

The next section of this chapter examines the reasons behind this projected growth in Medicare spending. The average annual growth rate of Medicare spending is projected to be 2.8 percentage points higher than GDP growth per year between 2006 and 2040. Part of this increase in spending is due to growth in the number of Medicare beneficiaries, and part of this increase in spending is due to growth in real (inflation adjusted) Medicare spending per beneficiary.

## Reasons for the Changes in Medicare Spending over Time

### Increases in the Number of Medicare Beneficiaries

The proportion of the United States population covered by Medicare has increased over time. This has resulted from the normal eligibility age remaining fixed at 65 combined with the aging of the population. The aging of the population is due to both increased life expectancy and decreased fertility. In 1965, 65-year-old retirees could expect to live for 14.7 more years; by 2006, they could expect to live for 18.6 more years. In 1965, the fertility rate was 96.3 births per 1,000 females aged 15 to 44; by 2004, it had fallen to 60.7 births. (These changes in demographics have a similar effect on Social Security.)

The worker-per-beneficiary ratio illustrates the portion of the population which provides revenue to cover the needed spending on Medicare beneficiaries. In 1965, there were about 4.6 workers for each Medicare beneficiary. In 2005, there were about 3.8 workers for each Medicare beneficiary. In 2050, there are projected to be only 2.2 workers for each Medicare beneficiary.

In addition to being affected by long-term increases in longevity and decreases in fertility, the worker-per-beneficiary ratio during the upcoming years is also affected by the aging of the baby boom generation, which is made up of those born between 1946 and 1964. (The baby boom generation can be viewed as a temporary change in fertility rates.) The baby boom generation explains the relatively steady worker-per-beneficiary ratio between 1975 and 2005 and the dramatically decreasing ratio between 2010 and 2040. After 2050, most benefits owed to the baby boom generation will have been paid, and the worker-per-beneficiary ratio is projected to be relatively steady though 2080 as long as current assumptions hold.

Unlike Medicare, the full retirement age for Social Security is 65 for those born in 1937 and earlier, and will rise slowly to 67 for those born in 1960 or later. However, the effect of increasing the eligibility age for Medicare would not have a very large effect on total Medicare spending, because Medicare

spending increases with age as people become less healthy. For instance, while people ages 65 and 66 represent about 9 percent of the Medicare population, they are the recipients of only about 4 percent of total Medicare spending.

## Increases in Spending per Beneficiary

Real growth in Medicare spending per beneficiary has averaged about 4 percent per year between 1996 and 2006, roughly 2 percentage points greater than real per capita growth in GDP. For the Medicare Trustees Report, the Medicare actuaries assume that the annual growth rate of Medicare spending per beneficiary during the period between 25 and 75 years from now will decrease to equal the growth rate of GDP per capita plus an average of 1 percentage point. In addition to this so-called “intermediate” assumption, these actuaries also consider a “low-cost” assumption, in which annual Medicare spending growth equals per capita GDP growth and a “high-cost” assumption, in which annual Medicare spending growth equals per capita GDP growth plus 2 percentage points.

One way to evaluate the affordability of these projected increases in Medicare spending is to consider the effect of applying this growth rate to overall medical spending in the United States and examine the resulting growth in consumption of all other goods and services in the future economy (that is, nonmedical consumption). One study estimated that applying the intermediate assumption of long-term medical spending growth, equal to the growth rate of per capita GDP plus 1 percentage point, would still result in positive real growth in the level of nonmedical consumption over the next 75 years. However, the high-cost assumption of long-term medical spending growth, equal to the growth rate of per capita GDP plus 2 percentage points (and, as noted above, roughly equal to the growth rate of Medicare spending in recent history), would cause the level of real nonmedical consumption to increase only until year 2040 and decrease thereafter. During the period between 2010 and 2040, an average of over 60 percent of the annual increase in income would be allocated toward health care spending.

Research suggests that most of the increase in medical spending over time has been driven by the advent of new technologies. New technologies make available new treatments, some of which are more effective than others. Research also suggests that the increased medical spending has, on average, resulted in improvements in health with additional value exceeding the additional costs. For instance, the real cost of treating heart attacks increased by about \$10,000 for Medicare beneficiaries between 1984 and 1998, driven by technological advances such as catheterization and angioplasty. Life expectancy for heart-attack patients increased by about 1 year during this same period. Although it is difficult to measure the value of human life and

it is not clear that this relationship is causal, an estimate of the value of these added health benefits is about \$70,000, far in excess of the added costs.

Economists have suggested that an increase in medical spending over time is not necessarily problematic, in and of itself, so long as the marginal benefits exceed the marginal costs. A simple cross-national comparison of the fraction of GDP devoted to health care spending suggests that the United States is a high-expense outlier relative to other developed countries. However, it is plausible that the marginal benefits of improved health are dependent on income, so that as a country's GDP increases, it may be rational for that country to devote a relatively higher share of its GDP to health care. This perspective suggests that it may make sense for the United States to spend more than other countries because it has higher per capita income and health care can be a valued use of those higher resources.

## Improving the Efficient Allocation of Resources in Medicare

The remainder of this chapter considers ways to improve the efficiency of spending in the Medicare program, in order to slow the projected growth in spending. Policymakers face the challenge of enacting policies that limit inefficient health care spending but do not limit efficient health care spending or the development of beneficial new technologies. This section begins by providing several examples of sources of inefficiency in health care spending and concludes by suggesting several ways to improve the incentives that providers and Medicare beneficiaries face. Improving the efficiency of health care spending is critical to improving both the long-term fiscal strain on the Medicare program and the quality of care to patients, and it is likely that a multipronged approach will be necessary.

### Inefficient Health Care Spending

While some of the greater health care spending may be attributed to technological improvements that enhance the quality of care and to increases in national wealth, there are also many findings that are consistent with some degree of inefficiency associated with relatively higher health care spending. Health outcomes in the United States are often not substantially better than those in other developed countries that spend far less on health care. The Rand Health Insurance Experiment found that increased medical spending led to only limited health improvements. The Dartmouth Atlas of Health Care shows wide variations in Medicare spending within the United States without associated variation in health or health outcomes.