



September 2013

MEDICARE SUPPLEMENTAL COVERAGE

Medigap and Other
Factors Are
Associated with
Higher Estimated
Health Care
Expenditures

GAO Highlights

Highlights of [GAO-13-811](#), a report to the Ranking Member, Committee on Finance, U.S. Senate

Why GAO Did This Study

Medicare provides coverage for the cost of many health care services. At the same time, because some services are not covered by Medicare, and because of cost-sharing such as copayments and deductibles, beneficiaries enrolled in Medicare FFS may have significant out-of-pocket expenditures. Most Medicare beneficiaries have some form of additional health care coverage—referred to as supplemental coverage—to help them pay for these costs. For example, Medicare FFS beneficiaries may have supplemental coverage from private insurance companies, called Medigap, or that they receive as retirees through a former employer, referred to as employer-sponsored coverage. This supplemental coverage may reduce any incentive that out-of-pocket costs creates for beneficiaries to be more cost-conscious in their use of services.

GAO was asked to provide information about how Medicare beneficiaries with supplemental coverage compare to Medicare beneficiaries without supplemental coverage with respect to total health care costs and the sources of payment for those costs. In this report, GAO compares average total health care expenditures and sources of payment for Medicare FFS beneficiaries with and without supplemental coverage. GAO analyzed data from the 2010 MCBS, the most recent MCBS data available at the time we conducted our analysis. GAO also reviewed original research studies published since 2008 to understand factors that could affect spending for Medicare beneficiaries with and without supplemental coverage.

View [GAO-13-811](#). For more information, contact John E. Dicken, (202) 512-7114, dickenj@gao.gov.

September 2013

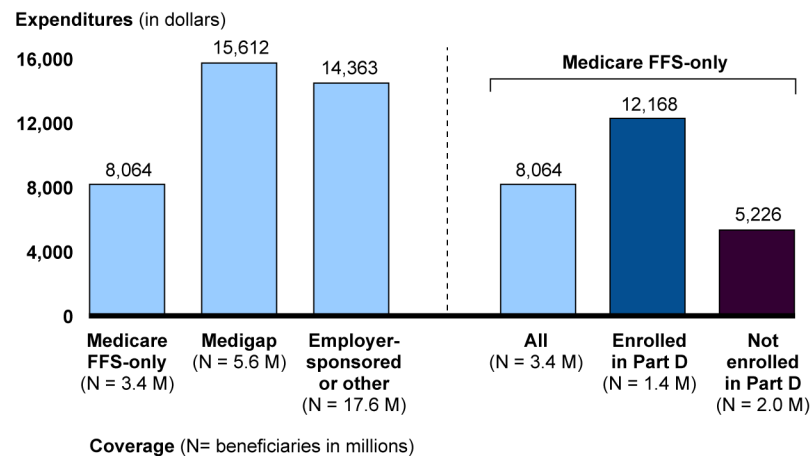
MEDICARE SUPPLEMENTAL COVERAGE

Medigap and Other Factors Are Associated with Higher Estimated Health Care Expenditures

What GAO Found

GAO's analysis of the Centers for Medicare & Medicaid Services' 2010 Medicare Current Beneficiary Survey (MCBS) showed that estimated average total health care expenditures were higher for beneficiaries with Medigap or employer-sponsored coverage than for beneficiaries with traditional fee-for-service (FFS) Medicare only. While estimated average expenditures were lower for beneficiaries with Medicare FFS-only, those who were enrolled in Medicare's Part D prescription drug program had higher average health care expenditures than those without Part D (see fig. below). Although some research has found similar patterns of higher health care expenditures for those with supplemental coverage, other studies have found that certain characteristics, such as health status and age, may influence the decision to purchase supplemental coverage, which could provide a partial explanation of the differences in expenditures. Furthermore, some studies suggest that increasing cost-sharing for those with supplemental coverage could decrease the utilization of (and associated health care expenditures for) certain types of health care such as physician visits, but increase the utilization of (and expenditures for) other types of health care such as inpatient hospitalizations.

Estimated Average Total Health Care Expenditures per Beneficiary by Supplemental Coverage Category and by Part D Enrollment for Medicare FFS-only, 2010



Source: GAO analysis of Medicare Current Beneficiary Survey Cost and Use Data, 2010.

Note: This analysis excludes beneficiaries residing in long term care facilities such as nursing homes.

When looking at the source of payment for health care expenditures, GAO's analysis of 2010 MCBS data showed that estimated average spending by Medicare for those with Medigap or employer-sponsored coverage was greater than for those with Medicare FFS-only. Average Medicare spending for beneficiaries with Medigap was more than twice as much as Medicare spending for beneficiaries with Medicare FFS-only. Similarly, out-of-pocket spending for beneficiaries with Medigap was greater than for those with Medicare FFS-only.

We provided a draft copy of this report to HHS for review. HHS provided technical comments and we addressed them as appropriate.

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Abbreviations

CMS	Centers for Medicare & Medicaid Services
FFS	fee-for-service
MCBS	Medicare Current Beneficiary Survey
MedPAC	Medicare Payment Advisory Commission

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September 19, 2013

The Honorable Orrin G. Hatch
Ranking Member
Committee on Finance
United States Senate

Dear Senator Hatch:

Spending for Medicare—the federal health insurance program for elderly and certain other individuals—accounted for 16 percent of the federal budget in 2013, and is expected to grow as a share of the nation’s economy.¹ Policymakers seeking to reduce the federal deficit are considering a range of proposals for controlling Medicare spending, including proposals to give beneficiaries greater incentives to limit their use of health care services.

While Medicare covers a broad range of health care services, beneficiaries enrolled in the traditional fee-for-service (FFS) Medicare program may still have significant out-of-pocket expenditures, including copayments, coinsurance, deductibles, and the full cost of services not covered by Medicare.² Most Medicare FFS beneficiaries have some form of additional health care coverage, which is referred to as supplemental coverage, to help them pay for these costs. Supplemental coverage may reduce the incentive for beneficiaries to be cost-conscious in making decisions about the use of health services, leading them to use more services than they need. However, reducing supplemental coverage may create a risk that some individuals may forgo necessary services, exacerbating their health care needs and perhaps the long-term cost of their care.

¹The Medicare program provides health coverage for persons age 65 or over, certain individuals with disabilities, and individuals with end-stage renal disease.

²Traditional FFS Medicare includes Part A, which covers hospital services, and Part B, which covers certain services not covered by Part A, such as physician and outpatient services. Beneficiaries enrolled in Parts A and B may choose to enroll in a managed care Medicare Advantage plan (Part C) in lieu of Medicare FFS. Also, since 2006, Medicare Part D—prescription drug coverage—has been available to Medicare beneficiaries.

To better understand the role of supplemental coverage in Medicare spending, you asked us to provide information about how Medicare beneficiaries with supplemental health coverage compare to Medicare beneficiaries without supplemental health coverage with respect to total health care spending and the sources of payment for this spending. In this report we examine average health care expenditures and sources of payment for Medicare FFS beneficiaries across three categories of supplemental coverage: those with no supplemental coverage, those with Medigap, and those with employer-sponsored or other supplemental coverage.³

To describe how expenditures for Medicare FFS beneficiaries with supplemental health coverage differ from expenditures for Medicare FFS beneficiaries without supplemental health coverage, we analyzed data from the 2010 Cost and Use component of the Medicare Current Beneficiary Survey (MCBS) from the Centers for Medicare & Medicaid Services (CMS), the agency that administers Medicare. The MCBS is a continuous, multipurpose survey of a representative sample of the Medicare population, including both aged and disabled beneficiaries.⁴ The 2010 MCBS data was the most recent data available at the time we conducted our analysis. The expenditures presented in this report are estimates based on this survey, unless otherwise noted. We took a number of steps to assess the reliability of CMS's data, including interviewing CMS officials on the limitations of the data and reviewing CMS documentation about the survey. We determined the data to be sufficiently reliable for the purposes of estimating the average total health care expenditures and sources of payment for Medicare FFS beneficiaries across different categories of supplemental coverage. (See app. I for more information on our analysis of the CMS data and our assessment of the data's reliability.) We excluded beneficiaries living in facilities such as nursing homes to limit our analyses to those who did not have the significant expenditures that can accompany residential care. We focused our analysis on comparing expenditures for beneficiaries with

³Medigap insurance policies may be purchased by Medicare beneficiaries to cover—or supplement—certain costs not covered by Medicare FFS. In addition, some beneficiaries may have supplemental coverage through employer-sponsored retiree programs or other sources such as their union.

⁴Participants in the survey are interviewed three times a year over four years to form a continuous profile of their health care experiences and expenditures.

Medicare FFS-only to those with Medigap or those with employer-sponsored or other supplemental coverage.⁵

To put the findings from this analysis in context, we also examined original research published from 2008 to June 2013 on health care expenditures or payment source by different supplemental coverage categories to understand factors that could affect spending for Medicare beneficiaries with and without supplemental coverage. To identify the research studies, we conducted a systematic review of several research databases, and reviewed relevant research organization and other Websites. Additionally, we identified articles through recommendations by interviewed experts and reviewed the references to other research found in studies we identified in our initial search. We identified a total of eight studies through these strategies. (See app. I for more information about the methodology we used to analyze MCBS data and to select research studies.)

We conducted our performance audit from May 2013 through August 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based our audit objectives.

Background

Individuals eligible for Medicare may choose among several coverage options within the Medicare program. Depending on which option they select, beneficiaries may have cost-sharing requirements such as copayments, coinsurance and deductibles, or they may have to pay varying amounts of premiums. Many Medicare beneficiaries have supplemental coverage, such as coverage that they purchase from private insurance companies or that they may receive as retirees through a former employer. In addition to cost-sharing for services covered by

⁵We did not analyze expenditures for beneficiaries with Medicare Advantage because 2010 MCBS spending data for these beneficiaries was not as complete as for other groups of beneficiaries. While MCBS makes estimates to compensate for missing data, we did not include this category in our analysis. We also did not analyze expenditures for beneficiaries dually eligible for Medicare and Medicaid because their coverage varies significantly by state as well as by whether they are fully eligible for state Medicaid benefits or only eligible to have their Medicare premiums paid for by Medicaid.

Medicare, beneficiaries pay for health care services that are not covered by Medicare. The total health care expenditures for Medicare beneficiaries include spending on services that are covered by Medicare as well as services not covered by Medicare.

Medicare Eligibility, Coverage, Cost Sharing

While most individuals become eligible for Medicare when they reach age 65, individuals who are under the age of 65 can become eligible if they have permanent disabilities and have received Social Security Disability Insurance for 24 months, or if they have end-stage renal disease. Although the majority of the Medicare population is age 65 or over, in 2010 about 17 percent was under age 65.

Medicare coverage can include Parts A, B, C, and D. Medicare Parts A and B are known as traditional Medicare fee-for-service (FFS). Medicare Part A covers hospital and other inpatient stays. Medicare Part B is optional, and covers hospital outpatient, physician, and other services. As an alternative to traditional Medicare FFS, Medicare beneficiaries have the option of obtaining coverage for Medicare services from private health plans that participate in Medicare Advantage—Medicare’s managed care program, also known as Part C. All Medicare beneficiaries may purchase coverage for outpatient prescription drugs under Part D, either as a stand-alone benefit or as part of a Medicare Advantage plan. Other Medicare beneficiaries who have low incomes may also be enrolled in Medicaid, the joint federal and state program that finances health insurance coverage for certain categories of low-income individuals.

Medicare beneficiaries pay a portion of the program’s costs through cost-sharing provisions, including premiums, deductibles, and coinsurance. Individuals who are eligible for Medicare automatically receive Part A benefits, which help pay for inpatient hospital, skilled nursing facility, hospice, and certain home health services. A beneficiary generally pays no premium for this coverage, but the beneficiary is responsible for required deductibles, coinsurance, and copayment amounts. Medicare-eligible beneficiaries may elect to purchase Part B, which helps pay for certain physician, outpatient hospital, laboratory, and other services. Beneficiaries must pay a premium for Part B coverage. Beneficiaries are also responsible for Part B deductibles, coinsurance, and copayments. Beneficiaries enrolled in Parts A and B may elect to obtain coverage for Medicare services from private health plans under Part C through Medicare Advantage plans, which are managed care plans. Beneficiaries covered by Medicare Advantage plans are responsible for paying monthly Part B premiums and, depending on their chosen plan, may be

responsible for additional monthly premiums, copayments, coinsurance, and deductibles. Finally, under Medicare Part D, beneficiaries may elect to purchase coverage for outpatient prescription drugs from private companies. Beneficiaries who enroll in a Part D plan are responsible for a monthly premium, which varies by the individual plan selected, as well as for copayments or coinsurance. In total, some of these out-of-pocket costs associated with these various Medicare options can be substantial. For example, in 2013 under Part A, beneficiaries must pay a \$1,184 deductible per benefit period for inpatient hospital care, and are liable for all hospital costs incurred after 150 days.⁶

Supplemental Coverage

Medicare FFS beneficiaries may have supplemental coverage, such as coverage that they purchase from private insurance companies or that they receive as retirees through an employer.

- *Medigap insurance policies* – Medigap policies are a set of standardized insurance plans sold by private insurance companies to cover certain costs not paid for by Medicare FFS. These plans are available to beneficiaries who are enrolled in Medicare FFS and they are subject to regulation of the scope of benefits they cover.⁷ If a beneficiary purchases Medigap during the six month period after turning 65, that individual cannot be charged a higher premium due to health status. In 2010 an estimated 12 percent, or 5.6 million, of Medicare beneficiaries were enrolled in Medigap without other supplemental coverage.⁸ Further, according to one estimate, in 2012 about 66 percent of beneficiaries with Medigap were enrolled in plans that had “first-dollar coverage”—meaning that the plans covered all of the deductibles and coinsurance not covered by Medicare FFS.⁹

⁶A benefit period begins the day a beneficiary is admitted as an inpatient in a hospital and ends when the beneficiary has not received any inpatient hospital care for 60 days in a row. No deductible is charged for second and subsequent hospital admissions if they occur within 60 days of the beneficiary’s most recent covered inpatient day.

⁷In 2010 there were ten different standard Medigap Plans. These plans varied with respect to benefits and cost-sharing provisions.

⁸GAO analysis of MCBS 2010 Cost and Use data.

⁹America’s Health Insurance Plans, Center for Policy and Research, *Trends in Medigap Coverage and Enrollment, 2012*, (Washington, D.C.: America’s Health Insurance Plans, 2013).

-
- *Employer-sponsored retiree coverage or other supplemental coverage* – Similar to Medigap, employer-sponsored coverage for retirees is structured to supplement Medicare.¹⁰ In addition to employer-sponsored coverage, some Medicare beneficiaries may obtain other non-Medigap supplemental coverage for health care services from other sources such as their union. In 2010 an estimated 39 percent—or 17.6 million—of Medicare beneficiaries received supplemental coverage through their employers or other private sources.¹¹

Health Care Expenditures and Sources of Payment

A Medicare beneficiary may incur costs for health care services that go beyond what Medicare covers. Total health care expenditures for a Medicare beneficiary therefore include expenditures for Medicare-covered services as well as for services that are not covered by Medicare. Examples of services that are not generally covered by Medicare include routine dental or eye care, hearing aids, routine foot care, dentures, and cosmetic surgery. Throughout this report when we refer to expenditures we mean expenditures for both Medicare covered services and services not covered by Medicare.

Payment for services may come from several sources depending on the beneficiary's coverage, including Medicare, Medigap, employer-sponsored or other coverage, Medicaid, and out-of-pocket spending by beneficiaries. Beneficiaries may pay out-of-pocket to cover deductibles, copayments, or coinsurance for Medicare-covered services, as well as for the cost of services not covered by Medicare. In addition to out-of-pocket spending for services, beneficiaries may also pay premiums for Medicare

¹⁰Employer-sponsored coverage may involve the purchase of a Medigap plan. For the purposes of our report, we consider beneficiaries who have employer-sponsored Medigap plans as having employer-sponsored supplemental coverage, and consider only beneficiaries who have individually purchased Medigap plans as having Medigap coverage.

¹¹Some individuals have employer-sponsored coverage and also purchase private Medigap coverage. Based on our analysis of MCBS data, in 2010 about 3 percent, or 1.4 million, of Medicare beneficiaries reported having supplemental coverage through both Medigap and an employer. The focus of this report is on beneficiaries who do not have supplemental coverage from both employers and individually-purchased Medigap, in order to identify differences in spending related to Medigap or employer-sponsored coverage.

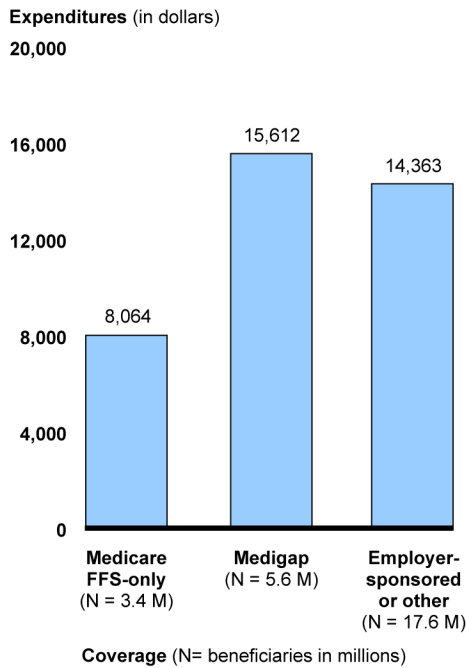
Part B, Part D, and other types of insurance such as Medigap.¹² For the purposes of this report, premiums are not included in total health care expenditures or in sources of payment unless otherwise noted in discussing other research.

Estimated Expenditures Were Higher for Beneficiaries with Supplemental Coverage, but Other Factors May Also Contribute to Spending Differences

Our analysis of the 2010 MCBS showed that estimated average total health care expenditures were higher for beneficiaries with Medigap or employer-sponsored coverage than for Medicare FFS-only beneficiaries (see fig. 1). Specifically, beneficiaries with Medigap had estimated average spending about 94 percent higher than beneficiaries with Medicare FFS-only. Beneficiaries with Medigap had estimated average spending about 9 percent higher than beneficiaries with employer-sponsored or other supplemental coverage in 2010, although this difference was not statistically significant.

¹²Medigap insurers must pay out at least 65 percent of total premiums they receive as claims payments to beneficiaries who purchase individual policies.

Figure 1: Estimated Average Health Care Expenditures per Medicare Beneficiary by Supplemental Coverage Category, 2010



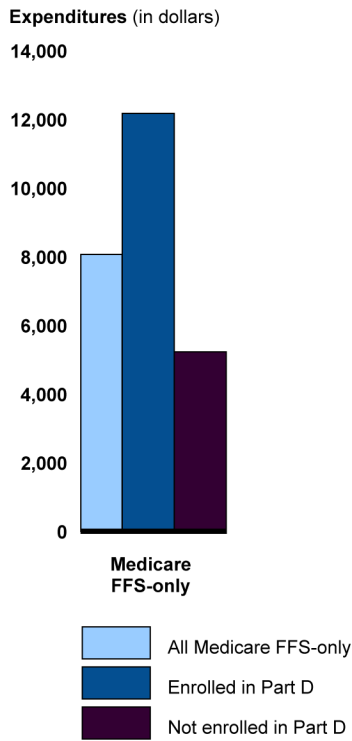
Source: GAO analysis of Medicare Current Beneficiary Survey Cost and Use Data, 2010.

Notes: This analysis excludes beneficiaries residing in long term care facilities such as nursing homes. This analysis focuses on beneficiaries with either Medicare FFS-only, Medigap, or employer-sponsored or other general insurance.

While estimated average health care expenditures were lower for beneficiaries with Medicare FFS-only than for those with supplemental coverage, among beneficiaries with Medicare FFS-only those who were enrolled in Part D had higher average health care expenditures than those without Part D (see fig. 2).¹³ Medicare FFS-only beneficiaries with Part D coverage had 133 percent higher average health care expenditures than those without Part D coverage.

¹³We did not present the difference in health expenditures for beneficiaries with Medigap and employer-sponsored or other coverage with respect to their enrollment in Part D because these types of supplemental insurance coverage may already provide prescription drug coverage.

Figure 2: Estimated Average Health Care Expenditures per Medicare FFS-only Beneficiary and per Medicare FFS-only Beneficiaries with and without Part D, 2010



Source: GAO analysis of Medicare Current Beneficiary Survey Cost and Use Data, 2010.

Note: This analysis excludes beneficiaries residing in long term care facilities such as nursing homes.

Other research has found similar patterns of higher health care expenditures for those with supplemental coverage. For example, one study found that Medicare beneficiaries with individually purchased supplemental insurance had 33 percent higher Medicare expenditures than those in Medicare FFS-only.¹⁴ Another study found that Medicare beneficiaries with supplemental coverage had higher health care expenditures (\$1,806 and \$1,562 higher for those with employer-sponsored and Medigap coverage, respectively, in 2005), and higher

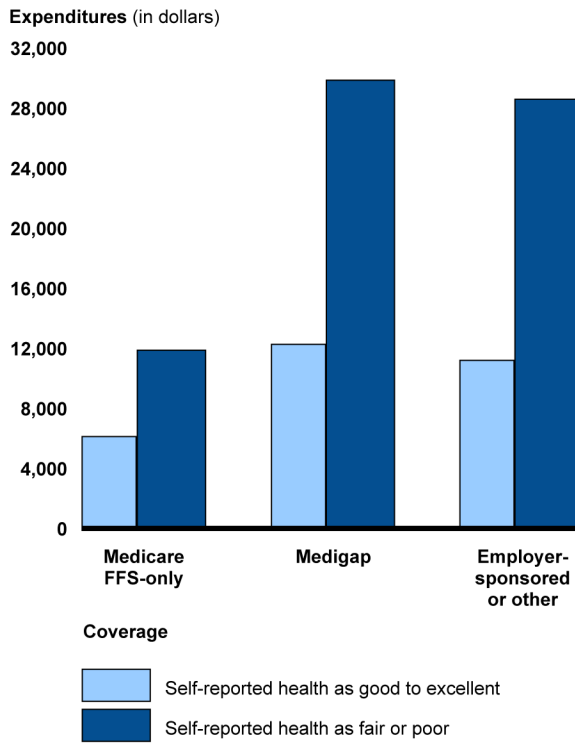
¹⁴C. Hogan, *Exploring the Effects of Secondary Coverage on Medicare Spending for the Elderly*, Direct Research LLC, no. 09-2R (Washington, DC: MedPAC, June 2009).

rates of expenditure growth (on average about 1 percent more annually between 1992 and 2005), than those without supplemental coverage.¹⁵

It is important to note that other beneficiary characteristics may be associated with the level of and growth in health care expenditures, such as health status and age. We found that health status and age were associated with differences in estimated health care expenditures. For example, beneficiaries who reported their health to be “fair or poor” had higher average health care expenditures than those who reported their health to be “good to excellent” (see fig. 3).

¹⁵E. Golberstein, K. Walsh, Y. He, and M. Chernew, “Supplemental Coverage Associated With More Rapid Spending Growth for Medicare Beneficiaries,” *Health Affairs*, vol. 32, No. 5 (2013).

Figure 3: Estimated Average Health Care Expenditures per Medicare Beneficiary by Supplemental Coverage Category and Self-Reported Health Status, 2010

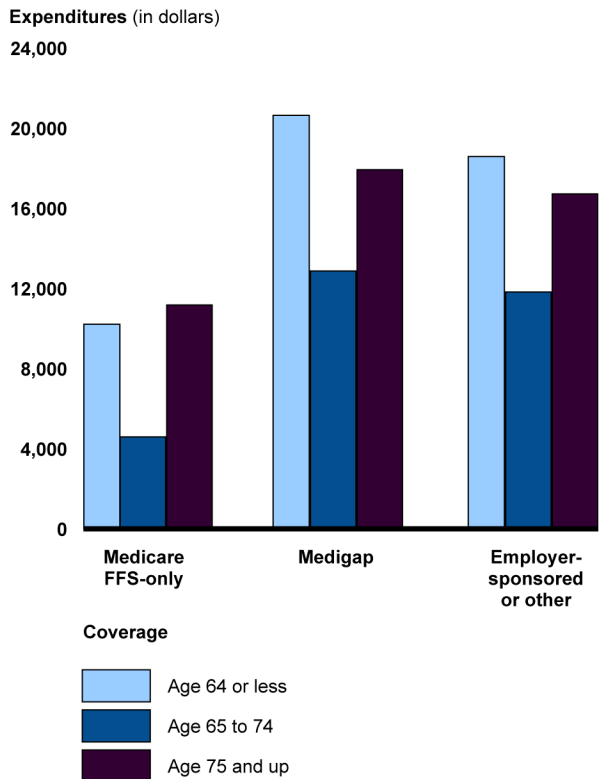


Source: GAO analysis of Medicare Current Beneficiary Survey Cost and Use Data, 2010.

Notes: This analysis excludes beneficiaries residing in long term care facilities such as nursing homes. This analysis focuses on beneficiaries with either Medicare FFS-only, Medigap, or employer-sponsored or other general insurance.

In addition, beneficiaries age 75 and older had higher estimated average health care expenditures than those between the ages of 65 and 74. Further, Medicare beneficiaries under age 65—who are eligible for Medicare due to a permanent disability and often have high health care expenditures because of their disability—generally had higher average health care expenditures than other age groups (see fig. 4).

Figure 4: Estimated Average Health Care Expenditures per Medicare Beneficiary by Supplemental Coverage Category and Age, 2010



Source: GAO analysis of Medicare Current Beneficiary Survey Cost and Use Data, 2010.

Notes: This analysis excludes beneficiaries residing in long term care facilities such as nursing homes. This analysis focuses on beneficiaries with either Medicare FFS-only, Medigap, or employer-sponsored or other general insurance.

This result is consistent with research that found that characteristics such as health status and age may influence the decision to purchase supplemental coverage, which could partially explain why individuals with supplemental coverage have higher expenditures than those without supplemental coverage. One study found that Medicare beneficiaries with Medigap were more likely than those in other coverage categories to have chronic conditions like diabetes and cancer, suggesting that individuals may self-select into types of coverage based on their

anticipated need for services.¹⁶ Another study found that the relationship between having supplemental coverage and health status varied depending on what measure of health status was used.¹⁷ Some of the research on this topic has tried to account for characteristics that may influence a beneficiary's choice of coverage and has found that differences in expenditures among coverage types persist even after adjusting for factors such as beneficiaries' age, health status, and income, with beneficiaries with supplemental coverage still incurring higher Medicare or overall health care expenditures than those with Medicare FFS-only.¹⁸

Other research has examined cost-sharing in Medicare supplemental coverage to explore the role of this coverage in health care expenditures. This research suggests that increasing cost-sharing for those with supplemental coverage could decrease the utilization of, and associated health care expenditures for, certain types of health care, but increase the utilization of, and expenditures for, other types of health care. Specifically, one study of Medicare beneficiaries with supplemental coverage found that certain subgroups—in particular, those with chronic conditions—may be more sensitive than other beneficiaries to cost-sharing in ways that actually increase health care expenditures. The researchers found that increased cost-sharing for physician visits and prescription drugs decreased utilization of these services, which lowered expenditures. However, the cost savings were partially offset by increased expenditures for hospitalizations, particularly among the chronically ill.¹⁹ While this study suggests that Medicare beneficiaries may change their utilization of health care services based on the amount of cost-sharing, there may be additional factors not included in the analysis that influence utilization and associated health care expenditures. Another study has noted that there

¹⁶J. Lemieux, T. Chovan, and K. Heath, "Medigap Coverage And Medicare Spending: A Second Look," *Health Affairs*, vol. 27, no. 2 (2008).

¹⁷D. Zimmer, "The Relationship between Medicare Supplemental Insurance and Health-care Spending: Selection Across Multiple Dimensions," *Eastern Economic Journal*, vol. 39 (2012).

¹⁸Hogan, "Exploring the Effects of Secondary Coverage," 25. Golberstein, Walsh, He and Chernew, "Supplemental Coverage" 877. Zimmer, "Medicare Supplemental Insurance," 126.

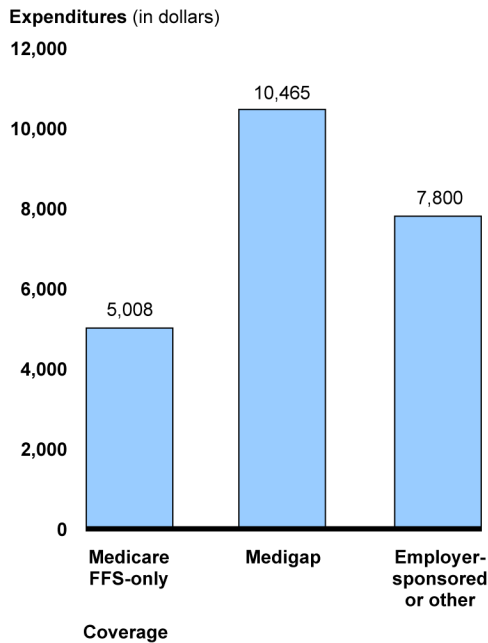
¹⁹A. Chandra, J. Gruber, and R. McKnight, "Patient Cost-Sharing and Hospitalization Offsets in the Elderly," *American Economic Review*, vol. 100, no. 1 (2010).

is always a possibility of additional unmeasured factors that influence utilization—for example, larger employers may offer coverage with particular types of cost-sharing, and employees of larger companies may be systematically different with regard to health, age, income, or preferences for risk.²⁰

When looking at specific sources of payment for health care expenditures, there may also be relationships between Medicare supplemental coverage and expenditures paid by Medicare or by beneficiaries out-of-pocket. Our analysis of the 2010 MCBS data showed that estimated Medicare spending for those with Medigap or employer-sponsored coverage was greater than for those with Medicare FFS-only. Average Medicare spending for beneficiaries with Medigap was more than twice as much as Medicare payments for beneficiaries with Medicare FFS-only (see fig. 5).

²⁰K. Baicker and D. Goldman, “Patient Cost-Sharing and Healthcare Spending Growth,” *Journal of Economic Perspectives*, vol.25, no.2 (2011).

Figure 5: Estimated Average Medicare Spending per Beneficiary by Supplemental Coverage Category, 2010



Source: GAO analysis of Medicare Current Beneficiary Survey Cost and Use Data, 2010.

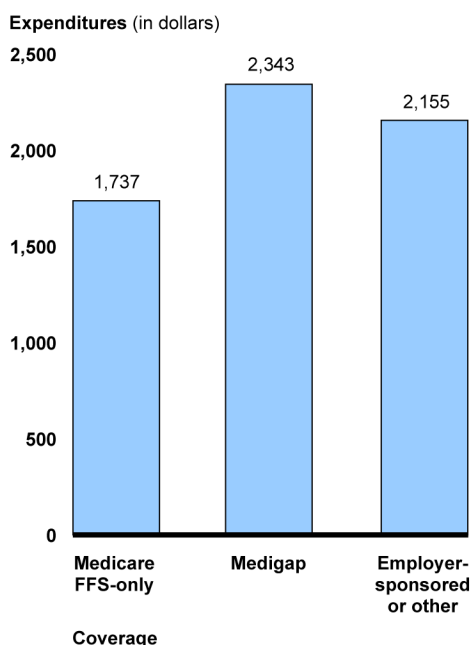
Notes: This analysis excludes beneficiaries residing in long term care facilities such as nursing homes. This analysis focuses on beneficiaries with either Medicare FFS-only, Medigap, or employer-sponsored or other general insurance.

Similarly, out-of-pocket spending for beneficiaries with Medigap was greater than for those with Medicare FFS-only (see fig. 6). Out-of-pocket spending for beneficiaries with employer-sponsored coverage was also higher than for those with Medicare FFS-only, but the difference was not statistically significant. Other research has found that Medicare beneficiaries with supplemental coverage (Medigap, employer-sponsored coverage, or other private coverage) had higher out-of-pocket spending than those with Medicare FFS-only.²¹ In addition, beneficiaries with

²¹T. Neuman, J. Cubanski, and A. Damico, *Revisiting "Skin in the Game" Among Medicare Beneficiaries: An Updated Analysis of the Increasing Financial Burden of Health Care Spending From 1997 to 2005*, (Menlo Park, CA: The Henry J. Kaiser Family Foundation, February 2009). (Note: This study included premiums in out-of-pocket payments.); A. Davidoff, M. Erten, T. Shaffer, J. Shoemaker, I. Zuckerman, N. Pandya, M. Tai, X. Xe and B. Stuart, "Out-of-Pocket Health Care Expenditure Burden for Medicare Beneficiaries with Cancer," *Cancer*, vol. 119, 2013. (Note: This study looked at Medicare beneficiaries with newly diagnosed cancer.)

Medigap pay a premium for this supplemental coverage, resulting in even higher out-of-pocket spending than those in Medicare FFS-only who do not pay this additional premium.²² (See app. II for additional analyses of these data.)

Figure 6: Estimated Average Out-of-Pocket Spending per Medicare Beneficiary by Supplemental Coverage Category, 2010



Source: GAO analysis of Medicare Current Beneficiary Survey Cost and Use Data, 2010.

Notes: This analysis excludes beneficiaries residing in long term care facilities such as nursing homes. This analysis focuses on beneficiaries with either Medicare FFS-only, Medigap, or employer-sponsored or other general insurance.

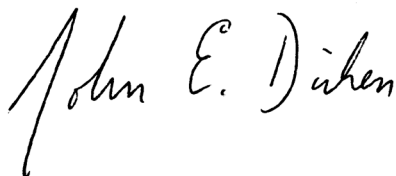
²²Medigap premiums vary widely by state. For example, according to one study, the average monthly premium for Medigap Plan F in 2010 was \$193 in Maryland, \$149 in Virginia, and \$170 in Washington, D.C.

Agency Comments

We provided a draft of this report to HHS for review and comment. HHS provided technical comments and we addressed them as appropriate.

As arranged with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the Secretary of Health and Human Services, the Administrator of the Centers for Medicare & Medicaid Services, and appropriate congressional committees. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>. If you or your staff have any questions about this report please contact me at (202) 512-7114 or dickenj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff that made key contributions to this report are listed in appendix III.

Sincerely yours,



John E. Dicken
Director, Health Care

Appendix I: Methodology

To determine how Medicare beneficiaries with supplemental coverage compare to Medicare beneficiaries without supplemental coverage with respect to their health care expenditures and the sources of payment for those expenditures, we analyzed data from the Centers for Medicare & Medicaid Services (CMS) 2010 Medicare Current Beneficiary Survey (MCBS), specifically the Cost and Use component of the survey. The MCBS is a continuous, multipurpose survey of a representative sample of the Medicare population, including both aged and disabled beneficiaries. The 2010 data was the most recent data available from MCBS on health care expenditures at the time we conducted our analysis.

Specifically, for beneficiaries with different types of coverage we examined: (1) estimated health care expenditures, including expenditures for health services not covered by Medicare; and (2) estimated health care expenditures by the source of payment, including spending by Medicare and out-of-pocket spending by beneficiaries. We also examined expenditures for beneficiaries based on age category and self-reported health status. The 2010 MCBS collected information on a sample of 10,742 beneficiaries.

In our analysis we excluded beneficiaries who lived in facilities such as nursing homes during 2010. We excluded those living in facilities in order to focus our analysis on comparing expenditures for beneficiaries who did not have significant expenditures for residential care. Our analysis focused on beneficiaries with Medigap, beneficiaries with employer-sponsored or other general insurance coverage, and beneficiaries with only Medicare fee-for-service (FFS). We did not analyze expenditures for beneficiaries with Medicare Advantage because 2010 MCBS survey data for these beneficiaries was not as complete as for other groups of beneficiaries. Further, we did not analyze beneficiaries dually eligible for Medicare and Medicaid because their coverage varies significantly by state as well as by whether they are fully eligible for state Medicaid benefits or only eligible to have their Medicare premiums paid for by Medicaid. Finally, expenditures for beneficiaries who had both Medigap and employer-sponsored or other coverage are provided in tables in the appendix but are not included in the figures in the report because of their relatively small population size in the survey. Our analysis included beneficiaries with both Part A and Part B benefits as well as those with only Part A or Part B.

We analyzed the MCBS' Cost and Use file representing individuals enrolled in Medicare in calendar year 2010. The Cost and Use file contains a combination of self-reported data from the MCBS and

Medicare claims and other data from CMS administrative files. Respondents are interviewed three times each year. Survey-reported data includes information on the costs and use of health care services as well as information on supplemental health coverage, living arrangements, income, health status, and physical functioning. The survey also collects information on health services not covered by Medicare. The Cost and Use file provides detailed and summary information about medical goods and services the beneficiary used in calendar year 2010 (such as inpatient and outpatient care, drugs, and home health services), the expenditures associated with those services, and the share of these expenditures borne by all payers. CMS notes that there may be some underreporting of services and expenditures by beneficiaries who are surveyed. To compensate in part for survey respondents who may not know how much an episode of care costs, CMS uses Medicare administrative data to adjust or supplement survey responses for some information, including spending information. While we did not independently verify the accuracy of the information in the computerized file, we took several steps to assess the reliability of the data, including reviews of related documentation and interviews with CMS officials and other researchers who have used MCBS data, and testing of data for errors by comparing it to other published sources. We determined that the data were sufficiently reliable for the purposes of this report.

Because some Medicare beneficiaries had coverage from several sources during the period of the MCBS survey, we prioritized the source of coverage individuals reported to avoid double counting. That is, if individuals reported having coverage from two or more kinds of coverage during the year, we used the following hierarchy of coverage categories:

1. Beneficiaries with Medicare Advantage. These beneficiaries were identified based on CMS administrative data that identified beneficiaries enrolled in Medicare Advantage plans.
2. Beneficiaries with Medicaid. These beneficiaries were identified based on a combination of administrative and survey data, since the submission of Medicaid administrative data by states may lag behind the survey, making it unreliable as the sole source of data.
3. Beneficiaries with Medigap, beneficiaries with employer-sponsored coverage or other non-Medigap general supplemental coverage, or beneficiaries who had both Medigap and employer-sponsored or other supplemental coverage at the same time. These categories of beneficiaries were identified based on their responses to survey questions about their purchase of supplemental coverage.

Beneficiaries who did not fall into any of these categories were classified as Medicare FFS-only.

After reviewing a draft of our report, CMS identified several observations in the 2010 MCBS that may have had unreasonably high expenditures based on imputed values. We conducted sensitivity testing to determine how these expenditures would affect our estimates. While including these observations increased average costs for the category of beneficiaries with employer-sponsored or other supplemental coverage, it did not affect the overall findings of the report as expenditures for this category of beneficiaries remained above those with Medicare FFS-only, whether or not these observations are included.

To provide context for our analysis and discussion of how Medicare beneficiaries with supplemental coverage compare to Medicare beneficiaries without supplemental coverage with respect to their health care expenditures and the sources of payment for those expenditures, we used two strategies to identify relevant research. First, we conducted a systematic search of the medical, policy, social science, and economic literature. We included original research published since 2008 in scholarly, peer-reviewed journals on the Medicare population. We used search terms to identify research on health care expenditures or payment source by different supplemental coverage categories. Second, we identified additional studies recommended by interviewed experts, research reports on the Websites of policy organizations, and citations in our literature review. We identified a total of eight articles through these two strategies. Table 1 describes the studies, along with summaries of their methodology and conclusions.

Table 1: Studies Identified by the Literature Review

Author(s), Title, Journal, Year	Methodology	Findings
A. Chandra, J. Gruber, and R. McKnight, "Patient Cost-Sharing and Hospitalization Offsets in the Elderly," <i>American Economic Review</i> , vol. 100, no. 1 (2010).	Analyzed data from people in the California Public Employees Retirement System enrolled in several insurance plans from 2000-2003. Used a quasi-experimental design to examine the effects of a policy change that raised patient cost-sharing for enrollees on utilization and expenditures.	Medicare beneficiaries with supplemental coverage who experienced increases in cost-sharing for physician office visits and prescription drugs decreased their utilization of these services; however, the savings achieved were partially offset by the costs of an increase in hospitalizations that also occurred. These offset effects were concentrated in the sickest enrollees.
A. Davidoff, M. Erten, T. Shaffer, J. Shoemaker, I. Zuckerman, N. Pandya, M. Tai, X. Ke and B. Stuart, "Out-of-Pocket Health Care Expenditure Burden for Medicare Beneficiaries with Cancer," <i>Cancer</i> , vol. 119, no.6, (2013).	Analyzed Medicare Current Beneficiary Survey (MCBS) data from 1997-2007 that is linked to Medicare claims.	Beneficiaries with cancer who had employer-sponsored or Medigap coverage with prescription drug coverage had higher out-of-pocket spending than those with Medicare fee-for-service (FFS) only.
E. Golberstein, K. Walsh, Y. He, and M. Chernew, "Supplemental Coverage Associated With More Rapid Spending Growth for Medicare Beneficiaries," <i>Health Affairs</i> , vol. 32, no. 5 (2013).	Analyzed MCBS data from 1992-2005. Used multivariate models incorporating supplemental coverage, time variables, and other factors, to investigate whether Medicare supplemental coverage is associated with higher rates of health care expenditures over time.	After controlling for socio-demographic characteristics like income, disease, and disability, and health behaviors such as smoking, Medicare beneficiaries with supplemental coverage had higher health care expenditures, and higher rates of expenditure growth, than those without supplemental coverage. Annual Medicare spending for those with no supplemental coverage grew by 6.27 percent a year on average, while rates of Medicare spending growth were highest for those with self-purchased coverage, at 7.09 percent a year.
C. Hogan, <i>Exploring the Effects of Secondary Coverage on Medicare Spending for the Elderly</i> , Direct Research LLC, no. 09-2R (Washington, DC: MedPAC, June 2009).	Analyzed (MCBS) data from 2003-2005. Used regression analysis to explain variation in Medicare spending as a function of supplemental coverage type and other factors likely to affect spending.	Having supplemental (individually-purchased or employer-sponsored) coverage was a primary factor in increased Medicare Part B expenditures. After adjusting for factors such as age, education, health status, and income, Medicare beneficiaries with individually-purchased supplemental coverage had 33 percent higher Medicare expenditures than those in Medicare FFS-only.

Author(s), Title, Journal, Year	Methodology	Findings
J. Lemieux, T. Chovan, and K. Heath, "Medigap Coverage And Medicare Spending: A Second Look," <i>Health Affairs</i> , vol. 27, no. 2 (2008).	Analyzed MCBS data from 2002-2003, data from three large Medigap insurers from 2002-2004, and Medicare 5 percent sample file from 2001. Used beneficiaries' diagnosis information to analyze the relationship between Medigap coverage and Medicare spending.	Beneficiaries with Medigap had higher Medicare expenditures than those with Medicare FFS-only; however, a high proportion of those with Medicare FFS-only received additional care through military health care and the Department of Veterans Affairs and when these expenditures were controlled for, the difference in expenditures was reduced. Medicare beneficiaries with Medigap were more likely than those in other coverage categories to be diagnosed with chronic conditions like diabetes and cancer.
T. Neuman, J. Cubanski, and A. Damico, <i>Revisiting "Skin in the Game" Among Medicare Beneficiaries: An Updated Analysis of the Increasing Financial Burden of Health Care Spending From 1997 to 2005</i> (Menlo Park, CA: The Henry J. Kaiser Family Foundation, February 2009).	Analyzed MCBS data from 1997-2005. Used bivariate t-tests to assess if out-of-pocket health spending as a share of income changed over time, and differed across subgroups of beneficiaries.	Medicare beneficiaries with Medigap had higher out-of-pocket spending (including premiums) than those with no supplemental coverage. Beneficiaries with Medigap had higher out-of-pocket spending as a percent of income than those with employer-sponsored health coverage, and those with no supplemental coverage. The financial burden of health spending was greater for poor and near-poor (those under 200 percent of poverty level) than for those at higher income levels, and the financial burden of out-of-pocket health spending increased as health status declined.
B. Shang and D. Goldman, "Prescription Drug Coverage and Medicare Spending among U.S. Elderly," <i>The Geneva Papers</i> , vol. 35 (2010).	Analyzed MCBS data from 1992-2000. Used a discrete-factor model to estimate how prescription drug coverage affects Medicare spending.	Beneficiaries with Medigap with prescription drug coverage had significantly higher drug expenditures, but lower Medicare Part A expenditures, than beneficiaries without drug coverage, indicating a substitution effect.
D. Zimmer, "The Relationship between Medicare Supplemental Insurance and Health-care Spending: Selection Across Multiple Dimensions," <i>Eastern Economic Journal</i> , vol.38 (2012).	Analyzed 2000–2005 Medical Expenditure Panel Survey data. Used a mixed multinomial logit model of insurance choice to determine whether beneficiaries who possessed certain traits, particularly health- and risk-related factors, chose supplemental coverage based on expectations of healthcare needs; also modeled healthcare expenditures.	Higher income was associated with a higher probability of having employer-sponsored supplemental coverage. It was unclear whether sicker beneficiaries were more likely to self-select into purchasing supplemental coverage. Beneficiaries with Medigap and employer-sponsored coverage had higher total health care expenditures than those with Medicare FFS-only, after controlling for variables including health status, sociodemographic variables, and employment status.

Source: GAO review of literature from 2008-2013.

Appendix II: Tables on Estimated Health Care Expenditures and Spending per Beneficiary by Type of Supplemental Coverage

Table 2: Estimated Average Health Care Expenditures per Medicare Beneficiary by Type of Supplemental Coverage and Part D Enrollment, 2010

Beneficiary characteristics	Beneficiaries with Medicare FFS-only (no supplemental coverage)	Supplemental Coverage		
		Beneficiaries with Medigap	Beneficiaries with employer-sponsored or other supplemental	Beneficiaries with Medigap and employer-sponsored or other supplemental
All beneficiaries in coverage category				
Average expenditure	\$8,064	\$15,612	\$14,363	\$12,417
Standard error	(\$652)	(\$810)	(\$879)	(\$1,043)
Beneficiaries in millions	[3.4]	[5.6]	[17.6]	[1.4]
Enrolled in Part D				
Average expenditure	\$12,168	\$16,660	\$15,837	\$13,178
Standard error	(\$1,321)	(\$1,011)	(\$1,216)	(\$1,648)
Beneficiaries in millions	[1.4]	[4.4]	[3.6]	[0.7]
Not enrolled in Part D				
Average expenditure	\$5,226	\$11,929	\$13,990	\$11,719
Standard error	(\$571)	(\$1,264)	(\$1,087)	(\$1,080)
Beneficiaries in millions	[2.0]	[1.2]	[14.1]	[0.7]

Source: GAO Analysis of 2010 Cost and Use File Data from the Medicare Current Beneficiary Survey

Notes: Excludes beneficiaries residing in long term care facilities. The standard error is a measure of variation around the estimate, in this case the estimate of average total health care expenditures. Because the MCBS is based on a sample, any estimates derived by the survey are subject to sampling errors. A sampling error indicates how closely estimates (such as mean) obtained from a sample approximate estimates from the population. A sampling error is commonly measured by a standard error, which is inversely related to the sample size. The larger the sample size, the smaller the standard error, and the closer the sample mean approximates the population mean. The estimated number of beneficiaries is based on applying the MCBS weights to the sampled population. Numbers may not total due to rounding.

Appendix II: Tables on Estimated Health Care Expenditures and Spending per Beneficiary by Type of Supplemental Coverage

Table 3: Estimated Average Health Care Expenditures per Medicare Beneficiary by Type of Supplemental Coverage and Age, 2010

Beneficiary characteristics	Supplemental Coverage			
	Beneficiaries with Medicare FFS-only (no supplemental coverage)	Beneficiaries with Medigap	Beneficiaries with employer-sponsored or other supplemental	Beneficiaries with Medigap and employer-sponsored or other supplemental
All beneficiaries in coverage category				
Average expenditure	\$8,064	\$15,612	\$14,363	\$12,417
Standard error	(\$652)	(\$810)	(\$879)	(\$1,043)
Beneficiaries in millions	[3.4]	[5.6]	[17.6]	[1.4]
Up to age 64^a				
Average expenditure	\$10,211	\$20,633	\$18,577	NA
Standard error	(\$1,363)	(\$5,977)	(\$2,846)	
Beneficiaries in millions	[1.2]	[0.2]	[1.6]	
Age 65 – 74				
Average expenditure	\$4,581	\$12,865	\$11,816	\$9,607
Standard error	(\$574)	(\$1,148)	(\$1,184)	(\$1,091)
Beneficiaries in millions	[1.4]	[2.7]	[9.1]	[0.7]
Age 75+				
Average expenditure	\$11,166	\$17,918	\$16,710	\$14,730
Standard error	(\$1,402)	(\$1,131)	(\$1,440)	(\$1,670)
Beneficiaries in millions	[0.8]	[2.8]	[7.0]	[0.7]

Legend: NA indicates a sample size that is too small to yield reliable results.

Source: GAO Analysis of 2010 Cost and Use File Data from the Medicare Current Beneficiary Survey

Notes: Excludes beneficiaries residing in long term care facilities. The standard error is a measure of variation around the estimate, in this case the estimate of average total health care expenditures. Because the MCBS is based on a sample, any estimates derived by the survey are subject to sampling errors. A sampling error indicates how closely estimates (such as mean) obtained from a sample approximate estimates from the population. A sampling error is commonly measured by a standard error, which is inversely related to the sample size. The larger the sample size, the smaller the standard error, and the closer the sample mean approximates the population mean. The estimated number of beneficiaries is based on applying the MCBS weights to the sampled population. Numbers may not total due to rounding.

^aIndividuals below age 65 are eligible for Medicare due to a permanent disability and often have high health care expenditures. There is no federal requirement that insurers sell Medigap plans to disabled individuals, although some states require that Medigap plans be available to some or all of these individuals, and in other states, insurers may choose to sell Medigap plans to disabled beneficiaries.

Appendix II: Tables on Estimated Health Care Expenditures and Spending per Beneficiary by Type of Supplemental Coverage

Table 4: Estimated Average Health Care Expenditures per Medicare Beneficiary by Type of Supplemental Coverage and Self-Reported Health Status, 2010

Beneficiary characteristics	Supplemental Coverage			
	Beneficiaries with Medicare FFS-only (no supplemental coverage)	Beneficiaries with Medigap	Beneficiaries with employer-sponsored or other supplemental	Beneficiaries with Medigap and employer-sponsored or other supplemental
All beneficiaries in coverage category				
Average expenditure	\$8,064	\$15,612	\$14,363	\$12,417
Standard error	(\$652)	(\$810)	(\$879)	(\$1,043)
Beneficiaries in millions	[3.4]	[5.6]	[17.6]	[1.4]
Beneficiary reports health to be good to excellent				
Average expenditure	\$6,108	\$12,259	\$11,193	\$10,462
Standard error	(\$565)	(\$746)	(\$725)	(\$1,025)
Beneficiaries in millions	[2.2]	[4.5]	[14.4]	[1.2]
Beneficiary reports health to be fair or poor				
Average expenditure	\$11,867	\$29,851	\$28,576	\$26,241
Standard error	(\$1,442)	(\$2,822)	(\$3,714)	(\$3,735)
Beneficiaries in millions	[1.2]	[1.0]	[3.2]	[0.2]

Source: GAO Analysis of 2010 Cost and Use File Data from the Medicare Current Beneficiary Survey

Notes: Excludes beneficiaries residing in long term care facilities. The standard error is a measure of variation around the estimate, in this case the estimate of average total health care expenditures. Because the MCBS is based on a sample, any estimates derived by the survey are subject to sampling errors. A sampling error indicates how closely estimates (such as mean) obtained from a sample approximate estimates from the population. A sampling error is commonly measured by a standard error, which is inversely related to the sample size. The larger the sample size, the smaller the standard error, and the closer the sample mean approximates the population mean. The estimated number of beneficiaries is based on applying the MCBS weights to the sampled population. Numbers may not total due to rounding.

Appendix II: Tables on Estimated Health Care Expenditures and Spending per Beneficiary by Type of Supplemental Coverage

Table 5: Estimated Average Total Spending per Medicare Beneficiary by Type of Supplemental Coverage and Source, 2010

Source of Payment	Supplemental Coverage			
	Beneficiaries with Medicare FFS-only (no supplemental coverage)	Beneficiaries with Medigap	Beneficiaries with employer-sponsored or other supplemental	Beneficiaries with Medigap and employer-sponsored or other supplemental
Total all sources				
Average spending	\$8,064	\$15,612	\$14,363	\$12,417
Standard error	(\$652)	(\$810)	(\$879)	(\$1,043)
Beneficiary out-of-pocket				
Average spending	\$1,737	\$2,343	\$2,155	\$1,809
Standard error	(\$128)	(\$118)	(\$173)	(\$115)
Medicare				
Average spending	\$5,008	\$10,465	\$7,800	\$7,745
Standard error	(\$520)	(\$602)	(\$628)	(\$907)
All other sources				
Average spending	\$1,318	\$2,803	\$4,408	\$2,863
Standard error	(\$166)	(\$343)	(\$419)	(\$184)

Source: GAO Analysis of 2010 Cost and Use File Data from the Medicare Current Beneficiary Survey

Notes: Excludes beneficiaries residing in long term care facilities. The standard error is a measure of variation around the estimate, in this case the estimate of average health care spending. Because the MCBS is based on a sample, any estimates derived by the survey are subject to sampling errors. A sampling error indicates how closely estimates (such as mean) obtained from a sample approximate estimates from the population. A sampling error is commonly measured by a standard error, which is inversely related to the sample size. The larger the sample size, the smaller the standard error, and the closer the sample mean approximates the population mean. The estimated number of beneficiaries is based on applying the MCBS weights to the sampled population. Numbers may not total due to rounding.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

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