The Public Policy Institute, formed in 1985, is part of The Research Group of the American Association of Retired Persons. One of the missions of the Institute is to foster research and analysis on public policy issues of interest to older Americans. This paper represents part of that effort.

The views expressed herein are for information, debate and discussion, and do not necessarily represent formal policies of the Association.

AARP, celebrating 40 years of service to Americans of all ages, is the nation’s leading organization for people age 50 and older. It serves their needs and interests through information and education, advocacy, and community services which are provided by a network of local chapters and experienced volunteers throughout the country. The organization also offers members a wide range of special benefits and services, including Modern Maturity magazine and the monthly Bulletin.

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EXECUTIVE SUMMARY

This report uses data from a survey of Medicare beneficiaries to project estimates of out-of-pocket health care spending by beneficiaries age 65 and older. Out-of-pocket health costs are a particular concern for older Americans. While the federal Medicare program provides important health coverage to virtually all older Americans, Medicare coverage is lacking in several key areas. For example, Medicare fails to cover outpatient prescription drugs and long-term care. In addition, Medicare requires a substantial hospital deductible ($760 in 1997); hospital coinsurance after the 60th day of care each benefit period; an annual $100 Part B deductible; 20 percent coinsurance for Part B services; and skilled nursing facility coinsurance. Equally important, Medicare does not limit beneficiaries’ total payments for cost-sharing, unlike the great majority of employer-provided insurance plans. While, in recent years, there has been increased assistance for some of the poorest Medicare beneficiaries, out-of-pocket health care spending continues to represent a substantial financial burden for many beneficiaries.

We project that, on average, the 34.3 million Medicare beneficiaries age 65 and over, and living in the community, will spend an average of 19 percent of their income, or $2,149, on out-of-pocket health care costs in 1997. This total amount includes: cost-sharing for most Medicare-covered services; out-of-pocket payments for non-covered services and products (such as prescription drugs); private health insurance premiums and the Medicare Part B premium; and balance billing charges. It does not include the costs of home health care or nursing facility services.

Out-of-pocket health care spending is particularly burdensome for lower income beneficiaries and for older beneficiaries. Beneficiaries with incomes below the federal poverty level are projected to pay, on average, 35 percent of their incomes on out-of-pocket health costs. More significantly, however, those with incomes below the federal poverty level who do not receive Medicaid assistance are projected to pay, on average, about half their income on out-of-pocket health costs. Beneficiaries age 75 and over are also projected to incur higher than average out-of-pocket health costs—on average, 21 percent of income.

Beneficiaries with incomes above the poverty level also incur high out-of-pocket health costs. Low-income beneficiaries—those with incomes between 126 and 200 percent of the federal poverty level—are projected to spend an average of 22 percent of their income on out-of-pocket health costs. Middle income beneficiaries are projected to pay an

---

2 Some beneficiaries—in 1997, about 13 percent of those age 65 and over—have reduced their out-of-pocket costs by enrolling in health maintenance organizations (HMOs). Medicare HMOs typically have lower cost sharing than the traditional Medicare program, and may offer additional benefits, such as outpatient prescription drug coverage. However, HMOs also restrict beneficiaries’ choice of physician, and may restrict the type and level of care to which its members have access. As this report shows, Medicare HMO enrollees still incur substantial out-of-pocket costs, although, on average, these costs are lower than for those enrollees in the traditional program.
average of 17 percent of income for out-of-pocket health costs, while high-income beneficiaries are projected to spend an average of 10 percent of income.

The level of out-of-pocket health costs varies by whether the beneficiary is enrolled in traditional fee-for-service Medicare or in a Health Maintenance Organization (HMO), and by whether the beneficiary has Medicaid coverage. The 25.9 million Medicare beneficiaries who are in the traditional fee-for-service program (and not enrolled in Medicaid) are projected to spend, on average, 21 percent of their income, or $2,454, out-of-pocket on health care. The 4.5 million Medicare beneficiaries age 65 and older expected to be enrolled in HMOs in 1997 are projected to spend an average of 16 percent of income, or $1,775, in out-of-pocket health care costs. The 3.3 million beneficiaries expected to receive Medicaid assistance for the entire year are projected to pay 7 percent of income, or $337, on average, in out-of-pocket health care spending.

Beneficiaries who do not have any supplemental coverage—and who are in the traditional fee-for-service program—incur lower out-of-pocket health care costs, on average, than do their counterparts who have Medigap or employer-provided supplemental insurance. However, they spend about $150 more per year, on average, on direct payment for health services (i.e., out-of-pocket payments excluding the cost of supplemental insurance and Part B premiums). Furthermore, most of their out-of-pocket health services costs (70 percent) are for Medicare-covered services: hospital care, physician services, and supplier and vision services. By contrast, for fee-for-service beneficiaries who have supplemental coverage, over half of their average out-of-pocket health services spending is on two non-covered services: outpatient prescription drugs and dental care.

ACKNOWLEDGMENTS

This report was produced through an extensive collaborative effort between the American Association of Retired Persons’ Public Policy Institute (PPI), based in Washington, DC, and The Lewin Group, based in Fairfax, Virginia. PPI staff who made significant contributions to the project include David Gross, Senior Policy Advisor; Mary Jo Gibson, Associate Director, Health Policy Research; Normandy Brangan, Research Assistant; and Craig Caplan, Research Analyst.

The model used in the analysis, the Medicare Benefits Simulation Model, was developed and applied by Lisa Alecxih, Vice President, and John Corea, Associate, of The Lewin Group. These researchers generated the figures used in this report and provided analytic

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3 All references to Medicare beneficiaries enrolled in HMOs include only those who are enrolled in Medicare risk HMOs at any time during the year and who do not receive Medicaid assistance. See Definitions section in the Appendix for further detail on this definition.

4 We define full-year Medicaid enrollees as those Medicare beneficiaries who receive Medicaid assistance during the entire time that they are enrolled in Medicare during 1997. This definition includes new enrollees and beneficiaries who the model projects become deceased in 1997. Although these beneficiaries are not enrolled for the entirety of 1997, we refer to them as full-year enrollees to distinguish them from those beneficiaries who, at some point during the year, receive assistance from Medicare but not from Medicaid.
assistance to PPI. Peter Robertshaw, Supervising Engineer, R.W. Beck and Associates, developed the model’s computer programming.

The methodology used in this analysis, as well as the text of the report, expand on an earlier PPI study, *Coming Up Short: Increasing Out-of-Pocket Health Spending by Older Americans* (April 1994, revised April 1995). The two studies differ somewhat in the projection methodology used, data sources, and definitions of income and health care spending. These differences are further described in the Appendix to this report.

The following people provided useful comments in the development of the Medicare Benefits Simulation Model and the presentation of out-of-pocket health cost projections: Marilyn Moon, Director of the Urban Institute’s Health Policy Center; Frank Eppig, of the Office of Strategic Planning at the Health Care Financing Administration; Lori Housman, Kirsten Sloan, and Patricia Smith, of AARP’s Federal Affairs health team; John Luehrs, Health Strategies Team Leader for AARP’s State Legislation team, and members of the PPI staff--Joyce Dubow, Senior Policy Advisor; Jo Ann Lamphere, Senior Policy Advisor; Geraldine Smolka, Senior Analyst; and John Gist, Associate Director, Economic Policy Research for PPI. In addition, special thanks are given to Theresa Varner, Director of the Public Policy Institute, who provided valuable guidance throughout the project.
INTRODUCTION

This report uses data from the 1993 Cost and Use File of the Medicare Current Beneficiary Survey (MCBS) to project beneficiaries’ out-of-pocket health care spending in 1997. It analyzes differences in projected out-of-pocket health care spending for the 34.3 million non-institutionalized Medicare beneficiaries age 65 and over by income level, age, and gender. In addition, it provides separate estimates for Medicare enrollees who are enrolled in the traditional fee-for-service program, those who joined Health Maintenance Organizations (HMOs), and those who received Medicaid benefits for either all or part of the year. AARP commissioned this analysis to give policymakers, researchers, and other interested persons the information they need to assess the magnitude of out-of-pocket health care payments made by Medicare beneficiaries.

The results reported in this analysis emerge from the Medicare Benefits Simulation Model, which was developed for AARP by The Lewin Group. A unique feature of this model is its use of the MCBS to project beneficiaries’ health care spending. Previous analyses of Medicare beneficiaries’ out-of-pocket health care costs have based their projections on the 1987 National Medical Expenditures Survey (NMES), which had a smaller sample of older Americans and also included the small percentage of older Americans who were not enrolled in Medicare.

For purposes of this study, out-of-pocket payments are defined as including Medicare deductibles and coinsurance, premiums for private insurance and Medicare Part B, non-covered goods and services, and balance billing by physicians. Not included in this analysis are the costs of home health care and nursing facility services, the health care costs of the institutionalized population (i.e., residents of nursing facilities and other institutions), and indirect tax payments toward health care financing (e.g., federal and state income taxes, property taxes, and Hospital Insurance taxes).

Methodology. The Lewin Group, of Fairfax, Virginia, developed the Medicare Benefits Simulation Model to conduct this analysis. The project involved updating data from the Cost and Use Files from the 1993 Medicare Current Beneficiary Survey (MCBS) to 1997. To conduct this analysis, The Lewin Group trended forward 1993 MCBS data using actual and projected data from a number of sources, including the Health Care Financing Administration (HCFA), Office of the Actuary (National Health Accounts and other unpublished data from HCFA’s Office of Managed Care); the Congressional Budget Office; the Bureau of Census (Current Population Survey); and the Social Security Administration.

1 See Appendix for a description of the MCBS.
2 This analysis does not reflect the impact of Medicare provisions contained in the Balanced Budget Act of 1997. Because none of these changes take effect in 1997, they do not affect 1997 out-of-pocket spending on health care.
3 That is, beneficiaries who, at some point during the year, did not reside in an institution.
4 Medicare requires a hospital deductible ($760 in 1997); hospital coinsurance after the 60th day of care for each benefit period; an annual $100 Part B deductible; 20 percent coinsurance for Part B services; and skilled nursing facility coinsurance. There is no limit on beneficiaries’ total payments for cost-sharing.
The 1993 MCBS Cost and Use file includes survey data for approximately 12,000 Medicare beneficiaries, both in the community and in institutions. It is the largest and most recent data collection effort of its kind. The survey collects information on utilization and expenditures for all health care services and sources of financing at three points during the year. In addition, the survey gathers information about an individual’s socio-economic status, health status, functional status, and insurance status. Respondents were matched to their actual Medicare claims, assuring the most accurate representation of Medicare payments.

Three key definitions differ between the out-of-pocket spending estimates presented here and those reported in previous estimates of out-of-pocket health spending by beneficiaries age 65 and older:5

- First, the estimates presented here exclude home health care expenditures. (Both this report and prior studies excluded nursing care expenditures for persons in the community or in an institution during the entire year.) Inclusion of home health care costs would raise the reported levels of out-of-pocket spending.

- Second, because the MCBS data only provide estimates of out-of-pocket health care spending for an individual and not his or her spouse, the calculation of out-of-pocket spending as a percent of income presented here required estimates of an individual’s share of a couple’s income to derive ratios of health care spending to income. Prior studies, which were based on NMES data, compared a couple’s out-of-pocket health costs to the couple’s combined income, since NMES reported the couple’s total health care spending.

- Third, this analysis does not include the small proportion of individuals who are not Medicare beneficiaries.

The Appendix to this report provides further detail on the methodology.

**Out-of-pocket spending by type of health coverage.** A unique feature of this report is that it projects Medicare beneficiaries’ out-of-pocket spending according to beneficiaries’ type of health coverage. Specifically, the report presents separate estimates of projected out-of-pocket health care spending for beneficiaries using fee-for-service Medicare, beneficiaries enrolled in Medicare HMOs, and beneficiaries who receive Medicaid benefits for either the entire year or for part of the year.

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6 We excluded home health care services from this study because the definition of home health care services used in the MCBS differs from that used in previous studies of out-of-pocket health care costs. Specifically, the MCBS reports out-of-pocket expenditures only for home health services that were medical in nature. Previous studies included spending not only on medical services but also for non-medical visits that might be considered necessary for the chronically ill (for example, personal assistance services), and services that were not performed by a health professional. Because we were not able to obtain comparable home health spending data, we excluded these costs from our analysis.
Most beneficiaries (76 percent) are in the traditional fee-for-service program for all of 1997 (Figure 1). Almost 14 percent of beneficiaries have only Medicare coverage, and 62 percent have private supplemental coverage--either Medigap insurance or employer-provided supplemental coverage. About 13 percent of Medicare beneficiaries are enrolled in HMOs. Almost 10 percent have both Medicaid and Medicare coverage year round, while 2 percent have part-year Medicaid coverage.

The types of coverage vary by income status (Table 1). For example, 37 percent of beneficiaries with incomes below the poverty level and 23 percent of those with incomes between 100 percent and 125 percent of the poverty level are enrolled in Medicaid for the whole year, compared to fewer than 10 percent for other income groups. In addition, beneficiaries with incomes above 125 percent of the poverty level are far more likely to have supplemental coverage than their less wealthy counterparts.
Table 1
Distribution of Medicare Beneficiaries, by Type of Coverage, 1997

<table>
<thead>
<tr>
<th></th>
<th>Medicaid Enrollees</th>
<th>Not Medicaid-Enrolled</th>
<th>Fee-for-Service Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full Year</td>
<td>Part Year</td>
<td>Medicare HMO</td>
</tr>
<tr>
<td>Total Enrollment</td>
<td>3,265</td>
<td>724</td>
<td>4,477</td>
</tr>
<tr>
<td>Percent Distribution</td>
<td>10%</td>
<td>2%</td>
<td>13%</td>
</tr>
<tr>
<td>Poverty Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;100%</td>
<td>37%</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td>100-125%</td>
<td>23%</td>
<td>*</td>
<td>12%</td>
</tr>
<tr>
<td>126-200%</td>
<td>8%</td>
<td>*</td>
<td>13%</td>
</tr>
<tr>
<td>201-400%</td>
<td>4%</td>
<td>2%</td>
<td>13%</td>
</tr>
<tr>
<td>Over 400%+</td>
<td>3%</td>
<td>*</td>
<td>15%</td>
</tr>
</tbody>
</table>

Source: Medicare Benefits Simulation Model.
Note: Percentages may not sum to 100 percent because of rounding.
* Insufficient number of observations for presenting a statistically significant projection.

Report Outline. The next section of this report presents major findings, organized as follows:

- Out-of-pocket health spending
- Out-of-pocket health spending and type of insurance coverage
- Out-of-pocket health care spending as a percent of income
- Out-of-pocket health care spending and lower-income Medicare beneficiaries
- Out-of-pocket health care spending and supplemental insurance
- Out-of-pocket health care spending by age of beneficiary
- Out-of-pocket health care spending and gender

The remainder of this report consists of a discussion of the findings and a description of the methodology.
OUT-OF-POCKET HEALTH SPENDING

Non-institutionalized Medicare beneficiaries are projected to spend an average of $2,149 on out-of-pocket health care payments in 1997, excluding the costs of home care and nursing facility services (Figure 2).

- Of Medicare beneficiaries’ out-of-pocket health care spending, almost half (49 percent) is for direct payment for health services; 31 percent is spent on private insurance or HMO premiums; and 20 percent is spent on Medicare Part B premiums.

![Figure 2](image)

**Average Out-of-Pocket Health Costs for Medicare Beneficiaries,* by Expense Category, 1997**

- Prescription Drugs: 16%
- Hospital: 7%
- Physician, Supplier, Vision**: 18%
- Dental: 8%
- Part B Premiums: 20%
- Private Insurance Premiums (including HMO premiums): 31%

**TOTAL=$2,149**

* Non-institutionalized beneficiaries age 65 and over.

**We could not break out physician services, supplier, and vision items because we lacked data on out-of-pocket spending at the event level for sample respondents who entered the survey during 1993 (the MCBS refers to these as “ghosts”). The lack of event-level data meant that we had to rely on summary level data that combined physician, supplier, and vision. However, prior studies suggest that physician spending accounts for the bulk of this figure. AARP (1995) estimated that out-of-pocket spending for physician services constituted 84 percent of the combined physician/supplier/vision spending.

SOURCE: Medicare Benefit Simulation Model.

7 Excluding the costs of home health care and nursing facility services, which are not included in this analysis.

8 Private insurance expenditures include Medigap premiums and premiums for employer-provided or retiree supplemental insurance.
OUT-OF-POCKET HEALTH SPENDING AND TYPE OF INSURANCE COVERAGE

Medicare beneficiaries enrolled in the traditional fee-for-service program (and who are not enrolled in Medicaid) incur, on average, higher out-of-pocket health care costs than do beneficiaries enrolled in HMOs. The availability of Medicaid coverage for the poorest families results in substantially reduced average out-of-pocket payments for those beneficiaries enrolled in Medicaid for the entire year (Figure 3).

- Fee-for-service beneficiaries who are not enrolled in Medicaid are projected to incur, on average, $2,454 in out-of-pocket health care costs (excluding home health care and nursing facility costs) in 1997, compared to $1,775 for the average beneficiary enrolled in a Medicare HMO. About 76 percent of Medicare beneficiaries are projected to be in the fee-for-service program (and not enrolled in Medicaid) in 1997, while 13 percent are projected to be enrolled in HMOs.

- Beneficiaries who are enrolled in Medicaid throughout the year are projected to spend, on average, $337 in out-of-pocket health care costs in 1997. These beneficiaries are projected to comprise about 10 percent of the total Medicare population. By contrast, the 2 percent of beneficiaries projected to be enrolled in Medicaid for only part of the year are projected to spend an average of $1,758 out-of-pocket for health care in 1997.

Figure 3
Average Out-of-Pocket Health Spending for Medicare Beneficiaries,* by Type of Insurance, 1997

* Non-institutionalized beneficiaries age 65 and over. **Not enrolled in Medicaid.
SOURCE: Medicare Benefits Simulation Model.
• Most of the lower out-of-pocket health care spending for HMO enrollees comes from lower private insurance premiums, rather than from lower payments for health services. HMO enrollees pay about $550 less in private insurance premiums than the typical fee-for-service beneficiary not enrolled in Medicaid ($264 vs. $818). Lower health services costs\(^9\) account for only $145 of the $679 difference in average projected out-of-pocket health care spending between HMO enrollees and fee-for-service participants.\(^{10}\)

• It is impossible to tell from these data the extent to which lower out-of-pocket health care spending for HMO enrollees is due to lower cost-sharing, greater efficiencies in HMO operations, or better health status of HMO enrollees (Table 2).\(^{11}\)

Table 2

Summary of Out-of-Pocket Health Care Spending for Non-Institutionalized Medicare Beneficiaries Age 65 and Over, 1997

<table>
<thead>
<tr>
<th></th>
<th>TOTAL Average Out-of-Pocket Health Care Spending</th>
<th>$2,149</th>
<th>Not Medicaid-Enrolled</th>
<th>$2,454</th>
<th>$1,775</th>
<th>$337</th>
<th>$1,758</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$2,454</td>
<td>Fee-for-Service</td>
<td>$1,775</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$337</td>
<td>HMO enrollees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$1,758</td>
<td>Medicaid Enrollees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Full year</td>
<td>$1,758</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Part year</td>
<td>$1,758</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEALTH SERVICES</td>
<td>Hospital</td>
<td>$150</td>
<td>$171</td>
<td>$108</td>
<td>$16</td>
<td>$266</td>
<td></td>
</tr>
<tr>
<td>COSTS</td>
<td>Physician/Supplier/Vision</td>
<td>$378</td>
<td>$407</td>
<td>$372</td>
<td>$135</td>
<td>$452</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dental</td>
<td>$166</td>
<td>$183</td>
<td>$193</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prescription Drugs</td>
<td>$351</td>
<td>$387</td>
<td>$330</td>
<td>$96</td>
<td>$337</td>
<td></td>
</tr>
<tr>
<td>HEALTH INSURANCE</td>
<td>Medicare Part B Premium Contributions</td>
<td>$439</td>
<td>$486</td>
<td>$508(^a)</td>
<td>$0</td>
<td>$296</td>
<td></td>
</tr>
<tr>
<td>COSTS</td>
<td>Private Insurance/HMO Premium Contributions</td>
<td>$665</td>
<td>$818</td>
<td>$264</td>
<td>$72</td>
<td>$354</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Medicare Benefits Simulation Model.
NOTE: Out-of-pocket health care spending excludes Medicare Part A payroll taxes, home health care services and nursing facility care. See Appendix for definitions.

\(^{9}\) Insufficient number of observations for presenting a statistically significant projection.

\(^{10}\) The average Part B premium contribution represents an average premium cost over the entire year. The average contribution for HMO enrollees and fee-for-service enrollees differs because of differences between each group in the number of months that the average enrollee was in Medicare.

\(^{11}\) Some studies have found that Medicare beneficiaries who enroll in HMOs tend to have better health status and incur lower health care costs than do those who stay in the traditional program. See, for example, U.S. General Accounting Office, Medicare: Fewer and Lower Cost Beneficiaries with Chronic Conditions Enroll in HMOs, HEHS-97-160, August 1997.
OUT-OF-POCKET HEALTH SPENDING AS A PERCENT OF INCOME

Out-of-pocket health care spending by Medicare beneficiaries, excluding home health care and nursing facility costs, is projected to consume an average of 19 percent of their income in 1997 (Figure 4).

- Beneficiaries in the traditional fee-for-service program are projected to spend, on average, 21 percent of income out-of-pocket for health care.

- Projected out-of-pocket health care spending for HMO enrollees is, on average, 16 percent of income.

- Beneficiaries who are enrolled in Medicaid throughout 1997 are projected to spend an average of 7 percent of income out-of-pocket for health care in 1997. However, those who are enrolled in Medicaid only part of the year are projected to spend, on average, 23 percent of income out-of-pocket for health care—a higher percentage than is paid by fee-for-service beneficiaries.

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**Figure 4**

Average Out-of-Pocket Spending for Medicare Beneficiaries*
As a Percent of Income, by Type of Insurance, 1997

- All Beneficiaries: 19%
- Fee-for-Service **: 21%
- HMO**: 16%
- Part-year Medicaid: 23%
- Full-year Medicaid: 7%

* Non-institutionalized beneficiaries age 65 and over. **Not enrolled in Medicaid.
SOURCE: Medicare Benefits Simulation Model.
OUT-OF-POCKET HEALTH SPENDING AND LOWER-INCOME MEDICARE BENEFICIARIES

Out-of-pocket health care spending for the poorest beneficiaries—even excluding home health care and nursing facility costs—constitutes a substantial percentage of income, on average. By contrast, out-of-pocket spending is a lower percentage of income for middle- and high-income households (Figure 5; Table 3).

- Medicare beneficiaries with incomes below the federal poverty level\(^{12}\) are projected to spend, on average, 35 percent of their incomes on out-of-pocket health care spending.
- Those beneficiaries who have incomes below the federal poverty level and do not receive Medicaid assistance spend about half their income, on average, on out-of-pocket health care spending—whether or not they are enrolled in managed care (Figure 6). These beneficiaries account for almost 60 percent of all beneficiaries with incomes below the federal poverty level (see Table 1).
- Lower income beneficiaries are projected to have higher than average out-of-pocket health care spending, as a percent of income, regardless of whether they are enrolled in fee-for-service or an HMO (Table 3).
- Beneficiaries with incomes between 100 percent and 200 percent of the federal poverty level\(^{13}\) are projected to spend, on average, 22-23 percent of their incomes out-of-pocket for health care. Those who do not receive Medicaid assistance, and who are enrolled in the fee-for-service program, spend an average of 25 to 30 percent of income out-of-pocket for health care.
- The wealthiest beneficiaries—those with incomes above 400 percent of the poverty level\(^{14}\) are projected to spend 10 percent of their income, on average, out-of-pocket for health care.

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\(^{12}\) The poverty level for persons over age 65 in 1997 was assumed to be $7,755 for individuals and $9,780 for couples. The 1997 poverty levels were projected from 1993 U.S. Census Bureau estimates by adjusting those estimates for inflation as measured by the Consumer Price Index (CPI-U). Census Bureau estimates of the poverty level for 1997 were not available for this analysis.

\(^{13}\) In 1997, $7,755-$15,510 for individuals, and $9,780-$19,560 for couples.

\(^{14}\) In 1997, $31,020 for individuals and $39,120 for couples.
Figure 5
Average Out-of-Pocket Health Costs for Medicare Beneficiaries*
As a Percent of Income, by Income Status, 1997

Income status definitions: poor=below poverty; near poor=100% to 125% of poverty; low-income=126% to 200% of poverty; middle-income=over 201% to 400% of poverty; high-income=over 400% of poverty.

*Non-institutionalized beneficiaries age 65 and over.
SOURCE: Medicare Benefits Simulation Model.

Figure 6
Average Out-of-Pocket Health Costs for Poor and Near Poor Medicare Beneficiaries* as a Percent of Income, by Type of Insurance, 1997

*Non-institutionalized beneficiaries age 65 and over. **Not enrolled in Medicaid.
SOURCE: Medicare Benefits Simulation Model.
### Table 3
Average Out-of-Pocket Health Costs for Non-institutionalized Medicare Beneficiaries Age 65 and Over, by Income Status, 1997

<table>
<thead>
<tr>
<th>Income Status</th>
<th>Total</th>
<th>Not Medicaid-Enrolled</th>
<th>Full year Medicaid Enrollees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Beneficiaries (age 65 and over)</td>
<td>$2,149</td>
<td>$2,454</td>
<td>$1,775</td>
</tr>
<tr>
<td><strong>Income Status</strong></td>
<td></td>
<td><strong>Fee-for-Service</strong></td>
<td><strong>HMO enrollees</strong></td>
</tr>
<tr>
<td>Poor (below 100% of poverty)</td>
<td>$1,465</td>
<td>$2,299</td>
<td>$1,603</td>
</tr>
<tr>
<td>Near-Poor (100%-125% of poverty)</td>
<td>$1,663</td>
<td>$2,287</td>
<td>$1,406</td>
</tr>
<tr>
<td>Low Income (126%-200% of poverty)</td>
<td>$2,048</td>
<td>$2,330</td>
<td>$1,509</td>
</tr>
<tr>
<td>Middle Income (201%-400% of poverty)</td>
<td>$2,305</td>
<td>$2,477</td>
<td>$1,852</td>
</tr>
<tr>
<td>High Income (over 400% of poverty)</td>
<td>$2,411</td>
<td>$2,585</td>
<td>$1,994</td>
</tr>
<tr>
<td>All Beneficiaries (age 65 and over), as a percent of income</td>
<td>19%</td>
<td>21%</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Income Status</strong></td>
<td></td>
<td><strong>Fee-for-Service</strong></td>
<td><strong>HMO enrollees</strong></td>
</tr>
<tr>
<td>Poor (below 100% of poverty)</td>
<td>35%</td>
<td>54%</td>
<td>48%</td>
</tr>
<tr>
<td>Near-Poor (100%-125% of poverty)</td>
<td>23%</td>
<td>30%</td>
<td>23%</td>
</tr>
<tr>
<td>Low Income (126%-200% of poverty)</td>
<td>22%</td>
<td>25%</td>
<td>17%</td>
</tr>
<tr>
<td>Middle Income (201%-400% of poverty)</td>
<td>17%</td>
<td>18%</td>
<td>14%</td>
</tr>
<tr>
<td>High Income (over 400% of poverty)</td>
<td>10%</td>
<td>11%</td>
<td>8%</td>
</tr>
</tbody>
</table>

**SOURCE:** Medicare Benefits Simulation Model.

**NOTE:** Out-of-pocket health care spending excludes home health care services and nursing facility care. See Appendix for other definitions. A small percentage of Medicare beneficiaries with Medicaid are reported here to have incomes above 200 percent of poverty. One reason this occurs is because the poverty level is based on family income, while Medicaid eligibility is based on individual income. Beneficiaries receiving Medicaid and living with family members may be included in the middle income or high income groups because of their families’ income level, although their own incomes may qualify them for Medicaid assistance. Another explanation is that some beneficiaries may incur sufficiently high medical costs as to spend down their income and assets at some point during the year, thereby making them eligible for Medicaid.

*Insufficient number of observations in each income group for presenting statistically significant projections for part-year Medicaid enrollees.

Poverty level for persons over age 65 in 1997 was $7,755 for individuals and $9,780 for couples.
Medicare beneficiaries who are enrolled in the traditional fee-for-service program, and who do not have any supplemental insurance (including Medicaid), incur lower out-of-pocket health care costs, on average, than do their counterparts with private supplemental coverage. However, they spend more than their insured counterparts on direct payments for health services (that is, that part of health care costs that excludes insurance premiums). Furthermore, most of their out-of-pocket spending for health services is on Medicare cost sharing for covered services, while most of such spending by those with supplemental coverage is for services not covered by Medicare (Table 4).

- Fee-for-service beneficiaries for whom Medicare is the only source of health insurance (“Medicare-only” beneficiaries) are projected to incur, on average, $1,735 in out-of-pocket medical care costs (that is, excluding home health care and nursing facility costs) in 1997, compared to $2,610 for the average fee-for-service beneficiary who has a Medigap policy or employer-provided supplemental coverage. About 18 percent of fee-for-service Medicare beneficiaries who are not enrolled in Medicaid have no supplemental insurance.

- When excluding the costs of insurance coverage, Medicare-only beneficiaries incur higher overall out-of-pocket expenses for direct payment for health services than do those with supplemental coverage. On average, Medicare-only beneficiaries are projected to pay $1,273 out-of-pocket for health services in 1997, compared to $1,121 for those with supplemental coverage.

- The data suggest that beneficiaries without supplemental coverage use more of their available funds to pay Medicare cost sharing, while those with insurance use more of their resources to pay for health services not covered by Medicare. Of the $1,273 that “Medicare-only” beneficiaries spend out-of-pocket on health services, 70 percent ($890) is spent, on average, on hospital and physician/supplier/vision services. This figure is $380 more than is spent on the same services by their counterparts with private supplemental insurance (whose private coverage is more likely to cover Medicare cost sharing requirements on these services). By contrast, fee-for-service beneficiaries with private supplemental coverage spend, on average, $228 more per year on prescription drugs and dental services than do Medicare-only beneficiaries.

- Average out-of-pocket health care costs for fee-for-service beneficiaries with supplemental coverage differs from that for HMO enrollees in the following ways. First, fee-for-service beneficiaries with private supplemental coverage spend an average of $30 more per year on physician/supplier/vision services, and $78 more per year on prescription drugs. Second, they pay over $700 per year more in insurance costs, reflecting the difference between the average supplemental premium payment and the average HMO premium payment.
Table 4
Out-of-Pocket Health Costs for Medicare Beneficiaries
Not Enrolled in Medicaid, by Type of Cost, 1997

<table>
<thead>
<tr>
<th></th>
<th>Fee-for-Service</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Private Insurance</td>
<td>Medicare Only</td>
<td>HMO</td>
</tr>
<tr>
<td>All beneficiaries (age 65 and over)</td>
<td>$2,610</td>
<td>$1,735</td>
<td>$1,775</td>
</tr>
<tr>
<td>HEALTH SERVICES COSTS</td>
<td>Hospital</td>
<td>$109</td>
<td>$454</td>
</tr>
<tr>
<td></td>
<td>Physician/Supplier/Vision</td>
<td>$401</td>
<td>$436</td>
</tr>
<tr>
<td></td>
<td>Dental</td>
<td>$203</td>
<td>$92</td>
</tr>
<tr>
<td></td>
<td>Drugs</td>
<td>$408</td>
<td>$291</td>
</tr>
<tr>
<td>HEALTH INSURANCE COSTS</td>
<td>Medicare Part B Premium Contributions</td>
<td>$492</td>
<td>$462</td>
</tr>
<tr>
<td></td>
<td>Private Insurance/HMO Premium Contributions</td>
<td>$997</td>
<td>$0</td>
</tr>
</tbody>
</table>

SOURCE: Medicare Benefits Simulation Model.

NOTE: Out-of-pocket health care spending excludes spending for home health care services and nursing facility care. See Appendix for definitions.
OUT-OF-POCKET HEALTH SPENDING BY AGE OF BENEFICIARY

Medicare beneficiaries age 75 and older are projected to pay more out-of-pocket as a percent of income, on average, than those age 65 to 74 (Table 5). However, the existence of Medicaid protects many of the oldest old (those beneficiaries age 85 and over) from high out-of-pocket health care spending.

- On average, beneficiaries age 85 and over are projected to incur $2,169 in out-of-pocket health care costs (excluding the costs of home health and nursing facility care), compared to $2,238 for beneficiaries age 80-84 and $2,360 for beneficiaries age 75-79. However, if the costs of home health and nursing facility care were included, expenditures by the oldest beneficiaries would likely exceed those of their younger counterparts, since older beneficiaries are the most likely to use these services.

- The pattern of lower out-of-pocket health costs for beneficiaries age 85 and over (compared to those age 75-84) can be partly explained by the high share of older beneficiaries receiving Medicaid assistance for out-of-pocket health care spending. About 17 percent of beneficiaries age 85 and over receive Medicaid for the full year, compared to 11 percent of beneficiaries age 80-84 and 9 percent of beneficiaries age 75-79. By contrast, the average out-of-pocket health care spending projected for beneficiaries age 85 and over without Medicaid coverage who are in fee-for-service Medicare ($2,697) exceeds that of beneficiaries age 80-84 ($2,588) and is similar to that of beneficiaries age 75-79 ($2,680).

- Beneficiaries age 75-79, 80-84, and 85 and over are all projected to spend, on average, the same share of income on out-of-pocket health care spending (21 percent of income). However, those age 85 and over who are enrolled in fee-for-service Medicare, and who do not receive Medicaid assistance, are projected to spend an average of 25 percent of their income on health care--higher than any other age group.
Table 5  
Average Out-of-Pocket Health Costs for  
Non-institutionalized Medicare Beneficiaries  
Age 65 and Over, by Age Group, 1997

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total</th>
<th>Not Medicaid-Enrolled Fee-for-Service</th>
<th>Medicaid enrollees</th>
<th>Full year Medicaid enrollees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Beneficiaries (age 65 and over)</td>
<td>$2,149</td>
<td>$2,454</td>
<td>$1,775</td>
<td>$337</td>
</tr>
<tr>
<td>Age 65-69</td>
<td>$1,947</td>
<td>$2,174</td>
<td>$1,738</td>
<td>$256</td>
</tr>
<tr>
<td>Age 70-74</td>
<td>$2,152</td>
<td>$2,417</td>
<td>$1,790</td>
<td>$354</td>
</tr>
<tr>
<td>Age 75-79</td>
<td>$2,360</td>
<td>$2,680</td>
<td>$1,800</td>
<td>$320</td>
</tr>
<tr>
<td>Age 80-84</td>
<td>$2,238</td>
<td>$2,588</td>
<td>$1,779</td>
<td>$431</td>
</tr>
<tr>
<td>Age 85+</td>
<td>$2,169</td>
<td>$2,697</td>
<td>$1,815</td>
<td>$343</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>All Beneficiaries (age 65 and over), as a % of income</th>
<th>Total</th>
<th>Fee-for-Service</th>
<th>Medicaid enrollees</th>
<th>Full year Medicaid enrollees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 65-69</td>
<td>16%</td>
<td>18%</td>
<td>14%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Age 70-74</td>
<td>18%</td>
<td>20%</td>
<td>15%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Age 75-79</td>
<td>21%</td>
<td>23%</td>
<td>17%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Age 80-84</td>
<td>21%</td>
<td>23%</td>
<td>18%</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Age 85+</td>
<td>21%</td>
<td>25%</td>
<td>18%</td>
<td>6%</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Medicare Benefits Simulation Model.

NOTE: Out-of-pocket health care spending excludes home health care services and nursing facility care. See Appendix for definitions.
OUT-OF-POCKET HEALTH CARE SPENDING AND GENDER

On average, female Medicare beneficiaries pay a higher percentage of income out-of-pocket for health care than do males (Table 6).

- In 1997, average out-of-pocket health care spending by female Medicare beneficiaries is projected to exceed that of male beneficiaries for each type of health coverage (fee-for-service, HMO enrollee, full-year Medicaid enrollee, part year Medicaid enrollee).

- Total average out-of-pocket health costs are lower for women than for men because women are more likely than men to receive full-year Medicaid assistance. Over 12 percent of female beneficiaries are enrolled in Medicaid for the entire year, compared to less than 6 percent of male beneficiaries (Table 7). Because full-year Medicaid enrollees have much lower out-of-pocket health costs, in dollar terms, than other Medicare beneficiaries, the greater likelihood of women receiving Medicaid drives down their total average out-of-pocket health costs.

- Because women typically have lower incomes than men, the share of income women are projected to spend on health care is higher than that for men. Women enrolled in Medicare are projected to spend 20 percent of their income, on average, on out-of-pocket health care spending in 1997, compared to 17 percent for men. Women are projected to have greater out-of-pocket health spending than men, as a share of their income, across all types of insurance coverage.

- To some extent, differences in out-of-pocket health spending between men and women may reflect women’s greater likelihood of living longer and living alone. Health care costs typically rise with advancing age, and women living alone typically have lower incomes than other Medicare beneficiaries.
### Table 6
Average Out-of-Pocket Health Costs for Non-Institutionalized Medicare Beneficiaries Age 65 and Over, by Gender, 1997

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Not Medicaid-Enrolled</th>
<th>Medicaid Enrollees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Fee-for-Service</td>
<td>HMO enrollees</td>
</tr>
<tr>
<td>All beneficiaries (age 65 and over)</td>
<td>$2,149</td>
<td>$2,454</td>
<td>$1,775</td>
</tr>
<tr>
<td>Males</td>
<td>$2,160</td>
<td>$2,383</td>
<td>$1,752</td>
</tr>
<tr>
<td>Females</td>
<td>$2,140</td>
<td>$2,511</td>
<td>$1,795</td>
</tr>
<tr>
<td>All beneficiaries (age 65 and over), as a % of income</td>
<td>19%</td>
<td>21%</td>
<td>16%</td>
</tr>
<tr>
<td>Males</td>
<td>17%</td>
<td>19%</td>
<td>14%</td>
</tr>
<tr>
<td>Females</td>
<td>20%</td>
<td>22%</td>
<td>17%</td>
</tr>
</tbody>
</table>

**SOURCE:** Medicare Benefits Simulation Model.
**NOTE:** Out-of-pocket health care spending excludes home health care services and nursing facility care. See Appendix for definitions.

### Table 7
Distribution of Non-Institutionalized Medicare Beneficiaries, by Type of Insurance and Gender, 1997

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Not Medicaid-Enrolled</th>
<th>Medicaid Enrollees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Fee-for-Service</td>
<td>HMO enrollees</td>
</tr>
<tr>
<td>All beneficiaries (age 65 and over)</td>
<td>34,333</td>
<td>25,868</td>
<td>4,477</td>
</tr>
<tr>
<td>Male</td>
<td>14,729</td>
<td>11,559</td>
<td>2,068</td>
</tr>
<tr>
<td>Female</td>
<td>19,604</td>
<td>14,309</td>
<td>2,408</td>
</tr>
<tr>
<td>Percent Distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>100%</td>
<td>78.5%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Female</td>
<td>100%</td>
<td>73.0%</td>
<td>12.3%</td>
</tr>
</tbody>
</table>

**SOURCE:** Medicare Benefits Simulation Model.
CONCLUSION

In considering policy options that would change Medicare premiums and cost sharing, it is important to understand current levels of out-of-pocket health care spending already paid by Medicare beneficiaries. This report demonstrates that many beneficiaries already pay substantial amounts for health care. Older Americans with lower incomes who do not receive full-year Medicaid assistance are paying the highest shares of their income on out-of-pocket health costs.

These data show that out-of-pocket health care spending continues to be a substantial burden for most Medicare beneficiaries. Beneficiaries continue to face high costs for Medicare Part B premiums, private insurance and HMO premiums, physician and hospital costs, and prescription drugs. Out-of-pocket health care spending is particularly burdensome for lower income beneficiaries.

This analysis confirms the positive role that Medicaid eligibility has played in reducing out-of-pocket health care spending for those beneficiaries who receive full-year Medicaid assistance. However, out-of-pocket payments by part-year Medicaid enrollees are similar to beneficiaries who are enrolled in HMOs. In addition, those lower-income beneficiaries who do not receive or are not eligible for Medicaid pay very high shares of income for health care costs (half of all beneficiaries at or below the federal poverty level are in fee-for-service Medicare and are not protected by Medicaid).

Direct out-of-pocket spending for health services is also lower for HMO enrollees than for those in the fee-for-service program. However, these data do not reveal the extent to which this lower out-of-pocket spending is due to lower HMO cost sharing, greater efficiencies in HMO operations, or better health status among HMO enrollees.

This analysis also reveals different patterns in direct out-of-pocket spending on health services between fee-for-service beneficiaries who have supplemental coverage and those who lack such coverage. Those fee-for-service beneficiaries without supplemental coverage spend an average of $150 more per year on health services, and most of that amount (70 percent) on cost sharing for hospital care, physician services, and other Medicare-covered benefits. By contrast, those fee-for-service beneficiaries who have supplemental coverage spend less out-of-pocket for direct health services and are able to target most of their health expenditures on services that are not covered by Medicare (such as prescription drugs and dental care).

As noted earlier, this analysis excludes home health care costs from the out-of-pocket estimates because the MCBS data on home health services are not comparable to those reported in the 1987 NMES. Inclusion of these costs would, naturally, increase our estimates of out-of-pocket health care spending.
This report estimates out-of-pocket health care spending (excluding home health care and nursing facility costs) for non-institutionalized Medicare beneficiaries in 1997. For purposes of this study, out-of-pocket payments are defined as including Medicare deductibles and coinsurance, premiums for private insurance and Medicare Part B, non-covered goods and services, and balance billing by physicians. Not included in this analysis are the costs of home health care and nursing facility services, the health care costs of the institutionalized population (i.e., residents of nursing facilities and other institutions), and indirect tax payments toward health care financing (e.g., federal and state income taxes, property taxes, and Medicare Hospital Insurance taxes).

The Lewin Group, of Fairfax, Virginia, developed the Medicare Benefits Simulation Model to conduct this analysis. The project involved updating data from the Cost and Use Files from the 1993 Medicare Current Beneficiary Survey (MCBS) to 1997. Updating expenditure information collected in earlier time periods is routinely done and is necessary to provide policymakers, researchers, and others with more relevant data. The MCBS Cost and Use File is the most recent, comprehensive database that contains individual Medicare beneficiaries’ expenditures for health services, including age-specific information. The MCBS also differs from other data sources (such as the 1987 National Medical Expenditure Survey) because of its focus on Medicare beneficiaries, rather than on the general population.

The 1993 MCBS Cost and Use file includes survey data for approximately 12,000 Medicare beneficiaries, both in the community and in institutions. It is the largest and most recent data collection effort of its kind. The survey collects information on utilization and expenditures for all health care services and sources of financing at three points during the year. In addition, the survey gathers information about an individual’s socio-economic, health status, functional status, and insurance status. Respondents were matched to their actual Medicare claims, assuring the most accurate representation of Medicare payments.

To conduct this analysis, The Lewin Group trended forward 1993 MCBS data using actual and projected data from the following sources: the Health Care Financing Administration’s Office of the Actuary (National Health Accounts and other unpublished data from HCFA’s Office of Managed Care); the Congressional Budget Office; the Bureau of Census (Current Population Survey); and the Social Security Administration.

Comparisons to Previous Analyses of Out-of-Pocket Spending

Two previous studies used 1987 NMES data to project out-of-pocket health care spending for non-institutionalized Americans over age 65. The first study (AARP, 1995) used NMES to project family out-of-pocket health care spending in 1994. The second study (Moon, et al.,
1996) extends those projections to 1996. Table A-1 summarizes projections of out-of-pocket medical care spending as a percent of family income, by demographic characteristic, for these two reports.

### Table A-1

**Previous Estimates of Out-of-Pocket Health Care Spending for Older Americans as a Percent of Family Income, By Demographic Characteristic**

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>1994 (AARP)</th>
<th>1996 (Moon, et al.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older Americans (age 65 and over)</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Poverty Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor (below 100% of poverty)</td>
<td>34%</td>
<td>30%</td>
</tr>
<tr>
<td>Near-Poor (100%-125% of poverty)</td>
<td>27%</td>
<td>31%</td>
</tr>
<tr>
<td>Low Income (126%-200% of poverty)</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td>Middle Income (201%-400% of poverty)</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>High Income (over 400% of poverty)</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-69</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>70-74</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>75-79</td>
<td>20%</td>
<td>22%</td>
</tr>
<tr>
<td>80-84</td>
<td>31%</td>
<td>25%</td>
</tr>
<tr>
<td>85+</td>
<td>29%</td>
<td>25%</td>
</tr>
</tbody>
</table>

**SOURCE:** AARP, 1995; Moon, et al., 1996.

**NOTE:** The poverty level for persons over age 65 in 1996 was $7,525 for individuals and $9,484 for couples.

In both of these studies, older Americans were projected to spend, on average, 21 percent of their income on out-of-pocket medical care spending. This figure included: cost-sharing for Medicare-covered services, non-covered services and products (such as prescription drugs), private health insurance premiums and the Medicare Part B premium, and balance billing. It also included the costs of home care services, which are not included in the estimates derived in this report.

Two conclusions that emerge from these prior studies are that:

- Older Americans with lower incomes pay a higher portion of their income for out-of-pocket medical care than their wealthier counterparts—an average of over 25 percent of their income; and

---

• On average, the oldest Americans (those over age 80) bear a greater financial burden for medical care spending as a share of their income, than do those aged 65-79.

The 1993 MCBS Cost and Use files offer several advantages over the 1987 NMES for estimating out-of-pocket medical care costs of Medicare beneficiaries age 65 and older. First, the MCBS data provide more detailed information on current spending by older Medicare beneficiaries (that is, those age 65 and older) and is based on actual Medicare claims data. Second, the MCBS sample of older Americans is more than triple the size of that in the NMES, making the MCBS more suitable for examining out-of-pocket spending trends for subgroups. Finally, using the more recent MCBS data may improve the quality of the projections because they better capture the effects of changes in health markets and Medicare payment policies that took place between 1987 and 1993, such as the growth of managed care and changes in federal Medicare payment policies.

The projections derived from the MCBS data differ from those in the studies using NMES in three key areas:

Data – The 1987 NMES household data included a sample of non-institutionalized individuals age 65 and over regardless of whether they were Medicare beneficiaries. The 1993 MCBS data included only Medicare beneficiaries. For this analysis, we included only those Medicare beneficiaries age 65 and over who did not reside in an institution for the entire survey period. This makes the sample population considered in the MCBS fairly comparable to the NMES, with the exception of those persons age 65 and over who do not have Medicare coverage. The sample size of older persons for the MCBS was over three times that of the NMES, making it more amenable to examining subgroups. Finally, the MCBS provides monthly information about Medicare enrollment in both Parts A and B, HMO enrollment, and Medicaid enrollment. This permitted an accurate accounting of a beneficiary’s status over the course of a year, including whether or not Part B premium payments were made.

Definitions – Three key definitions differ between the out-of-pocket spending estimates presented here and previous estimates based on the NMES. First, the estimates presented here exclude home care expenditures (both analyses excluded nursing facility expenditures for persons in the community and institutions during the course of the year). Second, because the data only provide estimates for an individual and not his or her spouse, the calculation of out-of-pocket spending as a percent of income presented here required the use of an individual’s share of a couple’s income compared to the combined spending by a couple divided by the couple’s income. This ratio should be comparable to the ratio of household spending to income, since the MCBS is significantly large to minimize the probability of bias towards spouses with relatively high or low health care spending. Finally, as mentioned previously, this analysis does not include the small proportion of individuals age 65 and over who were not Medicare beneficiaries.

Projection Method – Beginning with data from 1993, rather than 1987, means that changes in the delivery and financing of health care over this period should be better captured by the actual observation of an individual’s circumstances in 1993 than by projections based on assumptions from 1987 data. In developing the projections from the MCBS, we attempted to
capture the effects of significant increases in enrollment to Medicare HMOs, increased Medicaid enrollment, increases in the percent of Medicare fee-for-service beneficiaries using each type of health service, and changes in their level of use of those services. Previous estimates based on the NMES captured some of these factors to a lesser degree. Finally, we explicitly modeled Medicare cost-sharing provisions and beneficiary coverage from supplemental policies so that trends in out-of-pocket spending for these services would accurately reflect changes in Medicare cost-sharing requirements. It is important to realize that projections require numerous assumptions about trends in health care use and expenditures. As a result, projections even using the same starting data can, and often do, differ.

All of the differences noted above contribute to differences in the estimates of patterns of out-of-pocket spending and out-of-pocket spending as a percent of income presented here compared to previous analyses.

A similarity between the methodology applied in this study and both AARP (1995) and Moon (1996) is that all use individual record analysis to update and calculate averages from personal health expenditure data. Under this approach, each person’s estimated share counts equally so that, when averages are calculated, they are more representative of the typical individual. By contrast, under an aggregate record approach, the fact that a high proportion of income is concentrated among a small proportion of individuals disproportionately influences the results. Therefore, an aggregate average does not represent a “typical” beneficiary, and tends to understate the average across individuals. Since data limitations often mean that only aggregate analyses are possible, such analyses are more often reported.

The following illustration demonstrates the difference between the individual record and the aggregate level approaches. Using both methodologies, we calculate “share of income consumed by out-of-pocket health spending” for the same three-person group. Note that, in the individual record approach, the relationship between variables such as out-of-pocket spending and income are calculated for each individual. The aggregated approach first totals the spending amounts, then totals the income amounts, and finally calculates spending as a percent of income based on the variable totals.

**Individual Record**: For the three-person group described below, 20 percent represents the average share of their income consumed by out-of-pocket health care spending.

Person 1: $5,000 out-of-pocket spending = 25% $20,000 income

Person 2: $2,000 out-of-pocket spending = 5% $40,000 income

Person 3: $3,000 out-of-pocket spending = 30% $10,000 income

Calculation: \( \frac{25\% + 5\% + 30\%}{3} = 20\% \)
**Aggregate level:** For the same three-person group, total out-of-pocket health care spending represents 14.3 percent of total income:

Total out-of-pocket spending:
\[ \$5,000 + \$2,000 + \$3,000 = \$10,000 \]

Total Income
\[ \$20,000 + \$40,000 + \$10,000 = \$70,000 \]

Calculation: \[ \frac{\$10,000}{\$70,000} = 14.3\% \]

It is important to note that, in our projections, we capped all out-of-pocket estimates at 100 percent. That is, we assumed that no individual’s out-of-pocket health care spending exceeded 100 percent of their income.

**Caveats**

This analysis used microsimulation techniques to project from a 1993 survey out-of-pocket health care spending in 1997. Microsimulation permits explicit modeling of key factors that affect out-of-pocket spending, including:

- Medicare cost-sharing rules (e.g., the inpatient hospital deductible and the part B premium);
- Changes in the use, intensity and costs of services (e.g., the rapid growth in Medicare outpatient hospital services, home health, and nursing facility care);
- Changes in insurance status (e.g., increased enrollment in HMOs); and
- Changes in the characteristics of the population over time (e.g., changes in income and differential growth rates of the population by age and minority status).

These factors typically are not captured by other projection methods that rely primarily on past trends in spending to project future spending.

Microsimulation modeling requires numerous assumptions. These assumptions range from the characteristics of new entrants into Medicare HMOs to the assumed rate of increase in out-of-pocket spending for non-Medicare services. Whenever possible, we based our assumptions on our own and others’ research. We note, however, that for some aspects of the projections it was necessary to use simplifying assumptions, due primarily to a lack of data. For example, data about the specific features of prescribed medication coverage for Medicare HMOs were not available (e.g., coverage limits and copayments required). Therefore, we had to make reasonable assumptions about differing levels of prescribed medication coverage based on anecdotal evidence from news articles.
**Definitions**

**Dental services** – All services provided by dentists or other dental care providers. Includes cleaning, purchase, or repair of dentures, and orthodontic procedures.

**Durable medical equipment** – All medically-related equipment that can be used in the home for a particular illness or injury (e.g., oxygen, certain wheelchairs, walkers, and respirators).

**HMO** – Health Maintenance Organization. Medicare contracts with HMOs to provide, or arrange for, a comprehensive package of health care services. Risk-based HMOs are paid a pre-determined amount per enrolled beneficiary to provide all Medicare-covered services.

**Home health care services** – All home visits from a paid health care provider, who administered any medical or nursing treatment, and/or provided assistance with basic activities of daily living (ADLs). Includes paid homemakers who assist with instrumental activities of daily living (IADLs). The analysis presented in this paper does not include home care expenditures.

**Hospital** – All hospital facility charges for inpatient and outpatient department care (e.g., room charges, inpatient medications, and diagnostic and laboratory charges).

**Individual/Couple income** – Total personal income for single persons and total personal income from both spouses for couples. Income sources include: jobs, Social Security, Railroad Retirement, other retirement income, Supplemental Security Income (SSI), pensions, interest, and any other sources.

**Insurance status** – We developed hierarchical categories of insurance status based on the following order and definitions:

- **Full-Year Medicaid** – Medicare beneficiaries with Medicaid coverage for the entire period they are Medicare beneficiaries during the year. This time period could be less than 12 months for persons who became Medicare beneficiaries during the year or who died.

- **Part-Year Medicaid** – Medicare beneficiaries with Medicaid coverage for less than the entire period they are Medicare beneficiaries during the year.

- **Non-Medicaid Risk HMO** – Medicare beneficiaries enrolled in a Medicare risk HMO for at least one month during the period they are Medicare beneficiaries during the year.

- **Non-Medicaid Fee-for-Service** – Medicare beneficiaries with individually purchased Medicare Supplemental insurance, employer-provided supplemental insurance, cost-based HMO coverage, or no supplemental coverage.
Non-institutionalized Medicare population age 65 and over – Individuals age 65 and over who live in the community at some point during the calendar year. This population includes individuals who have Medicare coverage for less than a year, either because they became Medicare eligible mid-year or died during the year. This population excludes any individuals who reside in a nursing facility for the entire time that they are a Medicare beneficiary during the calendar year.

Nursing home – Short-term institutional stays, such as in skilled nursing facilities or rehabilitation hospitals, or long-term care facilities such as nursing homes, institutions for MR/DD, assisted living facilities, and other long-term care facilities with three or more residents. The analysis presented in this paper does not include nursing home expenditures.

Out-of-pocket health spending as a percent of income – The amount spent out-of-pocket by an individual for physician and other providers, hospital, and dental services; prescribed medications, vision items, and durable medical equipment; Medicare Part B premiums; and premium contributions for private insurance as a percentage of an individual’s share of individual/couple income. For single individuals, the share of individual/couple income equals his or her personal income. For couples, the share of individual/couple income equals one-half the combined individual income for both members. To estimate the average ratio of out-of-pocket spending as a percent of income, the value was calculated for each individual, capped at 100 percent, and then averaged across all persons.

Physician/Supplier/Vision – Physician services include inpatient, outpatient, and other (e.g., clinic) visits by physicians and non-physician providers; physician services in the emergency room; and physician charges related to durable medical equipment. Supplier services include durable medical equipment that can be used in the home for a particular illness or injury (e.g., oxygen, certain wheelchairs, walkers, and respirators). Vision medical items include items such as eyeglasses and contact lenses.

Poverty level – This standardized measure of income used by the Bureau of the Census establishes differing poverty thresholds based on the size of the family and the number of related children under age 18. For families of two or less persons, the poverty level is based on the age of the household head, which is categorized as either under age 65 or age 65 and over. Family income (the sum of individual income for all household members related by blood or marriage), rather than individual/couple income, is used to calculate income as a percent of the poverty level. The MCBS data did not include information about family income; therefore, for individuals who are not single and living alone or couples living by themselves we imputed family income using data from the Current Population Survey.

Prescription drugs – All expenses for all medicines prescribed in outpatient departments, offices, or similar settings.

Private insurance premiums – Payments by beneficiaries for individual Medicare supplemental coverage policies (Medigap), the employee portion of employer provided supplemental coverage, Medicare HMO premiums, and payments for other private insurance premiums (e.g., private long-term care insurance and dread disease policies).