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THE HEALTH STATUS AND HEALTH CARE NEEDS OF OLDER AMERICANS

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PREFACE

Growing old, while an inevitable process for all of us, has no common denominator when it comes to health. The image of a grayed and crippled, frail older American is just as much a stereotype as that of a robust and active one: Neither captures the range of health status found in this segment of our Nation's population.

Age alone is a poor indicator of health status. As we age, our bodies change, yet aging itself is not a disease. Persons aged 65 to 74 have been found to have health profiles more like those persons aged 45 to 64 than of persons aged 75 and over. Only when the elderly reach their 80's do functional impairments occur more as a consequence of aging than of pathology.

One of the central challenges in meeting the health care needs of an aging society is to gain a better understanding of the relationship between age and health. Research now shows, for example, that lifestyle and health care patterns are better predictors of health status than age. Given advances in medical technology, coupled with the attention being placed today on preventive health care and healthier lifestyles, we can expect the health status portrait of tomorrow's elderly to look different than today's.

Policymakers today face a double challenge in meeting the health needs of older Americans. Not only must they address the immediate concerns of this generation of seniors, but they must lay the foundation for the care of future generations as well.

This report contains the most current data available on the issue. The report was prepared at the request of the Senate Special Committee on Aging by Mary D. Naylor, of the University of Pittsburgh School of Nursing, with the assistance of Susan Beecher, professional staff member of the Committee.

JOHN HEINZ,
Chairman.

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INTRODUCTION

The aging of the U.S. population has presented significant challenges to the development of health and social policy. Responses to these challenges, to date, have emphasized the quantitative dimensions of the aging population. This is a natural response given the magnitude of the problem. A solely quantitative perspective, however, does not take into account the unique and important qualitative features of aging in America.

One of the central challenges in actively coping with the implication of the aging population is to gain an informed perspective on aging, health, and disease and the relationships among these phenomena. Older persons are richly diverse in physical, behavioral, social, emotional, economic, and political characteristics. The health status of the elderly is shaped by the full course of their life experiences through youth and adult years. A better understanding of the heterogeneity of the elderly population may enable issues concerning aging and health and societal responsibilities toward older persons to be reframed. From these reframed issues should flow a series of policy choices for both private and public institutions as well as a framework for more effective policy responses.

OVERVIEW OF THE AGING POPULATION

A full statistical portrait of the elderly in the United States does not exist. Certain dimensions of the aging phenomenon are, however, well-understood and well-documented. The elderly population has grown by 9.3 million from 1960 to 1980 and is projected to grow to 36.6 million by the year 2000 and to 67.3 million by 2040.[1] For example, the magnitude of changes in the age structure will be unprecedented. Many of the changes resulting from this growth pattern can be anticipated. For example, the proportion of the gross national product (GNP) devoted to health care increased from 5.3 percent in 1960 to 9.5 percent in 1980; it is expected to continue to rise to 12 percent by 1990.[2]

Certain aspects of the current aging phenomenon are, however, unique and neither well-understood or well-documented. Four of the unique aspects of current aging trends which directly relate to the health status and needs of the elderly population are: (1) the rapid growth of the oldest old (85 and older) population; (2) increases in life expectancy at advanced ages; (3) the predominance

[1] Kenneth G. Manton and Beth J. Soldo. "Dynamics of Health Changes in the Oldest Old: New Perspectives and Evidence." *Milbank Memorial Fund Quarterly/Health and Society.* Vol. 63, No. 2, 1985, p. 206.

[2] *Ibid.*, p. 206.

of females at advanced ages; and (4) reductions in the age-specific mortality rates of selected major chronic degenerative diseases (e.g., heart disease, stroke).[3] The improvement in survival at advanced ages strongly suggests that important changes in both health status and the natural history of disease processes may be occurring simultaneously.

In the section which follows, an overview of the health status of the elderly population in the United States will be presented using three classifications: the healthy elderly, the chronically ill elderly, and the acutely ill elderly.

HEALTH PROFILE OF THE ELDERLY IN THE UNITED STATES

The Healthy Elderly

The health status of an individual refers to self- or health care provider-appraisal of physical, mental, and emotional well-being. Health status is distinct from the concept of need for health care services which is concerned with the diagnostic, treatment or rehabilitative regimen essential to restore well-being. An individual's evaluation of his or her own health is often the most important assessment of personal health status.

A number of important variables affect the elderly's self-perception of health. Self-assessment of health, for example, varies dramatically with income as shown in table 1.

TABLE 1.—SELF-ASSESSMENT OF HEALTH BY INCOME RANGE PERSONS 65 YEARS AND OLDER, 1983

Health status	Income (in percent)			
	+35,000	20,000–34,999	10,000–19,999	Under 10,000
Excellent	26.3	20.6	16.4	13.2
Very good	25.2	21.6	20.3	16.8
Good	28.0	35.8	32.3	28.0
Fair	15.2	15.8	21.6	26.2
Poor	5.3	6.2	9.4	15.8
Total	100.0	100.0	100.0	100.0

Source: Unpublished data from the National Health Interview Survey 1983, National Center for Health Statistics.

The results of the 1983 health interview survey (HIS) show that 79.5 percent of the noninstitutionalized elderly with incomes of $35,000 or more describe their own health as excellent, very good, or good.[4] Moreover, 78 percent with incomes between $20,000 and $34,999 would describe themselves in these categories. However, the number drops to 68.9 percent for incomes between $10,000 and $19,999 and 58 percent for those whose income is below $10,000. Of the total noninstitutionalized elderly population, 66.6 percent describe their own health as excellent, very good, or good while only 33.2 percent reported that their health was fair or poor.

Of the elderly persons (65 years and older) with incomes of $20,000 or more surveyed in the 1983 HIS, 22.5 percent rated their

[3] *Ibid.*, p. 206.
[4] National Center for Health Statistics, Health Interview Survey, 1983.

health as excellent while only 13.2 percent of the elderly with incomes under $10,000 reported excellent health.[5]

Sex, race, marital status, education, and employment also influence self-perception of health. Elderly women reported health statuses only slightly better than men. In the 1986 HIS, 66 percent of the males who were 65 and over reported health statuses of excellent, very good, or good while 67.2 percent of the females reported health statuses in these categories. Older whites tend to report more favorable health than older blacks; persons who never married report better health than those who are married, divorced, widowed, or separated; elderly with higher education view their health more favorably than those with less education; and older persons who are currently employed report the most favorable health status.[6]

Self-assessed health status is strongly related to an individual's use of health care services according to the National Center for Health Statistics. For example, persons who reported excellent health spent 3.3 days in bed per person per year due to illness or injury and made 2.5 doctor visits per person per year while the corresponding estimates for persons who reported poor health were 64.2 bed days and 15.3 doctor visits per person per year.[7]

In assessing the health status of the elderly, it is important to employ a concept of health which is flexible enough to describe newly emerging patterns. For example, most older Americans are strikingly active and independent despite the presence of one or more chronic conditions. Persons aged 65 to 74, have been found to have health profiles more like those of persons aged 45 to 64 than of persons aged 75 and over.[8] More than 80 percent of the population aged 75 to 84 and greater than 50 percent of the 85-plus group are independent in accomplishing the activities of daily living (e.g. bathing, dressing, eating, etc.).[9] At least one-half of the population at age 80 shows little or no decline in cognitive function.[10]

Research increasingly suggests that until the elderly reach their eighties, functional impairments are not a consequence of aging, but of pathology.[11] It is becoming clearer that life styles and patterns of health care are major determinants of the health status of the elderly. As the population of the United States ages, the country can expect a much larger population of generally healthy individuals who are capable of productive, meaningful work.

There is no question that tomorrow's elderly will be vastly different from the elders of today. On the whole, the elderly of the 21st century will be better educated and have comparatively higher post-retirement incomes. They are also likely to enjoy better health as they reap the benefits of a lifetime of preventive health meas-

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[5] *Ibid.*

[6] U.S. Senate Special Committee on Aging, "Aging America: Trends and Projections," 1984, p. 52.

[7] National Center for Health Statistics, Health Interview Survey, 1982.

[8] U.S. Senate Special Committee on Aging. "Health and Extended Worklife." February 1985, p. 2.

[9] Sidney Katz, et al. "Active Life Expectancy: Societal Implications." *America's Aging: Health In An Older Society.* Institute on Medicine/National Research Council. National Academy Press, Washington, DC, 1985, p. 10.

[10] *Ibid.*, p. 12.

[11] *Ibid.*, p. 22.

ures. Because of these and other important differences in the life histories of successive birth cohorts the needs of the older population will change over time and require comparable adjustments in public policy.

Policy must attempt to meet the needs of today's elderly while at the same time laying a foundation for responding to changing constellations of health need and resources in the future. A major dimension of this changing constellation will be the rapid growth in both the absolute and relative numbers of healthy elderly. Policy must take into account the need to maintain and enhance the quality of life for this significant segment of the older population.

The Chronically Ill Elderly

Improved standards of living and medical advances in the prevention and control of formerly fatal diseases have made it possible for an increasing number of persons to reach an age where they become vulnerable to heart disease, stroke, cancer, arthritis, mental disorders, and other chronic illnesses causing limited or total disability. Chronic diseases have emerged as major causes of functional dependency requiring services that affect many sectors of the economy: income security, health, housing, transportation, and recreation. In the complex of issues associated with the aging population, there are few more complicated, more poignant, or more important than the burden of chronic illness and disability among older people.

NATURE OF CHRONIC ILLNESSES

Chronic illnesses are the most prevalent health problem for the elderly. Chronic conditions are defined by the National Center for Health Statistics as either: (1) illnesses which last more than 3 months; or (2) the presence of selected diseases which are classified as chronic regardless of the recency of onset (e.g., tuberculosis, cancer).[12] The likelihood that an individual will suffer from one or more chronic illnesses increases rapidly with age. More than four out of five persons 65 and over have at least one chronic condition and multiple chronic conditions are common in the elderly population.[13]

Arthritis, hypertension, hearing disorders, and heart conditions were the leading chronic conditions among the noninstitutionalized elderly in 1983 (chart 1). Most visits to the hospital among older persons are for acute episodes for chronic illness. Similarly, most physician visits by older persons are for chronic conditions.

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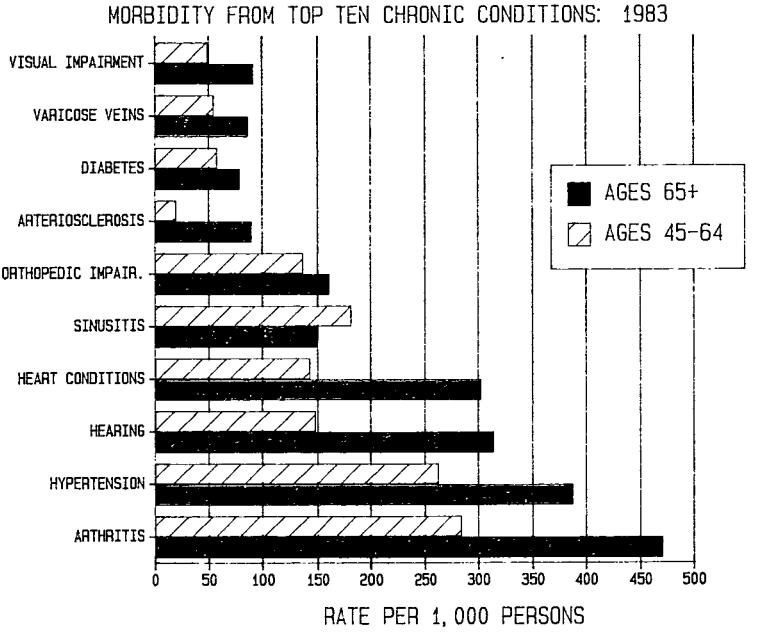
[12] U.S. Senate Special Committee on Aging. "Health and Extended Worklife." February 1985, p. 10.

[13] U.S. Senate Special Committee on Aging. "America in Transition: An Aging Society," 1984–85 Edition, p. 66.

CHART 1



Source: National Center for Health Statistics, 1983 Health Interview Survey.

SELECTED CHRONIC CONDITIONS CHARACTERISTIC OF THE ELDERLY

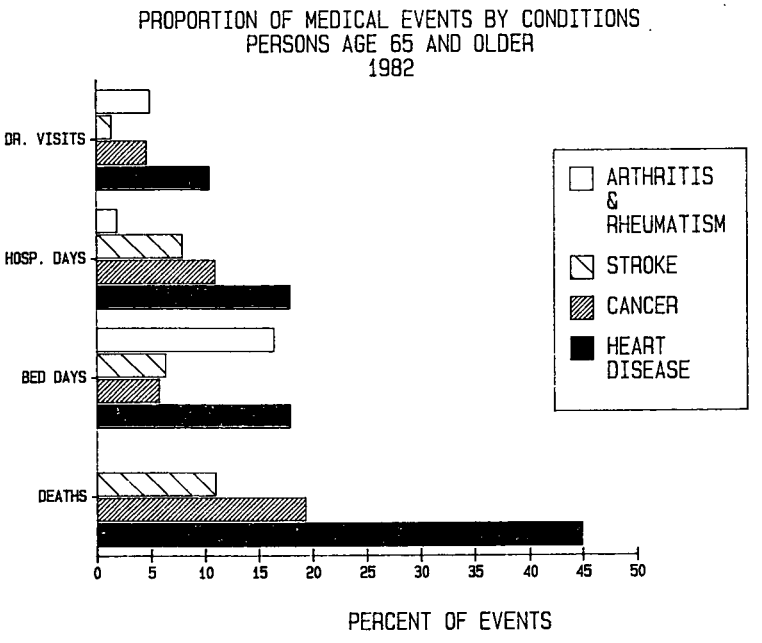
Heart Disease

Heart disease is a major cause of morbidity in the elderly as well as the leading cause of mortality. Cardiovascular disease affects 50 percent of those over 70.[14] Heart disease accounts for 10 percent of all doctor visits and 18 percent of all short-stay hospital and bed disability days (chart 2). While certain age-related changes can be defined in the cardiovascular system, these changes per se do not markedly reduce cardiac output, at least prior to the 80th decade. The challenge to preserve cardiac function in advanced age is not to find a "cure" for biologic aging, but rather to prevent physical

[14] Robert L. Kane, Rosalie A. Kane, and Sharon B. Arnold. "Prevention and the Elderly: Risk Factors." *Health Services Research*. Vol. 19, No. 6, February 1985, part II, p. 954.

deconditioning and eliminate atherosclerotic vascular disease—a process which starts early in the life span.[15]

CHART 2



Source: Health: The United States, 1982. National Center for Health Statistics.

Dementia

Dementia, the chronic, often progressive loss of intellectual function, is a major cause of disability in the elderly. Dementia is not associated with the normal aging process. Severe dementia occurs in approximately 4 to 5 percent of persons over 65, with mild to moderate forms in an additional 10 percent.[16] Dementia is found in over 50 percent of nursing home residents and is the most common precipitating cause of institutionalization. Alzheimer's disease, a

[15] Edward G. Lakatta. "Health, Disease, and Cardiovascular Disease." *America's Aging: Health In An Older Society.* Institute of Medicine/National Research Council. National Academy Press, Washington, DC, 1985, p. 101.

[16] John W. Rowe. "Health Care of the Elderly." *The New England Journal of Medicine.* Vol. 312, No. 13, Mar. 28, 1985, p. 831.

chronic progressive neurologic degeneration of unknown cause, is responsible for at least 55 percent of all cases of dementia.[17]

Osteoporosis

Osteoporosis is one of the most common, serious, and expensive health problems of the elderly. Physiologic changes in mineral metabolism and skeletal integrity associated with aging result in decreases in bone mass and increased risk of fractures. Fractures in the elderly result in enormous disability. The incidence of fractures rises dramatically with age. For women between 75 and 79, the incidence of hip fractures is 6 per 1,000 and for women over 90, the incidence increases to 48.6 per 1,000.[18] Fractures are among the leading causes of hospitalization among the elderly.

Social Isolation

Social isolation has been identified as a major risk factor for subsequent mortality among the elderly. A 9-year follow-up study of Alameda County residents identified an inverse relationship between the number of social connections and the relative risk of mortality.[19] Blazer found that the elderly person's perception of available social support was more predictive of mortality than were objective measures of socialization.[20] Social support has been shown to be a protective factor in reducing the impact of stress.

THE BURDEN OF CHRONIC ILLNESS

The paradigm of the elderly person with multiple illnesses argues for a functional approach to describe the burden of chronic illness. The specific needs for care of an individual who has long suffered and adjusted to one chronic condition such as heart disease are not the same as those for care of a patient with two or more progressive degenerative diseases. Chronic mental illness has its special, varied requirements for patient support. At certain stages, victims of stroke and victims of Alzheimer's disease may be similarly helpless but their care needs may differ considerably.

The burden of illness associated with four major chronic conditions is depicted in chart 2. Despite the fact that arthritis and rheumatism are the most prevalent chronic illnesses among the older population, heart disease leads all others in the utilization of health care services and as a cause of death. Arthritis and rheumatism account for relatively few deaths and only 2 percent of hospital days. These conditions do, however, account for 16 percent of days spent in bed.[21]

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[17] Robert Katzman. Institute of Medicine/National Research Council. *America's Aging: Health In An Older Society*, National Academy Press, Washington, DC, p. 140.

[18] Robert L. Kane, Rosalie A. Kane, and Sharon B. Arnold. "Prevention and the Elderly: Risk Factors." *Health Services Research.* Vol. 19, No. 6, February 1985, part II, p. 967.

[19] Lisa Berkman and S.L. Syme. "Social Networks, Host Resistance and Mortality: A 9-Year Follow-Up Study of Alameda County Residents." *American Journal of Epidemiology.* Vol. 109, 1979, pp. 186–204.

[20] Dan Blazer. "Social Support and Mortality in an Elderly Aging Community." *American Journal of Epidemiology.* Vol. 115, 1982, pp. 684–94.

[21] U.S. Senate Special Committee on Aging. *America In Transition: An Aging Society.* 1984–85 edition, p. 68.

Kane et al,[22] have classified the health needs of the elderly which have resulted from multiple chronic conditions as follow:

1. Problems that can be addressed in traditional prevention terms.—These are definable diseases that lend themselves to a wide spectrum of primary, secondary, and tertiary prevention and intervention. Included in this grouping are heart disease, stroke, cancer, and broken hips.

2. Behaviors likely to produce beneficial or adverse effects on health status.—Included here are smoking, diet modification, exercise, social participation, and stress reduction.

3. Problems requiring attention from caregivers.—Most elderly are under fairly regular physician care. There are, therefore, opportunities to assess visual and hearing problems, cognitive impairments, depression, and urinary incontinence.

4. Iatrogenic problems.—Iatrogenic problems are those impairments or disabilities that result from the caregiving system. Paramount among these are drug reactions or drug side effects. The misclassification of patients as needing or not requiring nursing home placement and home care services also falls in this category.

DISABILITY RESULTING FROM CHRONIC ILLNESS

The impact of any given disease can vary tremendously from person to person depending on a number of factors including the individual's responses to illness, self-perceptions of health status, the presence of other diseases, and the availability of social support systems. As a result of these factors, one individual with arthritis may be homebound while another has minimal activity limitations.

The National Long-Term Care Survey (NLTCS) provided a profile of disabled persons living in the community. The data generated from this survey revealed that in 1982 approximately 5 million noninstitutionalized persons over the age of 65 had disabilities due to chronic conditions which lasted longer than 3 months.[23] In addition to the population of elderly with disabilities living in the community, 1.3 million disabled elderly are residents of nursing homes.[24] Relative to the total aged population, individuals with chronic disabilities are older, more of them are female, more are black, and they live in more financially constrained circumstances.

The Noninstitutionalized Elderly With Chronic Disability

Table 2 shows the age distribution of Medicare enrollees as of July 1, 1982, and that of the functionally impaired elderly as derived from the 1982 NLTCS. Aged Medicare enrollees who were functionally impaired and living in the community were 19.1 percent of the total aged enrollment. At each age interval, the percentage of functionally impaired persons increases relative to the total Medicare enrollment, indicating that the proportion of func-

[22] Robert L. Kane, Rosalie A. Kane and Sharon B. Arnold. "Prevention and the Elderly: Risk Factors." *Health Services Research.* Vol. 19, No. 6, February 1985, part II, pp. 951-52.

[23] Korbin Liu and Kenneth G. Manton. "Disability and Long Term Care," A paper presented at the "Methodologies of Forecasting Life and Active Life Expectancy." Workshop sponsored by NIA, ACLI and HIAA, Bethesda, MD, June 25-26, 1985, p. 3.

[24] *Ibid.*, p. 3.

tionally impaired persons living in the community increase with age; 12.8 percent of those persons aged 65–69 were functionally impaired as compared with 34.5 percent of persons 85 and over. Individuals 85 and older are four times more likely to be disabled than those age 65 to 74.

TABLE 2.—DISTRIBUTION OF FUNCTIONALLY IMPAIRED ELDERLY BY AGE

Age	Total Medicare enrollment as of July 1, 1982 (thousands)	Persons with functional impairments	
		Number (thousands)	As a percent of Medicare population
All persons	26,539.9	5,073.9	19.1
65–69	8,652.1	1,108.5	12.8
70–74	7,021.6	1,108.2	15.8
75–79	5,063.9	1,066.0	21.1
80–84	3,184.9	885.5	27.8
85+	2,617.4	905.7	34.5

Source: Macken. Preliminary data from the 1982 Long-Term Care Survey.

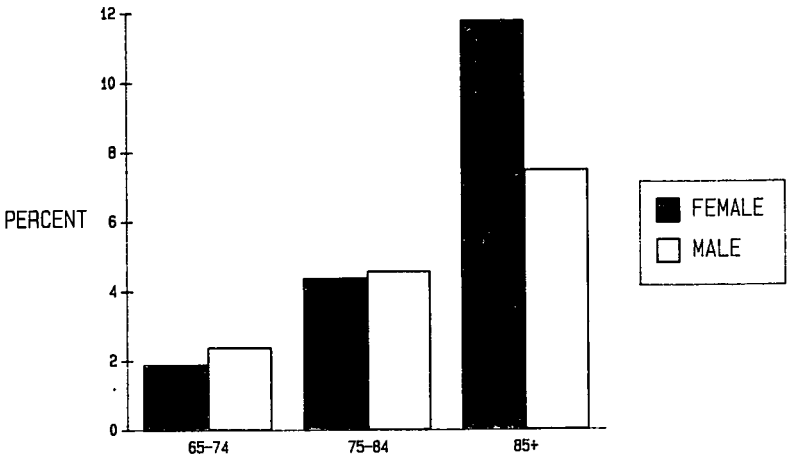
Because of the heterogeneity of the elderly population with chronic disabling conditions, the composition of this population in terms of levels and types of assistance required is more important than the total number of disabled people. Various approaches have been designed to define the relationship between disability and type and level of resources needed. The most widely employed approach is based on the measurement of limitations in performance of activities of daily living (ADL).[25]

Measurement of ADL limitations involves determining if a person has restrictions in performing basic self-care functions (i.e., eating, toileting, bathing, getting out of bed, dressing). According to the ADL scale, disabled persons are mildly disabled (ADL of one to two), disabled (ADL of three to four) or severely disabled (ADL of five to six). Preliminary data from the 1982 NLTCS revealed that one out of five elderly persons living in the community has at least a mild degree of disability (table 3). Approximately 4 percent of the elderly populaton are residing in the community with severe limitations as depicted in chart 3.

[25] *Ibid.*, p. 4.

CHART 3

PERCENT OF THE POPULATION WITH SEVERE ACTIVITY LIMITATION
1982



Source: Manton and Lui. Preliminary Data from the 1982 Long Term Care Survey.

TABLE 3.—PERCENT OF THE 65-PLUS POPULATION IN THE COMMUNITY WITH ADL LIMITATIONS

Age/sex	ADL score			
	Mildly disabled [1]	Disabled [2]	Severely disabled [3]	Total
	1–2	3–4	5–6	
65 to 74	4.2	1.8	2.1	12.6
Male	3.4	1.7	2.4	11.7
Female	4.7	1.9	1.9	13.3
75 to 84	9.0	3.6	4.5	25.0
Male	6.5	2.5	4.6	20.9
Female	10.3	4.3	4.4	27.6
85+	17.4	7.8	10.4	45.8
Male	15.7	7.7	7.5	40.8
Female	18.2	7.9	11.8	48.2
All 65+	6.6	2.8	3.5	18.9
Male	5.1	2.3	3.3	16.0
Female	7.7	3.2	3.6	20.9

[1] Limited, but not in a major activity such as eating, dressing, cooking, or toileting.
[2] Limited in amount or kind of major activity.
[3] Unable to carry on major activities.

Source: Preliminary data from the 1982 National Long-Term Care Survey.

Women tend to report the presence of ADL limitations more frequently than men. Women are more likely to have multiple chronic conditions which limit their mobility and self-care capacity; they are also more likely to live alone. More than 70 percent of functionally impaired men lived with their spouses as compared with only 27 percent of the women.[26]

A higher proportion of blacks reported ADL limitations at each age than do whites. In addition, blacks show greater prevalence of impairment in cognitive functioning. The fact that a higher proportion of blacks are functionally and cognitively impaired and remain in the community is of interest. The data suggest the use of a more extended support system than among whites.[27]

A second set of measures describing limitations in performance are referred to as instrumental activities of daily living (IADL). The IADL's are those activities in the home and community which enable one to live alone; they include functions such as shopping for groceries, cooking, doing laundry, managing money, and taking medicine. Limitations in IADL's tend to reflect lower levels of disability than limitations in ADL. IADL's capture the ability to perform certain social roles. In addition, some IADL's appear to provide more direct reflections of cognitive functioning. For example, the functions of managing money and taking medications may be accomplished by persons who have severe physical limitations but are not cognitively impaired. Similarly, persons with few physical limitations but severe cognitive impairments (e.g., Alzheimer's disease) may be less restricted in ADL limitations but have severe IADL disabilities. For these reasons, the combination of these two measures provides a more complete description of the functional limitations of the disabled elderly.

Manton and Soldo have described four subgroups in the elderly community-based disabled population.[28] The first group is a relatively young group (mean age 73) of generally intact couples with few functional limitations. The second group is extremely elderly (mean age 86) and generally free of ADL limitations. They suffer from several IADL limitations, however. This suggests significant cognitive impairment in this group which is relatively independent of serious physical impairment. This is in distinct contrast to the third group which though younger (mean age 76) has more ADL limitation and is considerably more limited in physical mobility. The physical limitations of the younger, third group can often be compensated for by appliance and special equipment while the cognitive impairments of the second group are more likely to require personal assistance care. The fourth group is seriously disabled and

[26] Candace Macken. "A Profile of Functionally Impaired Aged Persons in the Community." A paper presenting data obtained during 1982 Long-Term Care Survey; Survey (co-sponsored by HCFA and ASPE), p. 12.

[27] *Ibid.*, p. 23.

[28] Kenneth G. Manton and Beth J. Soldo. "Dynamics of Health Changes in the Oldest Old: New Perspectives and Evidence," *Milbank Memorial Fund Quarterly/Health and Society.* Vol. 63, No. 2, 1985, pp. 257-262.

generally married; this group would probably be institutionalized if a spouse were not present.

ADL limitations increase with age and multiple impairments increase notably after 75 years of age. The maintenance of cognitive functioning ability despite increasing functional impairment appears to be related to continued maintenance in the community.[29] Cognitive functioning among functionally impaired persons in the community was found to be relatively intact until 85 years of age and over. The combined effects of functional impairments and impaired cognitive functioning appear to provide a strong impetus toward the need for nursing home care.[30] The risk of institutionalization is positively correlated with levels of cognitive and physical disabilities.

The Institutionalized Elderly With Chronic Disabilities

More than 1.3 million disabled elderly are residents of nursing homes in the United States. Table 4 presents descriptive statistics from the most recent (1977) National Nursing Home Survey (NNHS) and the 1982 NLTCS. While the dates of these two surveys are not comparable, general comparisons between the two populations can be made. In terms of functional limitations, the nursing home population has higher proportions of people with need for assistance for individual ADL's and higher ADL scores. For example, 40 percent of persons in nursing homes have five or six ADL limitations, while only 19 percent of the noninstitutionalized disabled elderly are so severely impaired. However, given the much larger size of the community population, there are actually more persons in the community (1 million) at this level of disability than in nursing homes.

TABLE 4.—CHARACTERISTICS OF NURSING HOME AND NONINSTITUTIONALIZED DISABLED ELDERLY (65+) POPULATIONS

[In percent]

	1977 nursing home residents (N=1,126,000)	1982 Noninstitutionalized elderly (N=5,100,000)
Age:		
65–74	18.7	43.5
75–84	41.3	38.3
85+	40.0	17.8
Sex:		
Male	26.1	35.9
Female	73.9	64.1
Marital status:		
Married	12.1	41.4
Not married	87.9	58.6
ADL:		
Bathing	88.5	47.4
Dressing	71.7	22.9
Toileting	54.8	22.9

[29] Candace Macken. "A Profile of Functionally Impaired Person In the Community." A paper presenting data obtained during 1982 Long-Term Care Survey (co-sponsored by HCFA, and ASPE) p. 21.

[30] *Ibid.*, p. 24

TABLE 4.—CHARACTERISTICS OF NURSING HOME AND NONINSTITUTIONALIZED DISABLED ELDERLY (65+) POPULATIONS—Continued

[In percent]

	1977 nursing home residents (N=1,126,000)	1982 Noninstitutionalized elderly (N=5,100,000)
Mobility	69.2	[1] 44.2
Incontinence	47.4	23.7
Eating	33.6	7.3
ADL scores:		
No ADL	7.4	[2] 31.1
1–2	23.9	34.2
3–4	18.7	15.5
5–6	40.5	19.3

[1] Help getting around inside.
[2] IADL only.

Source: Tabulations of the 1977 National Nursing Home Survey and the 1982 National Long-Term Care Survey.

ILLNESS BEHAVIOR OF THE CHRONICALLY ILL ELDERLY

An important factor underlying functional impairment in the elderly is the failure of many persons to seek assistance.[31] Health problems reported by the frail elderly, for example, are frequently only the tip of the iceberg of treatable problems. This behavior springs from the belief on the part of older people that advanced age is necessarily accompanied by illness and functional decline and that many symptoms are to be expected rather than treated. Other contributing factors include cognitive deficits, fear of hospitalization or the true nature of the illness, and concern about costs. Because of elderly person's ageist views of functional loss with aging, many old people cannot be relied upon to initiate health care for themselves.

PROJECTIONS OF THE GROWTH OF THE POPULATION OF CHRONICALLY DISABLED ELDERLY

Liu and Manton have projected the size of the population of chronically disabled elderly who will require long-term care services for the years 2000 and 2040.[32] A dominant pattern reflected in these projections is the rapid increase in seriously disabled persons (64 percent from 1980 to 2000, 106 percent from 2000 to 2040) and in the over 85 population. Most of the growth is concentrated among older (75+) females.

By the year 2040, a projected 13.1 million persons will be living in the community with at least one IADL limitation and 4.6 million noninstitutionalized elderly will have 3 or more ADL limitations. These projections are based on the assumption that the current rate of institutionalization can be maintained.

[31] John W. Rowe. "Health Care of the Elderly." *The New England Journal of Medicine.* Vol. 312, No. 13, Mar. 28, 1985, p. 830.

[32] Korbin Liu and Kenneth G. Manton. "Disability and Long-Term Care." A paper presented at the "Methodologies of Forecasting Life and Active Life Expectancy." Workshop sponsored by NIA, ACLI and HIAA, Bethesda, MD, June 25–26, 1985, p. 15.

PLANNING TO MEET THE NEEDS OF THE CHRONICALLY ILL ELDERLY

The quantitative dimension of the aging population highlight the unprecedented growth of the oldest-old. However, the range of factors that determine the future needs of the chronically ill elderly population go far beyond traditional demographic variables. The challenge of planning for tomorrow's elderly will require attention to their multiple needs as balanced against societal resources over time. It is in this context that the qualitative aspects of aging assume special significance.

Qualitative factors are personal and environmental characteristics that define the quality of life of the elderly. Among these are family size and structure, financial resources, living arrangements, and marital status. As functional limitations increase, environmental factors assume added importance for the elderly. The immediate social and economic environment can either compensate for reduced levels of functioning or stress already limited capacities.

Increasingly research is demonstrating the efficacy and efficiency of strategies that manipulate the qualitative aspects of aging. A viable family support network, for example, often deters a nursing home placement. Policy designed to meet the future needs of the chronically ill elderly should integrate demographic projections with qualitative dimensions of aging. Strategies which emphasize enhancing the capacity of an existing social environment (i.e., respite programs) or physical environment (i.e., installation of ramps) are among the types of interventions that will require public support in order to sustain the chronically ill elderly in the community.

The Acutely Ill Elderly

The pattern of illness and disease has changed since the beginning of the twentieth century. Chronic conditions have replaced acute conditions as the most prevalent health problems for the elderly.[33] Most hospital admissions of elderly persons are for acute episodes of a chronic condition.

The most frequent reason for hospitalization of the aged person in 1985 was heart failure/shock.[34] The 10 most common diagnostic related groups (DRG's) reported under the prospective payment system (PPS) in 1985 are found in table 5. These 10 DRG's account for 28.4 percent of the 1985 discharges. The top three, heart failure and shock, simple pneumonia, and angina pectoris, make up 12.2 percent of the discharges reported that year. The average length of stay for these 10 DRG's varies from 4.9 days for angina pectoris to 9.6 days for specific cardiovascular disorders.[35]

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[33] U.S. Senate Special Committee on Aging. "America In Transition: An Aging Society," 1984-85 edition, June 1985, p. 66.

[34] Health Care Financing Administration, Bureau of Data Management and Strategy. "Data Supplement: Health Care Financing Administration Budget Briefing Book," fiscal year 1987 edition, February 1986, p. 12.

[35] HCFA, DHHS, working paper, January 1986.

TABLE 5.—THE 10 MOST COMMON DRG'S REPORTED FOR PROSPECTIVE PAYMENT SYSTEM DISCHARGES, FISCAL YEAR 1985

Rank	DRG No.	Description	Number of discharges	Percentage of PPs	Average length of stay
1	127	Heart failure and shock	329,727	5.1	7.6
2	089	Simple pneumonia and pleurisy	238,798	3.7	8.4
3	140	Angina pectoris	216,416	3.4	4.9
4	182	Esophagitis, gastroenteritis, miscellaneous digestive disorders	213,102	3.3	5.5
5	014	Specific cerebrovascular disorders	199,389	3.1	9.6
6	138	Cardiac arrhythmia and conduction disorders	136,476	2.1	5.5
7	296	Nutritional and miscellaneous metabolic disorders	134,959	2.1	7.0
8	096	Bronchitis, asthma	130,539	2.0	6.7
9	243	Medical back problem	115,161	1.8	6.8
10	088	Chronic obstructive pulmonary disease	113,866	1.8	7.5

Source: Department of Health and Human Services, Health Care Financing Administration, HCFA Background Paper, January 1986.

Elderly persons are hospitalized approximately twice as often as the younger population, stay twice as long and use twice as many prescription drugs.[36] Older men are more likely than women to experience acute illnesses that are life threatening. Health care utilization due to acute illness in the elderly is greatest in the last year of life.

The Mortality Profile of the Elderly

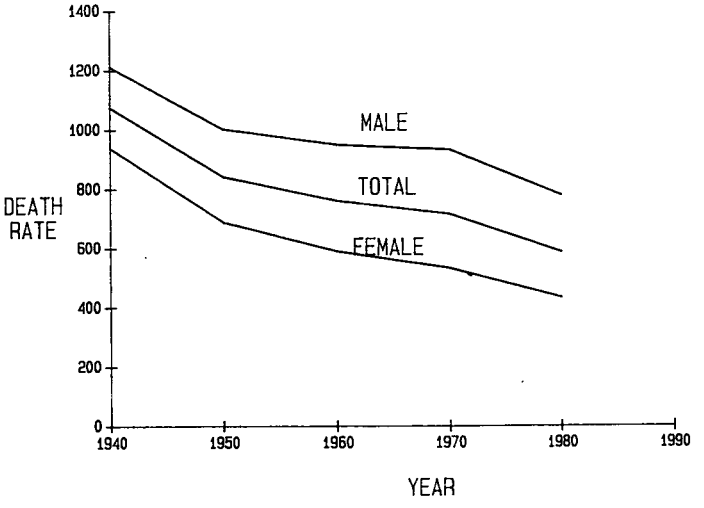
Tremendous gains in life expectancy have been realized during the last four decades. Life expectancy for an infant born in the United States today is about 71 years for males and 78 for females.[37] A rapid increase in the growth of the elderly population has occurred as a result of declining mortality rates across the life span. Declining death rates among the elderly in recent years have also contributed to the growth of the aged population. The age-adjusted death rate for the elderly decreased by 38 percent from 1940 to 1983 as depicted in chart 4. Age-adjusted death rates show the level of mortality that would exist if there were no changes in the age composition of the population from year to year. Age-adjusted death rates are relatively free from the distortions associated with a changing age composition. Reductions in death rates were not, however, proportionate for all age groups of the elderly population. As shown in table 6, a 28-percent reduction in the mortality rate occurred for those over 85 during the period 1950–80. The second largest proportionate decrease in death rates in the past decade was among those 65 to 74. Since those 67 to 74 are the most numerous of the aged, this pattern assures a continued growth of the old old population throughout the remainder of this century.

[36] U.S. Senate Special Committee on Aging. "America In Transition: An Aging Society." 1984-85 edition, June 1985, pp. 74-75.

[37] Committee on An Aging Society. *America's Aging: Health In An Older Society.* Institute of Medicine/National Research Council. National Academy Press. Washington, DC. 1985.

CHART 4

AGE ADJUSTED DEATH RATES (PER 100,000) FOR TOTAL POPULATION



Source: National Center for Health Statistics, Advance Report of Final Mortality Statistics, Vol. 4, No. 6, Supplement 2, September 26, 1985.

TABLE 6.—DEATH RATES (PER 100,000) OF THE POPULATION 65 AND OVER BY AGE AND PERCENT OF CHANGE OVER TIME FOR YEARS 1950, 1960, 1970, 1980 [1]

Age	1950	1960	Percent change	1970	Percent change	1980 [1]	Percent change	Overall percent change
65–74	4,067.7	3,822.1	−4.56	3,582.7	−6.26	2,968.5	−17.14	−27.02
75–84	9,331.1	8,745.2	−6.28	8,004.4	−8.47	7,178.4	−10.32	−23.07
85+	20,196.9	19,857.5	−1.68	17,539.4	−11.67	14,489.6	−17.39	−28.26

[1] 1980 figures are estimates.

Source: Department of Health and Human Services. 1982. Health—United States, 1982. Hyattsville, MD: Public Health Service; DHHS Publication No. (PHS) 83-1232.

Mortality rates have improved for males and females since 1950, but women have experienced more rapid improvement for most leading causes of death. The age-adjusted death rate decreased 26 percent for males and 48 percent for females during the period

1940–82. Of the leading causes of death for the elderly in 1982, sex differences were most pronounced for cancer, expecially lung cancer.

Chronic disease processes cause most deaths at advanced ages. Table 7 shows 1983 age-specific leading causes of death for the population 55 and over.

TABLE 7.—10 LEADING CAUSES OF DEATH BY OLDER AGE GROUPS, 1983

[Rates per 100,000 population in specified group]

	55–64	65–74	75–84	85+
All causes	1,299	2,883	6,310	15,422
Disease of the heart	467	1,444	2,737	7,503
Malignant neoplasms	439	832	1,228	1,611
Cerebrovascular diseases	59	184	652	1,986
Accidents and adverse effects	36	49	101	268
Chronic obstructive pulmonary disease	45	142	259	303
Pneumonia and influenza	16	48	197	857
Diabetes	25	65	125	195
Suicide	17	17	25	22
Chronic liver/cirrhosis	36	39	34	18
Atheroslerosis	5	18	97	537

Note: The numbers have been rounded.

Source: Monthly Vital Statistics Report, Provisional Data 1983, v. 32 No. 9, Sept. 21, 1985, table 8.

According to the National Center for Health Statistics, diseases of the heart accounted for at least 39.7 percent of all deaths for persons in all of the age groups over 65 in 1983. For persons aged 65–74, they accounted for 39.7 percent of the deaths; 75–84, 43.4 percent; 85 and over, 48.7 percent. The second and third leading causes of death reported in 1983 are cancer and cerebrovascular diseases. Together they account for 35.2 percent of the deaths in the 65–74 age group; 29.8 percent of the deaths in the 75–84 age group; and 23.3 percent of the deaths in the 85 and over age group.

As evidenced in table 8, approximately one-half of the overall decline in mortality among the elderly during the period 1950–83 results from the decline in heart disease mortality. Another quarter of the mortality decline is associated with the fall in death rates for stroke. Cancer is the only major cause of death to have increased. It should be emphasized that, even though cancer death rates increased during this period, the mean age at death from cancer also increased paralleling the increase in the mean age at death for most major chronic diseases.

TABLE 8.—DEATH RATES FOR ALL CAUSES ACCORDING TO AGE, 1950–84

Age	1950	1960	1970	1980	1981	1982	1983	1984 [1]
All ages, age adjusted	841.5	760.9	741.3	585.8	568.8	553.8	550.5	547.7
All ages, crude	963.8	954.7	945.3	878.3	862.4	852.0	862.8	866.8
55 to 64	1,911.7	1,735.1	1,658.8	1,346.3	1,322.1	1,297.9	1,299.5	1,289.6
65 to 74	4,067.7	3,822.1	3,582.7	2,994.9	2,922.3	2,885.2	2,874.3	2,864.4
75 to 84	9,331.1	8,745.2	8,004.4	6,692.6	6,429.0	6,329.8	6,441.5	6,416.5
85 and over	20,196.9	19,857.5	17,539.4	15,980.3	15,228.6	15,048.3	15,168.0	14,890.1

[1] Provisional data.

Source: National Center for Health Statistics.

A variety of factors are responsible for the substantial decrease in mortality from heart disease and stroke. These include increased access to and use of preventive health services, advances in medical and surgical treatment of coronary artery disease, improved control of blood pressure, decreased smoking, increased exercise, modified eating habits and, in general, healthier life styles.

The mortality assumption made by the Bureau of the Census that death rates will continue to decline at their current pace at least to the year 2000 seems reasonable. For those now reaching 65 and succeeding cohorts, mortality rates from heart disease and stroke may decline even further as a result of more favorable interventions with well known risk factors, such as smoking, as well as additional advances in medical technology. Eliminating deaths due to major vascular diseases (i.e., heart disease and stroke) would add an average 11.4 years to life at age 65.[38]

Under any of the Bureau's assumptions, the major impact of declining mortality rates on the age structure of this population will be on the number of old old (85+). If projections are accurate, there will be 5.4 million persons 85 and over in 2000 and over 13 million persons in this age group in 2040. The possibility of life expectancy increases at very advanced age was not represented in most population projections until the early 1980's. One distinctive feature of this population group is that they have the highest per capita service needs.

In the section which follows, an overview of the health needs of the elderly population will be presented. Emphasis will be placed on the elderly's need for and utilization of the following health services: hospitals, long-term care services including nursing homes, and home care; and health care professional services; and preventive health services. Health care expenditures for these services will also be addressed.

HEALTH NEEDS OF THE ELDERLY IN THE UNITED STATES

The dimensions of the current health service consumption of the aged only hint at future possibilities. The elderly's consumption of health services is growing due to absolute increases in the total aged population, greater numbers of individuals in the eldest subgroup, and an increased number of services provided per person. Higher expectations for good health, the availability of third party financing and increased access to certain medical advances (i.e., renal dialysis, radiation therapy) are prominent among the factors contributed to greater use of health services by the elderly.

HOSPITAL UTILIZATION

Short-stay hospital admissions for the elderly increased by more than 50 percent between 1965 and 1983 (chart 5).

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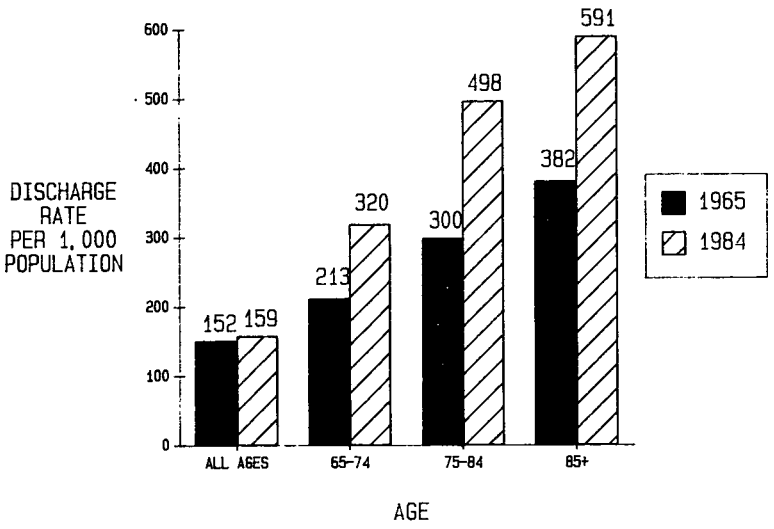
[38] U.S. Senate Special Committee on Aging. "America in Transition: An Aging Society," 1984-85 edition, June 1985, p. 71.

CHART 5

USE OF SHORT STAY NON-FEDERAL HOSPITALS
CHANGE SINCE MEDICARE WAS ENACTED
1965 AND 1984



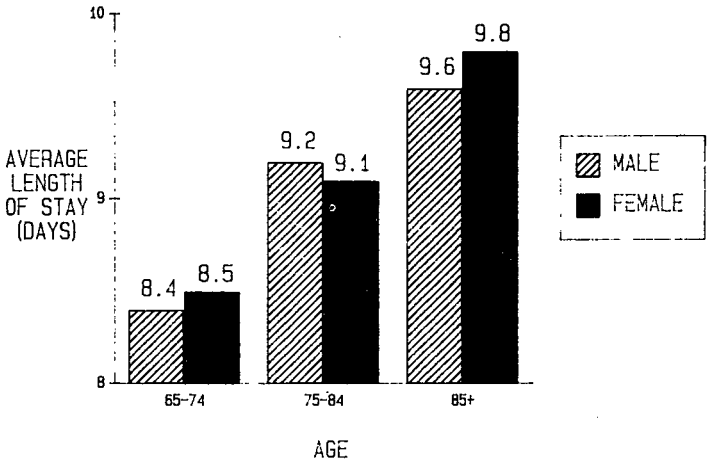
Source: National Center for Health Statistics, National Hospital Discharge Survey, 1965 and 1984.

The 1984 National Hospital Discharge Survey shows that 11.2 million elderly patients (30.2 percent of all hospital discharges) were discharged from hospitals in 1984 (table 9). The population 75 and over accounted for 22.4 percent of short-stay hospital days. The average length of hospital stay for those 65 and over was 8.9 days in 1984.

The 1984 data shows that the elderly still tend to remain in the hospital a little over 2 days longer than is the average for all ages. The hospital discharge rate for those 85 and over is still 84 percent higher than that for the 65 to 74 age group. The average hospital stay for persons 65 to 74 was about 8.5 days in 1984. For those persons 85 and over it was 9.8 days (chart 6).

CHART 6

DURATION OF STAY BY ELDERLY IN SHORT-STAY NON-FEDERAL HOSPITAL BY AGE: 1984



Source: National Center for Health Statistics, 1981 National Hospital Discharge Survey, 1984.

TABLE 9.—UTILIZATION OF SHORT-STAY HOSPITALS FOR SELECTED AGE GROUPS, 1984

Age group	Discharged patients			Days of care			
	Number in thousands	Percent distribution	Rate per thousand	Number in thousands	Percent distribution	Rate per thousand	Average length of stay
All ages	37,162	100.0	158.5	244,652	100.0	1,043.5	6.6
45–64	8,195	22.1	183.3	58,877	24.1	1,316.8	7.2
65–74	5,353	14.4	319.6	45,399	18.6	2,711.0	8.5
75–84	4,294	11.6	498.1	39,414	16.1	4,572.4	9.2
85+	1,580	4.3	590.8	15,423	6.3	5,767.9	9.8
65+	11,226	30.2	400.4	10,237	41.0	3,574.8	8.9

Source: National Center for Health Statistics, National Hospital Discharge Survey, 1984.

Long-Term Care Service Utilization

Long-term care refers to extended health, social, and residential services required by an individual to compensate for losses in independent functioning resulting from physical or mental impair-

ments. Elderly persons are the primary recipients of long-term care.

NURSING HOME USE

At any point in time, approximately 5 percent of the elderly in the United States are residing in a nursing home. It has been estimated, however, that 20 percent of the elderly are in nursing homes for some time during a year. In 1985, an estimated 1.5 million elderly persons will spend time in nursing homes.[39] Nursing homes are used for short-term rehabilitative care and short-term terminal care as well as for long-term chronic care. The average length of stay in a nursing home is 75 days which reflects both the large number of short, mostly Medicare stays as well as the long-stay patients (whose average length of stay is almost 2 years.)[40] Nearly 75 percent of nursing home residents are without a spouse, as compared to just over 40 percent of the noninstitutional elderly. Nursing home residents are disproportionately very old, female, white, and currently unmarried.

Institutionalization rates increase dramatically with age. Only 2 percent (295,000) of the elderly 65–74 years of age are expected to be in nursing homes in 1985 as compared with 7 percent (627,000) of the elderly 75–84 years of age and 16 percent (489,000) of those 85 years of age and over.[41] Major predictors of institutionalization include: mental disorders, severe functional dependencies, and weak or absent social support systems. During the period 1985–2000, the nursing home population is expected to grow from 1.4 million to 2.2 million, an increase of 57 percent. By 2040, 4.6 million elderly are expected to be institutionalized (chart 7).

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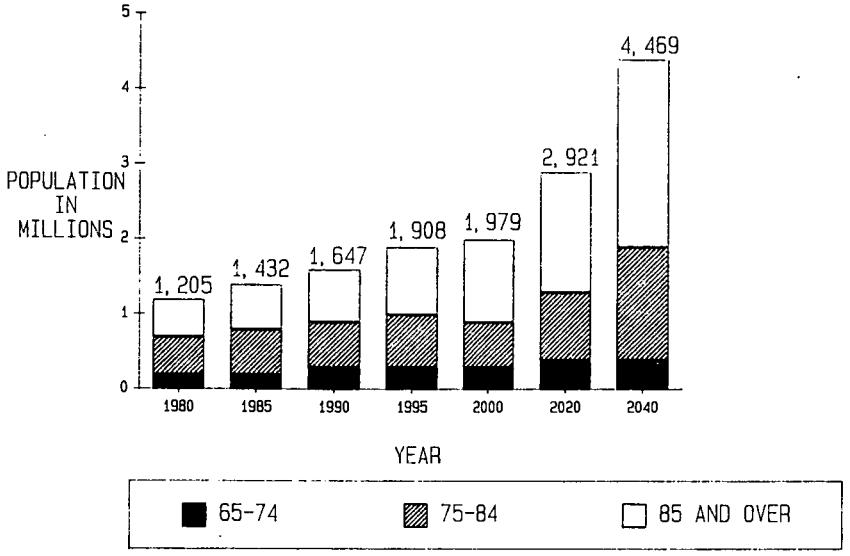
[39] *Ibid.*, p. 73.

[40] Anne R. Somers. "Financing Long Term Care for the Elderly: Institutions, Incentives, Issues." *America's Aging: Health In An Older Society.* Institute of Medicine/National Research Council. National Academy Press. Washington, DC. 1985.

[41] *Ibid.*, p. 75.

CHART 7

NURSING HOME POPULATION PROJECTIONS
PERSONS 65 YEARS AND OLDER BY AGE GROUP
1980-2040



Source: Manton and Liu. The Future Growth of the Long-Term Care Population: Projections Based on the 1977 National Nursing Home Survey and the 1982 Long-Term Care Survey, March, 1984.

In 1980, there were approximately 1.4 million nursing home beds, or 54 beds per 1,000 elderly in the United States. The annual growth rate for nursing home beds was 2.9 percent between 1976-80; this rate represents a considerable decline from the 1963-73 decade when the rate of growth was 8.1 percent per year.[42]

Nursing homes are generally classified according to their Medicare or Medicaid certification as skilled nursing facilities (SNF's) which provide 24 hour skilled nursing care under supervision of a physician or intermediate care facilities (ICF's) which are intended for patients who require less intensive care. In 1977, 32 percent of the homes were certified ICF's only; 19 percent were certified as SNF's; one-fourth were both; and one-fourth had no certification; Medicare will reimburse only for SNF's; Medicaid will pay for either ICF's or SNF's.[43]

As of 1977, 77 percent of all homes and about 70 percent of all beds were proprietary. The most dramatic change in the nursing

[42] Pamela Doty, Korbin Liu and Joshua Wiener. "An Overview of Long-Term Care." *Health Care Financing Review.* Vol. 6, No. 3, Spring 1985, p. 71.

[43] Anne R. Somers. "Financing Long Term Care for the Elderly: Institutions, Incentives, Issues." *America's Aging: Health In An Older Society.* Institute of Medicine/National Research Council. National Academy Press. Washington, DC, 1985.

home industry has been the growth of proprietary chain operations. Today, over one-third of all nursing homes are part of chains, many of which also operate home care programs.[44]

HOME CARE USE

The dimensions of community-based services utilization are complex because of the variations of informal care and health service combinations that are available. This segment of the long-term care industry comprise a heterogeneous collection of agencies, institutions, and public and private programs whose common denominator is a commitment to noninstitutional health care for the chronically ill and disabled, especially the elderly. Prominent among the health services available in the community are home health care, respite care, adult day care, rehabilitation day hospitals, and hospices.

The volume of both formal and informal care services that is being delivered to the 5 million disabled elderly residing in the community is enormous; over 4 million days of formal care and nearly 27 million days of informal care are being delivered weekly. These figures represent approximately 1 day of formal care and 5 days of informal care being delivered per person.[45]

Almost 70 percent of the disabled elderly living in the community in 1982, relied exclusively on spouses, children or other "informal" sources of support for ADL or IADL problems. Relatives provided 84 percent of all care to males and 79 percent to females[46] (table 10).

TABLE 10.—PERCENT DISTRIBUTIONS OF CAREGIVERS BY RELATIONSHIP TO 65-PLUS INDIVIDUALS WITH ACTIVITY LIMITATIONS

	Care recipient	
	Male	Female
65 to 74:		
Spouse	45	18
Offspring	21	29
Other relative	21	33
Formal	13	20
75 to 84:		
Spouse	35	8
Offspring	23	35
Other relative	25	36
Formal	19	23
85+:		
Spouse	20	2
Offspring	34	39
Other relative	27	36
Formal	19	23
All 65+:		
Spouse	37	10

[44] *Ibid.*, p. 191.

[45] Korbin Liu and Kenneth G. Manton. "Disability and Long-Term Care." A paper presented at the "Methodologies of Forecasting Life and Active Life Expectancy." Workshop sponsored by NIA, ACLI and HIAA, Bethesda, MD, June 25-26, 1985, p. 14.

[46] Korbin Liu, Kenneth G. Manton and Barbara M. Liu. "Home Care Expenses for Noninstitutionalized Elderly With ADL and IADL Limitations." National Center for Health Services Research and Health Care Technology Assessment. April 1985, p. 9.

TABLE 10.—PERCENT DISTRIBUTIONS OF CAREGIVERS BY RELATIONSHIP TO 65-PLUS INDIVIDUALS WITH ACTIVITY LIMITATIONS—Continued

	Care recipient	
	Male	Female
Offspring	24	34
Other relative	23	35
Formal	16	21

Source: Preliminary data from the 1982 National Long-Term Care Survey.

In 1984 approximately 1 million disabled elderly received both paid and non-paid care and only 240,000 used paid care only (table 11). The group receiving both paid and non-paid care had a proportionately large number of people with severe ADL limitations. The paid-care only group had the greatest proportion of individuals with the lowest ADL scores. These results suggest that paid care may be a necessary complement for informal caregivers in the case of severely disabled individuals. Paid care also appears to serve as a source of assistance for individuals needing assistance with chores such as laundry or shopping.[47]

TABLE 11.—PERCENT OF INDIVIDUALS WITH LIMITATIONS BY ADL LEVEL AND SOURCES OF ASSISTANCE

Limitation level	Total [1]	All helpers are paid	All helpers are not paid	Both paid and nonpaid helpers
IADL only	31.1	38.6	34.1	18.2
	(.7)	(3.2)	(.8)	(1.3)
ADL=1-2	34.2	41.3	34.6	30.6
	(.7)	(3.2)	(.8)	(1.6)
ADL=3-4	15.5	11.4	14.4	20.5
	(.6)	(2.1)	(.6)	(1.4)
ADL=5-6	19.3	8.6	16.9	30.7
	(.6)	(1.8)	(.7)	(1.6)
All levels	100.0	100.0	100.0	100.0
	(4,384,181)	(240,611)	(3,237,582)	(905,988)
		(15,630)	(53,818)	(29,926)

[1] Total does not equal 4.6 million total disabled elderly because of unknowns.

Note: Standard errors are in parentheses.

Source: Kenneth G. Manton and Korbin Liu. "Home Care Expenses for Non-institutionalized Elderly With ADL and IADL Limitations". National Center for Health Services Research and Health Care Technology Assessment. April 1985.

Two growing dimensions of the home care industry are home health care and hospice care. In 1984, 41 million home health visits were made to Medicare beneficiaries (table 12). This represents a 46-percent increase over the number of home health visits reported in 1980.[48]

[47] *Ibid.*, p. 10.

[48] Daniel R. Waldo and Helen C. Lazenby. "Demographic Characteristics and Health Care Use and Expenditures by Age in the United States: 1977-1984." *Health Care Financing Review.* Fall 1984. Vol. 6, No. 1, p. 14.

TABLE 12.—HOME HEALTH SERVICES, USE, AND REIMBURSEMENT UNDER MEDICARE AND MEDICAID, SELECTED YEARS, 1970–84

Year	Medicare		Medicaid	
	Visits (millions)	Reimbursements (millions)	Recipients (thousands)	Payments (millions)
1970	6	$62	[1] 109.9	[1] $25.4
1975	11	217	202.4	70.3
1977	16	367	363.1	180.0
1979	19	518	358.4	262.2
1980	22	662	392.4	332.0
1981	23	818	401.7	427.8
1982	31	1,244	377.3	495.5
1983	37	1,613	421.8	597.2
1984	41	1,945	433.6	764.9

[1] 1973.

Source: Muse, D.N., and Sawyer, D. Medicare and Medicaid Data Book, 1981. Baltimore, MD: Health Care Financing Administration Publication No. 03128, 1982. Data for 1981 through 1984 from unpublished tables from the Health Care Financing Administration.

It is estimated that there are more than 7,800 home health agencies or programs in the United States; some 5,983 of these are certified by Medicare as of December 1985. Table 13 shows the distributions of ownership in 1977 and 1985. Home health agencies which are hospital-based and proprietary are growing while the number operated by the government and Visiting Nurses' Association is declining.

TABLE 13.—MEDICARE CERTIFIED HOME HEALTH AGENCIES, PERCENTAGE DISTRIBUTION BY TYPE OF AGENCY, 1977 AND DECEMBER 1985

[In percent]

Type	1977	1985
Visiting nurse associations	19	9
Government	47	20
Hospital-based	11	21
Proprietary	5	33
Private nonprofit	14	14
Other	4	4

Source: Home Health Line, v. VI, Feb. 26, 1962, p. 2, and unpublished data from the Health Care Financing Administration.

Hospice has developed in the United States to serve the needs of individual communities. According to the surveys conducted by the Hospice Project of the Joint Commission on the Accreditation of Hospitals, there were 440 hospices in 1981 and 1,300 in early 1983.[49] Fewer than 10 States are licensing hospices and some States with licensing recognize only one type of provider. Of the patients served by hospice in 1983, approximately 70 percent are age 65 and older. Thirty percent of all hospice patients die within 5–7 days of admission; the average length of time in hospice is 44 days. Eighty percent of hospice care is provided at home.[50]

[49] Mary Grace Kovar. "Elderly People and Their Medical Characteristics." National Center for Health Statistics. p. 31.
[50] *Ibid.*, p. 32.

HEALTH CARE PROFESSIONAL SERVICES USE

Utilization of physician services increases with age. Approximately four out of five elderly living in the community had at least one contact with a physician in 1983.[51] More than 16 percent of total physician visits during 1983 were made by persons 65 and over. On the average, elderly people are more likely than younger ones to make frequent visits to a physician. Persons 65+ visit a physician eight for every five times by the general population. Since the enactment of Medicare, the average number of physician contacts and the percentage of persons 65 and over reporting that they had seen a physician in the last year has increased significantly, particularly for persons with low incomes.[52]

Approximately three-quarters of visits by elderly are made in physicians offices. The remaining visits are divided among hospital emergency rooms, outpatient departments, homes, and telephone consultations. The higher use of physicians by the elderly is associated with their higher probability of being in poor health. The majority of those who had not seen a physician in 1980 considered themselves in good health.

The aging of the population will create a greater demand for medical care. The need for physician visits will increase by 18 percent (over 30 million visits) by the year 2000, and by 30 percent (over 50 million visits) by 2020. These figures are based on 1980 physician visit rates (153 million visits) and the U.S. Census Bureau population projections.[53]

The health care needs of the elderly are broad in scope and require the participation of a number of health care professionals who are educated in geriatrics and gerontology. In addition to physicians, nurses have substantial responsibilities for providing services to the elderly in a wide range of settings such as hospitals, long-term care settings, ambulatory care programs, and day care programs. Dentists, social workers, and allied health professionals also actively contribute to the care of the elderly.

Available data, however, indicates that only a small fraction of health professional schools have required curricula in geriatrics and gerontology.[54] In 1984, only 5 to 25 percent of the cadre of competent teachers and researchers who are required to address the health care needs of the elderly were available.[55]

PREVENTIVE HEALTH SERVICES USAGE

Utilization of preventive health services by the elderly varies by service. The majority of the elderly do not seek health services if they perceive themselves to be in good health. The elderly who report that they have not seen a physician within a year, for example, also report that they have no need of physician care.

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[51] *Ibid.*, p. 33.
[52] U.S. Senate Special Committee on Aging. "America in Transition: An Aging Society," 1984-85 edition, p. 78.
[53] *Ibid.*, p. 78.
[54] ———, ———. "Report on Education and Training in Geriatrics and Gerontology." National Institute on Aging, Department of Health and Human Services, February 1984, p. 5.
[55] *Ibid.*, p. 51.

Elderly persons visit dentists less often than the younger population. Only 35 percent of the 65 and older population visited a dentist in 1981 as compared with 52 percent of the population 45 to 64.[56] At present, elderly do not receive sufficient preventive or therapeutic dental care. It is estimated that almost one-third of the population is likely to lose teeth between the ages of 50 and 70; the major cause of loss of teeth is periodontal disease. Studies have shown that improvement in oral hygiene and plaque control is effective in preventing dental care and periodontal disease in adults.

Other examples of functional impairments that can be compensated for or corrected through preventive health services are visual and hearing deficits. Yet, these deficits are among the best examples of neglected conditions. The high cost of visual and hearing aids and the lack of Medicare reimbursement for these aids contribute to the lack of attention these functional impairments receive.

Many of the chronic conditions of the elderly are strongly associated with the personal health habits of the elderly. In general, the evidence linking behavioral changes in the elderly to reduce risk of disease is fragmentary. The most dramatic exception to this cigarette smoking, which is a major risk factor in cardiovascular diseases and selected cancers. Nonetheless, a number of behaviors such as diet, exercise, and stress reduction are worthy of the attention of health care professionals because intervention in these areas have demonstrated positive effects. Appropriate intervention associated with these behaviors will foster a sense of well-being, enhance the self-concept of the elderly and promote social interaction.

HEALTH CARE EXPENDITURES OF THE ELDERLY

Persons 65 and over, 12 percent of the population in 1984, account for a third of the country's total personal health care expenditures.[57] These expenditures represent total health care investment from all sources exclusive of research.[58] Per capita spending for health care in 1984 represented a 13-percent annual growth rate from 1977. Total personal health care expenditures of the elderly were expected to reach $120 billion in 1984 (table 14 A-C).

Health Care Expenditures by Source

HOSPITAL

Hospital care for the aged was projected to cost $54 billion in 1984; this is an amount equal to $1,900 per capita. Medicare reimbursement accounted for three-quarters of that amount; other sources of public funds paid about 15 percent of the bill. Private health insurance covered 8 percent of the costs; the remaining 3 percent was paid out-of-pocket.[59]

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[56] U.S. Senate Special Committee on Aging. "America in Transition: An Aging Society," 1984-85 edition, p. 78.
[57] *Ibid.*, p. 79
[58] *Ibid.*, p. 79.
[59] Daniel R. Waldo and Helen C. Lazenby. "Demographic Characteristics and Health Care Expenditures by the Aged in the United States: 1977-1984." *Health Care Financing Review.* Fall 1984, vol. 6, No. 1, p. 12.

LONG-TERM CARE

Most of the national expenditures for long-term care are for nursing home or other institutional care. In 1982, $27 billion were spent for nursing home care; 1984 estimates imply an expenditure of $880 per person. Expenditures for nursing home care have quadrupled since 1974.[60] The growth of expenditures for nursing home care is attributed to changes in the types of days of care per capita, increased numbers of aged and price inflation. Expenditures for nursing home care are almost equally divided between public and private sources. Medicaid pays approximately 42 percent of the bill. Medicare SNF expenditures account for only 2 percent of total expenditures for nursing homes and 1 percent of total Medicare expenditures. Private health insurance coverage of nursing home care is minimal, leaving a large out-of-pocket liability for the consumer of care.[61]

TABLE 14A.—PERCENT DISTRIBUTION OF PER CAPITA PERSONAL HEALTH CARE EXPENDITURES FOR PEOPLE 65 YEARS OF AGE AND OVER, BY SOURCE OF FUNDS AND TYPE OF SERVICE: UNITED STATES, 1984

Year and source of funds	Type of service				
	Total care	Hospital	Physician	Nursing home	Other care
1984:					
Total per capita	100.0	100.0	100.0	100.0	100.0
Private	32.8	11.4	39.7	51.9	65.3
Consumer	32.4	11.0	39.6	51.2	64.8
Out-of-pocket	25.2	3.1	26.1	50.1	59.9
Insurance	7.2	7.9	13.5	1.1	4.9
Other private	.4	.4	.0	.7	.5
Government	67.2	88.6	60.3	48.1	34.7
Medicare	48.8	74.8	57.8	2.1	19.9
Medicaid	12.8	4.8	1.9	1.5	11.4
Other government	5.6	9.1	0.7	4.4	3.4

TABLE 14B.—DISTRIBUTION OF PER CAPITA PERSONAL HEALTH CARE EXPENDITURES FOR PEOPLE 65 YEARS OF AGE AND OVER, BY TYPE OF SERVICE AND SOURCE OF FUNDS: UNITED STATES, 1984

Year and source of funds	Type of service					
	Total per capita	Total	Hospital	Physician	Nursning home	Other care
1984:						
Total	$4,202	100.0	45.2	20.7	20.9	11.7
Private	1,379	100.0	15.7	25.0	33.1	26.3
Consumer	1,363	100.0	15.3	25.3	33.1	26.3
Out-of-pocket	1,059	100.0	5.6	21.4	41.6	31.3
Insurance	304	100.0	49.2	38.6	3.3	8.9
Other private	16	100.0	42.1	1.9	39.1	17.0
Government	2,823	100.0	59.7	18.6	15.0	6.8
Medicare	2,051	100.0	69.2	24.5	0.9	5.4
Medicaid	536	100.0	17.0	3.1	65.1	11.5
Other government	236	100.0	73.2	2.4	16.5	7.9

[60] *Ibid.*, p. 13.
[61] *Ibid.*, p. 13.

TABLE 14C.—PERSONAL HEALTH CARE EXPENDITURES IN MILLIONS FOR PEOPLE 65 YEARS OF AGE AND OVER, BY SOURCE OF FUNDS AND TYPE OF SERVICE: UNITED STATES, 1984

Year and source of funds	Type of service				
	Total care	Hospital	Physician	Nursing home	Other care
1984:					
Total	$119,872	$54,200	$24,770	$25,105	$15,798
Private	39,341	6,160	9,827	13,038	10,316
Consumer	38,875	5,964	9,818	12,856	10,237
Out-of-pocket	30,198	1,694	6,468	12,569	9,467
Insurance	8,677	4,270	3,350	287	770
Other private	466	195	9	182	79
Government	30,531	48,040	14,943	12,067	5,482
Medicare	58,519	40,524	14,314	539	3,142
Medicaid	15,288	2,595	467	10,418	1,808
Other government	6,724	4,920	162	1,110	532
Exhibit population (in millions)	28.5				

TABLE 14D.—PER CAPITA PERSONAL HEALTH CARE EXPENDITURES FOR PEOPLE 65 YEARS OF AGE AND OVER, BY SOURCE OF FUNDS AND TYPE OF SERVICE: UNITED STATES, 1984

Year and source of funds	Type of service				
	Total care	Hospital	Physician	Nursing home	Other care
1984:					
Total	$4,202	$1,900	$868	$880	$554
Private	1,379	216	344	457	352
Consumer	1,363	209	344	451	359
Out-of-pocket	1,059	59	227	441	332
Insurance	304	150	117	10	27
Other private	16	7	1	6	3
Government	2,823	1,684	524	423	192
Medicare	2,051	1,420	502	19	110
Medicaid	536	91	16	365	63
Other government	236	172	6	39	19

Source: Waldo, Daniel R., and Lazenby, Helen C.; Demographic Characteristics and Health Care Use and Expenditures by the Aged in United States: 1977–84; "Health Care Financing Review," vol. 6. No. 1, fall 1984.

Private expenditures for home health care are also increasing rapidly, but are small relative to expenditures for nursing home care. Expenditures for home health under Medicare and Medicaid, despite rapid growth, still comprise only a small fraction of total expenditures. Medicare home health payments were $1.1 billion in fiscal year 1982 (2.6 percent of total Medicare expenditures) Medicaid home health expenditures of $406 million accounted for 1.7 percent of total Medicaid payments in fiscal year 1982.[62] Industry's estimate of its private insurance and out-of-pocket expenditures for home health care in 1981 was $2.3 billion.[63]

PHYSICIAN SERVICES

Spending for physician services for the elderly grew an average of 18 percent per year from 1977 to 1984, reaching a projected level

[62] Pamela Dotz, Korbin Liu and Joshua Wiener. "An Overview of Long-Term Care." *Health Care Financing Review.* Spring 1985. Vol 6, No. 3, p. 72.
[63] *Ibid.*, p. 72.

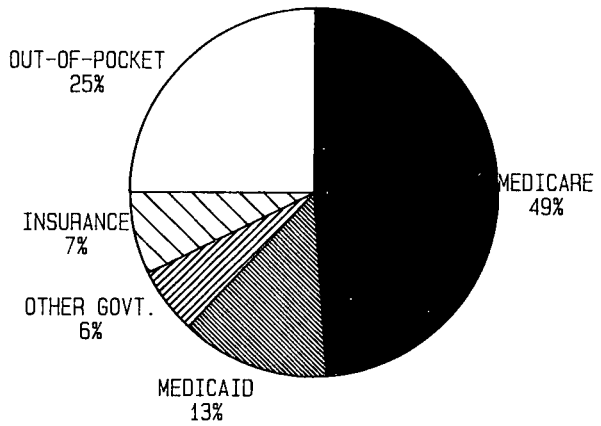
of $24.8 billion in 1984.[64] The growth in patient days spent in the hospital by the elderly (3-percent increase per year during the period 1977-83) largely accounts for the increased physician services and costs.[65]

Financing of Health Care Expenditures

The aging of the population has placed an increasing strain on the mechanisms for financing health care consumption. The group 65 and over is expected to reach 13 percent of the total U.S. population by the year 2000. The aging population will increase the demand for health care. Without dramatic changes in reimbursement practices, the ability of Government programs to finance this increased demand will be greatly diminished. The major sources of financing the health care of the elderly in the United States in 1984 are depicted in chart 8.

CHART 8

PERSONAL HEALTH CARE EXPENDITURE FOR THE ELDERLY
BY SOURCE OF PAYMENT: 1984



Source: Health Care Financing Administration, Office of Financial and Actuarial Analysis.

[64] Daniel R. Waldo and Helen C. Lazenby. "Demographic Characteristics and Health Care Expenditures by the Aged in the United States: 1977-1984." *Health Care Financing Review.* Fall 1984, vol. 6, No. 1, p. 13.
[65] *Ibid.*, p. 13.

GOVERNMENT FINANCING

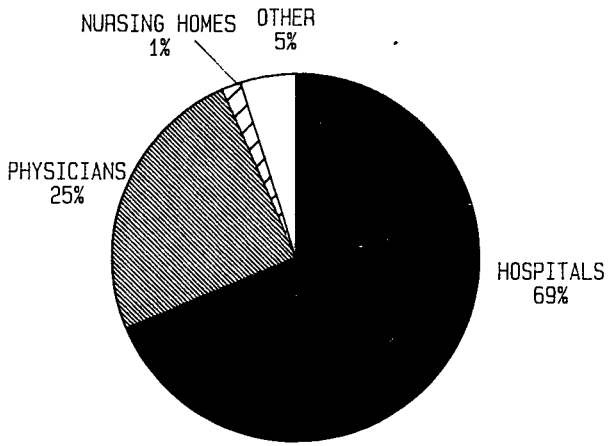
Public funds are the major source of health care payments for the 65-plus persons. Medicare and Medicaid accounted for more than 60 percent of all personal health care expenditures for the elderly in 1984. Other sources of public funds include the Veterans Administration, Department of Defense, Indian Health Service, States and counties.

Medicare

Medicare expenditures of $64.6 billion in 1984 comprised 61.3 percent of total Federal outlays for health care in this year as compared to 40 percent in 1973.[66] The Medicare Program was responsible for 18.5 percent of all personal health care expenditures in 1984. Hospital care accounted for 68.7 percent of all Medicare spending. Costs for hospitals are fueling Medicare's growth (chart 9). By 1990, Medicare is projected to account for 63 percent of Federal outlays for health care; projected Medicare outlays are expected to reach $131 billion in this year. Medicare outlays represent an ever-increasing share of the real resources of the economy, and will finance an increasing share of national health expenditures even under the prospective payment system (PPS).[67] This phenomenon is expected because the elderly population is growing three times faster than the population under 65 years of age.

CHART 9

WHERE THE MEDICARE DOLLAR FOR THE ELDERLY GOES: 1984



Source: Health Care Financing Administration, Office of Financial and Actuarial Analysis.

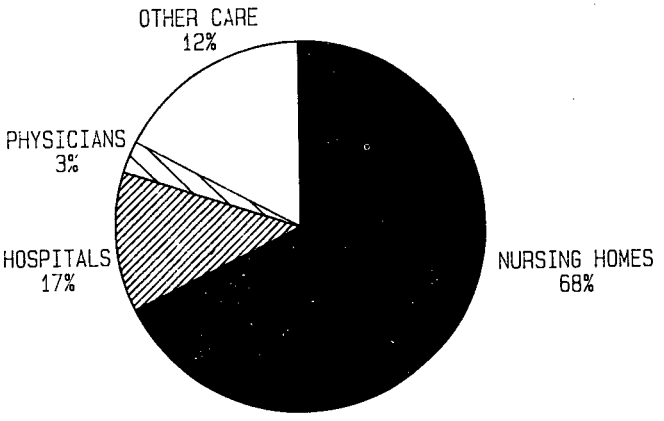
[66] *Ibid.*, p. 15.
[67] *Ibid.*, p. 15.

Medicaid

Medicaid accounts for approximately 13 percent of personal health care expenditures for the elderly.[68] The vast majority of Medicaid outlays are for the small portion of the elderly in nursing homes (chart 10).

CHART 10

WHERE THE MEDICAID DOLLAR FOR THE ELDERLY GOES: 1984



Source: Health Care Financing Administration, Office of Financial and Actuarial Analysis.

PRIVATE FINANCING

Private Health Insurance

Private health insurance accounts for less than a tenth of all spending for health care for the aged. In 1981, approximately 60 percent of the aged population had private health insurance coverage of hospital expenses; 12 percent had private coverage of major medical expenses.[69] Much of the private insurance coverage takes the form of "Medigap" coverage.

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[68] U.S. Senate Special Committee on Aging. "America in Transition: An Aging Society," 1984-85 edition, p. 84.

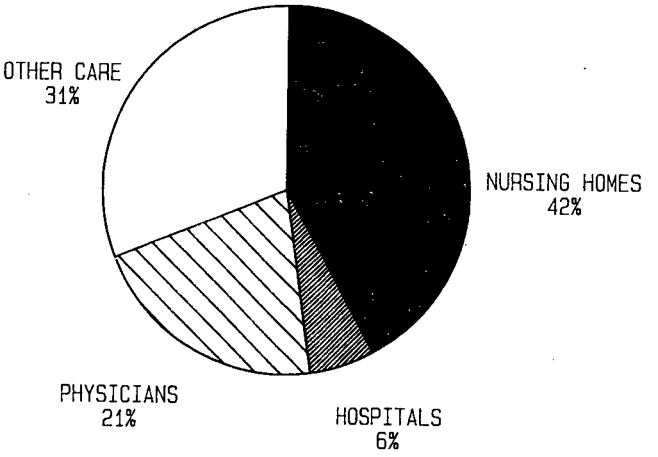
[69] Daniel R. Waldo and Helen C. Lazenby. "Demographic Characteristics and Health Care Expenditures by the Aged in the United States: 1977-1984." *Health Care Financing Review.* Fall 1984, vol. 6, No. 1, p. 25.

Out-of-Pocket Costs

The aged consumed $4,202 of health care per capita in 1984, of which $3,143 was paid by third parties. The remaining $1,059 represented out-of-pocket costs borne by the elderly.[70] When one takes into account insurance premium payments, deductibles, etc., true out-of-pocket costs are approximately $1,575. Direct out-of-pocket health costs for the elderly averaged 15 percent of their income in 1984; this represents a considerable financial burden for the elderly.[71] Out-of-pocket expenditures are not only payments the aged make for services (nursing home care, physician visits, health aids) (chart 11). The aged also pay private health insurance premiums, as well as monthly supplementary medical insurance (SMI) which are reflected as out-of-pocket expenditures.

CHART 11

WHERE THE OUT OF POCKET DOLLAR FOR THE ELDERLY GOES: 1984



Source: Health Care Financing Administration, Office of Financial and Actuarial Analysis.

[70] *Ibid.*, p. 25.

[71] U.S. Senate Special Committee on Aging. "America in Transition: An Aging Society." 1984-85 edition, p. 82.

MAJOR ISSUES ASSOCIATED WITH THE HEALTH CARE SYSTEM FOR THE ELDERLY IN THE UNITED STATES

Basic Research

Advances in biomedical research may dramatically affect the quality of the elderly's lives. Basic research currently being conducted on Alzheimer's disease may help moderate increases in the prevalence of this disease. Various clinical approaches to controlling osteoporosis and preventing hip fractures are currently being investigated. Clinical trials to determine the efficacy of treating hypertension in the elderly are underway. All of these initiatives represent potentially major breakthroughs. What is clear is that research is needed to fill data gaps associated with aging and health. These data could result in decreases in chronic disease prevalence and associated disability. Such information could lead to a reduction in the need for costly long-term care service.

Preventive Health Services

The present health care system provides few incentives for the elderly to participate in health promotion and disease prevention services. Research on the efficiency and effectiveness of health promotion and disease prevention in later life is vital. The proper place of prevention in reducing or eliminating the chronic diseases and resulting functional disabilities characteristic of the elderly needs to be defined. Particular attention needs to be paid to establishing the importance of various personal behaviors and social conditions as risks for the elderly.

Data on the efficacy of health promotion and disease prevention strategies should provide the basis for changes in reimbursement policies which are directed at enhancing the quality of the lives of essentially healthy elderly.

Hospital Care

The financial incentives for hospitals are changing dramatically. Both public and private sector payers are instituting mechanisms to control the rise of health care costs. Cost-saving arrangements such as health maintenance organizations (HMO's), preferred provider organizations (PPO's), co-payment on more services, higher deductibles, payment for second opinion, and the use of ambulatory surgery are all being encouraged.

In the public sector, the prospective payment system (PPS) in the form of DRG's is having direct implications for hospital in-patient services and indirect effects on post-hospital health care services. The changing hospital environment is characterized by increasing pressure to reduce the rate of increase of hospital costs. Competition is forcing hospitals to diversify by integrating ambulatory care and long-term care services into their range of services.

The elderly population has a high incidence of multiple chronic conditions. Such conditions are not well represented by the current DRG system. DRG categories do not reflect the differential severity of illness. Consequently, there may be financial disincentives to provide the services which an elderly person with multiple chronic

conditions requires. The current system raises concern about the appropriate provision of geriatric care to meet the special health problems of the aged.

Increasingly data suggest that the emphasis on cost-containment under PPS has resulted in serious quality problems for the elderly. The elderly are not knowledgeable about their rights under the DRG classification system and are being discharged "sicker and quicker" from the hospitals. Concern has been expressed about premature discharge of elderly patients (i.e., discharge before they are medically stable) and the discharge of the elderly without assuring that their post-hospital health care needs would be met. Changes in policies associated with PPS are needed to assure that elderly Americans receive the quality of hospital and post-hospital care they deserve.

Health Care Professional Services

Education and training of health care professionals to effectively care for older persons is a critical policy issue. To meet the needs of the elderly population, health care professionals need to acquire knowledge, skills, and attitudes to address the unique needs of this increasingly significant population. The resources needed to accomplish the practice and research missions of gerontology and geriatrics are severely lacking. Teachers and researchers with special preparation in aging are critically needed across all health care disciplines to respond to the geriatric imperative.

Long-Term Care Services

The long-term care system in the United States is in crisis. Functionally impaired elderly are experiencing great difficulty in obtaining safe, effective and appropriate services at affordable prices. A major effect of the PPS system has been to highlight the inadequacies of a long-term care system which is not prepared to deal with the elderly patients who are discharged "sicker and quicker" from the hospital.

One of the most serious problems in the existing long-term care system is the limited supply of appropriate long-term care services. The shortage of alternatives to institutional care is particularly acute. For example, in spite of the rapid increase in home health care expenditures in the last few years, most estimates are that many adults continue to have unmet needs.

Data available on home care point to the great reservoir of informal help available to the functionally impaired persons. Yet, programs which offer respite to caretakers are very limited: these programs are essential to sustain existing support systems and to increase access to this source of community support.

Under the current fragmented system of long-term care, the nursing home care is, for many, the only available source of personal care services. A substantial segment of the nursing home population consists of people without families able or willing to provide such services and those covered by Medicaid who are without the financial resources needed to purchase home care services. Estimates of inappropriate long-term care placement range from 10 to 40 percent.

The supply of nursing home beds presents another problem. While the nursing home bed supply increased rapidly between 1969 and 1983 (73 percent increase), the growth has not kept pace with the growth in the aged population. Moreover, the rate in growth in nursing home beds nationally has slowed over the last decade.

The quality of services delivered by the long-term care system continues to be a basic concern. The lack of qualified health care providers to deliver these services is a significant component of this issue. Quality of care problems in the nursing home setting and, more recently, in the home health industry continue to be reported.

When faced with the task of obtaining long-term care services, the aged face a complicated and confusing system. The fragmentation in service agencies and funding sources often results in the aged being unable to secure the needed services or receiving inadequate or inappropriate services.

Numerous barriers to access long-term care services for the elderly eixst. These impediments include limitations on public reimbursement for long-term care and restrictive policies defining eligibility. Medicaid reimbursement rates for nursing home and home health care are often lower than those paid by Medicare and private payers. Thus, Medicaid recipients find it problematic to obtain services where prices for these services are higher. Eligibility for nursing home care under Medicare is restricted by the requirement that individuals have potential for rehabilitation; Medicare also places limits on the maximum length of stay. While Medicare policies for use of home care were recently made less restrictive, limits on the number of days and strict controls on eligibility for services have remained.

Insurance for long-term care services is not readily available. Few elderly Americans can afford the costs associated with nursing home and home care. Thus, most individuals approaching old age risk impoverishment because they lack coverage for long-term care services.

The financial burden on the Federal Government for long-term institutional care is growing, although it is modest when compared to the rise in expenditures for hospital care. The traditional bias in favor of institutional, as opposed to community-based, long-term care services is reflected both in Federal statute and in the actual delivery of service. This funding bias contributes greatly to the current cost of providing long-term care. Less than 2 percent of total Medicaid expenditures is spent on community-based long-term care services. In contrast, the total number of severely ADL limited elderly living in the community (850,000) is far greater than the number residing in nursing homes (600,000).

A comprehensive, coordinated, and continuous system of long-term care for the elderly is critically needed. A full array of services needs to be made available to families (or significant others) to assist them in meeting the changing, but continuing needs of the elderly in the community. These supportive services should include: (1) in-home assistance such as hot meals, and homemaker or nursing services; (2) community services such as adult day care, respite, senior citizen centers; and (3) institutional services such as subacute facilities, skilled nursing homes, and hospitals. A means

of evaluating and referring people to the appropriate services is an essential component of a comprehensive long-term care system.

Reimbursement policies need to be designed to foster the development of a more effective long-term care system by encouraging integration of acute and chronic services. Reimbursement policies should also encourage early health care intervention for the elderly. Expanded financial access to noninstitutional alternatives would permit greater individual choice and possibly improve patient compliance. Preventive health care, homemaker services, and other alternatives to institutional care should be reimbursable.

Attempts to reduce Federal expenditures for health care should not create financial barriers that will impede the elderly's (especially the poor elderly's) access to needed long-term care service. Delays in obtaining treatment ultimately increase morbidity and total health care costs. It must be recognized that the costs of health care, especially long-term care, will continue to rise if we are to meet the health care needs of an aging population. The challenge currently facing policymakers is to make fundamental reforms in the health care system that will foster an integrated system of comprehensive care for the elderly and promote the equitable allocation and distribution of this Nation's limited health care resources.