Estimated Prevalence Of Overweight In the United States

INTEREST in overweight as a health problem has been stimulated by life insurance findings that a relationship exists between overweight and death rates from degenerative diseases. There is no current information for the United States from which estimates of the prevalence of an excessive accumulation of fat in the body can be drawn.

Published estimates of the prevalence of overweight are generally arrived at in terms of a height-weight table. Virtually all height-weight tables widely used in the United States are based on a study reported in 1912 (*1*). For that investigation, data on height-weight relationships were collected on 221,819 men insured between 1885 and 1900, and on 136,504 women insured between 1885 and 1909. From those data, tables were prepared showing average weights for each inch of height for each 5-year age group. The tables of average weights for specific age groups are called standard tables of heights and weights. The study showed differences in mortality rates for a group of these insured persons, classified by excess of actual weight above the average weight for a given height and age. It also indicated the illnesses responsible for the increased mortality among the overweight group.

Since it is recognized that height and weight alone are incomplete indicators of overweight, more recent tables, taking into consideration measurements of build or body type, have been developed by the Metropolitan Life Insurance Company (*2*, *3*). These tables of desirable weights show a range of weights for each inch of height by type of body frame. (Originally called "ideal weight" tables, they are now usually called "desirable weight" tables.) The basic figures for the tables were derived from the standard tables of heights and weights (*1*). These figures, which were arrived at by using the average weight for each inch of height at age 30 for men and at age 25 for women, tend to correlate with the lowest mortality rates.

This material is presented by the Division of Special Health Services, Bureau of State Services, Public Health Service.

Prevalence of Overweight

Four estimates of the prevalence of overweight in the United States are presented here. For this paper, overweight is defined as 10 percent or more actual weight above "standard" or "desirable" weight for the individual.

Impairments Among Insurance Examinees

In 1938, the Life Extension Institute conducted a study of the incidence of impairments among 10,000 life insurance policyholders (*4*). No selection of any kind was attempted. Geographically, those persons examined represented the entire United States.

The group consisted of 3,025 females and 6,975 males aged 10 years and over, who were presumably free from illness and who had not previously been examined by the Life Extension Institute examiners. Overweight in this study meant 10 percent or more actual weight above ideal weight, taking into consideration age and height. Due allowance was made for individual physical type. The weight here is the average weight for 30 years of age, which, according to the Life Extension Institute (*5*), is the ideal weight to maintain throughout maturity. The average weight at age 30 is obtained from the Medico-Actuarial Mortality Investigation (*1*). The table shows that 27.3 percent of the persons examined—25.8 percent of the males and 30.9 percent of the females—were 10 percent or more overweight.

Insurance Company Estimates

According to estimates presented by the Metropolitan Life Insurance Company (*6*), at least 20 percent of the population over the age of 30, or about 15 million persons, are 10 percent or more overweight, and 6.7 percent, or over 5 million persons, are 20 percent or more overweight.

Richmond Multiple Screening Project

In cooperation with the Public Health Service, the Richmond City Health Department con-

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Race and sex	Number	Persons estimated to be 10 percent or more overweight [1] (percent of population)			Persons estimated to be 20 percent or more overweight [1] (percent of population)		
		Total	White	Negro	Total	White	Negro
		Life Extension Institute Study, July–August 1938 [2] (unselected examinees aged 10 and over)					
Total	10,000	27.3					
Male	6,975	25.8					
Female	3,025	30.9					
		Metropolitan Life Insurance Co., 1950 [3]					
Total	(4)	20.0			6.7		
		Richmond, Va., multiple-screening project, general population aged 15–59, January–July 1950					
Total	33,799	21.4			10.0		
Male	11,574	32.0			13.8		
Female	22,225	15.9			8.0		
White:							
Male	9,017		31.0			12.9	
Female	19,489		13.3			6.2	
Negro:							
Male	2,557			35.6			17.1
Female	2,736			34.4			20.9
		Atlanta, Ga., multiple-screening project, general population aged 15–59, April–June 1950					
Total	182,207	24.8			12.8		
Male	82,043	24.5			10.1		
Female	100,164	25.0			15.0		
White:							
Male	48,474		24.4			9.7	
Female	60,489		15.7			7.7	
Negro:							
Male	33,569			24.7			10.8
Female	39,675			39.3			26.2

[1] The Life Extension Institute study used "ideal weight" (*5*). The Richmond multiple-screening project and the Atlanta multiple-screening project used the standard tables of heights and weights, which were taken from the Association of Life Insurance Medical Directors and Actuarial Society Mortality Investigation, vol. 1, 1912, New York. The Metropolitan Life Insurance Co. used "desirable weight" tables (Metrop. Life Ins. Statist. Bull. 23: 6–8, October 1942; 24: 6–8, June 1943). [2] Proc. Life Extension Examiners, vol. 1, No. 4, July–August 1939, pp. 89–93. [3] Armstrong, Dublin, Wheatley, and Marks: J. A. M. A. 147: 1007–1014, 1951. [4] A personal communication from the Metropolitan Life Insurance Company stated that the estimate of overweight was based upon a variety of sources (see references 4, 7–9).

ducted a multiple screening project in Richmond, Va., from January 30 through July 28, 1950. Height and weight measurements were taken as part of the project. Data are available for 33,799 persons, aged 15–59, who were presumably free from illness. The weight status of each person screened was determined by using the standard tables of heights and weights. It was found that 21.4 percent of the screenees were 10 percent or more overweight and that 10 percent were 20 percent or more overweight. Both groups included a relatively higher percentage of Negro females than of white females. To a lesser extent, this was also true of males.

Atlanta Multiple Screening Project

From April 4 through June 30, 1950, the Atlanta City and Georgia State Health Departments, in cooperation with the Public Health Service, sponsored a multiple screening project in Atlanta. Height and weight measurements were taken, and data are available for 182,207 persons aged 15–59. Standard tables of heights and weights were also used in this study.

It was found that 24.8 percent of the persons screened were 10 percent or more overweight, and that 12.8 percent were 20 percent or more overweight. As in the Richmond study, a relatively higher percentage of Negro females than of white females were overweight. A considerably smaller percentage difference was found when comparing overweight among white and Negro males.

Summary

Made at different times in different locations, the four estimates cited indicate that more than 20 percent of the population of the United States are overweight. The estimates of prevalence of overweight vary from 20 percent to 27.3 percent. Based on 20 percent or more above "standard" or "desirable" weight, the estimates vary from 6.7 percent to 12.8 percent. There was a relatively higher percentage of Negro females than of white females in both the 10- and 20-percent overweight categories.

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