GROWTH IN MEDICARE AND OUT-OF-POCKET SPENDING: IMPACT ON VULNERABLE BENEFICIARIES

Stephanie Maxwell, Marilyn Moon, and Misha Segal
The Urban Institute

January 2001

The authors gratefully acknowledge Matthew Storeygard, who helped develop the Medicare Projections Model and produce the tables and figures contained herein.

Support for this research was provided by The Commonwealth Fund. The views expressed here are those of the authors and should not be attributed to The Commonwealth Fund or its directors, officers, or staff, or to the Urban Institute or its trustees or staff.

Copies of this report are available from The Commonwealth Fund by calling our toll-free publications line at **1-888-777-2744** and ordering publication number **430.** The report can also be found on the Fund's website at **www.cmwf.org.**

CONTENTS

LIST OF TABLES AND FIGURES

EXECUTIVE SUMMARY

Medicare, the nation's largest public health insurance program, faces formidable challenges in the years ahead. To ensure its stability, the program will have to come to grips with the combined impact of escalating health care spending, insufficient revenues, and a burgeoning elderly population. Proposals for changes in the program itself and its financing have been put on the table. As policymakers debate the merits of these various options, they must consider the effect on Medicare beneficiaries and protect vulnerable elderly and disabled people from overwhelming out-of-pocket costs.

CHALLENGES TO THE FUTURE OF MEDICARE

To its credit, Medicare's per capita expenditure is not increasing as rapidly as that of the private health care sector. Still, the program's spending is outpacing its growth in revenue. Medicare derives much of its revenue from the payroll tax, which has stayed at the same rate of 2.9 percent since 1986 and is not scheduled to increase in the future. Moreover, because the tax base of wages remains a relatively constant share of gross domestic product (GDP), Medicare's main revenue source also will remain nearly a constant share of GDP. However, Medicare spending will steadily climb from roughly 2.5 percent of GDP in 2000 to more than 4 percent in the next 25 years. In 2025, the Medicare Part A (Hospital Insurance) Trust Fund is expected to become insolvent, according to the latest estimates from the 2000 Trustees Reports.

At the same time, the nation's dramatic demographic changes will have a resounding impact on Medicare, as the baby-boom generation becomes eligible for the program. Assuming no change in the eligibility rules, the number of beneficiaries will increase 77 percent over the next 25 years, from about 40 million to an estimated 70 million (Table ES-1). By 2010, we will see the number of beneficiaries begin rising faster than the number of workers contributing to the program.

Clearly, the need to ensure the stability of Medicare calls for major changes in the program or in its financing or both. The cost-containment provisions in the Balanced Budget Act (BBA) of 1997 have helped stabilize Medicare in the near term. Right now, policymakers are debating incremental strategies as well as broad structural reforms to maintain the fiscal integrity of Medicare and also improve its benefits package. To many, expanding the program's benefits is in direct conflict with the goal of strengthening its fiscal foundation, but little has been done to actually measure the projected impact of the different proposals. Moreover, while a great deal of attention has focused on how much all this will cost taxpayers, a crucial question has been largely ignored. How will potential

Table ES-1
Selected Medicare Projections, 2000 and 2025
(in 2000 dollars)

	2000	2025
Number of Beneficiaries		
In thousands	39,484	69,728
As a share of the U.S. population	13.8%	20.6%
Number of beneficiaries per 100 workers	29	44
Medicare Expenditures		
In billions	$239.5	$599.1
Per capita	$6,213	$8,987
As a share of GDP	2.61%	4.43%
Taxpayer portion of Medicare as a share of GDP	2.35%	3.89%
Per Capita Medicare Beneficiary Liability		
Part B premium	$631	$1,151
Cost-sharing	$1,005	$1,509
Total	$1,636	$2,660
As a share of total Medicare expenditures	22.7%	25.3%
Out-of-Pocket Spending		
Elderly beneficiaries	$3,142	$5,248
Elderly with poor health and no additional insurance	$4,478	$7,263
Low-income single women over age 85 in poor health	$5,969	$9,378
Out-of-Pocket Spending as a Share of Income		
Elderly beneficiaries	21.7%	29.9%
Elderly with poor health and no additional insurance	44.0%	63.3%
Low-income single women over age 85 in poor health	51.6%	71.8%

Notes: GDP is gross domestic product. Taxpayer portion of Medicare is total spending minus beneficiary liability.

Source: The 1999 Trustees Reports and The Urban Institute's 1999 Medicare Projections Model.

changes affect Medicare beneficiaries? In order to assess the various options from the beneficiary's perspective, it is important to establish a baseline—that is, to examine what beneficiaries will likely pay in the future if there are no changes in policy. The purpose of this paper is to describe such a baseline.

IMPACT ON VULNERABLE BENEFICIARIES

This paper is part of a series, sponsored by The Commonwealth Fund, addressing the out-of-pocket burdens facing beneficiaries in the future. Our projections are based primarily on the 1999 Trustees Reports. The 2000 Trustees Reports project more robust growth in the general economy, but similar Medicare spending trends. Although the newer data would lower the beneficiary projections slightly, the trends in the 1999 and 2000 reports remain the same.

To help understand the impact of the program's projected expenditures on beneficiaries, we use the Medicare Current Beneficiary Survey (MCBS) to construct cohorts of vulnerable beneficiaries. Working with the Trustees Reports data, we project total Medicare expenditures, beneficiary liability, other health care spending, and out-of-pocket spending as a share of income. The cohorts are constructed to highlight groups of vulnerable beneficiaries and to present contrasts in their health status, supplemental insurance coverage, income, and out-of-pocket spending. By analyzing the baseline projections of beneficiary liability and out-of-pocket spending among these groups, we lay the foundation for later assessing the effects of various Medicare policy options on beneficiaries.

Beneficiary Liability

Beneficiary liability refers to the portion of Medicare spending that beneficiaries are responsible for paying—a Part B premium, deductibles, and coinsurance. (In some cases, these costs are covered by another payer.) Between 2000 and 2025, the beneficiary's portion of total per capita Medicare expenditures is projected to go up almost 3 percentage points, from 22.7 percent to 25.3 percent. That increase will occur largely because the BBA shifted expenditures for specified home health services from Part A to Part B of the program. Consequently, the Part B premium will take on a greater share of Medicare expenditures, rising relatively faster than Part A spending. Thus, even without additional changes in policy, beneficiaries will bear a higher share of spending in the future.

In real terms (using 2000 dollars), a striking increase of more than 80 percent is projected for the annual Part B premium, which will shoot up from $631 in 2000 to $1,151 in 2025. Over that time, average per capita beneficiary liability will rise from $1,636 to an estimated $2,660. However, the liability of two cohorts will be even higher—low-income women over age 85 in poor health and women who are Qualified Medicare Beneficiaries (QMBs). The liability of the low-income women over age 85 is about $1,000 higher than the per capita figures, increasing from $2,588 in 2000 to an estimated $3,782 in 2025. The projected liability for women with QMB protection is about $400 higher than the per capita figures.

Out-of-Pocket Spending

Typically there is a difference between one's insurance liability and the amount a beneficiary actually pays out-of-pocket for medical services. On one hand, low-income Medicare beneficiaries who are also covered by Medicaid and higher-income beneficiaries with supplemental insurance supported by former employers are insulated from some of

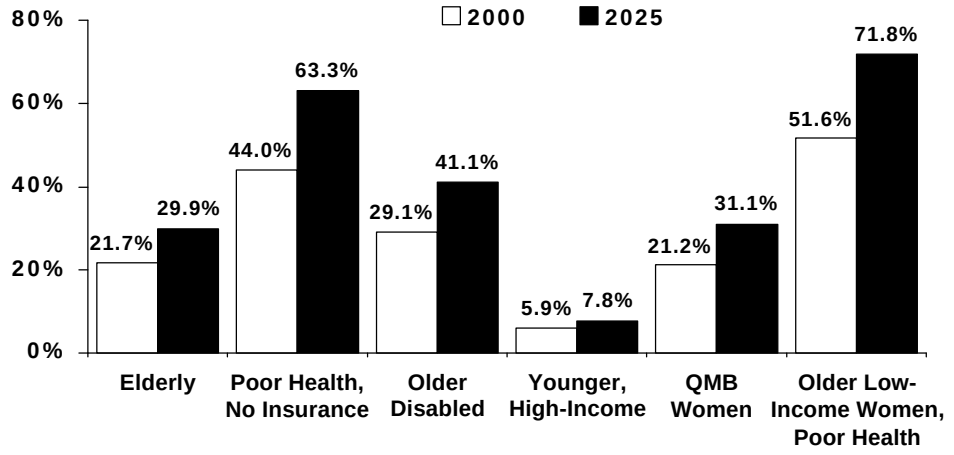
their liability. On the other hand, Medicare does not cover all services, leaving many beneficiaries to pay out-of-pocket or to buy private insurance to cover those services. Among typical elderly beneficiaries, about 30 percent of out-of-pocket spending is attributable to noncovered services, and 28 percent reflects premiums paid for supplemental insurance coverage.

Out-of-pocket spending among elderly beneficiaries in traditional Medicare (fee-for-service) will rise from $3,142 in 2000 to an estimated $5,248 in 2025. Two cohorts who already incur relatively high Medicare liability will also pay even higher out-of-pocket costs. Over the next 25 years, real out-of-pocket spending among older low-income women in poor health will increase from an estimated $5,969 to $9,378. The out-of-pocket estimates are nearly as high for the cohort of elderly beneficiaries in poor health with no additional insurance, going from $4,478 in 2000 to $7,263 in 2025.

The income of beneficiaries has lagged behind the growth in health care spending in the past and will continue that pattern over the next 25 years. Yet, they will see their out-of-pocket spending increase from 21.7 percent of their income in 2000 to a projected 29.9 percent in 2025 (Figure ES-1). The cohorts of older low-income women in poor health and elderly beneficiaries in poor health without additional insurance will bear the double burden of paying particularly high out-of-pocket costs as well as a greater share of their income on health care. For the first cohort, that share will rise from 51.6 percent to a projected 71.8 percent by 2025. Elderly beneficiaries in poor health without additional insurance will see a rise in their share from about 44.0 percent in 2000 to an estimated 63.3 percent in 2025. Both of these cohorts' spending is well into the top quintile of out-of-pocket spending among all beneficiaries.

Figure ES-1

Projected Out-of-Pocket Spending as a Share of Income Among Cohorts, 2000 and 2025



Source: The Urban Institute's 1999 Medicare Projections Model.

Although these estimates are developed conservatively, they indicate that Medicare beneficiaries will be paying an increasingly substantial amount of their resources for health care spending in the future, even with no changes in policy. The findings also suggest that shifting Medicare expenditures either from Part A to B or from taxpayers to beneficiaries will not get to the heart of the problem generated by the increase in overall health care spending. Only by recognizing the triple challenges confronting Medicare—escalating health care costs, insufficient revenues, and changing demographics nearly doubling the number of beneficiaries—can we succeed in guaranteeing the future of our nation's most extensive public health insurance program.

GROWTH IN MEDICARE AND OUT-OF-POCKET SPENDING: IMPACT ON VULNERABLE BENEFICIARIES

As the nation's largest and most popular public health insurance program, Medicare is the major source of health care coverage for the elderly and disabled, serving an ever-growing portion of the population. At the program's inception in 1966, Medicare insured fewer than one of 10 Americans. Today, it covers one of eight. Consequently, the program is costly, but remarkably, the growth in Medicare's per capita expenditure over the past 30 years has been less than that of private sector health care.[1]

Despite this relatively low per capita growth, the Medicare program or its financing will require major changes in the future. By 2025, one of five Americans will be insured by Medicare. According to the latest Medicare Trustees Reports, Medicare's Part A (Hospital Insurance) Trust Fund will maintain a positive balance through 2025. After that, either additional revenues or reduced spending will be necessary to keep the trust fund solvent.[2] Although Medicare Part B, or the Supplementary Medicare Insurance program, is not financed with a dedicated tax, it is placing increasing demands on general revenues, because its spending is growing faster than that of Part A.[3]

In 1998 and 1999 substantial reductions in Medicare's rate of growth occurred—mainly because of the Balanced Budget Act (BBA) of 1997[4] and stepped-up efforts to reduce fraud and abuse in the program.[5] However, those changes, along with the resulting slowdown in spending, will phase out over the next several years. Assuming no additional changes in policy, the latest Trustees Reports estimate that Medicare expenditures as a share of gross domestic product (GDP) will rise from 2.3 percent in 2000 to almost 4 percent by 2025.

In fact, almost since its inception, Medicare spending growth has outpaced its revenue growth. This trend will be even more evident in the future, as the baby-boom

---

[1] For example, see Marilyn Moon, *Beneath the Averages: An Analysis of Medicare and Private Health Expenditures,* The Kaiser Family Foundation, September 1999.

[2] Board of Trustees of the Federal Hospital Insurance Trust Fund, *2000 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund* (Washington: USGPO, 2000).

[3] Medicare Part B funds physician, hospital outpatient and other ambulatory services. It is a voluntary part of the program, but because the premiums that beneficiaries are required to pay support only 25 percent of the costs, most beneficiaries enroll. General revenues fund the balance of Part B.

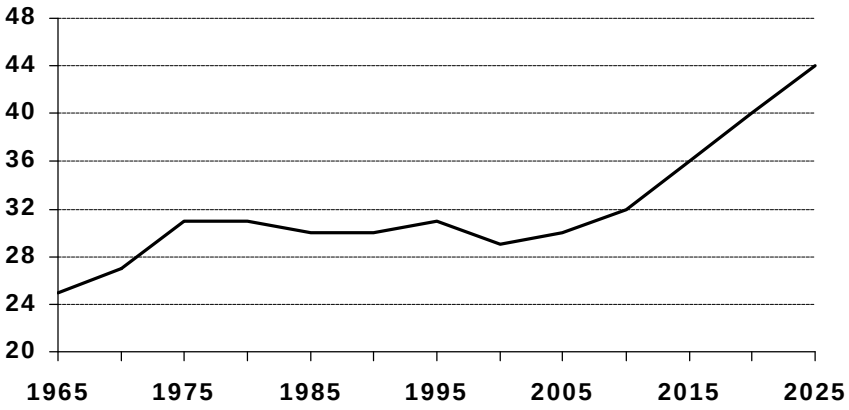
[4] Publ. No. 105-33.

[5] "Operation Restore Trust" was a concentrated, four-year initiative (1995–1999) to combat fraud and abuse in the Medicare and Medicaid programs. The effort involved the Office of the Inspector General, the Health Care Financing Administration, and the Administration on Aging in the Department of Health and Human Services.

generation born after World War II becomes eligible for Medicare. Because of these demographics, in 2010 the number of beneficiaries will begin rising faster than the number of workers contributing to the system (Figure 1). If we were to try to solve Medicare's financing problem solely by controlling expenditures, spending per capita would have to increase more slowly than wages—a feat not likely to be achieved in health care for the foreseeable future. Indeed, many private sector employers in recent years have contributed ever-larger shares of compensation to pay for health insurance, while Medicare's tax base has increased only modestly.[6] In particular, although the income base subject to the Part A payroll tax has been increased several times, the 2.9 percent tax rate has remained the same since 1986.

Figure 1

Historical and Projected Number of Beneficiaries per 100 Workers, 1965–2025



Source: The 2000 Trustees Reports.

Overall, the challenges facing Medicare stem from a combination of projected health care spending rising faster than income, a growing elderly population, and inadequate revenue contributions to the program. Currently, various options are being proposed to both maintain the fiscal integrity of Medicare and improve its benefits package. Many consider these to be conflicting objectives, although little work has been done to estimate the projected impact of the proposals. Moreover, while a great deal of attention has focused on how much these various options would potentially cost the government, much less attention has focused on their impact on beneficiaries. In order to

[6] C.A. Cowan and B.R. Braden. "Business, Households, and Government: Health Care Spending, 1995," *Health Care Financing Review* 18 (Spring 1997): 195–206.

evaluate these policy options, we must first examine what beneficiaries will likely pay in the future with no changes in policy—that is, to look at the so-called baseline numbers.

This paper, part of a series sponsored by The Commonwealth Fund analyzing the future beneficiary burdens of Medicare, describes the baseline projections through 2025 of per capita out-of-pocket expenditures for several cohorts of Medicare beneficiaries.[7] Subsequent work will analyze the beneficiary impact of several proposals policymakers have put forward to improve the outlook of the program. The projections in this paper are based primarily on the 1999 Trustees Reports. The 2000 Trustees Reports project more robust economic growth, yet similar Medicare expenditure trends. The newer data would lower the beneficiary-level projections slightly, but trends in the 1999 and 2000 reports are the same.

METHODOLOGY

To illustrate the impact of the out-of-pocket burdens of beneficiaries, we construct cohorts of beneficiaries and project total Medicare expenditures, beneficiary liability, other health care spending, and beneficiary annual incomes.

Health Care Expenditures

Our model is developed mainly from information in the *1999 Annual Reports of the Boards of Trustees of the Federal Hospital and Supplementary Medicare Insurance Trust Funds* (Trustees Reports) and the 1995 Medicare Current Beneficiary Survey (MCBS). We apply the same key economic assumptions used in the Trustees Reports, which allow us to generate and project a consistent set of estimates for Medicare spending, GDP, income, and inflation. Projecting these beneficiary expenditures to 2025, we take into account the demographic effects of the baby-boom generation as it becomes eligible for Medicare. (See Appendix for details about the Medicare Projection Model's methodology.)

We discuss two distinct but related aspects of beneficiary burden—liability and out-of-pocket spending. Beneficiary liability refers to the portion of Medicare spending that is the responsibility of the beneficiary—that is, the Part B premium and cost-sharing requirements. By law, the premium is set at 25 percent of Part B spending on elderly beneficiaries. To project cost-sharing, we assume that over time beneficiaries in traditional

[7] For the first paper in this series, see Marilyn Moon, *Growth in Medicare Spending: What Will Beneficiaries Pay?* The Commonwealth Fund, May 1999.

Medicare will be liable for a constant portion of the components to which cost-sharing applies (such as inpatient hospital and physician spending).[8]

Substantial assumptions and manipulation of the Trustees Reports and MCBS data are required to project beneficiaries' actual out-of-pocket burdens of health care spending. We take into consideration that some beneficiaries are partially protected. Retirees may have the cost-sharing portion paid by former employers through supplemental insurance plans, while Medicaid will pick up part of the Medicare liability for participating low-income elderly (such as those in the Qualified Medicare Beneficiary program). However, because Medicare's benefit package is not comprehensive, beneficiaries incur substantial out-of-pocket expenses for noncovered services. They pay for these services directly or indirectly through premiums for individually purchased supplemental insurance, commonly called Medigap policies.

In our model, we assume that spending on premiums and most noncovered services will rise at the same rate as that of per capita Medicare spending, but we project a higher growth rate for spending on prescription drugs. Per capita prescription drug spending outpaced other medical spending in the 1990s, averaging over 11 percent growth per year.[9] Keeping our model consistent with projections that this double-digit growth will continue through the decade, we assume that per capita drug spending will climb 10 percent annually through 2008, and thereafter increase at the same rate as Medicare spending.

Beneficiary Cohorts

To understand the relative burden of out-of-pocket spending, we construct several cohorts of beneficiaries and project their out-of-pocket spending as a share of income. Some of the cohorts are designed to represent typical beneficiaries, and others are constructed to exemplify particularly vulnerable populations. A cohort of relatively healthy, high-income beneficiaries also is created. Taken together, these cohorts provide us with the contrasts in health status, supplemental insurance coverage, income, and level of out-of-pocket spending. By analyzing these groups, we lay the foundation for later determining the effect of various Medicare policy options on particular types of beneficiaries.

---

[8] Estimates of beneficiary liabilities for those in Medicare+Choice require additional analysis. See discussion in J. Kasten, M. Moon, and M. Segal, *What Do Medicare HMO Enrollees Spend Out-of-Pocket?* The Commonwealth Fund, August 2000.

[9] Sheila Smith et. al., "The Next Decade of Health Spending: A New Outlook," *Health Affairs* 18 (July/August 1999): 86–95.

Certain beneficiaries—those enrolled in managed care plans, residing in nursing homes, or diagnosed with end-stage renal disease—are excluded from *all* the cohorts below, because of insufficient data or because they differ substantially from most beneficiaries. Except for a cohort of Qualified Medicare Beneficiaries (QMBs), those dually eligible for any level of Medicaid coverage are also excluded. All "per capita" figures in the paper, however, refer to the universe of the Medicare beneficiary population. Six cohorts are analyzed here (Table A-1 in the Appendix). They are:

- Elderly—"Typical" beneficiaries age 65 or older.

- Elderly in poor health with no additional insurance—Beneficiaries age 65 or older with physical or cognitive health problems. Beneficiaries in this cohort also have no additional insurance, either through employers or individually.

- Older, low-income women in poor health—Women age 85 or older with limited annual household income ($5,000 through $20,000) and with physical or cognitive health problems. Women in this cohort also are single.

- Women with QMB protection—The QMB designation refers to certain low-income Medicare beneficiaries for whom Medicaid pays their premium and cost-sharing expenses. This cohort consists of women who receive that coverage.

- Older disabled beneficiaries—Beneficiaries between the ages of 45 and 64 with physical limitations, who qualify for Medicare as disabled beneficiaries.

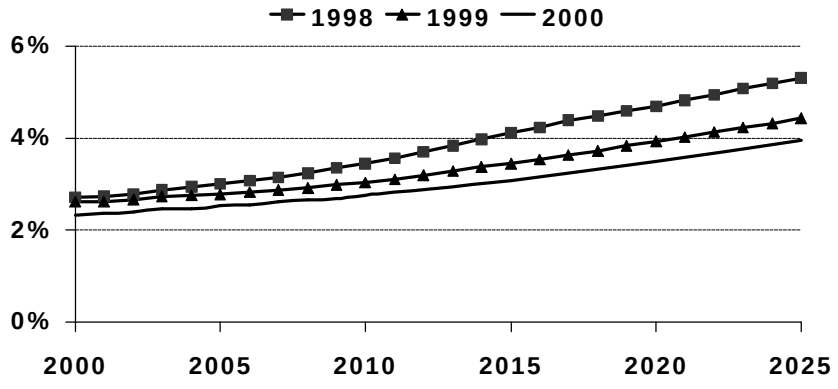
- Younger, high-income beneficiaries—Beneficiaries between the ages of 65 and 74 with high annual household incomes ($50,000 or more). Beneficiaries in this cohort also are married and have employer-based supplemental insurance coverage.

MEDICARE EXPENDITURES

Over the next 25 years, a sizable share of the nation's earnings will flow into the Medicare program. The 2000 Trustees Reports suggest that Medicare spending will rise from 2.3 percent of GDP in 2000 to 4.0 percent in 2025 (Figure 2). Although this suggests an expanding Medicare program, projections developed particularly in 1998, and also in 1999, predict slower growth in the general economy and more rapid growth in Medicare spending. Based on the 2000 projections, which predict a more robust general economy,

Medicare's share of GDP in 2025 is expected to be almost 1.5 percent lower than what was projected in the 1998 Trustees Reports. The 1999 report (the basis for this analysis) projects that Medicare as a share of GDP will rise from 2.6 percent in 2000 to 4.4 percent in 2025. Although the figures may vary slightly for each year's projection, still the trend of Medicare growth continues.

Figure 2
Medicare Expenditures as a Share of Gross Domestic Product, 1998–2000 Trustees Projections



Source: The 1998–2000 Trustees Reports.

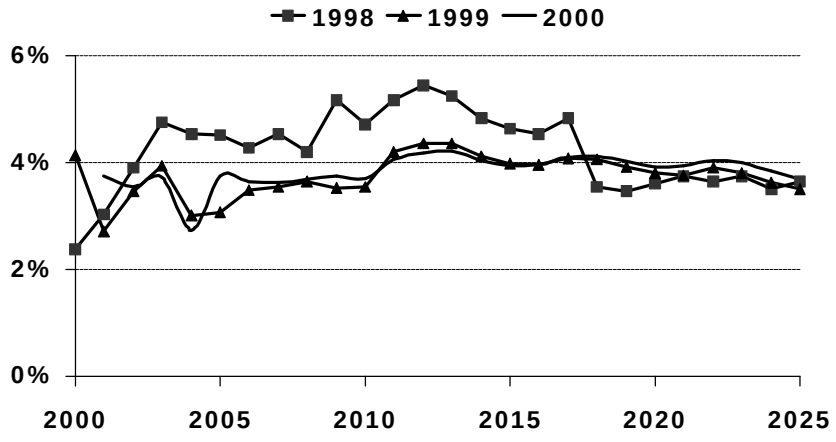
Aggregate Projections

The BBA substantially curbed the recent growth in Medicare expenditures, and by even more than originally predicted. This, combined with the effectiveness of fraud and abuse initiatives, lowered Medicare expenditure projections generally in the 1999 and 2000 Trustees Reports compared with the 1998 report (Figure 3). Although the spending reductions achieved by the BBA mainly apply to 1999 through 2002, the effects of these changes carry through to later years. In particular, the later projections are lower than the 1998 ones for 2001 through 2018.

In any event, growth in Medicare revenues (especially Part A income) will continue to lag behind projected spending growth. The most readily identifiable Medicare revenue source is the payroll tax. The tax rate, which has been 2.9 percent of payroll (a combined rate that comes equally from employers and employees) since 1986, is not scheduled to increase in the future. The tax base of all wages remains a relatively constant share of GDP over time—about 49 percent. Thus, although Medicare spending is

projected to grow as a share of GDP, the tax base and other revenue sources will not. Consequently after 25 years, this funding source will not be sufficient to cover projected Medicare spending. The fact that the 2000 Trustees Reports predict the Part A Trust Fund will be exhausted in 2025 sounds a strong warning about the disparity between income and outgo for the program.

Figure 3
Aggregate Growth in Medicare Expenditures, 1998–2000 Trustees Projections



Source: The Urban Institute's analysis of the 1998–2000 Trustees Reports.

In addition, the dramatic demographic changes will have a profound effect on Medicare, as the baby-boom generation becomes eligible for the program. Assuming that eligibility rules do not change, the number of beneficiaries will increase 77 percent over the next 25 years, from almost 40 million to an estimated 70 million (Table 1).

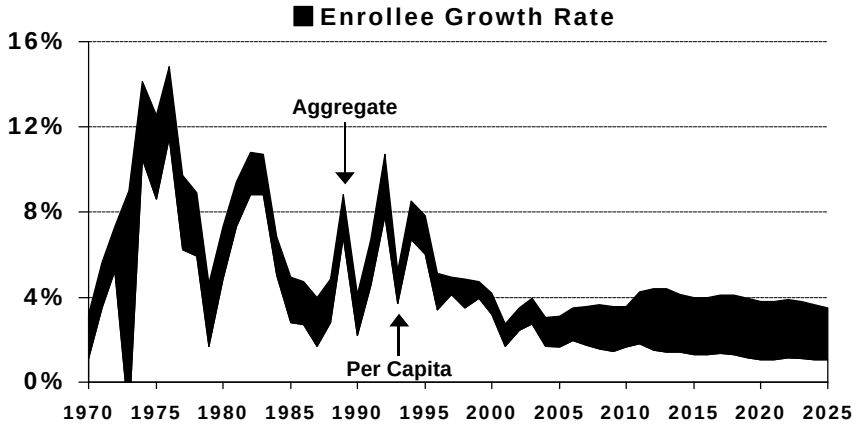
Table 1
Projected Aggregate and Per Capita Medicare Expenditures
(in 2000 dollars)

Year	Total Medicare Spending (as a share of GDP)	Total Medicare Spending (in billions of dollars)	Number of Beneficiaries (in thousands)	Number of Beneficiaries (as a share of the population)	Total Medicare Spending (in per capita dollars)
2000	2.61%	$239.59	39,484	13.8%	$6,213
2005	2.79	280.95	42,140	14.2	6,870
2010	3.04	334.45	46,514	15.1	7,459
2015	3.45	410.90	53,529	16.8	8,023
2020	3.92	499.16	61,398	18.7	8,525
2025	4.43	599.12	69,728	20.6	8,987

Source: The Urban Institute's analysis of the 1999 Trustees Reports.

Figure 4 illustrates the historical and projected rates of growth in Medicare spending, in aggregate and per capita terms. The projections indicate a slowdown in the growth of real per capita spending, eventually approaching the rate of growth of spending on GDP. (While some may criticize that projection as too optimistic, allowing Medicare spending to grow at a rate substantially above GDP for a long period of time would result in untenable figures.) The effect of the expanding number of beneficiaries over time is also shown in Figure 4. The shaded area between the per capita and aggregate growth lines very clearly captures the bulging demographic impact.

Figure 4
Aggregate and Per Capita Growth in Medicare Expenditures, 1970–2025



Source: The Urban Institute's analysis of National Health Expenditure data and the 1999 Trustees Reports.

Beneficiary Expenditures and Characteristics

Based on these projections, real per capita spending (expressed in 2000 dollars) on Medicare is projected to shoot up 44 percent between 2000 and 2025, from $6,213 to an estimated $8,987.[10] Some beneficiaries will face substantially higher levels of expenditures (Table 2). Current Medicare spending across our six cohorts ranges from a low of $3,734 per year (among younger, high-income beneficiaries) to a high of $13,585 (among older,

[10] Projected expenditures in this paper are consistently shown in real terms. That is, they have been adjusted to account for the general rate of inflation in all consumer prices so that they can be compared with 2000 levels of spending and income. For example, without this adjustment per capita Medicare spending totals $19,712 in 2025.

low-income women in poor health). By 2025, spending is projected to reach $5,700 and $18,338 for these two cohorts, respectively.

Table 2
Selected Characteristics and Medicare Expenditures of Beneficiary Cohorts

Cohort	Total Medicare Spending	Projected Medicare Spending, 2025	Percent Medicare Spending on Home Health	Median Individual Income	Percent with Employer-Sponsored Insurance	Percent Female
Elderly Beneficiaries	$5,451	$7,863	10%	$14,494	42%	56%
Elderly Beneficiaries in Poor Health[a]	9,740	13,251	19	10,029	n/a[b]	47
Older Low-Income Women in Poor Health	13,585	18,338	23	11,570	30	n/a[c]
Younger, High-Income Beneficiaries	3,734	5,700	2	45,756	n/a[d]	47
Women with QMB Protection	7,914	11,213	16	7,871	n/a	n/a[e]
Older Disabled Beneficiaries	6,306	8,217	14	13,285	18	40

[a] Poor health indicates presence of cognitive impairment (Alzheimer's disease or mental or psychiatric conditions) or physical impairment. Physical impairment is identified by the presence of selected conditions (stroke, diabetes, rheumatoid arthritis, emphysema, osteoporosis, or Parkinson's disease) and combinations of skilled nursing facility use, self-rating of poor health, and limitations in activities of daily living (ADLs) or instrumental ADLs.

[b] By design, our cohort of elderly beneficiaries in poor health includes only those that lack additional insurance coverage. Absent that insurance restriction, 32 percent of this group would have employer-sponsored supplemental coverage.

[c] The cohort of older, low-income single beneficiaries in poor health includes only women. Absent that sex restriction, 82 percent of this group would be female.

[d] The cohort of younger, high-income beneficiaries includes only those with employer-sponsored supplemental insurance coverage. Absent that insurance restriction, 52 percent of this group would have employer-sponsored supplemental coverage.

[e] The cohort of Qualified Medicare Beneficiaries includes only women. Absent that sex restriction, 73 percent of this group would be female.

Notes: Data are from the 1995 Medicare Current Beneficiary Survey. All dollars are in 2000 terms. QMB is Qualified Medicare Beneficiary. N/A is not applicable. Each of the cohorts excludes beneficiaries in Medicare managed care plans, residing in nursing homes, and those with end-stage renal disease.

Source: The Urban Institute's 1999 Medicare Projections Model.

Across all the cohorts, the shares of Medicare spending reflecting hospital stays, physician care, and hospital outpatient department (OPD) services are fairly similar.

However, there is a marked difference in the shares going to skilled nursing facility stays and home health care. As seen in Table 2, Medicare spending on home health services ranges from 2 percent among the cohort of younger, high-income beneficiaries to 23 percent among older, low-income women in poor health. That vast difference can reflect greater frailty as well as the lack of support systems for those in the latter cohort.

Indeed, our cohorts are designed to identify contrasts among beneficiaries and to highlight particularly vulnerable individuals in the Medicare population. Obviously, those with higher incomes and employer-sponsored supplemental insurance enjoy a significant level of protection against out-of-pocket burdens. The median annual incomes of the vulnerable cohorts are well below that of typical elderly beneficiaries.[11]

Examining the extent of insurance coverage, we see that on average, 42 percent of elderly beneficiaries have supplemental insurance through their former employers, and only 10 percent have no form of additional insurance. Studies have shown that employers with a high share of low-income workers are much less likely to offer supplemental coverage to their retirees.[12] In our cohort of older, low-income women, a smaller percentage (30%) have employer-sponsored coverage and a higher share (44%) have individually purchased (Medigap) policies. Despite increasing cost-sharing requirements among employer-sponsored plans, they typically provide more generous coverage at less cost than individually purchased policies. The cohort of older (ages 55–64) disabled beneficiaries is least likely to have any additional form of insurance—43 percent of that group relies solely on Medicare coverage.

BURDENS ON BENEFICIARIES

As stated, two aspects of financial burden are examined in this paper—beneficiary liability and actual out-of-pocket spending. Both yield related but distinct information about the health care circumstances beneficiaries face.

Beneficiary Liability

Beneficiary liability includes the monthly premium paid by beneficiaries enrolled in the Part B portion of the program and all cost-sharing requirements for services associated with both Parts A and B (that is, all deductibles and coinsurance). In real terms, the Part B premium is projected to increase more than 80 percent, from $631 in 2000 to $1,151 in

[11] Recall that our typical elderly cohort excludes beneficiaries enrolled in managed care plans, residing in nursing homes, diagnosed with end-stage renal disease, and dually eligible for any level of Medicaid coverage.

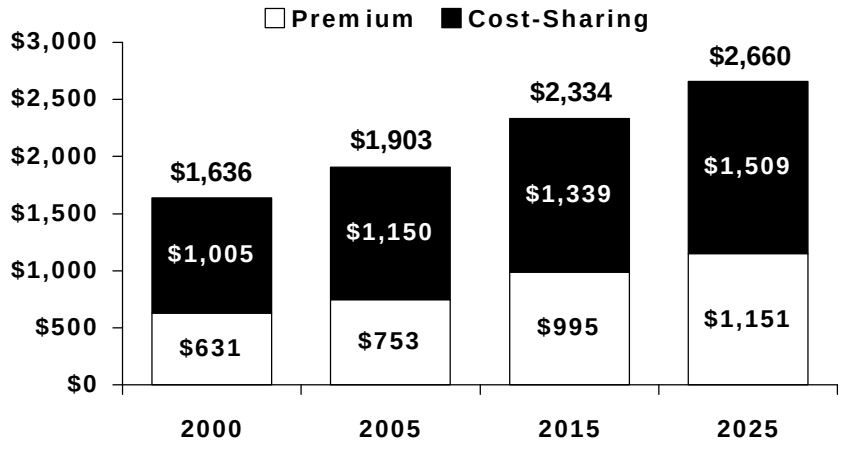
2025 (Table 3). Real per capita cost-sharing spending will grow an estimated 50 percent, from $1,005 in 2000 to $1,509 in 2025 (Figure 5).

Table 3
Projected Medicare Part B Premium and "Taxpayer Burden," 2000–2025

Year	Per Capita Part B Premium (in 2000 dollars)	Part B Premium (as a share of GDP)	Taxpayer Burden for Parts A and B (as a share of GDP)
2000	$631	0.26%	2.35%
2005	753	0.29	2.49
2010	863	0.34	2.70
2015	995	0.41	3.04
2020	1,092	0.48	3.44
2025	1,151	0.54	3.89

Source: The Urban Institute's 1999 Medicare Projections Model.

Figure 5
Projected Per Capita Beneficiary Liability
(in 2000 dollars)



Source: The Urban Institute's 1999 Medicare Projections Model.

The steeper increase of the premium compared with cost-sharing reflects projections of a more rapid growth in Medicare Part B spending. Part B expenditures will rise more quickly than Part A not only because of differential growth rates in service use, but also because the BBA called for a shift of expenditures for specified home health

[12] Larry Levitt et. al., *Employer Health Benefits: 1999 Annual Survey,* The Kaiser Family Foundation and Health Research and Educational Trust, October 1999.

services from Part A to Part B.[13] We see this same pattern in aggregate Medicare figures. For example, the Part B premium is projected to more than double as a share of GDP, from 0.26 percent in 2000 to 0.54 percent in 2025. The so-called taxpayer burden of Medicare (total program spending minus beneficiary liability) will rise only an estimated 65 percent during that period, from 2.35 percent of GDP to 3.89 percent.

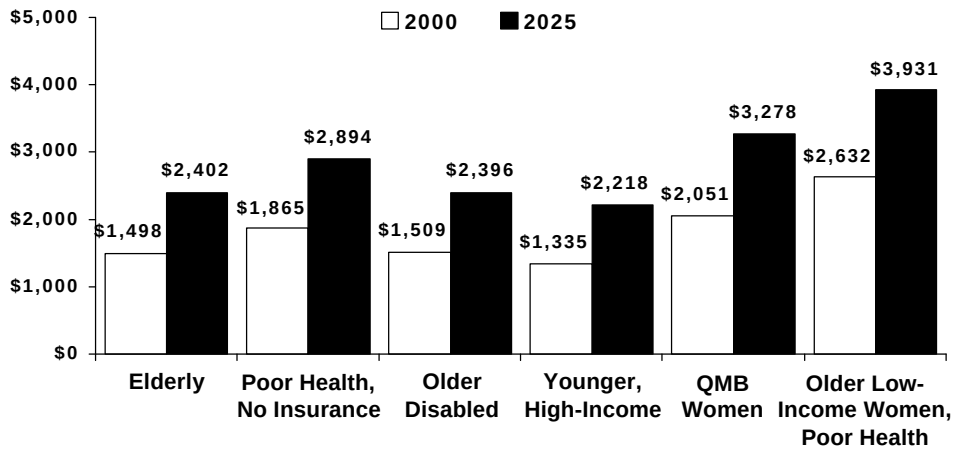
[13] Publ. No. 105-33 §4604.

Total per capita Medicare liability (cost-sharing and premiums) will grow an estimated 63 percent in real terms, from $1,636 in 2000 to a projected $2,660 in 2025. These per capita estimates are fairly representative of three of our cohorts (Figure 6). However, the projected liability of two cohorts—older low-income women in poor health and women who receive QMB benefits—is substantially more, reflecting their higher average Medicare expenditures. The former cohort's average liability is about $1,000 higher than the per capita average in each projected year. The liability for these women would increase from $2,632 in 2000 to $3,931 in 2025. The projected liability for women with QMB protection is about $400 more than the overall per capita figures. Interestingly, liability of the older disabled cohort (ages 45 through 64) is fairly similar to the average liability of elderly beneficiaries.

Figure 6

Projected Beneficiary Liability Spending Among Cohorts, 2000 and 2025

(in 2000 dollars)

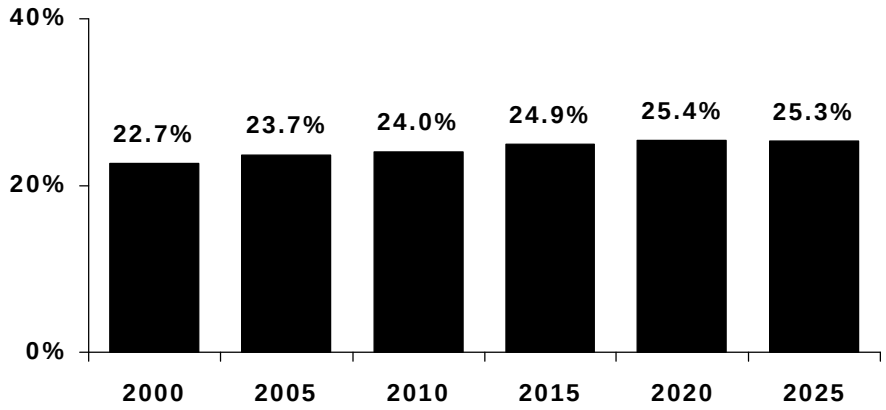


Source: The Urban Institute's 1999 Medicare Projections Model.

To further understand Medicare spending from the beneficiary perspective, we assess liability in terms of its share of total Medicare spending. Beneficiaries in fee-for-service Medicare are responsible for an estimated 22.7 percent of total per capita Medicare spending in 2000 (Figure 7). Those cohorts of beneficiaries with the lowest liabilities are responsible for a higher resulting share of their total Medicare expenditures. For example, younger high-income beneficiaries are responsible for 30.1 percent of their own total Medicare spending in 2000 (Figure 8). Although that cohort incurs relatively modest total expenditures, what they do spend is primarily for ambulatory services, which require more cost-sharing than inpatient services.

Figure 7

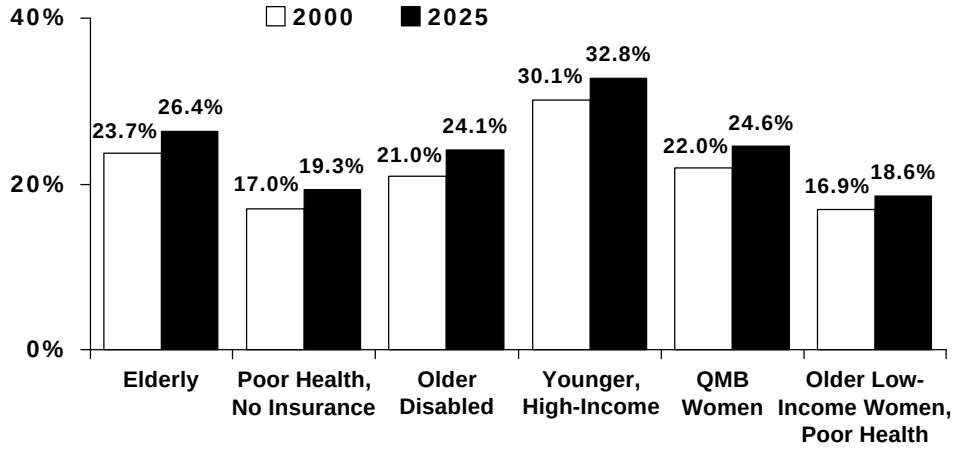
Projected Beneficiary Liability as a Share of Per Capita Medicare Spending



Source: The Urban Institute's 1999 Medicare Projections Model.

Figure 8

Projected Liability as a Share of Medicare Spending Among Cohorts, 2000 and 2025



Source: The Urban Institute's 1999 Medicare Projections Model.

Older low-income women in poor health, the cohort with the highest liability, are responsible for a relatively small share (16.9%) of that group's total Medicare spending. That cohort's pattern reflects their relatively high use of inpatient services, for which

coinsurance is assessed only on very long stays, and for home health care, which has no cost-sharing requirement.

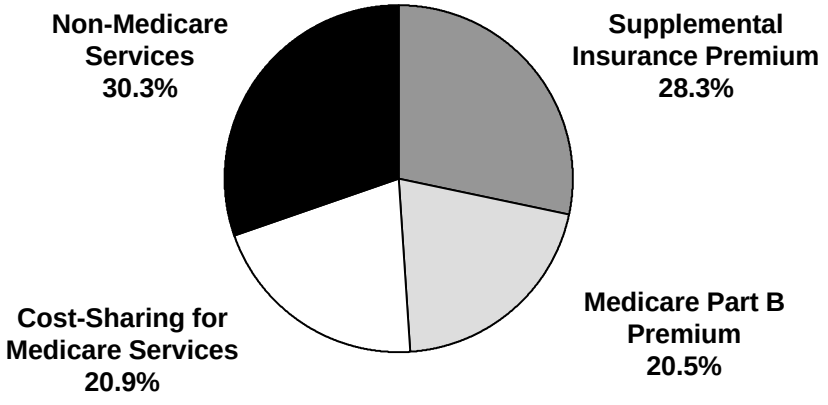
Between 2000 and 2025, the share of Medicare spending for which beneficiaries are responsible will increase by about 2 to 3 percentage points. That increase will occur largely because the Part B premium will represent a greater share of Medicare, as Part B spending rises relative to Part A spending. Thus, even without changes in Medicare policy, beneficiaries will be responsible for a higher share of spending in the future.

Out-of-Pocket Spending

Typically there is a difference between the medical costs that individuals are responsible for covering (liability) and what they actually pay out of their own pockets. On one hand, low-income Medicare beneficiaries who participate in Medicaid and higher-income beneficiaries with employer-subsidized supplemental insurance are insulated from some of their liability. On the other hand, Medicare benefits are not comprehensive, leaving many beneficiaries with substantial out-of-pocket costs for noncovered services or for premiums for policies purchased to cover those services. Our cohort of typical elderly beneficiaries devotes about 30 percent of out-of-pocket spending to noncovered services, and another 28 percent for supplemental insurance premiums. The remaining 40 percent of out-of-pocket spending is split evenly between the Part B premium and cost-sharing for Medicare-covered services (Figure 9).

Figure 9

Distribution of Out-of-Pocket Expenditures Among Elderly Medicare Beneficiaries, 2000



Source: The Urban Institute's 1999 Medicare Projections Model.

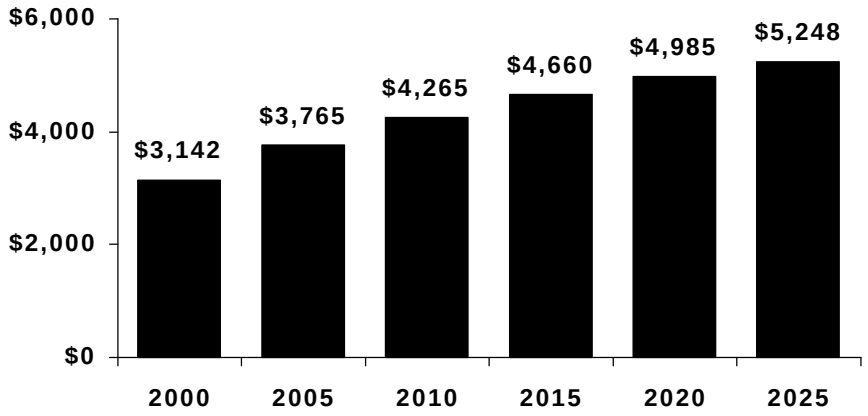
Despite the different components of beneficiary liability and actual out-of-pocket spending, we assume that these aspects of the financial burden will rise at the same rate over the long term. Over the next decade, however, we anticipate that out-of-pocket spending will increase more quickly, because of the relatively high growth rate of spending on prescription drugs. Among elderly beneficiaries in traditional Medicare, real out-of-pocket spending will climb from $3,142 in 2000 to $5,248 in 2025 (Figure 10).[14] The relationships among the beneficiary cohorts, in terms of out-of-pocket spending, are similar to the relationships in total liability except for two cohorts—women with QMB protection and older disabled beneficiaries (Figure 11). Although the liability for women with QMB protection is among the highest of the beneficiary cohorts, their out-of-pocket spending is the lowest ($1,665 in 2000 and a projected $2,759 in 2025). The low out-of-pocket spending of that group, in contrast to their relatively high liability, reflects the protective effect of Medicaid paying their Medicare liability. By contrast, older disabled beneficiaries incur an average amount of liability ($1,541 in 2000), but a much higher level of out-of-pocket spending ($3,837 in 2000). This figure largely reflects the absence of additional coverage—while only 11 percent of elderly beneficiaries lack additional coverage, 43 percent of older disabled beneficiaries are without such protection.

[14] On a per capita basis across all Medicare beneficiaries, inflation-adjusted out-of-pocket spending will rise from $3,609 in 2000 to a projected $5,914 in 2025.

Figure 10

Projected Out-of-Pocket Spending Among Elderly Beneficiaries

(in 2000 dollars)

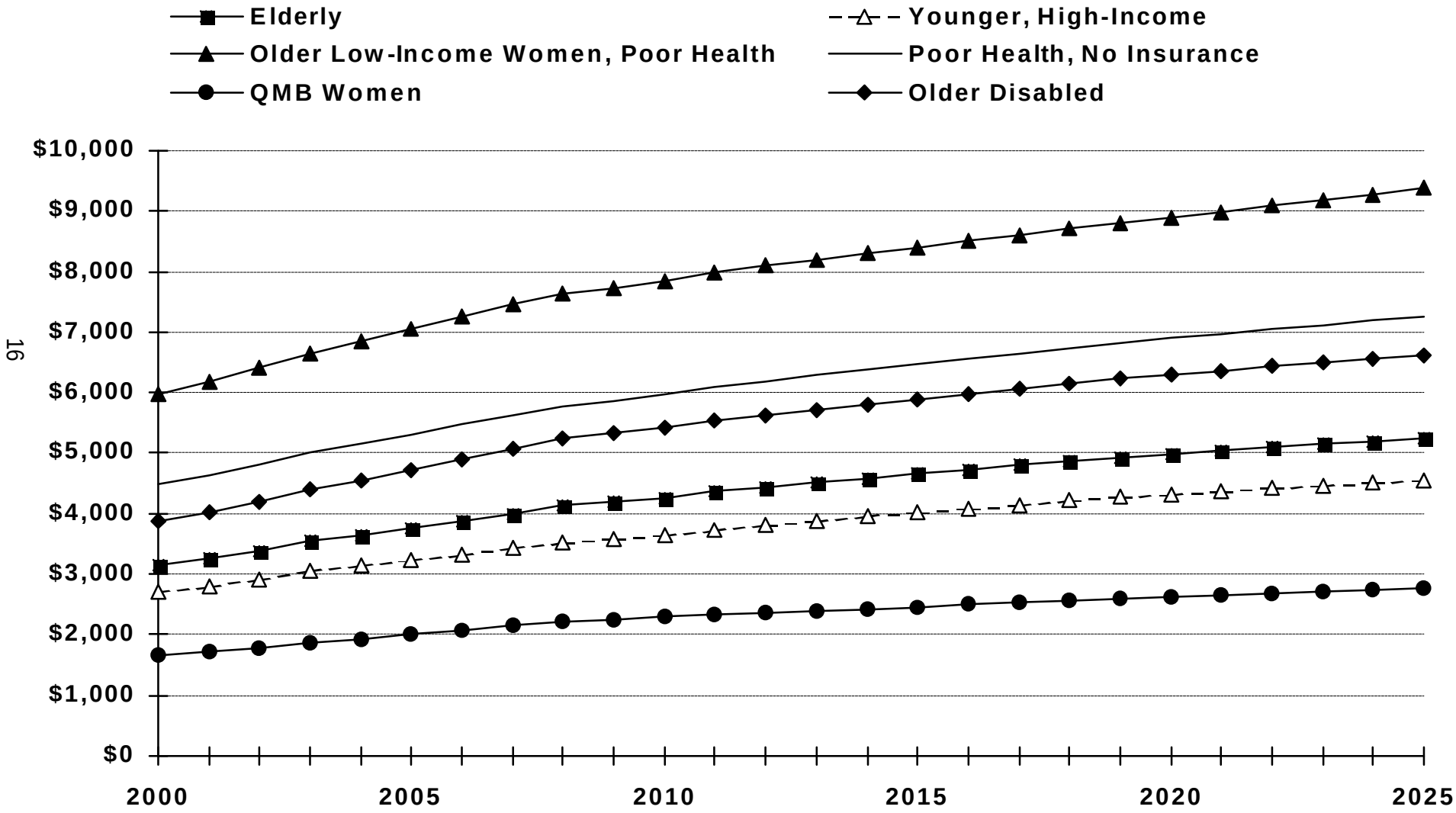


Source: The Urban Institute's 1999 Medicare Projections Model.

Figure 11

Projected Out-Of-Pocket Spending Among Cohorts

(in 2000 dollars)



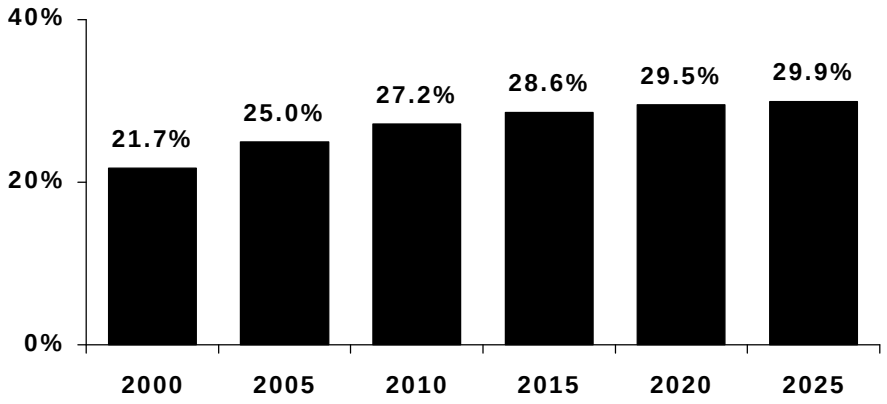
Source: The Urban Institute's 1999 Medicare Projections Model.

Two other cohorts with relatively high liabilities—older low-income women in poor health and elderly beneficiaries in poor health with no additional insurance—also incur high out-of-pocket costs. Interestingly, only 10 percent of the older low-income women in poor health lack additional coverage. However, a disproportionate number of these older low-income women (44%) rely on individually purchased insurance, while only 36 percent of all elderly do.

We can clearly see the burden of out-of-pocket medical spending by comparing it with annual beneficiary income. Real income of elderly beneficiaries with median-level incomes is projected to rise 21 percent between 2000 and 2025, from about $14,500 to an estimated $17,500, significantly less than the projected increase in health care spending over the period. Out-of-pocket spending among elderly beneficiaries will rise from 21.7 percent of income in 2000 to an estimated 29.9 percent in 2025 (Figure 12).[15] Even if we assume a higher income growth rate, the projected share of income devoted to medical spending would still remain high. For example, assuming 1.0 percent real annual growth in income rather than a 0.8 percent rate, out-of-pocket spending in 2025 is a projected 28.3 percent of income. Most of that increase will occur between 2000 and 2015, reflecting the impact of increasing Part B premiums over that period.

Figure 12

Projected Out-of-Pocket Spending as a Share of Income Among Elderly Beneficiaries



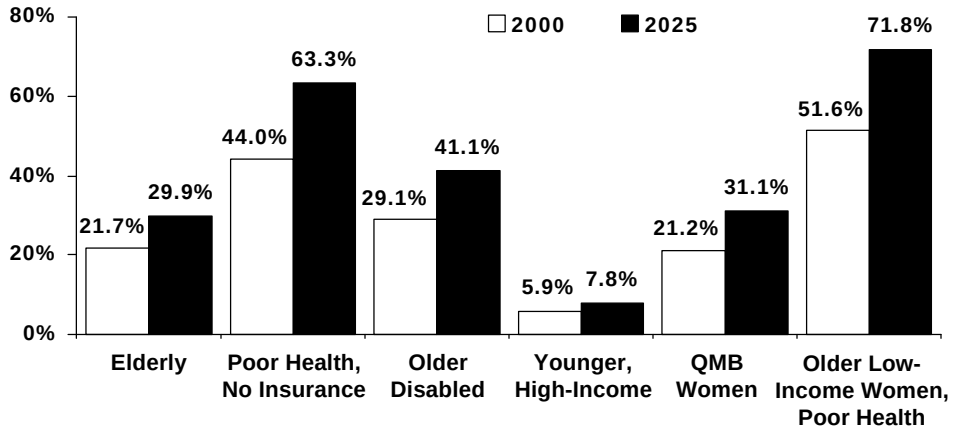
Source: The Urban Institute's 1999 Medicare Projections Model.

[15] On a per capita basis across all Medicare beneficiaries, out-of-pocket spending as a share of income will rise by one-third over the next 25 years, from 26.1 percent in 2000 to 35.3 percent in 2025.

Continuing the patterns seen in terms of beneficiary liability and out-of-pocket spending, two cohorts are particularly burdened by out-of-pocket spending as a share of income—older low-income women in poor health and elderly in poor health with no additional coverage. In 2000, 51.6 percent of the former cohort's income is spent out-of-pocket on medical care (Figure 13). That figure will climb to a projected 71.8 percent by 2025. The out-of-pocket share among elderly beneficiaries in poor health without additional coverage will rise from 44.0 percent in 2000 to 63.3 percent in 2025. Both of these cohorts' spending is well into the top quintile of out-of-pocket spending among all beneficiaries.

Figure 13

Projected Out-of-Pocket Spending as a Share of Income Among Cohorts, 2000 and 2025



Source: The Urban Institute's 1999 Medicare Projections Model.

Two cohorts that are markedly different from each other in many respects—women with QMB protection and younger higher-income beneficiaries with employer-sponsored supplemental coverage—appear to be testaments to the protective effect of forms of supplemental insurance where individual beneficiaries pay little for premiums and cost-sharing.[16] The younger high-income beneficiaries with such coverage spend less than 10 percent of their income on health care. Even the women with QMB protection, who have higher-than-average Medicare expenses and lower-than-average incomes, devote

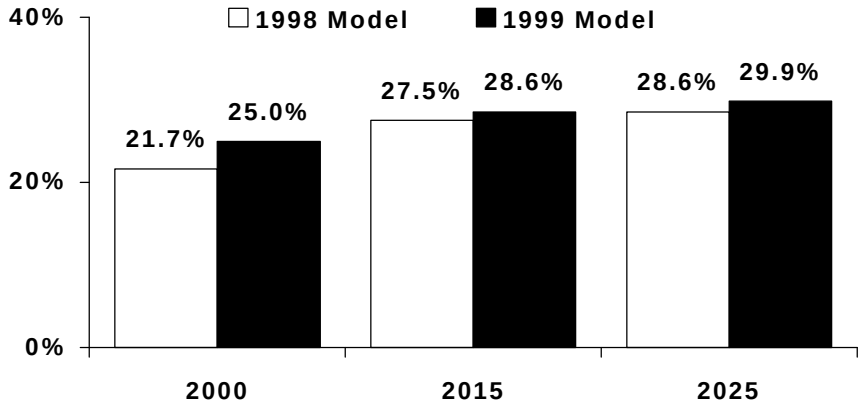
[16] Subsequent work for The Commonwealth Fund will quantify the effects, on both the solvency of the Medicare program and on beneficiary out-of-pocket spending, of Medicare benefit expansions and resulting lower cost-sharing requirements, which might render individually-purchased policies unnecessary.

only an average share of their income to out-of-pocket health spending. Without the QMB benefits, however, this cohort's share in 2000 would approach 50 percent.

Finally, it is interesting to note that our projections of out-of-pocket spending are *higher* than our prior projections (Figure 14), while our projections of liability are *lower* than the prior projections. The 1999 and 2000 Trustees Reports predict a slower rise in Medicare spending than the 1998 report predicts, which explains the lower projection of beneficiary liability in our current model. The projections of higher out-of-pocket spending derived from our current model are driven mainly by our use of more recent spending information (1995 rather than 1993 data on out-of-pocket spending), and by the double-digit increase in prescription drug spending that is projected to continue through most of the decade.

Figure 14

Out-of-Pocket Spending as a Share of Income Among Elderly Beneficiaries, 1998 and 1999 Projection Models



Source: The Urban Institute's 1998 and 1999 Medicare Projections Models.

Impact of the Balanced Budget Act of 1997

The BBA represents one of the most important pieces of Medicare legislation enacted since the program's inception. Although most of the Medicare provisions relate to changes in provider and plan payment methods, a few have fairly direct implications on out-of-pocket spending. Two provisions will lower beneficiaries' out-of-pocket burden—expanded coverage of preventive services and reductions in cost-sharing requirements for hospital OPD services. The new preventive benefits include annual mammograms and Pap tests with no deductibles, prostate cancer screening, colorectal cancer screening, and diabetes self-management services. Hospital OPD cost-sharing requirements are reduced

through pegging the cost-sharing rate to Medicare payments. Historically, OPD cost-sharing was based on hospitals' (much higher) charges. This provision will have a gradual effect on out-of-pocket spending, as the reductions are to be phased in over several years. In our model we did not attempt to estimate changes in out-of-pocket spending as a result of the expanded coverage of preventive services. As detailed in the Appendix, however, we do include the effects of reduced OPD cost-sharing requirements.

The BBA also transfers those home health benefits not related to hospital inpatient or skilled nursing facility (SNF) stays from Part A of the program to Part B. This provision will increase out-of-pocket costs for beneficiaries, because it will result in higher aggregate Part B spending and thus higher Part B premiums. The increase will be phased in over seven years. The Congressional Budget Office estimated that by the end of the transition (in 2004), about $150 of the annual Part B premium will be attributable to this benefit transfer.[17] (The effect of the benefit transfer also is included in our model.)

The BBA also requires significant changes to Medicare's managed care program. These include expanding the type of entities that may participate in the program, changing the method of payment to better reflect the plans' actual costs of delivering services, and altering some administrative requirements for participating plans. Some of these provisions may have spurred recent managed care trends, as some Medicare plans have increased their premiums and copay requirements and others have pulled out of some geographic areas.[18] However, rising cost pressures in the overall health care industry are also a factor.

Researchers who have analyzed the Health Care Financing Administration's databank of Medicare managed care plans (the *Medicare Compare* database) have found that copay requirements are generally increasing and fewer plans are offering "zero premium" packages. For example, 62 percent of plans charged no premiums in 1999, while only 42 percent do not charge in 2000.[19] Prescription drug coverage, a key attraction for many Medicare managed care enrollees, is still included in the majority of Medicare plans, though in slightly fewer than previously. In 1999, 73 percent of plans provided drug coverage; 68 percent do in 2000. The nature of the drug coverage, however, varies

[17] Congressional Research Service, *Medicare Provisions in the Balanced Budget Act of 1997,* The Library of Congress, August 18, 1997 (Pub No. 97-802-EPW).

[18] Several news organizations have reported on managed care plans withdrawing from the Medicare program. For one summary of the pull-outs in 2000, see *Medicare+Choice: 711,000 Seniors to Lose HMO Coverage*, American Health Line, June 7, 2000.

[19] Amanda Cassidy and Marsha Gold, *Medicare+Choice in 2000: Will Enrollees Spend More and Receive Less?* The Commonwealth Fund, August 2000.

extensively across plans and areas. In one analysis, a typical beneficiary with "modest" prescription drug needs in 1999 would incur $2,700 in out-of-pocket drug expenses in the least generous Medicare plans available. Under plans with the most extensive drug coverage, that beneficiary would pay only $600 in out-of-pocket drug costs.[20]

Managed care enrollees may be experiencing more immediate changes in their out-of-pocket spending than their counterparts in the traditional Medicare program. However, it is difficult to determine the extent to which adjustments in Medicare managed care plans are occurring as a result of changes in the Medicare program, maturation of the Medicare enrollee market, and changes in the larger health care environment. Nonetheless, to establish a baseline necessary for assessing such changes, another paper in this series analyzes the out-of-pocket burdens that Medicare managed care enrollees faced in 1996.[21]

CONCLUSION

This paper helps to establish a baseline analysis and projection of the out-of-pocket burdens faced by the majority of the elderly—those in the traditional Medicare program. Key BBA provisions affecting the out-of-pocket spending of these beneficiaries (the home health benefit transfer and hospital OPD cost-sharing reductions) are accounted for in our analysis.

Although the BBA helped stabilize Medicare in the near term, major changes will be needed in the program, or in its financing, to both maintain the fiscal integrity of the program and to protect vulnerable beneficiaries from overwhelming out-of-pocket burdens. Indeed, although we intentionally construct conservative projections for this paper, the estimates indicate beneficiaries will be devoting an increasing and substantial amount of their resources to Medicare and other health care in the future, even without any additional changes to the program. Moreover, for vulnerable beneficiaries, these expenses would consume an exceedingly high share of their income.

From these estimates, it is clear that shifting Medicare expenditures from Part A to B, or from taxpayers to beneficiaries, cannot address the basic tension stemming from

---

[20] Barents Group, LLC, *Analysis of Benefits Offered by Medicare HMOs, 1999: Complexities and Implications.* The Kaiser Family Foundation, August 1999.

[21] Kasten, Moon, and Segal, August 2000.

rising overall health care spending. Future solutions for Medicare can be successful only if they recognize the three dilemmas facing the program—rising overall health care costs, insufficient Medicare revenues, and the growing elderly population.

APPENDIX. MEDICARE PROJECTIONS MODEL

PROJECTING HEALTH CARE EXPENDITURES

Our Medicare Projections Model is developed using information in the *1999 Annual Reports of the Boards of Trustees of the Federal Hospital and Supplementary Medicare Insurance Trust Funds* (Trustees Reports), the 1995 Medicare Current Beneficiary Survey (MCBS), and the 1999 Current Population Survey (CPS). We apply the same key economic assumptions used in the Trustees Reports, which allow us to generate and project a consistent set of estimates for Medicare expenditures, gross domestic product, beneficiary income, and consumer inflation. The results are presented in real (2000) dollars by calendar year.

Although by statute the Trustees Reports must project 75 years into the future, that ambitious undertaking is beyond the scope of this paper. A more manageable time horizon of 25 years is used here. By 2025, most of the baby-boom generation will have reached the age of 65; thus, this paper also largely accounts for the effects of that demographic change.

Medicare Expenditures

We use Parts A and B enrollment projections (as of March 1999) from the Office of the Actuary (OACT) of the Health Care Financing Administration to create per capita spending projections from the aggregate Medicare expenditure projections in the Trustees Reports. OACT also estimates the share of beneficiaries enrolled in Medicare+Choice—we applied those shares to the Parts A and B enrollment figures to obtain Medicare+Choice enrollment estimates. While Medicare+Choice enrollment is included in our baseline per capita expenditure projections, we exclude them from our projections of cost-sharing among cohorts of beneficiaries. In per capita terms, Parts A and B spending is projected to reach $3,921 and $3,538, respectively, in 2010 (in 2000 dollars).

Our resulting Medicare expenditure estimates are also used to derive the "taxpayer burden" of Medicare. This captures what taxpayers must expect to pay over time if the requirements for Part B premiums remain the same. The taxpayer burden is calculated as the sum of Medicare expenditures net of what beneficiaries pay in Part B premiums—that is, Part A expenditures + (.756)(Part B expenditures).

Beneficiary Liability

In this paper we discuss two distinct but related aspects of beneficiary burden—liability and out-of-pocket spending. Beneficiary liability refers to the portion of Medicare

spending that is the responsibility of the beneficiary—that is, the Part B premium and cost-sharing requirements. The Part B premium portion of beneficiary liability is derived directly from Medicare expenditures and is simple to project. By law, the premium is set at 25 percent of Part B spending on elderly beneficiaries.

To project cost-sharing, we assume that over time beneficiaries in traditional Medicare will be liable for a constant share of the components to which cost-sharing applies, such as inpatient hospital and physician spending. Thus, our cost-sharing projections are linked to the per capita expenditure growth rates of specific service components of Medicare. This is a reasonable assumption in most cases, where cost-sharing policies are unchanged and are tied to reimbursement. The Medicare benefits that require cost-sharing include hospital inpatient care, skilled nursing facility (SNF) care, hospital outpatient department (OPD) services, physician services, and several related Part B services (including physical, speech, and occupational therapy; diagnostic and laboratory services; as well as a few classes of pharmaceuticals).

To develop cost-sharing estimates, we first examine cost-sharing and total Medicare expenditures by inpatient, SNF, and all Part B services for 1992 through 1996, as reported in the *Health Care Financing Review: Medicare and Medicaid Statistical Supplement, 1998.*[22] Ratios of inpatient and SNF cost-sharing relative to total expenditures are then applied to the baseline expenditure estimates in our model. For example, cost-sharing ratios of 8.3 percent and 26.5 percent are applied to our model of Medicare expenditures for hospital inpatient and SNF services, respectively.

Because OPD cost-sharing historically has been linked to hospital charges, rather than Medicare payments, we could not apply a single cost-sharing ratio to our baseline model for all Part B spending. Instead, we decomposed Part B expenditures into OPD and all other Part B spending (as reported in the *Supplement*). We obtained an average ratio of OPD cost-sharing to payments (37%),[23] and applied it to the OPD component of our baseline model. However, as required by the BBA, OPD cost-sharing rates will decline in the future, and will be linked to Medicare payments rather than charges.[24] As stipulated in the law (and as reflected in our model), the percentage is reduced at a constant rate to 20 percent of payments in 2010. After that year, the cost-sharing rate remains fixed at 20 percent. Since cost-sharing rates for physician and other Part B

[22] Health Care Financing Administration, *Health Care Financing Review: Medicare and Medicaid Statistical Supplement, 1998* (Table 18).

[23] Congressional Research Service, August 18, 1997, p. 28.

[24] Publ. No. 105-33 §4522.

services already are fixed at 20 percent of payments, we simply structure the deductible from the remaining Part B spending, and apply the cost-sharing rate to the "non-OPD Part B" component of our model.

The expenditure baseline in our Medicare Projections Model is an improvement over the baseline in our prior model used in earlier Commonwealth Fund papers. The prior model was developed purely on a per capita basis and was based on service-specific spending projections only through 2007. In addition, in the prior model we had to reconcile the Trustees Reports' fiscal year expenditure projections with OACT's calendar year enrollment projections. By contrast, in this model we can project expenditures further into the future and by major type of service. In addition, the data in our current model allow us to improve our estimates of Medicare managed care enrollees and exclude them from our cost-sharing calculations. All of these changes improve the quality of the cost-sharing projections generated from our current model.

Out-of-Pocket Expenditures

To model and project out-of-pocket spending (including spending on Medicare-covered services, other health care services, Medicare Part B premiums, and premiums for supplemental insurance policies), we incorporate out-of-pocket spending and supplemental insurance data available from the MCBS. Supplemental coverage typically lowers a beneficiary's level of out-of-pocket spending. For example, some beneficiaries have their Medicare liability (particularly the cost-sharing portion) paid by former employers through retiree supplemental insurance policies. Also, Medicaid pays some Medicare liability for eligible low-income beneficiaries. However, because Medicare's benefit package is not comprehensive, beneficiaries also can incur substantial out-of-pocket expenses for noncovered services. Beneficiaries pay for these services directly or indirectly through premiums for individual supplemental insurance.

We decompose out-of-pocket spending into three main components: Part B premiums, Medicare cost-sharing, and residual, or other, expenditures, which include insurance premiums and costs for noncovered services such as dental care, vision services, and prescription drugs. Overall, we use the premium and cost-sharing components as the major drivers for our out-of-pocket spending projections, because they are linked directly to Medicare expenditure projections. As a result, we can simulate policy options that shift spending between the program and beneficiaries in a manner that results in consistent estimates.

In our model, we assume that spending on premiums and most noncovered services (all but prescription drug spending) will rise at the same rate as that of per capita Medicare spending. These projections probably represent the lower bounds of future out-of-pocket spending, if beneficiaries pay for a greater share of costs related to supplemental insurance over time.[25] That seems likely, given the recent trend of declining employer-sponsored supplemental coverage.[26]

As mentioned, the residual component (other out-of-pocket spending) reflects spending for supplemental insurance premiums and noncovered services. It is calculated as the residual of total beneficiary spending (as estimated in the MCBS) after subtracting cost-sharing liabilities (as derived from Medicare claims) and supplemental policy premiums. This implicitly reduces Medicare cost-sharing liabilities paid by other payers, including Medicaid and employer-sponsored policies, in estimating out-of-pocket spending.

To estimate growth rates for the residual component, we decompose it into two groups: spending related to prescription drugs and all other spending. We apply an upward adjustment of 11 percent to prescription drug spending, as reported on the 1995 MCBS, to account for underreporting. The MCBS staff and other researchers agree that the survey underreports prescription medicine expenditures in the range of 8 percent to 30 percent. We selected 11 percent, based on conversations with MCBS staff and comparisons with the Medical Expenditure Panel Survey and the National Health Accounts data.

Regarding spending growth over time, per capita prescription drug spending outpaced other medical spending in the 1990s, averaging over 11 percent growth per year. Experts project this double-digit growth will continue through the decade.[27] In our model, we assume that per capita drug spending will rise 10 percent annually through 2008. We do not believe that this level of growth can be maintained indefinitely, however, and so after 2008 we inflate per capita drug expenditures more modestly, at the same rate as Medicare spending.

---

[25] In general, we keep our Medicare Projections Model as straightforward as possible with a minimum of assumptions. Where assumptions are required and a range of possible values exist, we use conservative estimates to generate projections that represent a minimum bound on spending by beneficiaries.

[26] Hewitt Associates LLC, *Retiree Health Trends and Implications of Possible Medicare Reforms,* The Kaiser Family Foundation, September 1997.

[27] Smith et. al., 1999.

The prescription drug component in our model also includes a percentage of a beneficiary's supplemental insurance premium attributable to drug coverage. We vary that premium percentage according to the type of insurance. For example, most individually purchased policies do not cover prescription drugs, while most employer-sponsored policies do. Using the MCBS, we estimate the employer-sponsored premium portion (24.3%) by dividing drug spending in all private supplemental policies by the total health care spending of those policies. For individually purchased policies, we estimate the premium portion (4.9%) by dividing drug spending in all private supplemental policies by total premium spending for those policies. Then, we apply the appropriate percentage (employer-based or individual) to a beneficiary's policy premium to derive the drug-related share of that premium. The total prescription drug component of the out-of-pocket residual in our model is thus the sum of this premium portion and a beneficiary's actual spending on prescription drugs.

The non-drug component of the residual out-of-pocket spending amount reflects expenditures for noncovered services other than drugs, and the remaining portion of supplemental insurance premiums. We estimate the non-drug component by subtracting from total out-of-pocket spending all cost-sharing, prescription drug spending, and total premium costs. The annual per capita Medicare growth rate is applied to this component.

Despite *lower* projections of Medicare spending and beneficiary liability in our current model relative to our prior model, the out-of-pocket spending projections are *higher* than those based on the prior model. (For example, out-of-pocket spending as a share of income in 2025 is projected to be 29.9 percent based on the current model, and 28.6 percent based on the prior model). This difference is mainly due to changes in methodology and data sources. In the prior model, we relied on results from an analysis of out-of-pocket spending sponsored by the American Association of Retired Persons (AARP).[28] That study's average out-of-pocket spending estimate was derived from the 1993 MCBS and was used in our prior model. In our current model, we calculate our own out-of-pocket estimates using more recent data (1995 MCBS), which capture some of the rise in prescription drug spending. The prescription drug projections explain some of the higher out-of-pocket estimates derived from our current model.

CONSTRUCTING BENEFICIARY COHORTS

To help understand the magnitude of the Medicare program, aggregate spending is often described as a share of GDP. Similarly, to understand the impact on beneficiaries we

[28] The Lewin Group, *Out-of-Pocket Health Spending by Medicare Beneficiaries Age 65 and Older: 1997 Projections,* American Association of Retired Persons, December 1997 (AARP No. 9705).

construct several cohorts of beneficiaries and project their out-of-pocket spending as a share of income. Some of the cohorts are designed to represent typical beneficiaries, and others are constructed to reflect particularly vulnerable populations. For contrast, a cohort of relatively healthy, high-income beneficiaries also is created. In total, these cohorts offer a number of contrasts in terms of health status, supplemental insurance coverage, income, and level of out-of-pocket spending. By analyzing these groups, we lay the foundation for later determining the effect of various Medicare policy options on particular types of beneficiaries.

Certain beneficiaries—those in managed care plans, residing in nursing homes, or with end-stage renal disease—are excluded from *all* of the cohorts below, because of insufficient data or because they differ substantially from most beneficiaries.[29] Except for a cohort of Qualified Medicare Beneficiaries (QMBs), the cohorts also exclude those dually eligible for any level of Medicaid coverage, because such coverage of Medicare liabilities would affect our out-of-pocket estimates. All "per capita" figures in the paper, however, reflect the universe of the Medicare beneficiary population. Although most of the cohorts are defined fairly narrowly, attention also is paid to making them broad enough to ensure that a sufficient sample size is drawn from the MCBS and that the corresponding spending estimates are reliable and valid. Six cohorts are analyzed in this paper (Table A-1). They are:

- Elderly—"Typical" beneficiaries age 65 or older.

- Elderly in poor health with no additional insurance—Beneficiaries age 65 or older with physical or cognitive health problems. Beneficiaries in this cohort also have no additional insurance, either through employers or individually.

- Older, low-income women in poor health—Women age 85 or older with limited annual household income ($5,000 through $20,000) and with physical or cognitive health problems. Women in this cohort also are single.

[29] Beneficiaries in Medicare managed care plans are excluded because we lack encounter data for them (in contrast, claims data are generated for beneficiaries in the fee-for-service program). Nursing home residents are excluded because we lack prescription drug expenditure information on them, and end-stage renal disease beneficiaries are excluded because their health care utilization and expenditures are substantially different from other Medicare beneficiaries.

- Women with QMB protection—The QMB designation refers to certain low-income Medicare beneficiaries for whom Medicaid pays their premium and cost-sharing expenses. This cohort consists of women who receive that coverage.

- Older disabled beneficiaries—Beneficiaries between the ages of 45 and 64 with physical limitations, who qualify for Medicare as disabled beneficiaries.
- Younger, high-income beneficiaries—Beneficiaries between the ages of 65 and 74 with high annual household incomes ($50,000 or more). Beneficiaries in this cohort also are married and have employer-based supplemental insurance coverage.

Table A-1
Criteria for Constructing Beneficiary Cohorts

Cohort	Age	Marital Status	Sex	Income	Health Problems	Additional Insurance
Elderly Beneficiaries	65+					
Elderly Beneficiaries in Poor Health	65+				Cognitive or Physical	None
Older Low-Income Women in Poor Health	85+	Single	Female	$5,000–$20,000	Cognitive or Physical	
Younger, High-Income Beneficiaries	65–74	Married		$50,000+		Employer-Based
Women with QMB Protection	65+		Female	Meets QMB Requirements		QMB
Older Disabled Beneficiaries	45–64				Physical	

Notes: Each of the cohorts excludes beneficiaries in Medicare managed care plans, those residing in nursing homes, and those with end-stage renal disease. Beneficiaries with cognitive impairments include those with Alzheimer's disease or mental or psychiatric conditions. Physical impairment was identified based on combinations of skilled nursing facility use, self-rating of poor health, limitations in activities of daily living (ADLs) or instrumental ADLs, and presence of particular medical conditions. The conditions include stroke, diabetes, rheumatoid arthritis, emphysema, osteoporosis, and Parkinson's disease.

Source: The Urban Institute's 1999 Medicare Projections Model.

We use several aspects of health status to define beneficiaries with "poor health"—the presence of selected conditions indicating cognitive impairment (Alzheimer's disease or mental or psychiatric conditions) or physical impairment. We identify physical impairment by the presence of selected conditions (stroke, diabetes, rheumatoid arthritis,

emphysema, osteoporosis, or Parkinson's disease) and combinations of skilled nursing facility use, self-rating of poor health, and functional status as measured by limitations in activities of daily living (ADLs) or in instrumental ADLs.

PROJECTING BENEFICIARY INCOME

To project out-of-pocket medical spending as a share of income, we first examine income growth trends and income sources for the elderly and ultimately select different growth rates for cohorts of beneficiaries at different income levels. We use annual household income information from the 1999 CPS and growth rates from wages and Social Security benefits. Using the CPS, we first calculate the latest (1998) median per capita income for elderly Medicare beneficiaries. We obtain per capita figures by dividing household income by the number of members in the household. Compared with using the CPS's reported income of *individuals,* this method better reflects the economic status of beneficiaries who are married or living with other relatives. The resulting figure, in 2000 terms, is $14,494.

For beneficiaries with median annual incomes, we assume a real annual growth rate of 0.8 percent. At that rate, median elderly income will rise to an estimated $17,581 by 2025 (in real terms). That rate is lower than historical rates of income growth, but is in line with projections of future growth. For example, since 1975 real income growth has averaged 1.2 percent per year; however, the 1999 Trustees Reports assume a real growth rate of 0.9 percent for wages in the future. Since elderly with median incomes rely on Social Security payments for only about 60 percent of their income, a growth rate between the Social Security and wage growth rates is appropriate for those beneficiaries. (The real growth rate of Social Security income is zero, since those payments are pegged to inflation.) We apply the 0.8 percent rate to two beneficiary populations—the typical elderly cohort and the older disabled beneficiaries cohort.

For the higher-income beneficiary cohort, a rate slightly higher than the projected wage growth rate is appropriate. For that cohort, we assume a real annual growth rate of 1.0 percent. For lower-income elderly, who rely almost entirely on Social Security payments and Supplemental Security Income, a somewhat lower rate is more realistic. Thus, we apply a real annual growth rate of 0.5 percent for three lower-income cohorts: older, low-income women in poor health; women with QMB protection; and elderly in poor health without additional insurance.

By selecting relatively generous income growth rates, we intentionally construct a conservative estimate of the share of income devoted to health care over time. However, over time newly eligible beneficiaries will have higher real incomes than current 65-year-

olds. Using relatively high rates also adjust for this change in population and income growth over time.

Finally, to calculate the share of income spent on medical care, we divide average out-of-pocket spending by median income. We use median income and average spending because income is more heavily skewed than health care spending—using averages for both variables would understate the resulting income share spent on medical care. Findings of earlier studies suggest that the most accurate measure of the share of income spent on medical care is derived by calculating that percentage for each individual and then averaging those averages. Since we cannot perform that step with the aggregate-level CPI data, we divide average spending by median income in order to approximate a more accurate figure.

RELATED PUBLICATIONS

In the list below, items that begin with a publication number are available from The Commonwealth Fund by calling our toll-free publications line at 1-888-777-2744 and ordering by number. These items can also be found on the Fund's website at www.cmwf.org. Other items are available from the authors and/or publishers.

Socioeconomic Differences in Medicare Supplemental Coverage (September/October 2000). Nadereh Pourat, Thomas Rice, Gerald Kominski, and Rani E. Snyder. *Health Affairs,* vol. 19, no. 5.

#395 *Early Implementation of Medicare+Choice in Four Sites: Cleveland, Los Angeles, New York, and Tampa–St. Petersburg* (August 2000). Geraldine Dallek and Donald Jones, Institute for Health Care Research and Policy, Georgetown University. This field report, based on research cofunded by The Commonwealth Fund and the California Wellness Foundation, examines the effects of Medicare+Choice—created by the Balanced Budget Act of 1997—on Medicare beneficiaries in four managed care markets.

#394 *Medicare+Choice in 2000: Will Enrollees Spend More and Receive Less?* (August 2000). Amanda Cassidy and Marsha Gold, Mathematica Policy Research, Inc. Using information from HCFA's Medicare Compare consumer-oriented database of Medicare+Choice plans, this report provides a detailed look at changes in benefits offered under Medicare+Choice in 1999–2000, focusing on benefit reductions and small capitation rate increases that are shifting costs to beneficiaries.

#393 *What Do Medicare HMO Enrollees Spend Out-of-Pocket?* (August 2000). Jessica Kasten, Marilyn Moon, and Misha Segal, The Urban Institute. Medicare+Choice plans are scaling back benefits and shifting costs to enrollees through increases in service copayments and decreases in the value of prescription drug benefits. This report examines the financial effects of these actions on Medicare managed care enrollees.

#382 *Drug Coverage and Drug Purchases by Medicare Beneficiaries with Hypertension* (March/April 2000). Jan Blustein. *Health Affairs,* vol. 19, no 2. This article shows that Medicare beneficiaries age 65 and older with high blood pressure are less likely to purchase hypertension medication if they are without drug coverage.

#371 *An Assessment of the President's Proposal to Modernize and Strengthen Medicare* (June 2000). Marilyn Moon, The Urban Institute. This paper discusses four elements of the President's proposal for Medicare reforms: improving the benefit package, enhancing the management tools available for the traditional Medicare program, redirecting competition in the private plan options, and adding further resources to ensure the program's security in the coming years.

#365 *Prescription Drug Costs for Medicare Beneficiaries: Coverage and Health Status Matter* (January 2000). Bruce Stuart, Dennis Shea, and Becky Briesacher. This issue brief reports that prescription drug coverage of Medicare beneficiaries is more fragile than previously reported, that continuity of this coverage makes a significant difference in beneficiaries' use of prescription medicine, and that health status affects drug coverage for beneficiaries primarily through their burden of chronic illness.

#353 *After the Bipartisan Commission: What Next for Medicare?* (October 1999). Stuart H. Altman, Karen Davis, Charles N. Kahn III, Jan Blustein, Jo Ivey Boufford, and Katherine E. Garrett. This summary of a panel discussion held at New York University's Robert F. Wagner Graduate School of Public Service considers what may happen now that the National Bipartisan Commission on the

Future of Medicare has finished its work without issuing recommendations to the President. It also examines possible reform opportunities following the November 2000 elections.

#232 *Risk Adjustment and Medicare* (June 1999). Joseph P. Newhouse, Melinda Beeuwkes Buntin, and John D. Chapman, Harvard University. Medicare's payments to managed care plans bear little relationship to the cost of providing needed care to beneficiaries with different health conditions. In this revised paper, the authors suggest using two alternative health risk adjusters that would contribute to more cost-effective care and reduce favorable risk selection and the incentive to stint on care.

#318 *Growth in Medicare Spending: What Will Beneficiaries Pay?* (May 1999). Marilyn Moon, The Urban Institute. Using projections from the 1998 Medicare and Social Security Trustees' reports to examine how growth in health care spending will affect beneficiaries and taxpayers, the author explains that no easy choices exist that would both limit costs to taxpayers while protecting Medicare beneficiaries from the burdens of health care costs.

#317 *Restructuring Medicare: Impacts on Beneficiaries* (May 1999). Marilyn Moon, The Urban Institute. The author analyzes premium support and defined contribution—two of the more prominent approaches proposed to help Medicare cope with the health care needs of the soon-to-retire baby boomers—and projects these approaches' impacts on future beneficiaries.

#310 *Should Medicare HMO Benefits Be Standardized?* (February 1999). Peter D. Fox, Rani Snyder, Geraldine Dallek, and Thomas Rice. The only Medicare supplement (Medigap) policies that can be sold are those that conform to the 10 standardized packages outlined in federal legislation enacted in 1990. In this paper the authors address whether Medicare HMO benefits should also be standardized for the roughly 6 million Medicare beneficiaries now enrolled in HMOs.

#308 *Medicare Beneficiaries: A Population at Risk—Findings from the* Kaiser/Commonwealth 1997 Survey of Medicare Beneficiaries (December 1998). Cathy Schoen, Patricia Neuman, Michelle Kitchman, Karen Davis, and Diane Rowland. This survey report, based on beneficiaries' own accounts of their incomes and health status, points to serious challenges in insuring an aging, vulnerable population.