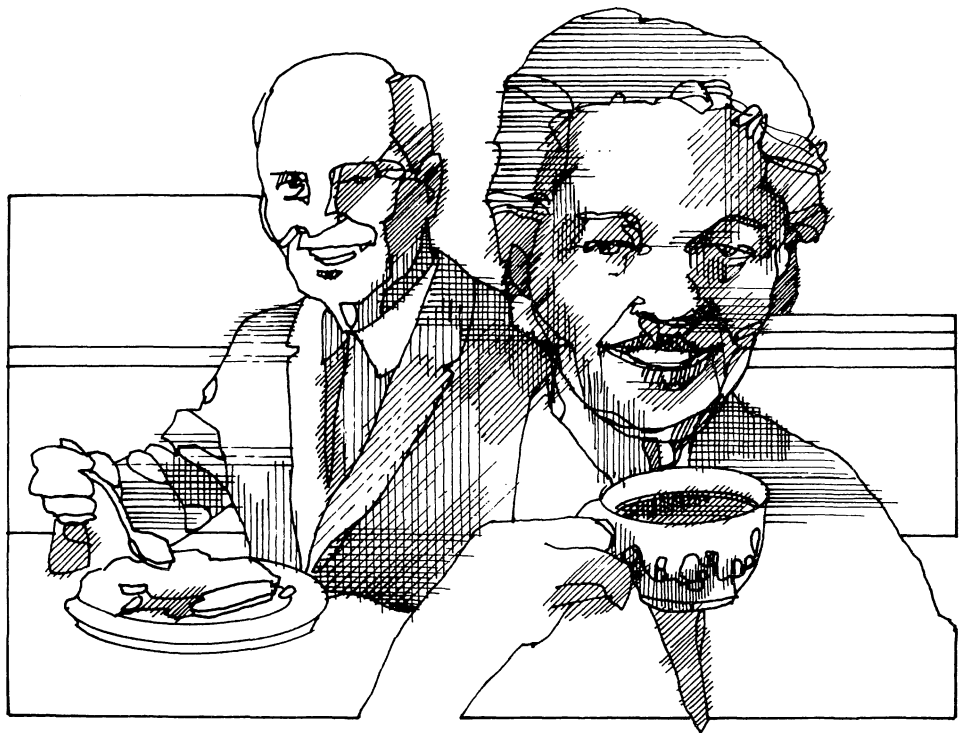
The Nutritional Status of the Elderly

Jon P. Weimer
(202) 447-8490



Elderly Americans comprise a rapidly expanding segment of the population. The number of Americans age 60 or older has grown from about 5 million in 1900 to approximately 35.6 million in 1980 (see table 1). The proportion of Americans in this age group has also increased, from 6.4 to 15.8 percent of the population during the same time period. And, by 2010, close to 20 percent of the population will be over 60 years of age. Currently, elderly Americans comprise about 23 percent of the voting public; thus, legislators and other policymakers are likely to consider the concerns of these voters.

One of the primary problems of the elderly is their poor nutritional status. Nutritionally inadequate diets can contribute to or

Table 1. Total Population in the Older Ages and Increases by Decade: 1900 to 2020[1]

Year	60 years and over		65 years and over		75 years and over		85 years and over	
	Number (Thousands)	Percent increase in preceding decade	Number (Thousands)	Percent increase in preceding decade	Number (Thousands)	Percent increase in preceding decade	Number (Thousands)	Percent increase in preceding decade
Estimates								
1900	4,901	NA	3,099	NA	899	NA	122[2]	NA
1910	6,274	28.0	3,986	28.6	1,170	30.1	167[2]	36.9
1920	7,952	26.7	4,929	23.7	1,449	23.8	210[2]	25.7
1930	10,484	31.8	6,705	36.0	1,945	34.2	272[2]	29.5
1940	13,822	31.8	9,031	34.7	2,664	37.0	370	36.0
1950	18,500	33.8	12,397	37.3	3,904	46.5	590	59.5
1960	23,828	28.8	16,675	34.5	5,621	44.0	940	59.3
1970	28,751	20.7	20,085	20.4	7,598	35.2	1,432	52.3
1980	35,626	23.9	26,846	33.7	9,965	31.2	2,239	56.3
Projections[3]								
1990	39,127	9.8	28,933	7.8	11,402	14.4	2,487	11.1
2000	40,589	3.7	30,600	5.8	13,521	18.6	3,217	29.4
2010	48,012	18.3	33,239	8.6	13,893	2.7	3,841	19.4
2020	60,664	26.4	42,791	28.7	15,381	10.7	3,826	– 0.4

Source: Census of Population, 1930, Population, Vol. II, *General Report;* and *Current Population Reports,* Series P-25, Nos. 311, 514, 601, 614, and 704. Bureau of Census Series P-23, No. 59, May 1976, and PC 80-S1-1, May 1981.

NA = Not applicable.
[1]Estimates and projections as of July 1. Total resident population of the 48 States and District of Columbia (excluding Alaska and Hawaii) for 1900 to 1930. Estimates for 1940 and later years refer to the total population of the 50 States and District of Columbia and include Armed Forces overseas.
[2]Estimates for 1900-30 as of April 1.
[3]Base date of projection is July 1, 1977.

exacerbate chronic and acute diseases, hasten the development of degenerative diseases associated with aging, and delay recovery from illnesses. A number of studies have indicated that many older Americans may have diets that do not provide the level of nutrients needed to maintain a healthy body.

The 1971 Health and Nutrition Examination Survey (HANES), conducted under the auspices of the U.S. Department of Health, Education, and Welfare (HEW), found that about 56 percent of the Americans age 60 and older had diets inadequate in one or more nutrients. The most frequent deficits were iron, vitamin A, ascorbic acid, and calcium. Subsequent smaller scale surveys have found similar deficiencies in the elderly, although none has found as large a proportion as did the HANES study.

Most of these studies define an adequate, nutritious diet as one fulfilling the Recommended Dietary Allowances (RDAs) issued by the National Academy of Sciences. However, there are problems inherent in using RDAs. The levels of nutrient intake described in the RDAs are designed to maintain adequate nutritional status for healthy members of the U.S. population. Unusual nutrient needs for special conditions, such as metabolic disorders or continued use of pharmaceutical preparations, are not covered by RDAs. Similarly, margins of safety that are built into the RDA standards do not cover modifications for any additional requirements caused by diseases. Many diseases have profound impacts on an individual's nutrient requirements—diseases to which many elderly succumb. Therefore, the RDAs may have more limited use in evaluating diets of the aged than of other segments of the population.

The extent to which dietary, personal, and environmental factors influence the nutritional status of the aged is only partially understood. However, considering all the factors thought to influence the nutritional status of the elderly, chronic diseases and the financial burdens imposed by limited income are among the most important.

Chronic Diseases

Chronic and acute diseases can have a wide range of negative effects on the nutritional status of the aged. There are diseases which can affect digestion, absorption, and utilization of nutrients (for example, circulatory and musculoskeletal problems), those which interfere with nutrient intake (for example, oral problems, including poor dentition), and those which increase the excretion of specific nutrients (examples are diabetes and infections). People 65 years of age and older more often suffer from chronic diseases such as heart disorders, arthritis, bone diseases, and diseases that affect the respiratory and digestive systems. Statistics show that approximately 80 percent of the elderly, as compared with 40 percent of those younger than 65 years of age, have one or more chronic diseases. The prevalence of some of these diseases is shown in table 2.

The HANES study indicated that the incidence of these diseases is not confined to one sex, race, or other demographic stratum. For example, the rate of hypertension in females is nearly twice that in males, while the rate of hypertension in whites is less than twice that of other races; coronary heart disease is similar across educational strata, but more prevalent in elderly males than females and more prevalent among whites than other races.

Drugs often have a favorable effect on nutritional status by limiting the disease process, enhancing appetite, and correcting underlying metabolic defects. However, there are also examples of adverse drug/diet interrelationships. For example, antibiotic therapy can produce vitamin deficiency; chronic use or abuse of medications can produce gastrointestinal abnormalities which affect nutritional status; prolonged use of laxatives can result in altered absorption of certain vitamins, diarrhea, weight loss, and fatigue.

Poverty and the Aged

Poverty may be one of the most important environmental determinants of inadequate nutrition among the elderly. Poverty alone cannot precipitate a nutritional deficiency, but may affect the ability to obtain an adequate diet and may also reduce the ability to obtain the health care needed to diagnose, treat, and manage chronic diseases linked to nutrition. Poverty statistics

Table 2. Prevalence of Selected Chronic Conditions in Total U.S. Population and Persons 65 Years and Older

Chronic condition	Number of persons in total pop. (per 1000)	Number of persons 65 and older (per 1000)
Heart conditions	50.4	198.7
Cerebrovascular disease	7.5	48.2
Arthritis	92.9	380.3
Emphysema	6.6	31.7
Upper gastro-intestinal disorder	13.1	37.7

Source: Department of Health, Education, and Welfare. Vital and Health Statistics Series 10-94, 1972; Series 10-92, 1969; Series 10-84, 1970; Series 10-83, 1968.

for Americans age 60 and older by sex are summarized in table 3. Almost 16 percent of those over 65 had incomes below the Bureau of Census Poverty Index in 1980. The poverty rate for the elderly was higher for females than it was for males, and higher among Blacks than among other racial groups.

Many senior citizens live on incomes that are fixed while retail food prices continue to increase. As a result, households headed by senior citizens spend about 22 percent of their income for food compared with about 17 percent for other households.

In response to some of the problems discussed public assistance programs have been developed to help ease the food income burden for many elderly as well as to enhance their nutritional status.

Food Stamp Program

USDA's Food Stamp Program (FSP) was intended to supplement food expenditures of low-income households to improve their ability to purchase nutritionally adequate diets. Traditionally, households headed by the elderly participated in the FSP proportionately less than other households. The Food Stamp Act of 1977 made several major revisions to FSP, one of the most far reaching was the elimination of the purchase requirement, referred to as "EPR." Before EPR, all participants were required to make a cash payment for their food stamps. The amount of food stamps they received was equal in value to their cash payment, plus an additional amount known as the "bonus." After EPR, participants received the bonus only, with no cash transaction. Several studies suggested that inability to pay the purchase requirement may have been a major reason why many eligible households headed by the elderly did not participate. Since EPR took effect in January 1979, participation by households headed by an elderly person increased approximately 32 percent from February 1978 to April 1979. In contrast, the number of nonelderly households increased by about 14 percent over the same period of time. Currently, nearly 25 percent of all food stamp households have at least one person who is elderly; about 10 percent of all food stamp participants are age 60 or older.

Other special provisions also contributed to the increase in number of elderly participants. Mail certification and issuance services are now available. A provision has been made for the allowance of higher medical and shelter deductions when determining size of bonus. Special contracts have been made with selected restaurants to offer meals at low or reduced prices to elderly FSP participants, and to accept food stamps for meals. USDA also allows approved nonprofit meal services to accept food stamps as payment for meals served to elderly; some of these institutions are also elgible to receive USDA donated food. In 1980, there were 2,638 nonprofit communal dining services and 1,472 nonprofit meal delivery services accepting food stamps throughout the country. These nonprofit meal services are not funded by the U.S. Department of Health and Human Services (HHS).

Has the FSP enhanced the nutritional status of participants? The answer is not entirely clear cut. There are studies that have shown a marked nutritional improvement among FSP participants in comparison with nonrecipients with similar socioeconomic characteristics. Other investigations have shown little, if any, relationship between nutrient intake and food stamp participation. It might be added that these studies did not focus specifically on elderly par-

Table 3. Persons 60 Years and Older with Incomes Below Poverty By Sex, Ethnic Origin, and Rate of Poverty, (1980 Estimates)

	Number	Poverty rate
	Thousands	Percent
Total		
60-64 years	1058	10.4
65 years and over	3871	15.7
Male		
60-64 years	367	7.8
65 years and over	1102	10.9
Female		
60-64 years	691	12.6
65 years and over	2769	19.0
White		
60-64 years	768	8.4
65 years and over	3042	13.6
Black		
60-64 years	270	30.9
65 years and over	783	38.1
Spanish origin		
60-64 years	66	19.4
65 years and over	179	30.8

Source: Bureau of Census, *Money Income and Poverty Status of Families and Persons in the United States:* 1980 (Advance Data for the March 1981 Census Population Survey Series P-60, No. 127).

ticipants. A recent USDA study, however, working with a limited data base, did look specifically at the effects of a number of variables (including food stamp participation) on nutrient consumption of the elderly. It found that the FSP had a positive effect on the intake of selected nutrients.

National Nutrition Program for the Elderly

In 1973, Congress appropriated nearly $100 million to establish the first Federal nutrition intervention program specifically for the Nation's aged population—the Nutrition Program for the Elderly—which, in turn, was a title amendment to the Older Americans Act of 1965. The program is operated by the Administration on Aging of HHS. The program's legislative mandate called for the development of a nationwide network of community-based meal service for the elderly in addition to the group feeding programs already existing. Expenditures were expected to exceed $500 million by the end of 1981.

About 165 million meals were served in fiscal year 1980; about 31 million (20 percent) were home delivered. Twenty-six percent of the meals were served to minority participants, and 64 percent of the meals were served to persons below the poverty threshold. Participants may contribute money, but they are not required to pay for their meals.

Under special provision of the Older Americans Act, USDA provides cash or commodities to the HHS program, based on the number of meals served. When the reimbursement program began in fiscal year 1976, the per meals reimbursement rate was 15 cents. In fiscal year 1980 the rate was 43 cents, which generated $57 million in cash and $14 million in foods; the unit value of the reimbursement rate is adjusted annually for increases in the cost of living.

Several small-scale evaluations of the congregate meal phase of this program have indicated that the average nutrient intake of those who had eaten a meal at the nutrition site on the day of the study was greater than for those who had not attended. First-wave findings from what is to be a nationwide, long-term evaluation of this program, indicate more positive effects on dietary intake for participants than for nonparticipants (those who never participated in the program). These differences in nutrient intake, however, are more evident on days when the participants eat at the sites, and they don't appear to "carry over" to other days when participants don't eat at these sites. This nutrition program has been extended through fiscal year 1984.

In summary, two large-scale Federal programs—the Food Stamp Program and the National Nutritional Program for the Elderly—in conjunction with nonfederal charitable institutions, have sought to enhance the nutritional status of elderly Americans. Both Federal programs have been successful in reaching more elderly persons in recent years. Although evaluations of the Federal programs' effectiveness have not been totally unambiguous, it generally appears that these programs have led to nutritional improvement among the aged.

In view of budgetary constraints being imposed on Federal agencies, it is difficult to anticipate what changes, if any, might be made to Federal Government intervention efforts to enhance the elderly's nutritional status. At the time of this writing, however, USDA was planning demonstration feeding projects for low-income elderly. The purpose of this program is to examine various food packages and delivery systems for providing supplemental foods to this population segment, especially those low-income elderly who are incapacitated through sickness and transportation problems. These demonstration projects would be tied into existing USDA commodity supplemental feeding program sites which serve low-income pregnant women and small children. Emphasis was to be placed on use of voluntary private and local resources for food package delivery. ■

References

Gallo, A. E., Salathe, L. E., and Boehm, W., *Senior Citizens: Food Expenditure Patterns and Assistance,* AER-426, ESCS, USDA, June 1979.

Joering, E. "Nutrient Contribution of a Meals Program for Senior Citizens." *Journal of the American Dietetic Association,* Vol. 59, August 1971, pp. 129-132.

Kohrs, M., O'Hanlon, P., and Eklund, D., "Title VII-Nutrition Programs for the Elderly." *Journal of the American Dietetic Association,* Vol. 72, 1978, pp. 487-492.

O'Hanlon, Pauline, and Kohrs, M. B., Dietary Studies of Older Americans," *Journal of Clinical Nutrition,* Vol. 31, 1978, pp. 1257-1269.

Posner, B. *Nutrition and the Elderly,* Toronto, D. C. Heath and Company, 1979.

Price, D. W., West, D. A., Scheier, G., and Price, D., "Food Delivery Programs and Other Factors Affecting Nutrient Intake of Children." *American Journal of Agricultural Economics,* November 1978, pp. 609-618.

United States Department of Agriculture, ARS: "Dietary Levels of Households in the United States, 1965," Report No. 18, 1966.

United States Department of Agriculture, Food Nutrition Service: *Food and Nutrition,* Vol. 11, No. 3, June 1981.

U.S. Department of Health, Education and Welfare: First Health and Nutrition Examination Survey, United States, 1971-1972, "Dietary Intake and Biochemical Findings," (HRA) 74-1219-1, January 1974.

U.S. Department of Health and Human Services, Administration on Aging: "Longitudinal Evaluation of the National Nutrition Program for the Elderly, Report on First-Wave Findings," Publication No. (OHDS) 80-20429, February 1979.

Weimer, J. P., *Factors Affecting Nutrient Intake of the Elderly,* ERS, USDA, NED Staff Report No. AGES820112, January 1982.

West, D., and Price, D. W., "The Effects of Income, Assets, Food Programs, and Household Size on Food Consumption," *American Journal of Agricultural Economics,* November 1976, pp. 725-730.