



**Testimony  
Before the Joint Economic Committee  
United States Congress**

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**Getting Older, Staying Healthier:  
The Demographics of Health Care**

*Statement of*

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Good morning Mr. Chairman and members of the Committee. I am James Lubitz, Acting Chief of the Aging and Chronic Disease Statistics Branch at the National Center for Health Statistics, Centers for Disease Control and Prevention. Before coming to CDC I worked for many years in the research office of the Centers for Medicare and Medicaid Services. I am pleased to be here today to participate in the hearing on “Getting Older, Staying Healthier: The Demographics of Health Care.” I will discuss the highlights of research by myself and colleagues at CDC, CMS and the Urban Institute on the longitudinal patterns of medical expenditures from age 65 until death and how they relate to a broader picture of health and health care use by our elderly population.

#### Background

The Medicare program is 38 years old. There has been enough time to follow the experience of cohorts of Medicare enrollees from enrollment to death and to observe their patterns of health care use as they age. Today, the nation’s health care system has changed dramatically from what it was at Medicare’s beginning in 1966. We have experienced a growth in health care spending above the overall inflation rate. Furthermore, medical spending has grown faster for the elderly than for the under age 65 group (Meara et al., 2004). In 2000, per capita, inflation-adjusted health care spending for the 65 and older was 8.4 times what it was in 1963; for those under 65 it was 4.6 times what it was in 1963. Medicare spending alone grew from 0.75 percent of GDP in 1970 to 2.6 percent last year and is predicted to nearly double to more than 5 percent of GDP by 2020.

Expectations for medical care have changed for the elderly. In the 1970s there was serious discussion of the idea that medical spending in the aggregate did little good and that we were “wasting” a large percentage of medical expenses for high tech procedures on seriously ill persons who would die shortly anyway. The idea of setting limits on health care spending was proposed. In these discussions, the percentage of Medicare spending for persons in their last year of life was often exaggerated, and it was commonly believed that 50 or 75 percent of Medicare spending was for the last year of life.

Today our population has high expectations for medical care and procedures like cataract removal, coronary revascularization, hip and knee replacements, and early treatment for heart attacks and strokes to restore function and reduce disability. Thus, although Medicare spending has grown and is expected to keep growing, Medicare beneficiaries may derive greater value from the program through better health and quality of life. Now there is increasing evidence that medical care is cost effective in the aggregate, as measured by treatment costs versus gains in life expectancy and improved health (Cutler and McClellan, 2001). There is also evidence that the overall health of the elderly has improved over the past few decades; although there is not complete agreement on the nature and degree of improvement. I expect the other witnesses will discuss in detail the topic of trends in the health of the elderly. The effect of improved health of the elderly on health spending is a complex subject, with some experts believing that improved health will lead to lower costs (Singer and Manton, 1998; Waidman and Liu, 2000). As I will try to make clear, the relationship between health, health care

services and health care spending is complex, and under equally plausible scenarios better population health can lead to lower or higher health costs.

The analyses that I present here have been developed from the administrative and survey data bases of CMS and CDC's NCHS.

#### Medicare costs in the final years of life

The Medicare program is unique in that it is the only health insurance program in which people enroll (at age 65) and are expected to remain until their death. Consequently, Medicare covers the medical costs of the final years of life of 75 percent of the US population. We would expect that Medicare costs in the final years would be higher than in the prior years, because patients are, in general, very sick before death and final year costs are high. Costs in the last year of life account for 28 percent of Medicare costs in a given year. But because this percentage has held steady for two decades-- despite all the changes in medicine and in the health care delivery system-- we can say that costs in the last year of life have just kept pace with overall growth in Medicare costs and are not disproportionately responsible for the Medicare spending increase. There is no evidence that "heroic" efforts to extend life, to whatever extent they occur, have been driving Medicare cost increases.

Perhaps it should not be surprising that this percentage has been steady. Physicians are often faced with uncertain prognoses for severely ill patients. This may limit the scope of changes in the care of dying patients. Within the last year of life, we find costs concentrated in the last months—the last two months of life account for over

half of the average beneficiary's costs in the final year. And, again, this percent seems to have held steady.

We have also found that Medicare costs in the last year are lower for older decedents. Medicare spending in the last year of life for decedents age 90 or over is only 58 percent of that for decedents age 65-69. This may reflect an inclination on the part of providers toward less aggressive interventions for the very old in their final years. But, as we will note below, long term care costs (of which only a small part are covered by Medicare), are considerably higher for older decedents than younger ones.

The high costs of the final years provide an insight into why Medicare spending per enrollee per year is higher for older than younger enrollees. To a large extent the difference reflects the higher death rate of older enrollees and the concomitant end of life costs; not advanced age, per se. All things being equal, falling death rates will decrease the annual, per enrollee Medicare costs in each age group, so the older aged may cost relatively less per capita tomorrow than today. In other words, it is the number of years before death, more than chronological age, which drives Medicare spending.

#### Medicare costs from age 65 to death

The medical care costs for the elderly in any year are made up of the costs of enrollees at various ages and various times before death. In any calendar year, some persons will have a life expectancy of many years; others will be in their final year and likely incurring high medical costs. The sum of the costs for all these enrollees comprises annual Medicare spending. We examined cumulative medical costs from age 65 until death for persons dying at each age from 65 to 100 to study the relationship

between longevity past age 65 and total medical care costs, including both Medicare covered and other costs (Figure 1).

We find that, on average, past age 70 or 75, each additional year lived adds little to Medicare costs. This is especially true for long-lived individuals. A person who lived to 90 as compared to 89 cost Medicare only \$404 more (in 1990 dollars), while a person who lived to 70 compared to 69 cost Medicare \$3571 more. The additional years covered by Medicare for longer lived persons are the years farthest from death. For any enrollee, whether they die at 80 or 90, Medicare will pay the high costs of their final illnesses. The added years covered for the long-lived persons are the relatively healthy, low-cost years far from the end of life. The farther an enrollee is from the final year, the less costly they are for Medicare. For instance, the added years covered for someone dying at age 90 rather than 85 are the 25<sup>th</sup> to the 21<sup>st</sup> year before death when the enrollee is likely to be in good health. The fact, noted earlier, that Medicare end-of-life costs are lower for older decedents is another reason that long lived enrollees do not cost Medicare much more than shorter lived ones.

Cost from age 65 to death for services Medicare does not cover

Up to now I have been discussing only Medicare costs. Now I will describe patterns of use of all services—both Medicare-covered and those that Medicare doesn't cover. As you know, Medicare on average pays about 55 percent of the health care costs of persons 65 and over. The rest is paid out-of-pocket by beneficiaries and their families, by Medicaid and other public programs, and by private supplementary insurance plans. Principal services not covered are nursing home care other than the specific Skilled

Nursing Facility Benefit, most outpatient prescription drugs (though, of course, the New Medicare drug benefit will start in 2006), and home health care not eligible for Medicare reimbursement.

We saw that Medicare costs in the final years of life are considerably lower for older decedents. However, this is not the case for non-covered services. Nursing home expenses in the last two years of life are much higher for older decedents compared to younger ones. The nursing home expenses of persons dying at 90 are, on average about five times higher than that of persons dying at 70. In fact, from age 90 on, average per capita expenses in the final two years of life for nursing home care exceed the average per capita Medicare expenses in the final two years of life for all covered services combined, highlighting the high cost of long term care for our oldest old. Although concern about costs in the final year of life has focused on the appropriateness of expensive, high tech care, long term care costs are, in fact, of more importance for the oldest old.

The effect of longevity on total health spending is different from the effect on just Medicare spending. Because long term care costs accelerate with age, they offset the considerably lower Medicare costs in the final years for older decedents. An added year of life from age 90 to 91 adds about the same amount to cumulative health care costs from 65 to death as an added year from age 70 to 71 (Figure 1). This illustrates the different effects age and demographic factors can have on total health spending as compared to just Medicare spending.

Over the next decades, our nation will experience major demographic changes. They include a large growth in the number of persons age 65 and over as the baby

boomers reach retirement age and increased life expectancy after age 65. We isolated the possible effects of these changes on both Medicare spending and overall health spending for elderly persons. The three specific demographic factors we considered were, (1) the increase in the numbers of persons born in 1955, who will turn 65 in 2020, as compared with the number born in 1925, who turned 65 in 1990, (2) the better survival from birth to age 65 of the 1955 birth cohort as compared to the 1925 birth cohort, and (3) increased life expectancy at age 65 for the 1955 cohort.

I need to make clear that the purpose of the simulations is only to isolate the effect on health spending of likely demographic changes. We do not account for possible medical advances, changes in patterns of utilization, disease or disability or, importantly, changes in Medicare or Medicaid rules about payment, benefits and eligibility.

First, we consider the effects of these changes on just Medicare. We find that of the 88 percent greater spending (in constant dollars) from age 65 to death for the cohort who turn 65 in 2020, by far the most important demographic factor behind that increase was the greater number of persons in the 1955 birth cohort (baby boomers who will turn 65 in 2020). The 1955 birth cohort was 58 percent larger than the 1925 birth cohort. The second most important factor was the improved survival from birth to age 65 of the later cohort. In the 1925 birth cohort, 69 percent survived to age 65; in the 1955 cohort an estimated 80 percent will survive to 65. The greater expected life span past age 65 of 1.4 years for the 1955 birth cohort was a minor factor in the increase.

To put the findings in quantitative terms; 74 percent of the greater Medicare spending (in constant dollars) for the baby boomers born in 1955 will be the result of a larger birth cohort, 23 percent will be due to a lower death rate from birth to age 65, and



only 3 percent will be the result of longer life past 65. This reflects the finding noted earlier; given that Medicare covers the expensive final years of life, living to 90 as compared with 85 does not add that much in Medicare costs.

The findings are somewhat different when we consider overall health care spending, not just spending for what Medicare covers. The larger birth cohort is still by far the most important reason for increased total health care costs for the baby boomers once they become seniors, followed by better survival from birth to 65. But, because of its effect on long term care costs, longer life expectancy at age 65 has a larger effect on long term care costs than on Medicare costs. For example, the 3 percent increase in life expectancy at 65 for the cohort turning 65 in 2015 compared with those turning 65 in 2000 was responsible for a 1 percent increase in Medicare costs, but a 6 percent increase in nursing home costs.

#### Expected spending for persons in good health versus poor health

Because the health of the elderly has been improving, as measured by improved life expectancy and functional status, it is of interest to compare the cumulative health care costs from 70 to death for healthy versus less healthy persons. We simulated total medical spending from age 70 to death by health status, as measured by both self-reported functional status and self-reported health status (from excellent to poor). Functional status measures the ability to perform a variety of activities and tasks, like climbing stairs; managing daily tasks, like housecleaning and meal preparation, and self-care activities, like bathing and dressing.

No matter what measure we used, we found that as expected, persons reporting better health at age 70 lived longer than persons in worse health. Furthermore, they spend most of their longer life span past age 70 in excellent or good health, while persons reporting poor health at age 70 lived only two thirds as long and spent most of that time in fair or poor health.

We found that the total, cumulative medical spending from age 70 until death was similar for persons in good health at 70 versus those in poor health at 70. This was so even though the healthier persons had more years to accumulate costs. This was also true whether we looked at just Medicare spending or at total health care spending. Better health, which produces lower yearly costs, offsets the effect of more years to accumulate costs.

### Implications

If we imagine a situation in which the number of persons turning 65 and coming onto Medicare is constant, then increases in life expectancy past age 65 would not have a large effect on the Medicare budget under current patterns of health care spending (although the effect on Medicaid would likely be greater because of Medicaid's large role in paying for long term care costs for the elderly). Increases in life expectancy can result from a mixture of better life styles (e.g. diet, exercise) and use of preventive and screening services, and from medical advances, which can mean both more efficient, money-saving treatments as well as innovative, costly new treatments. The extent of influence of each is unclear. A good example of how the role of these factors may change is the decline in mortality from cardiovascular diseases, which began in the

1950's. At the beginning the drop in mortality was attributed largely to improved life styles—less smoking, etc. Currently, however, experts attribute the continuation of the downward trend as much to new medical interventions as to improved life styles (Hunink et al. 1997).

Life style improvements generally come at low cost to the medical care delivery system because they result from behavior change prompted by public education. And, of course, the costs of health promotion efforts in the pre-Medicare years are not borne by the Medicare program. There is evidence from some epidemiologists that a favorable health risk profile in middle age may result in both longer life and lower than average Medicare costs (Daviglius et al. 2003; Lui et al. 2003). These researchers also find, interestingly, that Medicare costs in the last year of life are lower for persons with favorable risk profiles in middle age.

Today, it is not clear what the health of the future elderly will be. Favorable trends in reduced smoking, better control of hypertension and lower cholesterol compete with an alarming increase in the percent of persons in all age groups who are overweight or obese. This includes increases for those middle aged baby boomers who will begin to enter Medicare in 2011, just seven years from now.

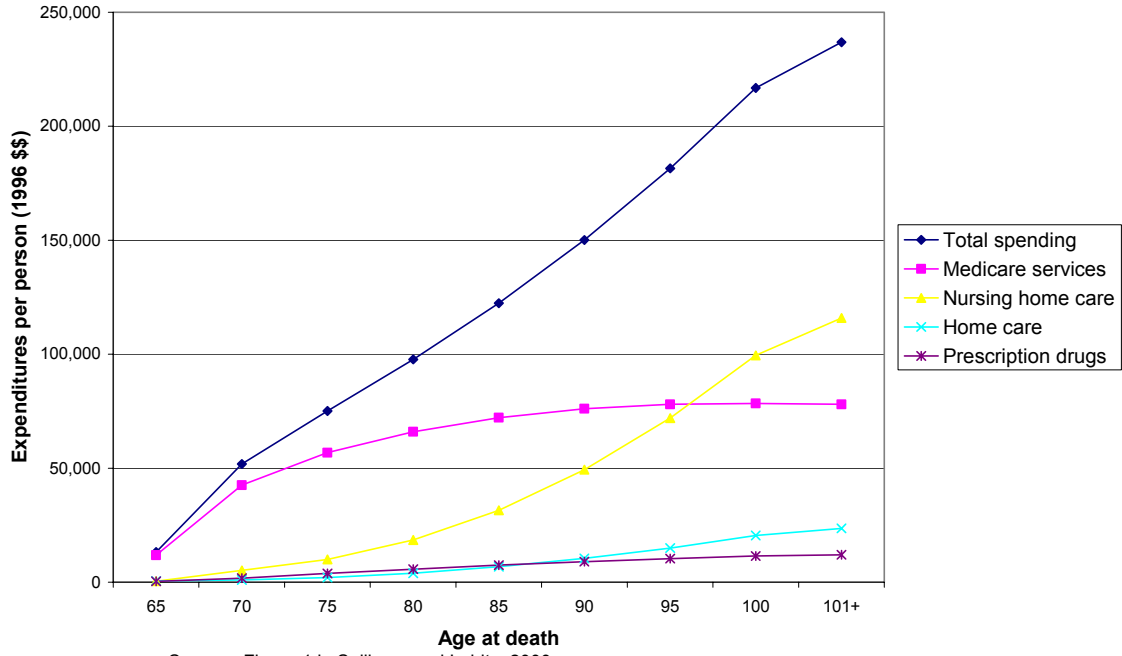
Health improvements also result from expensive interventions. For example, the numbers of coronary artery bypass surgeries and coronary angioplasties, two procedures developed after the establishment of Medicare have greatly increased. Originally, they tended to be performed on the middle aged and younger elderly. Now, as experience has grown among providers and techniques have improved, these heart procedures are frequently performed on the older aged. This example points out the difficulty of

predicting future developments. It is difficult to predict whether improved health and life expectancy will result more from expensive interventions for the elderly or from better health in the middle aged, pre-Medicare group. It is possible to simulate the effects of various future scenarios, but not to predict the future, except, of course, for the certainty of a large increase in the number and percent of the US population over age 65.

Under current patterns, greater longevity will increase the need for, and spending on, long term care. And in contrast to acute care, long term care is paid mostly by Medicaid and out of pocket by patients and families. Thus, longevity improvements may very well have different effects on Medicare and Medicaid—putting little extra pressure on Medicare but more on Medicaid. It may also increase the financial and care giving burdens on patients and families. There may be a concomitant movement from informal care to formal paid care because in the future there will be fewer working age persons in relation to the elderly. This would increase the direct costs of long term care. This pessimistic picture assumes that the same age related patterns of frailty and cognitive loss that we see today will persist into the future. We do not know, however, if this will be the case. The compression of morbidity hypothesis posits that the amount of time in poor health will be less among the future elderly than among today's elderly. If morbidity is indeed becoming compressed, medical costs should be affected—possibly reducing them if the number of months in poor health declines (or increasing them if the improvement comes from expensive medical procedures). We plan to pursue this topic in future studies.

I thank you for your attention and look forward to answering any questions you may have.

**Figure 1. Cumulative health care expenditures from the age of 65 years until death, according to the type of health service and the age at death**



Source: Figure 1 in Spillman and Lubitz, 2000