Health Care for the Elderly

How Much? Who Will Pay For It

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By Victor R. Fuchs

Health care expenditures on the elderly have outpaced the gross domestic product (GDP) by 3.5 to 4.0 percent per year in recent decades.[1] This differential is partly attributable to demographic change, with the number of elderly growing about 1.0 percent per year faster than the rest of the population. By far the more important factor, however, is the rapid growth of age/sex-specific consumption of health care by the elderly.[2] If the trends of the past decade or two continue until 2020, the elderly's health care consumption in that year will be approximately $25,000 per person (in 1995 dollars), compared with $9,200 in 1995.[3] If the current public/private shares remain unchanged (a bit less than two-thirds public, a bit more than one-third private), an enormous increase in taxes will be necessary, and the elderly still will be left with less income for other goods and services than they had in 1995. Without a dramatic change in health care costs, income, or both, health spending on the elderly in 2020 is likely to be two to three times the income available for all other goods and services.[4]

• AGE/SEX-SPECIFIC EXPENDITURES. A more detailed picture of the rate of growth of age/sex-specific expenditures (Exhibit 1) shows the average annual percentage rate of change between 1987 and 1995 of Medicare payments in constant dollars. The calculations were made by single years of age from a 5 percent sample of Medicare patients and then smoothed with a five-term moving average to reduce the effects of sampling variability.[5] The rate of change tended to be greater at older ages and somewhat greater for women than for men. On average, the rate of increase was between 4 percent and 5 percent per year in constant dollars. During that same period real GDP per capita grew at only 1.2 percent per year. It is this gap that is at the heart of the "Medicare problem." And because the private share of health care expenditures looms so large in the total financial needs of the elderly, it has major implications for the earnings-replacement problem as well.

Why did age/sex-specific expenditures increase so rapidly during a period when reimbursement rates for physicians and hospitals were being held under tight rein? It was not because physician fees for specific interventions were growing rapidly; they were not. It was not because hospi-

tal admission rates were increasing or patients were staying in the hospital longer; they were not. Moreover, the growth of utilization over time cannot be attributed to declining health of the elderly. On the contrary, age-specific health status probably has been improving over time.

Most experts believe that "technology" is the driving force behind the long-term rise of health care spending. In a survey of fifty leading health economists in 1995, 81 percent agreed with the statement, "The primary reason for the increase in the health sector's share of GDP over the past 30 years is technological change in medicine."[6] Expenditures grew primarily because the medical care system was delivering more and better services to patients: new drugs, magnetic resonance imaging (MRI), angioplasties, hip replacements, and many other costly interventions. Advances in medical technology have made it feasible and desirable to do more for each patient and to intervene with more patients.

• THE IMPACT OF TECHNOLOGY. The effect of technological advances on expenditures is rarely simple or immediate. Occasionally a blockbuster "breakthrough" has a rapid impact on expenditures; Viagra, the new male impotence drug, for example, is expected to boost annual health care spending by more than a billion dollars within a year or two of its introduction.[7] More often, however, a technological advance such as a new drug, surgical procedure, or diagnostic technique has only a modest effect on expenditures initially. Over time, however, further development, refinement, and diffusion of the technology result in large increases in spending. This process of progressive diffusion can be seen in Exhibit 2, which shows levels of utilization of seven frequently used procedures in 1987 and 1995 and rates of change between those years. The changes are age/sex-specific, thereby eliminating the effects of these demographic variables on changes in utilization. All seven procedures showed substantial increases in utilization between 1987 and 1995 for both sexes at all ages. Even the rapid diffusion of angioplasty, which was expected to obviate the need for coronary artery bypass graft (CABG) for many patients, did not result in lower utilization of the latter procedure. The median rate of change for the thirty-five procedure/age groups was 11.1 percent per year for men and 10.7 percent per year for

women. The rate of increase tended to be more rapid at older ages.

One lesson from these data is that the attribution of increases in expenditures to "technological change" must be understood in a broad sense. None of the seven procedures was a breakthrough in 1987. Instead, as physicians developed greater confidence and capacity to perform the procedures on more patients, especially on older patients, utilization steadily increased. Most of the growth in health care use probably follows this pattern, rather than the sudden appearance of a new intervention that is widely used from the start. Increases in rates of procedures and other interventions most likely have contributed to longer and better-quality lives for many elderly persons. From 1987 to 1995 their age/sex-specific mortality rates declined at a brisk pace (about 1 percent per year). It is possible that the additional expenditures, on average, met reasonable cost-effectiveness standards. If so, the key question is not, "Shall we do it?" but rather, "Who will pay?" If expenditures continue to grow at the same rate as they have in the past, health care for the elderly in 2020 will require 10 percent of GDP, compared with 4.3 percent in 1995. Will it be possible to raise tax rates enough to maintain the government's current share? That seems unlikely. Will the elderly have enough income to pay their current share, or more, without seriously jeopardizing their ability to buy other goods and services?

Nothing in current income trends of the elderly or in prospects for greater Social Security retirement payments in the future suggests that they will. What can be done? There are only two possibilities to avoid the economic and social crises foreshadowed in current trends. The nation must either slow the rate of growth of health care spending on the elderly or find ways to pay for the additional care.

• SLOW THE GROWTH OF HEALTH CARE SPENDING. Only three routes exist to slowing the growth of health care spending: (1) reduce the rate of growth of the prices of the resources used in health care (for example, squeeze physicians' incomes); (2) produce the same or more services with fewer resources (for example, automate laboratory tests); or (3) slow the rate of growth of real services to patients. The first route may be politically popular as long as the bashing is confined to physicians and drug companies, but it will not yield much over an extended period of time. Managed care organizations scored some quick gains this way in the mid-1990s, but by 1998 the possibility of further squeezing without jeopardizing quality of care has become much smaller. Over a period of twenty years or more, trying to pay lower prices for health resources can have only a modest impact on the rate of growth of expenditures because prices must approximately keep pace with the rest of the economy, to attract resources to the health sector. The second route, greater efficiency, faces problems similar to lowering the prices of resources. A few quick gains can be scored by eliminating obvious inefficiencies, but there is little reason to expect that the health care system can continue to achieve ever greater gains in efficiency decade
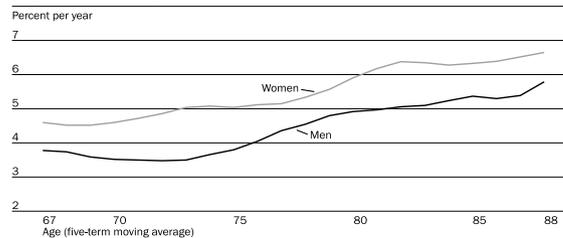
after decade without undermining quality of care.

Over the long haul, there is only one reliable way to slow spending growth: slow the growth of services to patients. Will this affect quality of care? Almost certainly. Although some ineffective services are delivered in every system and at every point in time, it is virtually impossible to cut back only on those services without affecting the delivery of other services that do extend lives, improve functioning, or provide assistance with activities of daily living. Furthermore, because technology is the principal force behind the growth in use of services, the most important strategy for slowing that growth must be to slow the development and diffusion of new technology.

One way that public policy affects technology is through Medicare, Medicaid, and other publicly funded health insurance programs. Government's willingness to pay for particular services influences the adoption and diffusion of technologies, and the pace of adoption influences private investment in research and development. Government also influences the development and diffusion of technology by subsidizing medical research and the training of specialists and subspecialists.

If the rate of growth of age-specific expenditures could be reduced by one percentage point per year, health care spending per older person in 2020 would be less than $20,000 (1995 dollars); if it could be reduced by two percentage points per year, spending would average about $15,000 per person, a figure that probably would be manageable with modest tax increases and some realignment of the elderly's priorities regarding work, savings, and consumption. But most present thinking in Washington is to accelerate the rate of growth of medical technology. Proponents of this strategy usually assert that new technology will reduce spending. On balance, it has not worked out that way in the past, and there is no particular reason to think that it will in the future. A technological advance may cut the cost of performing a particular intervention, or of treating a particular patient, but expenditures depend on the number of units of service as well as on the price per unit. For example, technological advances in the computer industry have led to spectacular decreases in price per unit of service; nevertheless, spending on computers has soared. Much the same happens with most technological advances in medicine.

• FIND WAYS TO PAY FOR THE ADDITIONAL CARE. Most people want to live longer, better-quality lives; therefore, some policy advisers prefer to focus on

	Men					Women				
	65–69	70–74	75–79	80–84	85+	65–69	70–74	75–79	80–84	85+
Procedures per 100,000										
Angioplasty										
1987	249	215	122	75	22	124	111	82	56	15
1995	712	756	589	411	131	339	367	322	245	74
CABG										
1987	560	545	357	179	33	187	179	138	59	12
1995	750	849	706	436	106	266	322	324	171	29
Cardiac catheterization										
1987	1,146	1,135	740	379	111	708	709	483	182	52
1995	1,624	1,863	1,652	1,109	399	1,086	1,254	1,064	706	183
Carotid endarterectomy										
1987	182	287	246	174	65	111	132	132	95	30
1995	321	460	553	433	152	221	229	273	217	77
Hip replacement										
1987	76	90	113	122	92	78	133	175	174	143
1995	250	331	467	609	724	338	519	782	965	1,444
Knee replacement										
1987	160	182	205	200	70	218	278	322	242	82
1995	403	478	529	385	164	523	657	667	475	193
Laminectomy										
1987	208	215	169	97	54	188	186	153	103	32
1995	285	322	320	218	106	278	316	258	143	57
Average rate of change (percent per year from 1987 to 1995)										
Angioplasty	13%	16%	20%	21%	22%	13%	15%	17%	18%	20%
CABG	4	6	9	11	15	4	7	11	13	11
Cardiac catheterization	4	6	10	13	16	5	7	10	17	16
Carotid endarterectomy	7	6	10	11	11	9	7	9	10	12
Hip replacement	15	16	18	20	26	18	7	19	21	29
Knee replacement	12	12	12	8	11	11	11	9	8	11
Laminectomy	4	5	8	10	8	5	7	7	4	7

finding ways to pay for more health care rather than on slowing spending growth. After all, there is no physical law or economic principle that says a nation cannot spend 10 percent of its GDP on health care for the elderly if it chooses to do so. But how can this be accomplished? An increase in government's share of the bill seems very unlikely. Indeed, even to maintain its current share, government will have to hike tax rates appreciably and make major cuts in other programs. If the growth of services were to continue as before, with many new and improved interventions available to patients, the elderly would have to be willing to forgo other goods and services, work more than they have in the past, and greatly increase their savings prior to retirement. These are not easy options. Consider cutting back on other goods and services. If the health bill were $25,000 per person (1995 dollars) in 2020, the elderly would have to adjust to a cut of more than 20 percent in other goods and services relative to 1995, even if their share of the bill remained the same.[8]

An increase of five percentage points in the elderly's share of health care spending would result in a further decrease of more than 10 percent in income available for other goods and services. There probably are limits to how much the elderly would be willing to sacrifice an adequate diet, a car that runs, or a roof that doesn't leak for more medical care. Given better health and longer life expectancy, an increase in work may be one feasible approach to curbing spending growth. Many policy analysts look to an increase in the Social Security retirement age as a way of increasing labor-force participation at older ages. Such an increase surely would help, but it is importan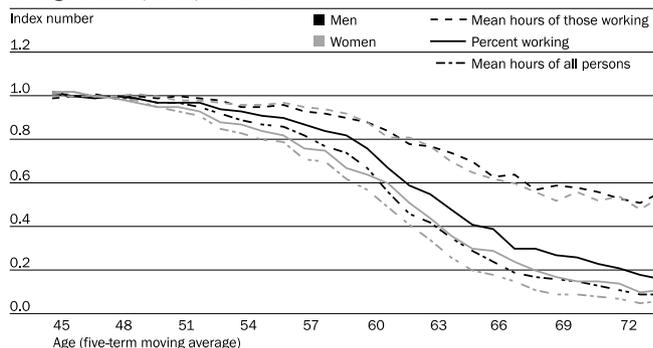t to note that many men and women substantially decrease their paid work well before age sixty-two, the age at which Social Security retirement benefits first become available. Exhibit 3 shows indexes of mean annual hours of all persons, percentage of persons working, and mean hours of those who were working by single years of age from forty-five to seventy-five, averaged over the years 1993, 1994, and 1995.[9] The values for ages forty-five to forty-nine were set equal to 100.[10]

By age sixty, men's hours are only 67 percent of the average of ages forty-five to forty-nine; for women, only 57 percent. The decrease in mean hours arises for two reasons: (1) a decline in the percentage of persons who have any paid work during the year, and (2) a decline in average annual hours for those who are working. Exhibit 3 shows that the former is by far the more important reason. At age sixty the percentage of men who have any hours of work during the year is only 76 percent of the average at ages forty-five to forty-nine; the comparable figure for women is 64 percent. Some decline in average annual hours of those who are working does occur, but the change is much smaller than the percentage dropping out of the workforce entirely. Moreover, only 3 percent of the sixty-year-olds who had no paid work during the year spent any time looking for work.[11]

A critical examination of the public and private policies that discourage older workers from seeking work and inhibit firms from employing them is badly needed. The most important potential source of increased income for the elderly is greater saving prior to retirement. The reason is in the numbers: After age sixty-five, income from savings (interest, dividends, and private pensions) is now four times larger than income from work.[12] Thus, only a 25 percent increase in the savings rate prior to age sixty-five would add as much to income as a doubling of work. Furthermore, the nonannuitized portion of the increased savings could be "spent down" in later years, thus adding to the elderly's capacity to pay for health care and other goods and services.

How can current workers be induced to save more? Tax incentives almost surely would help, as evidenced by the
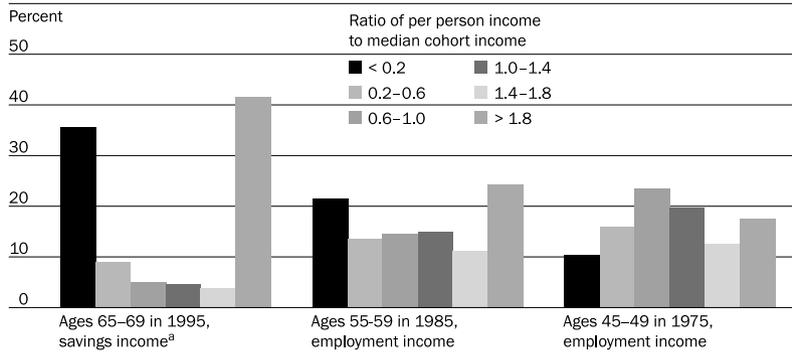
EXHIBIT 4
Ratio Of Per Person Income From Savings (1995) Or Employment (1985 And 1975) To Median Income For Cohort Born In 1926 To 1930

Percent

Ratio of per person income to median cohort income

- ■ < 0.2
- ■ 0.2–0.6
- ■ 0.6–1.0
- ■ 1.0–1.4
- ■ 1.4–1.8
- ▷ > 1.8

Ages 65–69 in 1995, savings income[a]

Ages 55-59 in 1985, employment income

Ages 45–49 in 1975, employment income

SOURCE: CPS Utilities, March CPS Utilities, 1964–1996, Release 96.1 (1997) (Unicorn Research Corporation, 1640 Fifth Street, Santa Monica, California 90401).
[a] Includes interest, dividends, rents, and private pensions.

individual retirement account (IRA) program during 1981–1986. When public finance economists at the forty leading U.S. university economics departments were asked what percentage of inflows to IRAs represented net additions to national savings, the median estimate was 20 percent.[13] Tax incentives alone, however, probably would not be enough. Many workers with average, or even above average, income did not participate in the IRA program and do not now participate in employer-sponsored 401-K plans, even when the employer would provide a matching contribution. In recent years millions of Americans have reached age sixty-five without any significant financial assets.

Not only is the average level of savings very low, but inequality in income from savings of retirees is extraordinarily large relative to inequality in employment income of the same cohort when they were younger (Exhibit 4).[14] To measure inequality, family income reported in the Current Population Survey (CPS) was divided equally among family members, and the ratio of each person's income to the median was calculated. At ages sixty-five to sixty-nine in 1995, less than 10 percent of persons had income between 0.6 and 1.4 times the median of $1,800. Most of this age group were concentrated at the extremes of the distribution: 36 percent had less than 0.2 of the median, and 42 percent had more than 1.8 times the median. The inequality in employment income experienced by this cohort when they were ages fifty-five to fifty-nine (in 1985) or ages forty-five to forty-nine (in 1975) was much less. Although there are many factors that influence the ability to save for retirement, employment income surely is the dominant one. Thus, the data in Exhibit 4 suggest that differences in the willingness to save probably provide a major explanation for the huge inequality in accumulated savings at retirement.

This view receives substantial support in a study by Steven Venti and David Wise based on longitudinal data from the Health and Retirement Survey. They show that inequality in savings for retirement is not primarily the result of inequality in earnings prior to retirement: Households with the same lifetime earnings approach retirement with vastly different levels of accumulated wealth.[15]

Even after adjustments for special factors that affect the ability to save and for differences in investment returns, the authors conclude, "The primary determinant of the dispersion of wealth at retirement is evidently the choice to save or spend while young."[16] If public policy aims at greatly increasing the elderly's income from savings while avoiding huge increases in income inequality after age sixty-five, it seems that part of the program would have to be compulsory. Even then, if the elderly became more dependent on their own income from work and savings, there probably would be greater income inequality among the elderly than there is now. Such a possibility should be evaluated in context. Once Social Security retirement is added to income from savings and employment, there is less total income inequality at older ages than at any other age.[17] An inalterable commitment to an egalitarian policy after age sixty-five probably would inhibit the changes in work and savings that will be required to pay for future increases in health care.

Long-term reform of medicare (and Social Security) must face three harsh but inescapable facts. First, total expenditures for health care of the elderly are rising much faster than GDP, tax revenues, or the personal income of the elderly. Second, the number of years that the elderly are financially dependent on savings and government transfer payments continues to increase because rising life expectancy at age sixty-five has not

been matched by rising labor-force participation after that age. Third, on average, Medicare pays for less than half of the health care of the elderly, and Social Security retirement benefits provide less than half of total personal income after age sixty-five. Thus, efforts to "save Medicare" or "save Social Security" miss the main point: Even when these efforts move policy in the right direction, they will prove to be "too little, too late" unless they are embedded in broader policy initiatives that slow the rate of increase in health care spending and/or increase the income of the elderly.

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Medicaid-covered asthmatic children high utilizers of expensive emergency care

WESTPORT, CT (Reuters Health)

Children with Medicaid insurance appear to make more emergency room asthma visits than do children with capitated or fee-for-service coverage, according to Denver, Colorado, researchers.

Dr. Mary D. Klinnert of National Jewish Medical and Research Center, and colleagues, set out to determine whether the type of medical insurance a child had was associated with disease severity, type of care and other factors.

The researchers examined available medical records of 101 children and adolescents with severe asthma. Parents also completed a series of questionnaires. Of the 93 subjects who had complete records and insurance coverage, 47 had fee-for-service, 24 had capitated and 22 had Medicaid coverage.

There were no significant difference amongst groups in the number of hospital visits, days spent in hospital, total number of physician/clinic visits, quality of life or functional severity.

However, despite these similarities, the researchers established that patients in the Medicaid group used less specialist care but "...sought more costly emergency room care than did those in the fee-for-service or capitated groups."

Given these findings, the investigators conclude that encouraging specialist rather than emergency care in such families "...may or may not reduce functional severity or increase quality of life, but it may reduce the overall costs."

J Asthma 1999;36:271-279.

FOOTNOTES

1. V.R. Fuchs, "Provide, Provide: The Economics of Aging," in *Medicare Reform: Issues and Answers*, ed. T.R. Saving and A. Rattenmaier (Chicago: University of Chicago Press, forthcoming), currently available as National Bureau of Economic Research (NBER) Working Paper no. 6642 (1998). Total health care spending on the aged for 1975, 1985, and 1995 was estimated by applying ratios of total personal health care to Medicare payments as presented in D.R. Waldo et al., "Health Expenditures by Age Group, 1977 and 1987," *Health Care Financing Review* (Summer 1989): 116–120. Rates of change for 1975–1995 and 1985–1995 were calculated by the author.

2. For 1975–1995 and 1985–1995 the rate of change of health care expenditures on the aged was decomposed into (1) change in the age/sex-specific expenditures per person; (2) change in the number of elderly persons; and (3) change in the age distribution of the elderly. For both time periods the rate of change of age-specific expenditures was more than double the sum of the demographic effects. Fuchs, "Provide, Provide."

3. Ibid. Projections were based on past trends in age/sex-specific expenditures in constant dollars combined with Census Bureau population projections (middle series).

4. Ibid. Income available for other goods and services was defined as total personal income minus personal taxes and personal health care expenditures.

5. V.R. Fuchs and M. McClellan, "Medical Technology and Mortality in an Aging Society" (NBER paper in progress, 1998).

6. V.R. Fuchs, "Economics, Values, and Health Care Reform," *American Economic Review* (March 1996): 1–24, Table 1.

7. D.J. Morrow, "The Elixirs of Life Style," *New York Times*, 11 November 1998, C1.

8. Fuchs, "Provide, Provide."

9. CPS Utilities, March CPS Utilities, 1964–1996, Release 96.1 (1997) (Unicon Research Corporation, 1640 Fifth Street, Santa Monica, California 90401; tel.:310-393-4636).

10. The actual values at ages forty-five to forty-nine are as follows: average annual hours for all persons, 2,024 for men and 1,439 for women; percentage working, 91 for men and 79 for women; average annual hours for those working, 2,217 for men and 1,817 for women.

11. CPS Utilities.

12. Fuchs, "Provide, Provide."

13. V.R. Fuchs, A.B. Krueger, and J.M. Poterba, "Economists' Views about Parameters, Values, and Policies: Survey Results in Labor and Public Economics," *Journal of Economic Literature* (September 1998): 1387–1425, Table 2.

14. CPS Utilities.

15. S.F. Venti and D.A. Wise, "The Cause of Wealth Dispersion at Retirement: Choice or Chance?" *American Economic Review* (May 1998): 185–191.

16. Ibid., 191.

17. Fuchs, "Provide, Provide."