	133	152	171	126	146	166
132	154	176	136	158	180	137	156	175	130	150	170
136	158	179	139	161	183	140	159	178	133	153	173
139	161	183	142	164	186	144	163	182	137	157	176
143	165	187	145	167	189	147	166	185	140	160	180
146	168	190	148	170	191	150	170	189	144	164	183

¹Estimated values from regression equations of weight on height for specified age groups. The values shown for P'_{25} and P'_{75} are the points which bound the range of weights around the smoothed average within which 50 percent of the population of a given height would fall. Approximately 25 percent would weigh less and 25 percent more than these average values. (See Appendix.)

²Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 6. Height by weight distribution for men 18-79 years of age: United States, 1960-62¹

Height	Weight in pounds						
	Total	Under 110	110-119	120-129	130-139	140-149	150-159
Total-----	52,744	394	843	2,265	4,249	6,520	7,573
Under 62 inches-----	675	134	109	83	148	56	105
62 inches-----	874	38	97	100	137	149	79
63 inches-----	1,720	68	78	182	232	261	410
64 inches-----	3,691	59	175	390	503	416	567
65 inches-----	3,488	35	66	395	436	445	536
66 inches-----	7,021	38	129	328	805	1,053	1,205
67 inches-----	6,249	22	124	261	497	1,104	886
68 inches-----	9,379	-	25	238	765	1,387	1,684
69 inches-----	5,421	-	18	220	264	674	689
70 inches-----	6,239	-	22	68	330	461	770
71 inches-----	3,216	-	-	-	68	191	266
72 inches-----	2,817	-	-	-	64	209	328
73 inches-----	1,103	-	-	-	-	46	27
74 inches-----	581	-	-	-	-	68	21
75 inches and over-----	270	-	-	-	-	-	-

Height	Weight in pounds—Con.							
	160-169	170-179	180-189	190-199	200-209	210-219	220-229	230+
Total-----	7,693	6,860	5,800	3,911	2,821	1,702	1,096	1,017
Under 62 inches-----	31	9	-	-	-	-	-	-
62 inches-----	124	22	91	22	15	-	-	-
63 inches-----	234	98	44	36	54	-	-	23
64 inches-----	891	333	232	66	30	14	-	15
65 inches-----	458	364	364	116	161	55	21	36
66 inches-----	1,172	732	647	362	196	111	182	61
67 inches-----	1,029	775	471	605	202	101	94	78
68 inches-----	1,063	1,371	993	733	552	310	117	141
69 inches-----	664	1,035	723	465	244	203	108	114
70 inches-----	866	1,000	849	669	547	354	128	175
71 inches-----	457	519	605	271	310	184	232	113
72 inches-----	442	392	346	406	258	143	97	132
73 inches-----	97	162	278	98	153	144	84	14
74 inches-----	88	48	83	34	99	83	-	57
75 inches and over-----	77	-	74	28	-	-	33	58

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 7. Height by weight distribution for men 18-24 years of age: United States, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
Total-----	7,139	669	798	1,305	1,122	1,052	766	656	208	154	409
	Number in thousands										
Under 63 inches-----	109	44	25	11	-	-	8	21	-	-	-
63 inches-----	157	58	24	-	33	18	-	-	-	24	-
64 inches-----	286	158	33	18	9	26	42	-	-	-	-
65 inches-----	360	72	121	21	62	18	30	-	18	18	-
66 inches-----	1,129	91	174	251	136	200	62	57	34	-	124
67 inches-----	908	103	147	197	107	163	117	53	21	-	-
68 inches-----	1,057	37	98	331	242	108	117	68	-	18	38
69 inches-----	895	79	76	144	125	164	31	137	44	51	44
70 inches-----	881	27	88	137	147	145	163	74	33	-	67
71 inches-----	375	-	12	69	84	86	43	54	-	-	27
72 inches-----	602	-	-	104	150	81	92	90	18	29	38
73 inches and over-----	380	-	-	22	27	43	61	102	40	14	71

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 8. Height by weight distribution for men 25-34 years of age: United States, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
Total-----	10,281	547	763	1,168	1,163	1,163	1,163	881	696	904	
	Number in thousands										
Under 63 inches-----	150	38	30	27	57	-	-	-	-	-	-
63 inches-----	164	40	21	17	58	12	-	-	-	-	-
64 inches-----	487	133	55	77	76	39	13	-	-	7	14
65 inches-----	453	119	48	-	103	85	13	-	-	34	14
66 inches-----	1,015	86	109	153	166	135	36	76	22	35	
67 inches-----	1,121	42	75	249	127	107	74	96	88	76	
68 inches-----	1,794	54	259	246	395	199	181	193	64	54	
69 inches-----	1,233	15	67	121	167	247	197	119	108	38	
70 inches-----	1,456	20	48	118	123	271	216	134	103	209	
71 inches-----	800	-	10	86	69	116	136	68	64	133	
72 inches-----	820	-	41	20	48	104	106	134	73	186	
73 inches and over-----	788	-	-	54	14	77	191	61	133	145	

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 9. Height by weight distribution for men 35-44 years of age: United States, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
	Number in thousands										
Total-----	11,373	298	737	1,017	1,820	1,672	1,799	1,458	964	692	916
Under 63 inches-----	212	25	50	96	18	8	-	-	-	15	-
63 inches-----	224	53	16	-	56	19	31	30	19	-	-
64 inches-----	550	59	113	15	117	157	64	12	13	-	-
65 inches-----	698	34	23	95	143	116	57	163	13	12	42
66 inches-----	1,384	35	65	205	347	252	141	138	80	67	54
67 inches-----	1,325	37	111	190	247	261	187	111	91	38	52
68 inches-----	2,183	34	207	131	472	329	373	204	118	138	177
69 inches-----	1,342	21	22	173	191	112	321	191	130	50	131
70 inches-----	1,633	-	115	63	139	227	290	265	238	152	144
71 inches-----	1,018	-	15	23	23	85	240	204	126	108	194
72 inches-----	493	-	-	26	60	77	73	67	91	50	49
73 inches and over-----	311	-	-	-	7	29	22	73	45	62	73

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 10. Height by weight distribution for men 45-54 years of age: United States, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
	Number in thousands										
Total-----	10,034	434	631	1,039	1,468	1,357	1,428	1,333	863	539	942
Under 63 inches-----	178	62	44	32	-	32	-	8	-	-	-
63 inches-----	304	51	34	65	53	65	21	-	-	15	-
64 inches-----	664	53	68	43	190	79	105	118	-	8	-
65 inches-----	772	86	80	92	122	115	73	73	34	53	44
66 inches-----	1,240	16	163	174	240	153	176	192	75	14	37
67 inches-----	1,281	88	59	158	240	181	139	116	144	61	95
68 inches-----	2,086	47	125	266	284	183	391	287	156	134	213
69 inches-----	926	31	50	123	92	116	199	83	141	-	91
70 inches-----	1,216	-	8	36	177	204	149	178	155	133	176
71 inches-----	508	-	-	13	-	102	31	146	24	76	116
72 inches-----	524	-	-	-	70	63	94	81	119	45	52
73 inches and over-----	335	-	-	37	-	64	50	51	15	-	118

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 11. Height by weight distribution for men 55-64 years of age: United States, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
Total-----	7,517	707	566	921	1,049	1,100	922	769	586	455	442
Under 63 inches-----	394	200	39	25	50	-	23	35	22	-	-
63 inches-----	527	45	83	80	168	96	-	14	18	-	23
64 inches-----	818	86	104	127	112	183	83	64	29	15	15
65 inches-----	540	87	67	119	70	81	55	47	-	14	-
66 inches-----	960	114	63	122	87	154	154	182	14	39	31
67 inches-----	927	38	65	156	112	121	133	96	165	-	41
68 inches-----	1,313	60	61	165	160	146	196	158	170	151	46
69 inches-----	632	35	11	-	104	123	160	80	15	33	71
70 inches-----	641	42	18	88	164	49	-	48	72	99	61
71 inches-----	338	-	32	1	22	50	89	45	37	22	40
72 inches-----	305	-	23	38	-	84	29	-	44	40	47
73 inches and over-----	122	-	-	-	-	13	-	-	-	42	67

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table 12. Height by weight distribution for men 65-74 years of age: United States, 1960-62¹

Height	Weight in pounds									
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	4,972	624	441	749	579	997	468	371	311	432
Under 63 inches-----	282	84	41	-	58	71	-	28	-	-
63 inches-----	166	21	20	27	43	21	18	-	-	16
64 inches-----	714	92	65	88	49	371	-	26	23	-
65 inches-----	614	97	84	104	39	64	65	68	51	42
66 inches-----	920	156	106	97	111	199	48	14	65	124
67 inches-----	556	87	41	103	51	117	94	-	36	27
68 inches-----	824	31	17	233	131	101	95	95	67	54
69 inches-----	320	56	15	97	11	-	43	33	16	49
70 inches-----	349	-	52	-	19	27	105	69	38	39
71 inches-----	177	-	-	-	67	16	-	20	15	59
72 inches and over-----	50	-	-	-	-	10	-	18	-	22

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table 13. Height by weight distribution for men 75-79 years of age: United States, 1960-62¹

Height	Weight in pounds								
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190+
	Number in thousands								
Total-----	1,428	223	313	321	132	151	85	50	153
Under 62 inches-----	142	71	56	15	-	-	-	-	-
62 inches-----	82	36	-	-	-	46	-	-	-
63 inches-----	178	60	31	72	-	-	15	-	-
64 inches-----	172	47	63	48	14	-	-	-	-
65 inches-----	51	-	13	13	-	25	-	-	-
66 inches-----	373	-	127	50	118	16	14	29	19
67 inches-----	131	9	-	51	-	-	-	21	50
68 inches-----	122	-	-	16	-	43	-	-	63
69 inches-----	73	-	23	17	-	-	33	-	-
70 inches-----	63	-	-	19	-	-	23	-	21
71 inches-----	-	-	-	-	-	-	-	-	-
72 inches and over-----	41	-	-	20	-	21	-	-	-

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 14. Height by weight distribution for women 18-79 years of age: United States, 1960-62¹

Height	Weight in pounds							
	Total	Under 90	90-99	100-109	110-119	120-129	130-139	140-149
	Number in thousands							
Total-----	58,343	286	1,167	3,898	7,652	9,475	9,488	8,039
Under 57 inches-----	531	70	28	118	130	59	62	-
57 inches-----	994	50	15	93	100	245	66	196
58 inches-----	1,259	10	94	230	151	169	194	132
59 inches-----	3,801	68	171	452	579	647	426	558
60 inches-----	4,482	19	181	411	722	620	860	534
61 inches-----	8,358	21	196	692	1,261	1,172	1,259	1,180
62 inches-----	10,498	24	197	718	1,778	1,600	1,487	1,215
63 inches-----	7,277	-	155	413	874	1,309	1,258	898
64 inches-----	9,023	23	103	488	865	1,767	1,644	1,108
65 inches-----	4,738	-	16	141	580	769	967	793
66 inches-----	4,389	-	11	105	396	727	929	920
67 inches-----	1,400	-	-	22	81	167	203	193
68 inches-----	1,199	-	-	15	135	179	64	275
69 inches and over-----	394	1	-	-	-	45	69	37

Height	Weight in pounds--Con.							
	150-159	160-169	170-179	180-189	190-199	200-209	210-219	220+
	Number in thousands							
Total-----	5,112	3,873	3,204	1,845	1,500	1,052	634	1,118
Under 57 inches-----	31	-	-	-	-	-	18	15
57 inches-----	38	133	15	-	-	16	27	-
58 inches-----	114	103	24	38	-	-	-	-
59 inches-----	228	212	190	96	91	31	16	36
60 inches-----	335	279	228	79	123	36	47	8
61 inches-----	800	634	488	247	210	67	37	94
62 inches-----	1,018	761	506	322	231	307	138	196
63 inches-----	673	436	410	248	157	112	93	241
64 inches-----	843	481	597	289	320	141	122	232
65 inches-----	382	276	247	184	192	74	55	62
66 inches-----	269	287	277	176	115	94	26	57
67 inches-----	168	104	164	149	15	42	38	54
68 inches-----	167	137	16	8	16	122	7	58
69 inches and over-----	46	30	42	9	30	10	10	65

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table 15. Height by weight distribution for women 18-24 years of age: United States, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	Number in thousands											
	8,430	1,531	1,494	1,949	1,310	975	492	255	199	32	37	156
Under 59 inches--	179	94	27	-	-	-	41	17	-	-	-	-
59 inches-----	255	124	15	47	-	25	11	-	18	15	-	-
60 inches-----	578	210	113	104	39	53	25	-	-	-	23	11
61 inches-----	1,059	263	252	189	158	105	35	22	28	-	-	7
62 inches-----	1,312	251	252	302	147	127	132	64	14	-	-	23
63 inches-----	938	170	237	279	82	77	24	25	16	10	-	18
64 inches-----	1,631	305	180	528	346	144	108	13	7	-	-	-
65 inches-----	896	86	179	136	228	141	40	16	28	-	-	42
66 inches-----	896	28	106	202	167	203	32	57	39	7	14	41
67 inches-----	288	-	57	50	99	13	-	23	32	-	-	14
68 inches and over-----	398	-	76	112	44	87	44	18	17	-	-	-

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table 16. Height by weight distribution for women 25-34 years of age: United States, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	Number in thousands											
	11,291	1,391	1,991	2,251	1,893	1,351	694	501	346	283	190	400
Under 58 inches--	102	63	8	-	-	-	16	15	-	-	-	-
58 inches-----	76	11	26	24	-	15	-	-	-	-	-	-
59 inches-----	582	198	121	109	67	79	8	-	-	-	-	-
60 inches-----	613	119	160	112	86	120	-	-	-	16	-	-
61 inches-----	1,153	229	358	165	86	102	110	44	40	19	-	-
62 inches-----	2,218	267	526	435	311	234	100	144	37	64	60	40
63 inches-----	1,293	226	211	249	231	105	95	50	18	27	29	52
64 inches-----	2,065	189	245	435	469	183	171	42	120	47	24	140
65 inches-----	1,285	16	178	338	305	78	74	96	82	26	44	48
66 inches-----	1,222	37	101	322	248	325	37	34	11	56	25	26
67 inches-----	369	22	13	50	58	57	19	55	29	28	8	30
68 inches and over-----	313	14	44	12	32	53	64	21	9	-	-	64

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table 17. Height by weight distribution for women 35-44 years of age: United States, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	12,325	697	1,938	2,058	2,058	1,540	1,179	789	681	434		716
Under 58 inches--	163	33	35		32	-	13	-	-	-		18
58 inches-----	109	30	29		33	-	-	-	-	-		-
59 inches-----	581	109	131		62	7	89	21	21	10		49
60 inches-----	881	90	209		174	47	51	55	37	18		58
61 inches-----	1,622	191	285		193	207	114	116	69	28		62
62 inches-----	2,041	110	452		216	277	144	134	165	22		106
63 inches-----	1,703	15	199		283	137	242	138	72	78		116
64 inches-----	2,191	54	248		364	375	199	127	125	107		116
65 inches-----	1,043	42	214		239	141	120	43	72	24		35
66 inches-----	1,324	23	125		387	233	138	84	87	83		46
67 inches-----	299	-	11		55	46	35	52	13	16		16
68 inches and over-----	368	-	-		29	81	17	58	17	9		94

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 18. Height by weight distribution for women 45-54 years of age: United States, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	10,542	767	1,051	1,328	1,555	1,806	1,072	769	736	419	400	639
Under 58 inches--	234	60	40	12	16	31	18	20	7	-	-	30
58 inches-----	188	73	38	31	31	15	-	-	-	-	-	-
59 inches-----	788	89	124	177	80	160	9	106	13	19	11	-
60 inches-----	985	95	171	135	259	75	97	47	60	-	24	22
61 inches-----	1,387	79	85	193	205	268	130	127	116	36	38	110
62 inches-----	2,237	220	324	282	318	320	228	136	117	132	34	126
63 inches-----	1,359	92	121	196	244	272	98	82	84	46	56	68
64 inches-----	1,521	32	124	174	173	265	201	101	128	87	115	121
65 inches-----	723	-	9	93	136	141	88	64	16	76	71	29
66 inches-----	528	27	-	16	78	108	61	56	103	14	28	37
67 inches-----	296	-	-	12	-	69	72	-	76	9	7	51
68 inches and over-----	296	-	15	7	15	82	70	30	16	-	16	45

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table 19. Height by weight distribution for women 55-64 years of age: United States, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
	Number in thousands											
Total-----	8,121	313	497	946	1,536	1,278	736	737	727	361		624
Under 58 inches--	271	51	52	99	19	13	-	-	8	-		29
58 inches-----	318	32	12	64	86	58	21	45	-	-		-
59 inches-----	620	65	63	104	113	129	10	39	37	28		18
60 inches-----	654	32	23	78	98	102	103	104	82	21		-
61 inches-----	1,671	75	131	171	381	254	203	163	164	22		18
62 inches-----	1,518	27	83	93	332	167	236	125	98	70		241
63 inches-----	1,148	8	50	105	237	192	71	79	123	68		161
64 inches-----	865	23	37	102	177	98	40	83	138	30		71
65 inches-----	442	-	-	23	29	185	8	23	38	59		36
66 inches-----	325	-	46	77	49	52	-	42	26	-		18
67 inches-----	138	-	-	-	-	18	26	13	13	55		13
68 inches and over-----	151	-	-	30	15	10	18	21	-	8		19

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table 20. Height by weight distribution for women 65-74 years of age: United States, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
	Number in thousands											
Total-----	6,192	448	427	799	986	962	719	679	471	274	188	239
Under 58 inches--	516	131	1	74	61	152	21	76	-	-	-	-
58 inches-----	342	45	44	34	44	45	52	16	24	38	-	-
59 inches-----	842	80	114	118	84	137	101	47	74	26	44	17
60 inches-----	677	62	19	82	204	123	37	44	48	24	34	-
61 inches-----	1,216	27	121	126	234	187	183	162	53	99	24	-
62 inches-----	874	20	62	144	109	75	97	131	76	35	20	105
63 inches-----	668	58	18	60	164	93	89	62	96	18	-	10
64 inches-----	599	11	31	58	86	42	101	92	78	18	45	37
65 inches-----	305	14	-	79	-	108	38	35	10	-	21	-
66 inches and over-----	153	-	17	24	-	-	-	14	12	16	-	70

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table 21. Height by weight distribution for women 75-79 years of age: United States, 1960-62¹

Height	Weight in pounds								
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170+
	Number in thousands								
Total-----	1,442	204	254	166	150	127	220	143	178
Under 58 inches-----	212	38	68	84	-	-	-	22	-
58 inches-----	74	49	-	-	-	-	-	25	-
59 inches-----	133	25	10	33	20	21	-	-	24
60 inches-----	94	-	28	-	-	14	23	29	-
61 inches-----	250	48	29	-	-	56	24	-	93
62 inches-----	298	44	80	-	53	14	80	27	-
63 inches-----	168	-	39	14	18	22	54	-	21
64 inches-----	151	-	-	35	29	-	25	22	40
65 inches and over-----	62	-	-	-	30	-	14	18	-

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

APPENDIX

STATISTICAL NOTES

Survey Design

The first cycle of the Health Examination Survey employed a highly stratified multistage probability design in which a sample of the civilian, noninstitutional population of the conterminous United States 18-79 years of age was selected. At the first stage, a sample of 42 primary sampling units (PSU's) was drawn from among the 1,900 geographic units into which the United States was divided. Random selection was controlled within regional and size-of-urban-place strata into which the units were classified. As used here a PSU is a standard metropolitan statistical area or one to three contiguous counties. Later stages result in the random selection of clusters of typically about four persons from a neighborhood within the PSU. The total sample included some 7,700 persons in 29 different States. The detailed structure of the design and the conduct of the Survey have been described in previous reports.

Reliability

The methodological strength of the Survey derives especially from its use of scientific probability sampling techniques and highly standardized and closely controlled measurement processes. This does not imply that statistics from the Survey are exact or without error. Data from the Survey are imperfect for three major reasons: (1) results are subject to sampling error, (2) the actual conduct of a survey never agrees perfectly with the design, and (3) the measurement processes themselves are inexact even though standardized and controlled.

The first-stage evaluation of the Survey was reported in reference 2, which dealt principally with an analysis of the faithfulness with which the sampling design was carried out. This study notes that out of the 7,700 sample persons the 6,670 who were examined—a response rate of over 86 percent—gave evidence that they were a highly representative sample of the civilian, noninstitutional population of the United States. Imputation of nonrespondents was accomplished by attributing to nonexamined persons the characteristics of comparable examined persons as described in reference 2. The specific procedure used amounted to

inflating the sampling weight for each examined person in order to compensate for sample persons at that stand of the same age-sex group who were not examined.

In addition to persons not examined at all, there were some whose examination was incomplete in one procedure or another. For those persons whose examination was incomplete as regards to height or weight, estimates were made subjectively on the basis of a multiple regression-type decision, substituting for the missing measurements those for an individual who was of the same age, sex, and race and who had other body dimensions similar to the ones available for the examinee with incomplete data. Where no body measurements were available, a respondent of the same age-sex-race group was selected at random and his measurements assigned to the nonexamined person.

Height by weight distributions by age for men and women measured in the Health Examination Survey of 1960-62 are shown in tables I-XIV.

Sampling and Measurement Error

In the present report, reference has been made to efforts to minimize bias and variability of the measurement techniques.

The probability design of the Survey makes possible the calculation of sampling errors. Traditionally the role of the sampling error has been the determination of how imprecise the survey results may be because they come from a sample rather than from the measurement of all elements in the universe.

The estimation of sampling errors for a study of the type of the Health Examination Survey is difficult for at least three reasons: (1) measurement error and "pure" sampling error are confounded in the data—it is not easy to find a procedure which will either completely include both or treat one or the other separately, (2) the survey design and estimation procedure are complex and, accordingly, require computationally involved techniques for the calculation of variances, and (3) from the survey are coming thousands of statistics, many for subclasses of the population for which there are a small number of sample cases. Estimates of sampling error are obtained from the sample data and are themselves subject to sampling error when the

number of cases in a cell is small or, even occasionally, when the number of cases is substantial.

Estimates of approximate sampling variability for selected statistics used in this report are presented in table XV. These estimates have been prepared by a replication technique which yields overall variability through observation of variability among random subsamples of the total sample. The method reflects both "pure" sampling variance and a part of the measurement variance.

In accordance with usual practice, the interval estimate for any statistic may be considered the range within one standard error of the tabulated statistic, with 68 percent confidence; or the range within two standard errors of the tabulated statistic, with 95 percent confidence.

An overestimate of the standard error of a difference $g = x - y$ of two statistics x and y is generally given by the formula $s_d = (x^2 V_x^2 + y^2 V_y^2)^{1/2}$ where V_x and V_y are the relative sampling errors, respectively, of x and y .

Small Categories

In some tables magnitude is shown for cells for which the sample size is so small that the sampling error may be several times as great as the statistic itself. Obviously in such instances the statistic has no meaning except to indicate that the true quantity is small. Such numbers, if shown, have been included to convey an impression of the overall story of the table.

Regression Estimates

For the purpose of smoothing the sample findings in the present study for making estimates within certain cells where the number of examinees of a given age and height was too small to produce sufficiently reliable data, linear regression equations of the form

$$Y = a + bx$$

for predicting weight (y) in pounds from height (x) in inches were fitted by the method of least squares to each of the 14 age-sex groups in the sample of examinees. The constants—regression coefficient (b) and

Y-intercept (a)—in the regression equations are then of the form

$$b = \frac{\Sigma xy - n \bar{x} \bar{y}}{\Sigma (x^2) - n(\bar{x})^2}$$

$$a = \bar{y} - b \bar{x}$$

where \bar{x} and \bar{y} are the mean values of x and y , respectively.

The regression coefficient, indicating the slope of the regression line, here measures the average number of pounds increase in weight which occurs with each inch of increase in height.

The goodness of fit of these regression lines to the observed data is determined by the usual standard error of estimate formula

$$\bar{S}_{y.x} = \left[\frac{\Sigma (y - Y)^2}{n - 2} \right]^{1/2}$$

which indicates how nearly the estimated weight values from the regression equations, Y , actually agree with the actual observed weight values, y .

The resultant constants determined for the regression equations for the 14 age-sex groups and the standard error of estimate around these regression lines are shown in table XVI.

Assuming that weight by height is normally distributed about the fitted regression line, 34.13 percent of the group of examinees of any given height would have weights between the average value (Y) determined from the regression line and one standard error of estimate ($\bar{S}_{y.x}$) above (or below) that average. One-fourth of the group could then be assumed to weigh between the mean value and $0.7325 \bar{S}_{y.x}$ above (or below) the mean. These points, $Y \pm 0.7325 \bar{S}_{y.x}$, have been designated as smoothed quartile values P'_{25} and P'_{75} in table 5 since they bound the range which includes 50 percent of the group of any given height.

The agreement between the height-weight distributions for unweighted data from the entire sample of examinees and those from the inflated national estimates based on them are sufficiently close that the regression equations will provide a reasonable fit to either series. Because of the close agreement between the average weights obtained from the actual measurements and those estimated from the regression equation, the relative sampling errors shown in table XV can be considered as applying to either series.

Table I. Weight by height distribution for men 18-24 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
Total-----	411	41	47	79	68	60	47	30	13	9	17
Under 63 inches-----	8	3	2	1	-	-	1	1	-	-	-
63 inches-----	7	3	1	-	1	1	-	-	-	1	-
64 inches-----	17	10	2	1	1	1	2	-	-	1	-
65 inches-----	20	5	6	1	4	1	1	-	1	1	-
66 inches-----	63	5	10	17	9	10	4	3	3	-	2
67 inches-----	53	6	9	12	6	9	7	3	1	-	-
68 inches-----	67	3	6	21	16	7	7	4	-	1	2
69 inches-----	48	4	4	8	8	10	2	3	3	3	3
70 inches-----	51	2	6	5	9	9	11	4	2	-	3
71 inches-----	25	-	1	5	6	5	3	3	-	-	2
72 inches-----	33	-	-	6	7	4	6	5	1	2	2
73 inches and over-----	19	-	-	2	1	3	3	4	2	1	3

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table II. Weight by height distribution for men 25-34 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
Total-----	675	39	50	78	93	92	87	74	56	48	58
Under 63 inches-----	11	3	2	2	4	-	-	-	-	-	-
63 inches-----	11	2	2	1	4	1	1	-	-	-	-
64 inches-----	34	10	4	5	5	4	3	1	-	1	1
65 inches-----	28	6	3	-	7	2	6	1	-	2	1
66 inches-----	67	6	7	8	11	14	9	2	5	2	3
67 inches-----	70	4	6	17	9	11	5	5	5	5	3
68 inches-----	120	5	14	18	25	11	13	13	12	5	4
69 inches-----	80	1	5	9	10	11	14	11	8	8	3
70 inches-----	103	2	4	9	9	17	16	14	9	8	15
71 inches-----	48	-	1	5	4	7	7	7	4	5	8
72 inches-----	57	-	2	2	4	8	8	8	9	5	11
73 inches and over-----	46	-	-	2	1	6	5	12	4	7	9

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table III. Weight by height distribution for men 35-44 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
Total-----	703	22	47	62	119	108	111	89	53	41	51
	Number of examinees										
Under 63 inches-----	15	2	3	7	1	1	-	-	-	1	-
63 inches-----	16	4	2	-	4	1	2	2	1	-	-
64 inches-----	34	4	7	1	7	9	4	1	1	-	-
65 inches-----	41	3	2	6	9	7	4	6	1	1	2
66 inches-----	90	2	5	11	25	16	10	8	5	4	4
67 inches-----	85	3	6	11	17	17	12	8	6	2	3
68 inches-----	134	3	13	7	28	20	22	15	8	8	10
69 inches-----	82	1	2	11	13	8	19	10	7	3	8
70 inches-----	102	-	6	5	9	17	19	18	11	10	7
71 inches-----	56	-	1	1	1	6	13	12	6	6	10
72 inches-----	30	-	-	2	4	5	4	5	5	2	3
73 inches and over-----	18	-	-	-	1	1	2	4	2	4	4

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table IV. Weight by height distribution for men 45-54 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
Total-----	547	27	37	54	74	78	74	73	47	34	49
	Number of examinees										
Under 63 inches-----	11	3	3	2	-	2	-	1	-	-	-
63 inches-----	17	3	2	4	3	3	1	-	-	1	-
64 inches-----	38	4	3	3	10	5	6	6	-	1	-
65 inches-----	48	5	5	6	7	7	5	5	2	3	3
66 inches-----	69	1	8	10	13	9	11	9	5	1	2
67 inches-----	64	6	5	4	8	11	8	6	7	4	5
68 inches-----	114	3	7	16	15	11	20	16	8	8	10
69 inches-----	43	2	3	4	6	5	5	5	7	-	6
70 inches-----	72	-	1	2	10	13	9	10	9	9	9
71 inches-----	27	-	-	1	-	5	2	8	2	4	5
72 inches-----	25	-	-	-	2	4	4	4	6	3	2
73 inches and over-----	19	-	-	2	-	3	3	3	1	-	7

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table V. Weight by height distribution for men 55-64 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds										
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200-209	210+
Total-----	418	46	31	50	56	58	49	46	33	24	25
Under 63 inches-----	20	10	2	2	2	-	2	1	1	-	-
63 inches-----	27	4	3	6	6	5	-	1	1	-	1
64 inches-----	46	6	6	7	6	8	4	5	2	1	1
65 inches-----	31	6	4	5	4	4	4	3	-	1	-
66 inches-----	57	9	3	8	6	7	9	9	1	2	3
67 inches-----	50	3	3	7	8	6	7	6	7	-	3
68 inches-----	79	4	4	7	10	10	11	9	11	9	4
69 inches-----	32	2	1	-	6	7	5	5	1	2	3
70 inches-----	35	2	2	6	7	3	-	4	4	4	3
71 inches-----	18	-	2	-	1	2	4	3	3	1	2
72 inches-----	16	-	1	2	-	5	3	-	2	1	2
73 inches and over-----	7	-	-	-	-	1	-	-	-	3	3

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table VI. Weight by height distribution for men 65-74 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds									
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	265	35	25	41	32	48	25	19	15	25
Under 63 inches-----	14	5	2	-	3	3	-	1	-	-
63 inches-----	8	1	1	1	2	1	1	-	-	1
64 inches-----	33	6	4	3	4	14	-	1	1	-
65 inches-----	35	5	5	6	2	3	4	4	3	3
66 inches-----	49	8	6	6	5	11	3	1	3	6
67 inches-----	29	5	2	6	3	6	4	-	1	2
68 inches-----	47	2	1	13	8	6	6	5	3	3
69 inches-----	18	3	1	6	1	-	2	1	1	3
70 inches-----	19	-	3	-	1	2	5	3	2	3
71 inches-----	10	-	-	-	3	1	-	2	1	3
72 inches and over-----	3	-	-	-	-	1	-	1	-	1

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table VII. Weight by height distribution for men 75-79 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds								
	Total	Under 130	130-139	140-149	150-159	160-169	170-179	180-189	190+
Total-----	72	12	14	17	6	7	5	3	8
Under 63 inches-----	12	6	3	1	-	2	-	-	-
63 inches-----	10	3	2	4	-	-	1	-	-
64 inches-----	8	2	3	2	1	-	-	-	-
65 inches-----	3	-	1	1	-	1	-	-	-
66 inches-----	16	-	3	3	5	1	1	2	1
67 inches-----	6	1	-	2	-	-	-	1	2
68 inches-----	7	-	-	1	-	2	-	-	4
69 inches-----	5	-	2	1	-	-	2	-	-
70 inches-----	3	-	-	1	-	-	1	-	1
71 inches and over-----	2	-	-	1	-	1	-	-	-

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table VIII. Weight by height distribution for women 18-24 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	534	94	93	125	81	61	33	16	15	3	2	11
Under 59 inches-----	10	6	2	-	-	-	1	1	-	-	-	-
59 inches-----	20	9	1	4	-	2	1	-	2	1	-	-
60 inches-----	36	13	7	6	3	3	2	-	-	-	1	1
61 inches-----	66	15	18	12	9	6	2	1	2	-	-	1
62 inches-----	83	15	14	20	9	9	10	4	1	-	-	1
63 inches-----	59	9	15	18	6	4	2	2	1	1	-	1
64 inches-----	99	20	11	30	19	11	6	1	1	-	-	-
65 inches-----	58	5	9	11	16	7	3	1	3	-	-	3
66 inches-----	58	2	7	13	9	13	3	4	2	1	1	3
67 inches-----	19	-	4	4	6	1	-	1	2	-	-	1
68 inches and over---	26	-	5	7	4	5	3	1	1	-	-	-

¹Height without shoes; weight partially clothed--clothing weight estimated as averaging 2 pounds.

Table IX. Weight by height distribution for women 25-34 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	746	92	131	150	116	90	47	36	21	18	15	30
Under 58 inches-----	8	5	1	-	-	-	1	1	-	-	-	-
58 inches-----	6	1	2	2	-	1	-	-	-	-	-	-
59 inches-----	39	14	6	9	4	5	1	-	-	-	-	-
60 inches-----	39	10	11	5	5	7	-	-	-	1	-	-
61 inches-----	76	14	23	12	6	8	7	3	2	1	-	-
62 inches-----	151	18	35	29	20	16	8	10	3	4	5	3
63 inches-----	80	11	13	16	13	8	5	4	2	2	2	4
64 inches-----	136	11	20	29	29	10	12	4	6	3	2	10
65 inches-----	78	2	10	21	17	5	4	6	4	2	3	4
66 inches-----	81	3	6	22	15	22	2	2	1	4	2	2
67 inches-----	28	2	1	4	4	4	2	5	2	1	1	2
68 inches and over---	24	1	3	1	3	4	5	1	1	-	-	5

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table X. Weight by height distribution for women 35-44 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	784	45	117	120	129	97	80	54	43	30	19	50
Under 58 inches-----	11	2	2	3	2	-	1	-	-	-	-	1
58 inches-----	7	2	2	1	2	-	-	-	-	-	-	-
59 inches-----	37	6	8	5	4	1	5	1	1	1	2	3
60 inches-----	55	4	14	7	10	3	4	3	3	1	2	4
61 inches-----	99	12	17	18	12	12	7	8	5	2	2	4
62 inches-----	128	8	26	21	15	17	9	9	10	1	5	7
63 inches-----	107	2	13	23	17	8	15	8	4	5	2	10
64 inches-----	145	4	16	23	25	26	15	10	7	7	3	9
65 inches-----	68	3	11	7	14	9	9	4	5	3	1	2
66 inches-----	85	2	7	6	23	15	10	6	6	5	2	3
67 inches-----	21	-	1	3	3	3	4	1	1	4	-	1
68 inches and over---	21	-	-	3	2	3	1	4	1	1	-	6

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table XI. Weight by height distribution for women 45-54 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	705	47	68	94	105	115	74	48	50	30	28	46
	Number of examinees											
Under 58 inches-----	16	4	3	1	1	2	1	1	1	-	-	2
58 inches-----	14	5	3	3	2	1	-	-	-	-	-	-
59 inches-----	57	6	10	12	6	12	1	6	1	2	1	-
60 inches-----	66	7	11	8	15	6	7	4	4	-	2	2
61 inches-----	91	6	6	14	15	14	8	8	7	3	3	7
62 inches-----	148	11	19	21	20	22	17	10	9	9	2	8
63 inches-----	88	5	6	13	15	18	7	6	5	4	4	5
64 inches-----	101	2	8	13	14	15	14	5	9	5	7	9
65 inches-----	52	-	1	6	10	8	7	5	2	5	5	3
66 inches-----	33	1	-	1	6	7	4	1	7	1	2	3
67 inches-----	19	-	-	1	-	5	4	-	4	1	1	3
68 inches and over---	20	-	1	1	1	5	4	2	1	-	1	4

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table XII. Weight by height distribution for women 55-64 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
Total-----	443	18	26	53	77	69	44	43	38	20	21	34
	Number of examinees											
Under 58 inches-----	16	2	3	6	1	1	-	-	1	-	-	2
58 inches-----	17	2	1	3	5	3	1	2	-	-	-	-
59 inches-----	34	4	3	7	6	6	1	2	2	1	1	1
60 inches-----	42	2	2	4	8	7	6	6	5	1	1	-
61 inches-----	84	3	6	10	15	14	11	9	8	2	5	1
62 inches-----	79	2	4	4	18	9	13	7	5	3	3	11
63 inches-----	60	1	3	5	11	10	5	4	6	4	2	9
64 inches-----	50	2	2	6	8	7	3	6	6	2	4	4
65 inches-----	25	-	-	2	2	7	1	2	2	3	3	3
66 inches-----	18	-	2	5	2	3	-	2	2	-	1	1
67 inches-----	9	-	-	-	-	1	2	1	1	3	-	1
68 inches and over---	9	-	-	1	1	1	1	2	-	1	1	1

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table XIII. Weight by height distribution for women 65-74 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds											
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170-179	180-189	190-199	200+
	Number of examinees											
Total-----	299	26	24	37	44	39	36	36	23	13	9	12
Under 58 inches-----	19	6	-	4	3	2	1	3	-	-	-	-
58 inches-----	19	3	3	2	2	2	3	1	1	2	-	-
59 inches-----	46	5	7	7	4	7	5	3	4	1	2	1
60 inches-----	32	4	1	4	9	6	1	2	2	1	2	-
61 inches-----	58	2	6	5	12	8	9	8	3	4	1	-
62 inches-----	42	1	3	7	4	4	4	8	4	2	1	4
63 inches-----	27	3	1	3	5	4	4	2	3	1	-	1
64 inches-----	33	1	2	3	5	2	6	5	4	1	2	2
65 inches-----	14	1	-	1	-	4	3	3	1	-	1	-
66 inches and over---	9	-	1	1	-	-	-	1	1	1	-	4

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table XIV. Weight by height distribution for women 75-79 years of age: Health Examination Survey, 1960-62¹

Height	Weight in pounds								
	Total	Under 110	110-119	120-129	130-139	140-149	150-159	160-169	170+
	Number of examinees								
Total-----	70	10	11	8	8	7	10	8	8
Under 58 inches-----	10	2	3	4	-	-	-	1	-
58 inches-----	3	2	-	-	-	-	-	1	-
59 inches-----	6	1	1	1	1	1	-	-	1
60 inches-----	5	-	1	-	-	1	1	2	-
61 inches-----	13	3	2	-	-	3	1	-	4
62 inches-----	15	2	3	-	3	1	4	2	-
63 inches-----	7	-	1	1	1	1	2	-	1
64 inches-----	8	-	-	2	2	-	1	1	2
65 inches and over---	3	-	-	-	1	-	1	1	-

¹Height without shoes; weight partially clothed—clothing weight estimated as averaging 2 pounds.

Table XV. Relative sampling errors for persons with specified average weight, by sex, height, and age: United States, 1960-62

Sex, height, and weight	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-79 years
<u>MEN</u>							
<u>62-64 inches</u>							
140 pounds-----	0.04	0.04	0.04	0.04	0.04	0.04	0.04
150 pounds-----	0.04	0.04	0.04	0.04	0.04	0.04	*
160 pounds-----	0.04	0.03	0.03	0.03	0.03	0.04	*
<u>65-67 inches</u>							
150 pounds-----	0.03	0.03	0.03	0.03	0.04	0.04	0.04
160 pounds-----	0.02	0.02	0.02	0.02	0.02	0.03	0.04
170 pounds-----	0.02	0.02	0.02	0.02	0.02	0.03	0.04
<u>68-70 inches</u>							
160 pounds-----	0.02	0.02	0.02	0.02	0.02	0.03	0.04
170 pounds-----	0.03	0.02	0.02	0.02	0.02	0.03	0.04
180 pounds-----	0.03	0.02	0.02	0.02	0.02	0.03	0.04
<u>71-72 inches</u>							
160 pounds-----	0.03	0.02	0.02	0.02	0.03	*	0.04
170 pounds-----	0.03	0.02	0.02	0.02	0.03	*	*
180 pounds-----	0.03	0.02	0.02	0.02	0.03	0.03	*
190 pounds-----	0.03	0.02	0.02	0.02	0.03	0.03	*
<u>WOMEN</u>							
<u>57-59 inches</u>							
120 pounds-----	0.04	0.04	0.04	0.04	0.04	0.04	0.05
130 pounds-----	*	0.04	0.04	0.04	0.04	0.04	0.05
140 pounds-----	*	0.04	*	0.04	0.04	0.04	0.05
<u>60-62 inches</u>							
130 pounds-----	0.03	0.02	0.02	0.02	0.02	0.02	0.03
140 pounds-----	0.03	0.02	0.02	0.02	0.03	0.03	0.03
150 pounds-----	0.03	0.02	0.02	0.02	0.02	0.02	0.03
<u>63-65 inches</u>							
140 pounds-----	0.03	0.02	0.02	0.02	0.02	0.03	*
150 pounds-----	0.03	0.02	0.02	0.02	0.02	0.03	0.04
160 pounds-----	0.03	0.02	0.02	0.02	0.03	0.03	0.03
<u>66-67 inches</u>							
140 pounds-----	0.03	0.03	0.03	0.03	0.04	*	*
150 pounds-----	0.03	0.03	0.03	0.03	*	*	*
160 pounds-----	0.03	0.03	0.03	0.03	0.04	*	*
170 pounds-----	0.03	0.03	0.03	0.03	0.04	*	*

Table XVI. Constants for linear regression equations fitted to height-weight measurements from the Health Examination Survey, 1960-62

Age-sex group	a	b	$\bar{S}_{y \cdot x}$
<u>Men</u>			
18-24 years-----	-80.36	3.502	23.4
25-34 years-----	-135.76	4.463	26.7
35-44 years-----	-83.80	3.750	24.6
45-54 years-----	-101.75	4.034	25.2
55-64 years-----	-74.62	3.585	27.4
65-74 years-----	-67.92	3.419	26.3
75-79 years-----	-181.73	5.080	23.7
<u>Women</u>			
18-24 years-----	-9.86	2.205	23.8
25-34 years-----	-117.10	4.010	29.5
35-44 years-----	+1.75	2.271	30.3
45-54 years-----	-76.50	3.600	29.9
55-64 years-----	-24.79	2.859	29.7
65-74 years-----	-65.33	3.455	26.1
75-79 years-----	-72.26	3.468	27.0

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