

**The Medicare system  
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the more painful  
the remedy will be.**



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# The Facts About Medicare

by Concerned Actuaries

**AUTHORS' NOTE:** *This article was prepared by the Concerned Actuaries, an independent coalition of actuaries who believe the profession has a responsibility to provide the public with more unbiased information about Medicare. Since its formation, this group has obtained input from many sources, including other actuaries and health care professionals. Our analysis of the facts and related demonstrations leads to the clear conclusion that the Medicare system in its current form is unsustainable. Without substantial and fundamental changes, Medicare's financial requirements will increasingly strain the U.S. economy to the point of consuming a substantial, if not staggering, percent of our federal budget; about 16 percent in 2010, more than 30 percent by 2030, and more than 50 percent by 2080 (in 2007, it reached about 15 percent). If we simply cut provider reimbursements dramatically as a means of reducing the pattern of cost increases, it will substantially reduce access to health care so that quality of life will suffer. The longer we wait to address Medicare, the more painful the remedy will be. Without changes to improve Medicare's long-term financial integrity, other areas of the economy, such as national funding for education, defense, or public infrastructure and/or the quality of and access to health care, are likely to suffer.*

## MEDICARE: WHERE WE ARE

### Medicare Is Middle-Aged

The Medicare program was enacted in 1965 and has now passed its 40th birthday. While the program has experienced significant aches and pains over the years, perhaps with increased awareness and timely substantial action, adjustments can be made to extend its life.

### Medicare Is Big

Medicare paid roughly \$425 billion in benefits to senior and disabled Americans in calendar year 2007. In that year, about 44 million beneficiaries, or about 1 out of 7 Americans, were enrolled to receive benefits.

### Medicare Has Helped Seniors

During the first 40 years of the Medicare program, the United States has seen improvement in the quality of life of its seniors, which was one of Medicare's primary goals. During this time, the country has seen a surprising increase in the life expectancy at age 65, and the proportion of the elderly who are living below the federal poverty line has declined.

### Medicare Is Complicated

Medicare has several parts—Part A (HI or hospital insurance), Part B (SMI or supplementary medical insurance), Part C (generally known as Medicare Advantage or Medicare risk contracts), and Part D (prescription drug insurance). Both the benefits and financing of the Medicare program are complicated. The basic benefit structure is confusing since not all services and products are covered, and payments are limited by deductibles, upper bounds on benefits, and some coinsurance requirements (i.e., the sharing of the cost of benefits between the beneficiary and the program).

Recently, there has been a great deal of media coverage about the difficulties and confusion that some beneficiaries have experienced with enrollment in the new prescription drug program. Some Part D insurers have attempted to provide simplified benefits that modify the basic Medicare program, but that has also created an abundance of hybrid offerings that some seniors have difficulty comparing.

The financing is also complicated. Part A is financed largely from payroll taxes paid by workers and their employers. Part B and Part D are financed partially by premiums paid by beneficiaries and partially by appropriations from the general revenues of the United States. Part C financing effectively is a blend of all of the mechanisms used by A, B, and D, such that the money comes from Medicare in the form of a lump-sum payment.

### Medicare Is Troubled

There are different views on the difficulties facing the Medicare program. Some beneficiaries believe the trouble is that some services and products are not covered. On the other hand, some providers have stated the trouble is the low reimbursements they receive. These groups and all taxpayers and future beneficiaries share in the long-term financial issues faced by Medicare. The ramifications of the financing issues are the primary subject we will discuss.

Current projections by the Medicare trustees show just how dire the situation is. Currently, Medicare costs are about 3 percent of the gross domestic product (GDP) and about 15 percent of federal expenditures. These amounts are projected, however, to increase to about 4.5 percent of GDP and 22 percent of the federal budget by 2020 and about 11 percent of GDP and about 53 percent of federal expenditures in 2080, assuming the federal budget remains at its current level of about 20 percent of GDP. When combined with Social Security, the projections show that about 90 percent of the federal government expenditures will be covered by projected costs of these two programs in 75 years.

In discussing Medicare financing, we will often relate both income and expenditures to the GDP and federal budget, since it puts these very large numbers into perspective. Because the GDP is the sum of the value of all the goods and services produced in the United States in one year, the comparison of Medicare finances with GDP provides an idea of the share of total U.S. production devoted to Medicare. The relationship to the federal budget also clearly demonstrates the depth of the long-term financial challenges. Including Social Security with Medicare only further demonstrates the problems.

### MEDICARE: WHERE WE ARE IN NUMBERS

Table 1 summarizes the recent financial history of Medicare. The entries are derived from the annual Medicare trustees' reports

**TABLE 1 Historical Medicare Costs/Benefits in \$ Billions**

	(1)	(2)	(3)	(4)	(5)
Year	Medicare Benefits & Admin. Expenses	Total Federal Expenditures*	Gross Domestic Product (GDP)*	Percent of Federal Spending	Percent of GDP
1998	\$213.6	\$1,665	\$8,747	12.8	2.4
1999	212.1	1,724	9,268	12.3	2.3
2000	221.8	1,808	9,817	12.3	2.3
2001	244.8	1,900	10,128	12.9	2.4
2002	265.7	2,048	10,470	13.0	2.5
2003	280.8	2,193	10,961	12.8	2.6
2004	308.9	2,338	11,713	13.2	2.6
2005	336.4	2,518	12,456	13.4	2.7
2006	408.3	2,688	13,247	15.2	3.1
2007	431.5	2,836	13,976	15.2	3.1

\*Calendar-year estimate from federal budget fiscal year information, assumes 5.5 percent growth from 2006 to 2007

**TABLE 2 Projected Medicare Costs in \$ Billions**

	(1)	(2)	(3)	(4)	(5)
Year	Medicare Benefits & Admin. Expenses*	Total Federal Expenditures**	Gross Domestic Product (GDP)	Percent of Federal Spending	Percent of GDP
2010	\$545	\$3,330	\$16,411	16	3.3
2020	1,245	5,668	28,032	22	4.4
2030	2,997	9,716	47,882	31	6.3
2040	6,200	16,596	81,790	37	7.6
2050	11,736	28,349	139,709	41	8.4
2080	74,435	141,290	696,305	53	10.7

\*Estimated from Medicare trustee report ratios of such costs to GDP.

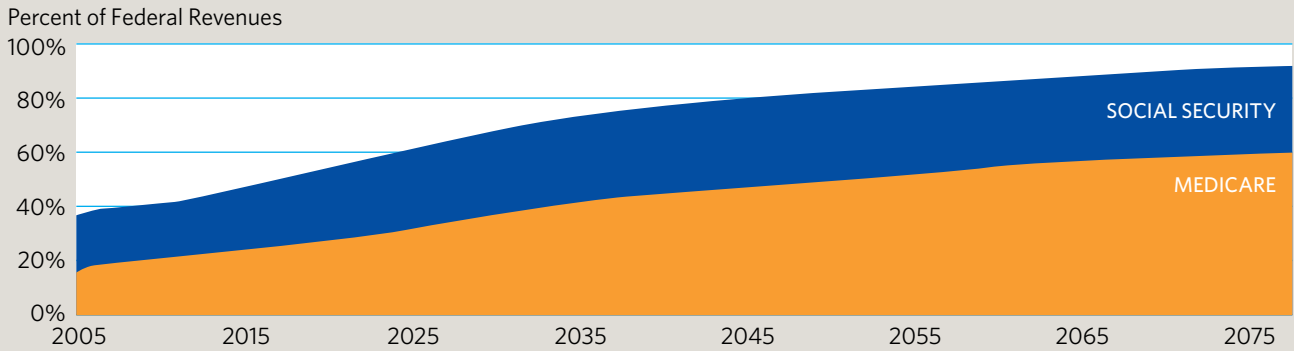
\*\*Estimated from federal budget and other information, assumes 5.5 percent annual growth in federal expenditures and GDP (federal projections use a slightly lower growth rate).

or federal budget projections where indicated. These reports are a major source of information about the operation of Medicare and projections of its future. The Medicare trustees include members of the cabinet, the commissioner of Social Security, and two public individuals.

The period from 1998 through 2005 produced an increase of Medicare expenditures, both as a fraction of total federal expenditures (column 4) and as a fraction of GDP (column 5). Yet, this period reflects somewhat smaller increases compared to earlier periods. More significant, in the next section we will explore reasons why it is expected that the increase in these ratios might rapidly accelerate. This result shows that, unless Medicare financing is addressed, tough choices will be required between health care and other societal needs.

**FIGURE 1**

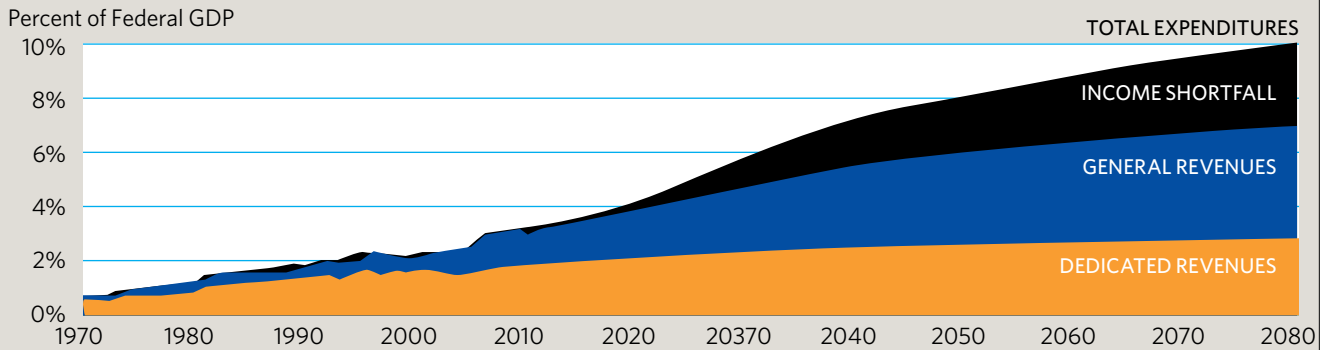
## Medicare and Social Security Expenditures as a Percent of Federal Revenues



**SOURCE:** American Academy of Actuaries calculations based on the 2006 Medicare and Social Security trustees' reports. Calculations assume that federal revenues are 19 percent of GDP, the historical average.

**FIGURE 2**

## Total Medicare Expenditures and Income as a Percent of GDP



**SOURCE:** 2006 Medicare trustees' report

## MEDICARE: WHERE WE ARE HEADING

### Trends in Medicare Costs

If Medicare continues under current law, without changes in management and funding protocols, projected Medicare costs will rise to a very high level of federal expenditures and GDP over the next few decades, as is illustrated in Table 2. In this projection, there is roughly a 1.7 percent higher expected trend rate assumed for Medicare costs than for GDP. The observed differences in the past have tended to equal or exceed this level.

Under this projection, by 2080, Medicare costs are expected to consume ever increasing shares of GDP and total federal expenditures. How will this affect national funding in other areas such as education, public infrastructure, or defense? Government projections do not answer this question, but if Medicare consumes about 9 percent more of the federal budget as projected in 2020 versus 2005, this will create a need for substantial reductions in the proportion of the federal budget for other services. Cutting provider reimbursements repeatedly would reduce Medicare expenditures but could also cause seniors to experience substantial

reductions in access to health care. Other solutions to reducing Medicare's costs should be considered to avoid these potential problems in the future.

As can be seen in Figure 1 above, if we do not fundamentally change our direction, Medicare and Social Security together will consume virtually every dollar of the federal budget in a little more than 75 years. Further, note in Figure 2 the rapid increase in the amount of funding coming from general Treasury revenue versus dedicated revenues (e.g., Part A payroll taxes and Part B premiums) and the revenue shortfall within Medicare; this portends a rapid acceleration of stress on the federal budget. These charts come from 2006 calculations, but the 2008 charts would look very similar.

The history of Medicare and total national health expenditures shows that they both grow faster than GDP. Certainly, these estimates can vary significantly owing to factors such as growth of medical technology, changes in legislated reimbursement levels, and growth for the economy, etc. But without fundamental restructuring of Medicare, the trends suggested above can be expected to unfold.

### Medicare Population Growth, Eligibility, and Design

When Medicare began paying benefits in 1966, the age of eligibility was 65 for seniors. Approximately 20 million people were immediately eligible for benefits. At that time, cost sharing by users was designed to represent a fairly significant part of costs. The program was estimated to have a controllable annual cost of under \$10 billion for a significant period. Furthermore, contributions from Part A payroll taxes and premiums for Part B were expected to create substantial extra funds to be held in trust funds for use in the future.

Today, we have a much different picture, with about 44 million beneficiaries receiving larger benefits and paying relatively less out of pocket. At the same time, the source of the fiscal support for the program has shifted. For example, 2007 contributions to the SMI trust fund from the general revenues of the U.S. were about \$178 billion. This total includes a little under \$140 billion corresponding to Part B and about \$39 billion corresponding to Part D (the new drug program).

What happened in the intervening 40 years to change the picture so dramatically? There was a sequence of events that has created today's much different reality. These events include:

1. The Medicare population grew faster than expected because of significant improvements in life expectancy, while the age of eligibility for Medicare benefits has not changed. Life expectancy increased in part owing to continuous development of new and more effective tools for prevention, diagnosis, treatment, and education. In 1965, when Medicare was passed, life expectancy was about 70 years. Today it is about 78, or eight years more.
2. Medicare benefits were expanded to provide protection for new groups, and benefits were added. For example, the disabled under normal retirement age became eligible in 1973, and prescription drug benefits (Part D) were added in 2006.
3. Medical costs, driven by general price inflation and new technology, grew at a rate faster than the rate of growth of wages and of the GDP. In the past several years, we have witnessed the appearance of innovations such as virtual colonoscopies, new and improving regimens of chemotherapy drugs, and medical devices that enable paralyzed muscles to move for a period of time.
4. The initial level of cost sharing by consumers in Medicare, as a percentage of total Medicare expenditures, has not been maintained. Rather, it has been allowed to shrink dramatically over the years so that government now pays a much higher percentage of total costs.
5. The working population grew at a much slower rate than the number of beneficiaries. At inception, there were over five workers for each Medicare eligible; today there are around 3.5, and the ratio is expected to drop to 2.4 by 2030.



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6. The entire health care system changed and with it, Medicare utilization rates and costs as affected by behaviors of individuals and employers within the entire health care system. This entire system includes Medicare, Medicaid, other government programs, the uninsured, and the private market. Medicare changes have frequently influenced the U.S. health care system, whether positively or otherwise. Examples include changes in billing practices, types of coverage, care practices, etc. Likewise, changes outside of Medicare, such as the way health care is organized, financed, and delivered; litigation; and economic conditions, can influence Medicare and the entire health care system.

The total impact of all of these factors has been a rapid growth of Medicare costs with less growth in the payroll tax and cost-sharing contributions under the program. Medicare's annual cost grew from \$3 billion in 1967 to over \$100 billion by 1990; with inflation at 5 percent to 6 percent per year, the \$3 billion in 1967 would be a little above \$10 billion in 1990 for normal growth in the GDP. Contributions to the system have also increased because of the increased amount of earnings subject to the payroll tax due to inflation and real economic growth and the growth of premiums paid by beneficiaries but have significantly decreased as a percentage of cost. The difference in cost growth and revenue growth has placed the program in the difficult position we are in today.

The growth in costs, to a significant degree, reflects Medicare design and management. In particular, the program emphasizes the high value we attach to top-quality health care and choice, and this, in turn, drives substantial demand for Medicare products and services. It has accommodated the heavy use of resources by continually shifting consequences to future generations, so that, in general, those receiving benefits closer to the beginning of the program reap the greatest rewards, and the farther you are from the beginning, the poorer your return. In general, the following can be stated about the program:

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- › The design and management of Medicare often fall outside of traditional risk management practices such as balancing of premiums and costs or substantial managing of care.
- › The design and management of Medicare often encompass nontraditional accounting practices such as lack of a functional cost assessment or analysis.
- › Attempted control of Medicare expenditures typically focuses on limiting prices paid to providers, thereby putting pressure on providers to accelerate utilization of medical services and charges to private payers.

Serious consideration should be given to these design and management issues when reforms are considered.

## Keeping Score

What gets measured gets managed. Medicare decision-making is affected by how the books are kept. Toward this end, accounting for Medicare should be able to measure whether the proper balance of coverage, quality, and intergenerational equity is being reasonably attained. The way in which health care providers are compensated influences how health care is provided. Incentives make a difference in the care provided, and funding decisions can influence equity among and within generations of taxpayers.

So what can the public do? Funding the basic needs of food, clothing, and shelter combined with health care for the senior population is a staggering task. With respect to the Medicare program, it is critical to get the facts straight, debate alternatives, and keep score appropriately. The method of scoring should appropriately focus on future promises, not just on what is spent or will be spent in the next few months. A plan to keep score is needed quickly so that future generations are not left in an impossible position.

As actuaries, we often focus on what is called the present value of future benefits and contrast that with the present value of future revenues. The Medicare trustees reports indicate that the deficit today, i.e., the present value of future benefits less future revenues, is slightly more than \$36 trillion over 75 years. This \$36 trillion number reflects roughly \$19.5 trillion of anticipated revenue and almost \$56 trillion of anticipated expenditures, and the gap between revenue and deficit is rapidly increasing; it is almost three times the size of our current economy today. One can make various assumptions in this regard, but the critical point is that without changing the system substantially, whatever assumptions one uses produce significant deficits. We need to make sure that we keep score looking ahead (not backward) if we are to do right by our children and grandchildren.

Congress did take the step of including an early warning system for Medicare in the Medicare Modernization Act of 2003. Basically, if general funding sources are projected to account for more than 45 percent of Medicare spending within the next seven years, the administration is required to recommend ways to reduce this percentage. (More specifically, a determination of "excess general funding" is triggered if for two consecutive trustees' reports the difference between Medicare outlays and dedicated financing sources [HI payroll taxes, HI share of income taxes on Social Se-

curity benefits, Part D state transfers, and beneficiary premiums] exceeds 45 percent of Medicare outlays within seven years of the projection.) Options could include reducing spending (e.g., benefit cuts, delayed eligibility, reduced provider payments), increasing revenues (e.g., raising payroll taxes, raising beneficiary premiums), or some combination of these actions. Congress could then implement the recommendations but would not be required to do so.

The 2008 Medicare trustees' report projects that the 45 percent threshold will first be reached in 2014, within the seven years specified by the law. Because this is the third consecutive such finding, a Medicare funding warning has again been triggered. The second such warning last year required that the president submit legislation to Congress, and this was done. But because Congress has yet to act, the 2008 report again issued a warning.

But this type of warning system is not sufficient as a scoring system. While there is already a wealth of information available from sources such as the Centers for Medicare and Medicaid Services and the Medicare Payment Advisory Commission, further analysis would help us move toward a system that does at least the following:

- › Expand the current Medicare analysis by the trustees to address the projected impact of Medicare on the federal budget, not just the trust funds.
- › Establish markers relative to 75-year or other long-term projection periods such that if pessimistic and optimistic projections fall outside of certain boundaries, changes must be made to the

program to bring such projections within the markers. Testing would be required to create appropriate boundaries, and this should include displaying the impact of changes in the program on quality methods of providing health care and access to care. These tests should once again consider the potential for variation. Focusing only on financing issues without consideration of impacts on quality and access may produce results that would be inconsistent with the public's expectations.

## MEDICARE: WHAT WE MUST ADDRESS

Medicare over the past 40 years has contributed to raising the quality of life for the elderly. Without changes to the program, however, Medicare will require resources that are likely to severely pressure the health care system and potentially other sectors, such as education, public infrastructure, or defense.

Important decisions will have to be made, and the sooner the better. Without timely action, strain on the federal budget is likely to grow substantially in the coming years, threatening funding of many programs outside of Medicare. Alternatively, or in combination with squeezing funding of other national programs, Congress may continue to increase payments to providers under Medicare by less than inflation would warrant, as is being discussed currently and has been done in the past to some extent. But this latter approach will very likely lead to diminished access to care for seniors over time. Hence, we believe there is an urgent need for serious national debate.

There are many lessons that can be learned from the private sector, and we need to determine which ones might be of help. For instance, in seeking a sustainable long-term funding model for Medicare, how should we:

- › Keep all stakeholders informed of the situation as it develops, considering the significant impact of Medicare on seniors, the federal budget, future generations, and other stakeholders?
- › Balance demand for health care delivery with the supply of health care to maintain acceptable access and quality in the future?
- › Balance the role of government with that of the private sector?
- › Provide appropriate incentives for providers and consumers?
- › Balance Medicare issues with issues for the entire health care system? They are clearly dependent, and interactions should be considered when reforming Medicare and/or the entire system. ●

**CONCERNED ACTUARIES** is an independent work group consisting of the following: Dwight Bartlett, Barton Clennon, Curtis Huntington, Fred Kilbourne, Mark Litow, Anna Rappaport, and Robert Shapiro. James Hickman, who was a member of the group until his death in 2006, also contributed to this article. Assumptions and calculations in the paper are by Mark Litow and Richard Hauboldt. For more information about the group, go to [www.concernedactuaries.com](http://www.concernedactuaries.com).

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