"Though Much Is Taken": Reflections on Aging, Health, and Medical Care

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Though much is taken, much abides (Alfred, Lord Tennyson).

LESS THAN ONE SCORE YEARS AGO THIS NATION brought forth a new system of financing health care for the elderly—Medicare. This system, conceived as part of a broad thrust toward a "Great Society" and dedicated to the proposition that high-quality medical care should be freely available to all persons aged 65 and over, is now the subject of intense reexamination. It is altogether fitting and proper that this be done. The rapid rate of growth of health care expenditures, the growing resistance to further increases in governmental taxes or deficits, and the changing circumstances of the elderly make this an appropriate time to ask (and attempt to answer) basic questions about the economic and social forces that affect this age group and this program.

Projections of Medicare outlays and revenues indicate very large future deficits in the Hospital Insurance trust fund and the Supplementary Medical Insurance trust fund. A wide range of possible solutions to this problem have been proposed, including modification of benefits, changes in methods of reimbursement, and discovery of new sources of funds. Other papers in this volume examine these proposals in detail. This paper attempts to place the Medicare issue in a broad context by identifying major economic and social trends that concern

the elderly and by briefly considering the causes and consequences of these trends. I do not discuss Medicare directly, but the questions raised and the data presented will, I hope, contribute to the formulation of improved public policies regarding health care for the elderly.

I begin by supposing that a policy maker with a strong interest in the elderly had disappeared in 1950 and had only recently returned. What would he or she most need to know about the elderly with respect to their current situation and the changes of recent decades? In my judgment there are six areas that are of critical importance: the number of elderly; their health status; use of medical care; labor force participation; income; and their living arrangements. I discuss the most dramatic changes in these areas during the past three decades, indicate how current policies may have contributed to these changes, and suggest the need for reconsideration of those policies.

The Number of Elderly

Almost every article and book about the elderly begins by noting that the percentage of the population over age 65 has grown appreciably over time. Why is there so much interest in this percentage? First, it is assumed that most men and women aged 65 and over are not at work; therefore, part of the working generation's output must be transferred to the elderly through Social Security payments, private pension plans, direct provision of services, or other means. The higher the percentage of elderly, the greater the amount that must be transferred. Second, it is assumed that health deteriorates with age and that the consumption of medical care increases. Furthermore, it is argued that even though the decline in labor income, the deterioration in health, and the increased use of medical care are, for the most part, foreseeable, many elderly cannot or do not adequately provide for old age by saving or by acquiring a health insurance policy when young that would protect them later in life. (Imperfections in insurance markets, problems of adverse selection, and high administrative and sales costs are said to contribute to this outcome.) Finally, the rise in the number of elderly increases their political power. This increase, coming at a time when economic resources are often allocated through the ballot box rather than the market place, raises the possibility of bitter political conflict between the elderly and other groups in society.

The definition of old age—that is, the age of eligibility for retirement and Medicare benefits—is a critical variable in the development of viable programs for the elderly. Consider, for instance, a hypothetical population in which the birth rate equals the death rate and everyone dies at 80 years of age. If every man and woman works from ages 20 to 65 and then retires, the ratio of workers to retirees will be three to one. If, however, the retirement age is 70, there will be five workers for every retiree, thus permitting a substantial increase in benefits or decrease in taxes, or both.

It is conventional to define the elderly with reference to the number of years since birth, but this is largely a concession to administrative convenience rather than the logical result of a closely reasoned argument. Individuals "age" at very different rates and, in theory at least, the elderly could be defined in terms of years until death, e.g., those men and women who will die within some specified time. For instance, we could look at the proportion of the population that will die within one year (the crude death rate). According to this measure the proportion has *decreased* since 1950. To be sure, it doesn't make much sense to define infants, children, and young adults as "elderly," even if they are close to death. But a count of persons aged 65 and over who will die within the next several years is informative because much of the interest in the elderly revolves around their need for medical care and other special services. From a different perspective, a count of persons aged 65 and over who are not in the labor force is revealing because it shows the portion of the population that must live on transfer payments, income from capital, or dissaving.

These alternative views of who is old yield different trends in the relative importance of the elderly, as may be seen in table 1. The first row shows the familiar increase in the proportion of the population aged 65 and over, from 8.2 percent in 1950 to 11.3 percent in 1980. The second row, however, shows that if we define the elderly as persons aged 65 and over who will die within five years, this number as a percent of the total population has increased relatively slowly since 1950 and has hardly grown at all since 1965. Sharp declines in age-specific death rates at ages 65 and above have offset the effect of the increase shown in the first row. On the other hand, if we define the elderly as persons aged 65 and over who are out of the labor force (row 3), that proportion has grown even more rapidly than the percent over age 65.

TABLE 1
The "Elderly" as a Proportion of the Total Population:
Alternative Definitions

Definition	1950 (%)	1965 (%)	1980 (%)
(1) Age 65 and over	8.2	9.5	11.3
(2) Age 65 and over and within 5 years of death[a]	2.6	3.0	3.1
(3) Age 65 and over and not in the labor force	6.2	7.9	10.0

[a] Estimated by author.
Sources: U.S. Bureau of the Census, *Current Population Reports,* Series P-25, No. 310, June 1965, table 1; No. 519, April 1974, table 2; No. 917, July 1982, table 2 (Washington). U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970* (Washington, 1975), Pt. 1, Series B189-192. U.S. Bureau of the Census, *Statistical Abstract of the United States, 1982–83* (Washington, 1982), table 109. Employment and Training Administration, *Employment and Training Report of the President, 1981* (Washington, 1981), table A-2.

The Health of the Elderly

One of the big surprises of recent years has been the sharp reduction in age-specific mortality of older persons. Between 1965 and 1980 life expectancy at age 65 jumped from 14.6 to 16.4 years. This was a much bigger increase than was expected, based on extrapolation of either the 1935–1965 or 1950–1965 trends (see table 2). The improvement is attributable primarily to a decrease in the risk of death from heart disease or cerebrovascular disorders (strokes), as may be seen in table 3. Why death rates from these causes have plummeted is not well understood. Analysts who are technologically inclined attribute most of the reduction to better control of hypertension, special coronary care units in hospitals, open heart surgery, and similar medical innovations. Other observers credit changes in diet, smoking, exercise, and other aspects of personal behavior. We do not know the true explanation; there is probably some validity to both points of view.

Are people escaping fatal heart attacks and strokes only to spend more years in poor health? That question is difficult to study because measures of morbidity and disability lack the objectivity of mortality statistics, but in my judgment the answer is no. Restricted-activity

TABLE 2

Life Expectancy at Age 65, Selected Years 1935 to 2000

	1935	1950	1965	1980	2000
Actual	12.5	13.9	14.6	16.4	
Predicted from 1935–1950 trend			15.5		
Predicted from 1935–1965 trend				15.8	
Predicted from 1950–1965 trend				15.3	
Predicted from 1935–1980 trend					18.5
Predicted from 1950–1980 trend					18.3
Predicted from 1965–1980 trend					19.1

Sources: National Center for Health Statistics, *Health, United States, 1982* (Washington, December 1982), table 10. National Center for Health Statistics, *Vital Statistics of the United States, 1965* (Washington, 1967), Mortality, Pt. A, table 5-4. U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970* (Washington, 1975), Pt. 1, Series A-133. Dublin, L., *Health Progress 1936–1945, A Supplement to Twenty-Five Years of Health Progress.* (New York: Metropolitan Life Insurance Company, 1948), table 6. U.S. Bureau of the Census, *Statistical Abstract of the United States 1982–83* (Washington, 1982), p. 71.

TABLE 3

Age-specific Death Rates from Heart and Cerebrovascular Diseases
and Other Causes, 1965 and 1980

Age	Cause	1965	1980	Change 1965 to 1980 (percent per annum)
		(Deaths per 100,000)		
65–74				
	Heart and cerebro-vascular diseases	2057	1433	−2.4
	Other causes	1606	1535	−0.3
75–84				
	Heart and cerebro-vascular diseases	5261	4065	−1.7
	Other causes	3098	3113	0.0
85 and over				
	Heart and cerebro-vascular diseases	13256	9229	−2.4
	Other causes	6813	5261	−1.7

Source: National Center for Health Statistics, *Health, United States, 1982* (Washington, December 1982), tables 9, 16, 19.

days and bed-disability days per hundred persons aged 65 and over were about the same in 1980 as in 1965 (U.S. Bureau of the Census 1982, 119). The percent of persons reporting activity limitations due to chronic conditions rose somewhat from 1970 to 1980, but it is doubtful that this is the result of greater morbidity. For instance, the percent of elderly persons reporting hypertension without heart involvement rose from 6.4 to 13.1 (U.S. Bureau of the Census 1982, 121), but it is unlikely that hypertension actually increased. Indeed, direct measures of blood pressure among the elderly over the same period show declines in average levels and a large decline in the percent of the population aged 65 to 74 with systolic pressure of 160 or more or diastolic pressure of 95 or more (National Center for Health Statistics 1981, 1982a). Taking all the available mortality and morbidity data into account, I conclude that the health status of the elderly at any given age has improved in recent decades and that this improvement is primarily the result of lowered incidence or severity of heart disease and cerebrovascular disease.

Death rates from all other causes at ages 65 to 84 were virtually the same in 1980 as in 1965. This relative stability presents a major puzzle. During those years Medicare substantially improved access to health care for the elderly, especially the poor. Also, there were many significant medical advances including new drugs, improved surgical procedures, and enhanced diagnostic techniques. It is difficult to believe that these achievements had no beneficial effect. Age-adjusted death rates from malignant neoplasms (cancer) actually rose between 1965 and 1980 among the elderly, possibly as a result of increases several decades ago in cigarette smoking and environmental hazards. It is encouraging to note that cancer mortality has declined for males aged 35 to 44; perhaps similar declines will begin to show up at older ages as the cohorts with fewer cigarette smokers reach that point in the life cycle.

Will life expectancy at older ages continue to increase at a rapid rate? Some experts say no, arguing that there is a biologically determined average limit for the species of about 85 years (Fries 1980). Other observers contend that recent large declines in the death rate for the aged 85 + group is evidence against the existence of that limit (Schneider and Brody 1983). Both groups agree that additional declines in mortality at ages 65 to 84 are possible or even likely; it would, therefore, be prudent to consider the possibility of such declines in planning future programs for the elderly.

Health Care Utilization

The role of additional medical care in improving the health of the elderly is a matter of some dispute. What is beyond dispute is the increased consumption of medical services by the elderly. Between 1965 and 1981 there was a large increase in health expenditures at all age levels, but the *share* accounted for by persons aged 65 and over jumped from 23.8 percent to 32.7 percent. This shift has helped to fan the Medicare financial crisis; it is, therefore, important to examine it in some detail. Two factors are responsible and they have been about equal in importance: first, the *number* of elderly grew more rapidly than the rest of the population; second, the change in *per capita* health expenditures by the elderly outpaced the rate for persons under age 65 (see column 1 of table 4). The relative importance of these factors was not the same among the subperiods, however, as may be seen in columns 2–4. Not surprisingly, per capita expenditures among the elderly rose rapidly in the years immediately after the enactment of Medicare (1965–1970). From 1970 to 1976 per capita expenditures rose at about the same rate for both age groups; divergent trends in population accounted for nearly all of the differential change in expenditures. During 1976–1981, however, a large differential in the growth of per capita expenditures again emerged. This gap, combined with a continuing difference in population trends, resulted in a total differential change in expenditures of 3.8 percent per annum. This was larger than the difference between the elderly and the rest of the population in the five years immediately following the introduction of Medicare!

The last eight rows of table 4 provide additional detail regarding the surge of spending on the elderly. We see that there was a very sharp *deceleration* in public spending on persons under age 65, while the trend increased slightly for the elderly. Private spending, on the other hand, held steady for persons under 65 and accelerated sharply for those over that age. With respect to type of expenditure, it was physicians' services that experienced the most rapid increase among the elderly.

What accounts for these divergent trends? One possibility is that increasing competition among physicians for patients led more of them to concentrate on the older men and women in their practice. Another possibility is that the new medical and surgical interventions have been particularly applicable to older persons. These speculations indicate

TABLE 4
Rates of Change of Health Care Expenditures, by Age, 1965–1981
(percent per annum)

		1965–81 (1)	1965–70 (2)	1970–76 (3)	1976–81 (4)
Real[a] health care expenditures					
	65+	8.0	9.2	6.9	8.2
	<65	5.3	6.6	5.0	4.4
	Differential	2.7	2.6	1.9	3.8
Population					
	65+	2.2	1.7	2.4	2.4
	<65	0.9	1.0	0.9	0.9
	Differential	1.3	0.7	1.5	1.5
Real[a] health care expenditures per capita					
	65+	5.8	7.5	4.5	5.8
	<65	4.3	5.6	4.1	3.5
	Differential	1.5	1.9	0.4	2.3
Public	65+	10.5	21.8	5.3	5.7
	<65	7.2	11.3	6.9	3.5
Private	65+	1.6	−4.3	3.0	6.2
	<65	3.5	4.1	3.1	3.5
Physicians	65+	5.5	5.3	4.2	7.5
	<65	4.1	5.3	3.4	3.9
Hospitals	65+	6.8	9.4	5.4	6.2
	<65	5.8	8.3	5.3	4.0

[a] Adjusted for inflation by the Gross National Product deflator.
Sources: U.S. Bureau of the Census, *Current Population Reports.* Series P-25, No. 519, April 1974, table 2; No. 917, July 1982, table 2 (Washington). Council of Economic Advisers, *Economic Report of the President, 1982* (Washington, 1982), table B-3. Fisher, C.R., Differences by Age Groups in Health Care Spending, *Health Care Financing Review* 1 (4), 1980, pp. 65–90, table A. Provisional data from the Health Care Financing Administration.

why it is so difficult to predict expenditures on medical care, either in the aggregate or for particular age groups or particular types of service. Sudden advances in medical technology—new drugs, new diagnostic techniques, new surgical procedures—can dramatically alter utilization. In addition, modifications in insurance coverage, or in reimbursement methods, or in the number of physicians can alter the

balance of demand and supply, thus inducing changes in the way physicians treat patients and the way patients use physicians. Whatever the cause, the upsurge in per capita expenditures of the elderly is a major factor in the prospective deficits in Medicare.

Does Utilization Rise with Age?

Analysts interested in projecting future health care utilization by the elderly have frequently noted that the age distribution within the group aged 65-and-over is shifting toward the older ages and that utilization (as reflected by Medicare reimbursements) rises steadily with age (see first three columns of table 5). Under the assumption that the cross-sectional age-spending relationship holds constant over time, the effect of the change in age distribution is estimated by applying the cross-sectional data on age-specific expenditures to the change in the age distribution.

Although this procedure is widely used, implicitly if not explicitly, it is incorrect. To the extent that the change in the age distribution is the result of rising life expectancy (i.e., falling age-specific death rates), the cross-sectional differences in expenditures by age *overestimate* the changes that would result from an aging population. Health care spending among the elderly is not so much a function of time since

TABLE 5
Reimbursement per Medicare Enrollee by Age and Sex, 1976 (dollars)

	Actual			Adjusted for Survival Status		
	All (1)	Men (2)	Women (3)	All (4)	Men (5)	Women (6)
67–68	518	578	471	624	654	595
69–70	555	613	511	649	667	630
71–72	603	674	551	679	704	660
73–74	657	717	613	712	713	705
75–79	736	793	699	732	716	742
80–84	818	854	798	717	679	741
85 +	866	937	832	595	594	595

Source: Health Care Financing Administration, Office of Research and Demonstrations, *Health Care Financing Program Statistics* (Baltimore, August 1982), Medicare Summary, Use and Reimbursement by Person, 1976–1978, pp. 53, 61. Adjusted expenditures calculated by author.

birth as it is a function of time to death. The principal reason why expenditures rise with age in cross-section (among persons aged 65 and over) is that the proportion of persons near death increases with age. Expenditures are particularly large in the last year of life, and, to a lesser extent, in the next-to-last-year of life. Among Medicare enrollees in 1976, the average reimbursement for those in their last year of life was 6.6 times (and in their next-to-last-year of life 2.3 times) as large as for those who survived at least two years (Lubitz and Prihoda 1982). As age-specific death rates fall over time, there will be fewer people in the last year of life in any age category, and this will tend to reduce age-specific health care expenditures.

Age-sex-specific expenditures adjusted for age-sex differences in death rates can be calculated by a method analogous to the indirect method of calculating age-sex-adjusted death rates. Suppose that each person's expenditures depended only on their survival status, e.g., last year of life, next-to-last year, or "survivor." We can estimate a "predicted" expenditure for each age-sex group by multiplying the proportion in each survival status by the all-group average expenditure for each survival status and summing across the three statuses. The higher the death rate of the group, the higher would be its "predicted" expenditures. The ratio of actual to "predicted" expenditures for a group tells us whether expenditures are relatively high or low after adjusting for its death rate. This ratio multiplied by the average expenditure for all groups yields the adjusted expenditure for the group.[1]

As may be seen in the last three columns of table 5 and in figure 1, adjustment for age-sex differences in survival status eliminates most of the age-related increase in expenditures, especially the very high

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[1] Let X = expenditures per person
   N = number of persons
   P = predicted expenditures per person
   X′ = expenditures adjusted for age-sex differences in survival status
   g = age-sex group g
   t = all age-sex groups
   s = survival status s
   u = all survival statuses

$$X'_{ug} = \frac{X_{ug}}{P_{ug}} X_{ut} \text{ where } P_{ug} = \frac{\sum\limits_{s} X_{st} N_{sg}}{\sum\limits_{s} N_{sg}}$$
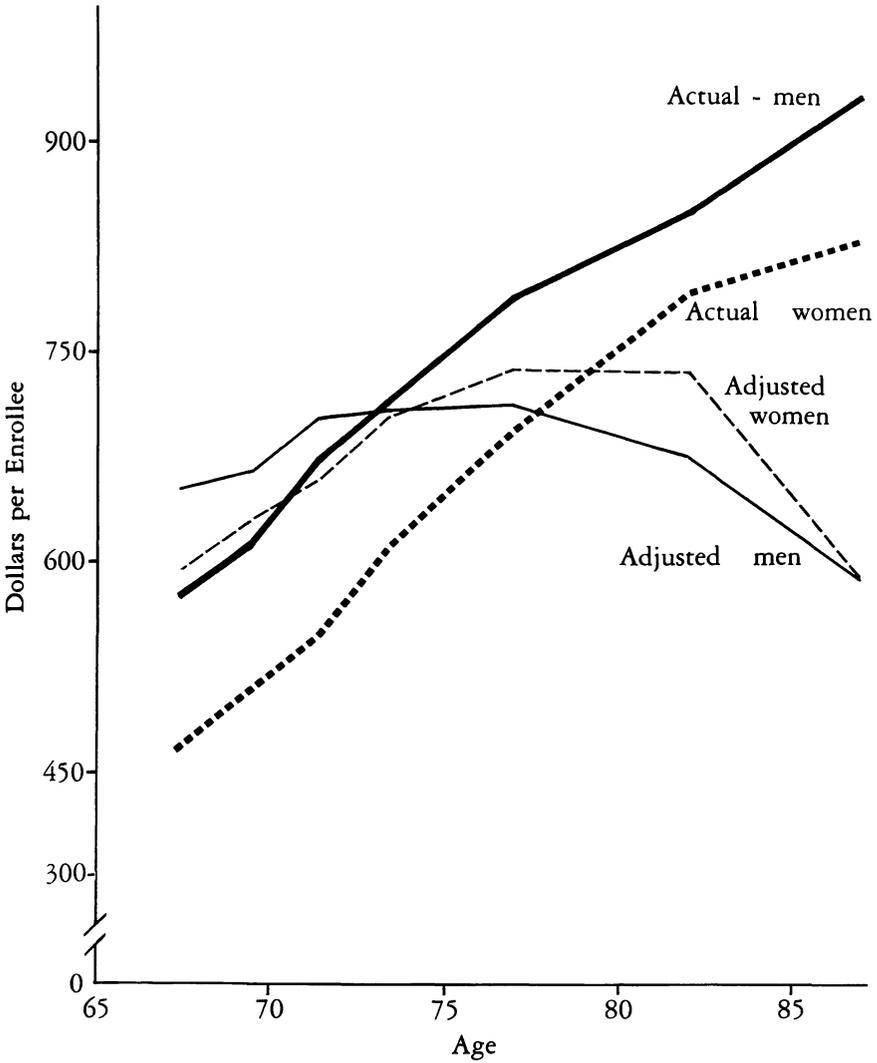
FIG. 1 Medicare reimbursement per enrollee by age and sex, actual and adjusted for survival status, 1976.

expenditures in the group aged 85-and-over. It also eliminates the excess of male over female expenditures at given ages. The only reason why older men use more medical care than older women at any given age is because a higher proportion of the men are in their last year of life.

I do not claim that there is *no* effect of aging on health care utilization apart from the proximity to death, but much of the apparent effect is attributable to the relationship between age and mortality.

This observation would be of little consequence if mortality rates were constant over time, but they are not. Between 1965 and 1978 the age-adjusted death rate of persons aged 65 and older fell from 65 per 1,000 to 53 per 1,000. If age-specific death rates continue to fall at this rate, 75-year-olds in 1987 will face the same probability of death as 71-year-olds faced in 1965.

How much health care will 75-year-olds utilize in 1987? The answer will depend upon many factors, including changes in medical technology, the strengthening or weakening of family support systems, and revisions in Medicare reimbursement policies. But to the extent that fewer 75-year-olds will be in the last or next-to-last year of life, a simple extrapolation from past utilization of 75-year-olds is inappropriate.

Kenneth G. Manton (1982, 205) reaches a similar conclusion from a model that emphasizes the distinction between the hypothetical age trajectory of mortality risk for individuals and the age trajectory for a cohort. He writes: "As mortality rates decline at a given age, there would be some compensating decline in the rate of utilization of certain health services (e.g., nursing home care) before that age. In fact, such models might be used as the basis for improving projections of health service utilization by providing estimates of the likely change in health-service-utilization rates associated with a given mortality reduction."

The relationships between utilization, age, and survival status will depend on the *reasons* for the lower death rate. If mortality falls because people are living healthier lives or because of more effective preventive measures, the conventional extrapolations will overestimate health care utilization, as demonstrated above. On the other hand, if the lower death rates are the result of ever more complex technological interventions, the rising cost of such interventions will tend to offset the fact that fewer persons are in the last year of life.

Labor Force Participation

Between 1950 and 1980 the labor force participation rate of men aged 65 and over fell from 46 percent to 19 percent. Participation rates of men aged 55 to 64 have also dropped sharply in recent years, from 83 percent in 1965 to 72 percent in 1980. What accounts for these striking declines? Many explanations have been offered, including

poor health, mandatory retirement rules, age discrimination, rising wages, and improved social security benefits.

Health

When older men are surveyed about their labor force status, those not participating frequently cite ill health as the reason. These replies have been viewed with some skepticism because ill health may be offered as a socially acceptable reason for not working when the true explanation lies elsewhere. A longitudinal analysis of retirement patterns, however, revealed that poor health is a good predictor of which men currently at work will not be working four years later (Fuchs 1982). This relationship does *not*, however, explain why participation by older men is so much lower now than it was 30 years ago. As noted, the health of the elderly has probably improved, and the occupational structure has shifted away from blue collar jobs requiring heavy physical exertion. Thus, at any given age probably fewer men are compelled to leave the labor force for health reasons now than in earlier decades. Therefore, we must look to other factors.

Mandatory Retirement and Age Discrimination

According to some popular discussions, men stop working because of mandatory retirement or because they are victims of age discrimination. In my judgment neither of these explanations has been a significant factor in the long-term downward trend in labor force participation. First, about half of all currently retired men were never subject to mandatory retirement rules (Schulz 1976). Furthermore, many workers retire before the mandatory age, many retire willingly at the mandatory age, and some are not working for other reasons such as ill health.

Mandatory retirement rules are usually part of a total labor contract, either explicit or implicit, that provides workers with stable or even rising wages until retirement, even though their productivity may decline during their last years of employment. If older workers are being paid more than they're currently worth, when they lose their jobs through mandatory retirement they obviously have difficulty obtaining a new job at their old wage rate.

The gap that develops between the wages of some older workers

and their productivity is one reason why we hear complaints about "age discrimination." It is obvious that many employers prefer younger to older workers, but this is not discrimination in an economic sense if age affects productivity or labor costs. For instance, the older worker may expect a higher wage even though his productivity does not justify the wage differential. Even if there is no wage-productivity gap, the fringe benefits of older workers are often relatively high, especially for health insurance, life insurance, and pension benefits. As the share of fringe benefits in the total compensation package increases, it becomes increasingly uneconomic for firms to hire older workers. If there appears to be more age discrimination now than there was 30 years ago, it is probably because of the changes in wages and fringe benefits that make it less attractive to hire older workers.

Decline of Self-employment

One factor that probably does contribute to the downward trend in participation by older men is the declining importance of self-employment. Self-employed men are more likely to continue working at older ages than are wage-and-salary workers, holding constant education, age, health, wages, and other relevant variables (Fuchs 1982). Wage-and-salary workers typically face more rigidity in hours and wages, while the self-employed find it easier to reduce their hours of work without changing their occupation or job. The proportion of workers who are self-employed has declined drastically throughout the twentieth century because of the shift of employment from agriculture to industry and service. Even within each sector, self-employment has declined in relative importance as small farms and small businesses find it increasingly difficult to compete with larger enterprises.

Real Wages

Some economists argue that the growth of real wages in the economy as a whole is a major reason for the decline in labor force participation of older men, although this conclusion does not flow directly from economic theory. An *increase* in participation would be equally consistent with theory because the higher the wage, the higher the price of not working. But higher wages also mean higher income and the income effect increases the demand for leisure. It is difficult to predict whether the price or income effect will dominate.

For women of prime working age higher real wages have resulted in more labor force participation, not less. In the case of older men, however, it appears that the income effect is larger than the price effect. This would explain why the labor force participation of older men has declined in the United States as real income has risen. One problem with this explanation is that participation rates of older men in Europe are as low as in the United States, even though real income is not as high. To be sure, these countries typically have generous public pension plans that facilitate retirement. But why do they have such plans? The increasing number of elderly may be the answer, partly because of the political power that numerical strength confers and partly because younger workers want the older ones to leave the labor market.

Number of Elderly

The growth in the proportion of elderly probably contributes to their low participation rate. When there are relatively few older people, the population has a pyramid-like age structure similar to the hierarchical structure of most organizations; the relatively few older workers can more easily progress up the organizational ladder. Currently in the United States and in most European countries the age distribution is more rectangular in shape, but organizations still have a pyramid-like hierarchy with fewer and fewer openings the higher up one goes. Thus, if most older workers stayed in the labor force, they would find it impossible to move up within their organizations.

Social Security

Probably one of the most important reasons why the labor force participation of older men has declined so rapidly is the unusual growth of Social Security benefits. Between 1970 and 1980 average retirement benefits (adjusted for inflation) increased by more than 3 percent per annum, while hourly earnings did not even keep pace with inflation. There is no doubt that public policy has made it increasingly attractive for older people to stop work—by increasing retirement benefits relative to wages, by offering an early retirement option at 62, and by withholding benefits from eligible retirees at the rate of 50 cents per dollar of earnings on earnings above a prescribed rate.

The trend toward earlier retirement, combined with greater life expectancy, will place a tremendous burden on those workers who remain in the labor force (as already noted). To reverse this trend, however, will probably require major changes in the structure of jobs and labor markets as well as changes in the structure of Social Security retirement benefits.

Income

From a purely financial perspective, today's older Americans are much better off than their predecessors. They have more income and more wealth (adjusted for inflation) than any previous generation of elderly. Their real income has risen not only in absolute terms but also relative to the income of the working population, primarily because of the rapid growth of Social Security retirement benefits. It is true that household income, when the householder is aged 65 or over, is only half of that in the age range 45 to 64, but this figure must be adjusted for household size. In 1980 the households of the elderly had on average only 1.74 persons, compared with 2.83 persons when the householder is 45 to 64. Taxes also make a big difference. The elderly's taxes (federal and state individual income taxes, property taxes on owner-occupied housing, and payroll taxes) are estimated to be only 13 percent of their income, while the 45 to 64 age group pay taxes equal to about 25 percent of income (U.S. Bureau of the Census 1983). Thus, the *after-tax* income *per household member* of the elderly is almost equal to that of the 45 to 64 age group.

Not only does the *average* older person receive an after-tax income comparable to that he or she received at younger ages, but income is more *equally* distributed after age 65 than before that age. Consider the following analysis of incomes based on the Retirement History Survey, a longitudinal study of approximately 11,000 individuals (Hurd and Shoven 1984). In 1968 when the respondents were 58 to 63 years of age and most were still in the labor force, the wealthiest 10 percent of the sample had a mean income of $65,363 (all figures in 1982 dollars), while the poorest 10 percent received only $1,838. By 1978, however, at ages 68 to 73, with most of the sample in retirement, the mean income of the wealthiest 10 percent had *fallen* to $52,117 while the poorest 10 percent showed a *rise* in income to

$4,070. The principal reason for the narrowing of inequality after age 65 is that Social Security benefits become more important and labor income less important, and the former is distributed much more equally than the latter.

The improvement in the income position of the *poor* elderly has been particularly striking. As recently as 1970 one out of four persons aged 65 and over was below the poverty level, while the proportion among persons under 65 was about one in eight. In 1982 the proportion was the *same* for both age groups—about one in seven.

To be sure, money income is only one measure of economic well-being, but consideration of other factors tends to strengthen the impression that the elderly are, on average, about as well-off as other age groups. For instance, persons over age 65 are more likely to own a house free and clear of any mortgage. Also, the elderly receive a disproportionate share of non-cash transfers such as subsidized housing, transportation, and medical care. Because they are typically not in the labor force they have more time for home production activities such as gardening, repair, and maintenance; they experience fewer work-related expenses, such as commuting and meals away from home; and they have the opportunity to move to a less costly area of the country.

One disadvantage faced by the elderly is the small size of the typical household. In 1980, 44 percent of their households had only one person, and 46 percent had only two. Small households are usually not as efficient as larger ones in the use of space, equipment, food, heat, and light. The difficulties and disadvantages of doubling up with another older person in order to gain the economies of a larger household are, however, apparently considerable. Fewer than 2 percent of elderly households include members who are unrelated, despite efforts by social agencies to encourage shared housing.

Although most of the elderly receive an after-tax income that compares favorably with what they earned while at work, there is a dramatic change in the *source* of income after age 65. From ages 25 to 54, earnings account for more than 90 percent of the total, and between 55 and 64 they still account for 78 percent of income. For people over 65, however, earnings provide only 20 percent. Social Security retirement benefits are the most important other source, with capital income such as interest and dividends next in importance, followed by government employee pensions, private pensions, and public assistance.

Does the source of income matter? I think it does. Social Security retirement benefits and other annuity-like income does not flow from *assets* that the older person can pass on to children or consume at a pace that he or she determines. In an earlier era the aged had less total income relative to younger people than they do today, but more of it came from farms or small businesses or bits of real estate that they *owned*. Ownership usually contributes to a sense of power and control and can affect intra-family relationships. A recent analysis of frequency of visits by children to their elderly parents found that the number of visits was positively related to the parents' bequeathable wealth (e.g., stocks, bonds, bank accounts, real estate), but not to non-bequeathable wealth (e.g., Social Security, private pensions) (Bernheim, Shleifer, and Summers 1983). If seniors today are "doing better and feeling worse," it may in part be because of this loss of control over their economic assets.

Living and Dying

A wide variety of demographic, social, and economic forces have resulted in major changes in how the elderly live and die. For instance, the male-female differential in death rates and the tendency of older widowed and divorced men to choose younger wives when they remarry create a large surplus of unmarried women above the age of 65. This surplus has grown in recent decades because female life expectancy has grown much more rapidly than male. In 1980 there were almost four unmarried women aged 65 and over for every unmarried man of that age, a steep increase from a ratio of less than two to one in 1940. The greatest change occurred among the widowed. In 1940 there were approximately two elderly widows for every widower, but by 1980 there were more than five. The huge rise in the number of elderly widows has been accompanied by a dramatic change in their living arrangements. In 1950 one in four was living alone; the other three were living with children, other relatives, or friends. By 1980 two out of three widows aged 65 and over were living alone, and only one in three was sharing living quarters with someone else. Most elderly men are married. Even at ages 75 and above, two out of three men are living with their wives, but only one woman in five has a husband.

There has been a great deal of hand-wringing about the decline of three-generation households, but historians have hastened to point out that in western Europe and the United States the three-generation household has always been the exception, not the rule. We can accept their conclusion that most households did not contain an aged mother or father, but it does not follow that only a small fraction of aged men and women lived with their children. When mortality is high and the population is growing rapidly, it is possible for *most of the elderly* to live with their children even though only a *minority of children* have elderly parents living with them. For example, if each woman has two daughters, and if half of the women survive into old age, only one daughter in four would have her mother living with her, even if every one of the survivors were living with a daughter. As an indication of how longer life expectancy and falling birth rates have raised the mother-to-daughter ratio, the number of women aged 65 and over relative to those aged 35 to 44 *doubled* between 1950 and 1980.

In addition to these demographic changes, rising real income contributes to the decrease in the number of mothers who double up with their children (Michael, Fuchs, and Scott 1980). Americans of all ages have always put a high value on autonomy; therefore, the rising income of recent decades and the particularly rapid rise in the income of the elderly have made it possible for an ever higher percentage of them to maintain their own households, health permitting.

Health is also an important factor in living arrangements. In earlier times, poor health was often the reason why older men and women moved in with their children. At present, poor health often results in a move to a nursing home. The number of elderly in nursing homes increased at an astonishing 7 percent per annum between 1963 and 1977, to a total of over 1.1 million. On any given day 5 percent of all elderly live in nursing homes, and between 20 and 25 percent will do so at some point in their lives. Of those who do enter, only one in four returns to a private or semiprivate residence; one-half are transferred to another health facility (usually a short-term general hospital), possibly to die or to return to the nursing home.

Why have nursing homes become so important? Rising income, the increased propensity to live alone, higher mother-to-daughter ratios, and higher labor force participation rates by young and middle-aged women are all part of the answer. There are many more elderly

people who need care and attention, and relatively fewer children who are providing it within the home. Public policy also influences the decision because frequently nursing home care is paid for by government (57 percent of the total in 1981), but the cost of home care is borne mostly by the family through out-of-pocket expenditures and the foregone earnings of the caregiver.

Economic and social factors also affect the location and manner of death. According to a report from the National Center for Health Statistics (1982b), 62 percent of deaths of persons aged 65 and over occur in a hospital or medical center, often at great cost. In some cases the patient is hospitalized because there is a reasonable chance to postpone the death through the kinds of medical intervention that are only possible within a hospital setting. In other cases, however, the patient is taken to the hospital to die because public and private insurance pays more fully than if the dying person is cared for at home. And in still other cases, there is no one close enough, either geographically or emotionally, to offer any alternative to hospitalization.

The cost of caring for very ill patients can vary enormously, depending upon the patient and the physician (Garber, Fuchs, and Silverman 1984). In some cases the intensive application of modern technology can prolong life for one or two months or perhaps even more. This type of decision has traditionally been left to the patient and his or her physician, but exploding costs may lead to a reexamination of that position. At a minimum, there will be a search for less costly alternatives, and a closer examination of the factors that influence such decisions.

A Final Note

The data presented in this paper and the accompanying discussion are meant to be suggestive, not definitive. Large gaps in our understanding of the aging process and of the determinants of labor force participation, health care utilization, and other key variables make it difficult to draw firm conclusions. It may be useful, however, to state explicitly some of the major themes that are implicit in the preceding pages. Most important is the need to recognize that the "Medicare problem" reflects the intersection of two larger sets of issues. First, there are a range of questions concerning the elderly in general: questions of retirement benefits, age of eligibility, wages and hours

of work, and the like. Second, there are questions concerning the financing, organization, and delivery of health care for persons of all ages. Any Medicare "solution" that fails to consider these larger issues will probably turn out to be counter-productive.

Also implicit in this paper is the need to recognize that resources devoted to the elderly are resources that could be used to help children, teenagers, minorities, and other groups with special claims to public attention. To say this is not to deny that there are many elderly who are poor, sick, lonely, or otherwise disadvantaged. But the growing political power of the elderly suggests the possibility of disproportionate attention to this group at a time when many small children are neglected or abused, when the schools are at a low ebb, and when teenage suicide is at epidemic proportions. Twenty years ago the plight of the elderly was palpable. Today the most pressing social needs may lie elsewhere. The "good society" needs to balance its efforts, to make hard choices among many worthwhile objectives.

These considerations, and the data presented in this paper, lead me to hazard three inferences that have direct relevance for policy. First, we need to periodically revise our definition of *who is old*. One way to do this is to focus on changes in life expectancy at older ages. For instance, in 1935 when the age of eligibility for Social Security retirement benefits was set at 65, life expectancy at that age was 12.5 years. In 1984 the average 72-year-old has that same life expectancy. From that point of view it is not unreasonable to say that if age 65 marked the entry into old age in 1935, in 1984 old age begins at 72.

Second, we need to develop *more flexible labor market arrangements* to facilitate the continued labor force participation of older men and women. Unless this happens, the ratio of workers to retirees will become so small as to pose a grave threat to our economy and our society. Simply passing laws against mandatory retirement and age discrimination will not solve the problem. We need to develop more flexibility in hours of work, in wages (to accommodate possible age-related declines in productivity), and in amount of responsibility (to speed the movement of younger men and women into positions of leadership within organizations).

Finally, and this may prove to be the most difficult task of all, we need to reach a social consensus concerning what is *appropriate care for the dying*. At present the United States spends about 1 percent of the

gross national product on health care for elderly persons who are in their last year of life. This is much more than the nation spends on institutional care for the mentally ill and the mentally retarded of all ages, more than private and public expenditures for basic and applied research in all fields, and more than the total expenditures of all the private colleges and universities in the country. On the other hand, it is less than is spent on alcohol, and not much more than is spent on tobacco.

How much *should* be spent on care for the 1.3 million elderly persons who die each year? For most goods and services our society answers this question by saying "Let the market decide." According to economic theory the free choice of knowledgeable buyers paying with their own money for services rendered by competitive suppliers should result in a socially efficient allocation of resources. It will not necessarily be a "fair" allocation, but this problem is supposed to be addressed through redistribution of income, not direct subsidization of particular services.

This free-market approach is not likely to work well for the seriously ill. Patients and their families are often under great emotional stress and they typically have little previous experience with the complex technical choices that must be made. The hospitals and physicians who serve them often have considerable monopoly power. Furthermore, even in the absence of public subsidies, private insurance would push utilization beyond the point where benefits are equal to cost. The problem of distributive justice is not amenable to solution through conventional income redistribution methods because the amount society would want to give to an individual would depend on how much care they needed. Some economists would prefer an indemnification plan that provides old people with additional income when they become sick and lets them decide how much to spend for medical care. This plan may be a delight to some theorists, but it would be a nightmare for most patients and physicians.

It is possible to nibble at the edges of the problem by providing more information to patients, by fostering more competition among providers, by financing alternative modes of care for the dying, and by increasing deductibles and coinsurance. The fundamental problem, however, will remain. One of the biggest challenges facing policy makers for the rest of this century will be how to strike an appropriate

balance between care for the dying and health services for the rest of the population.

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