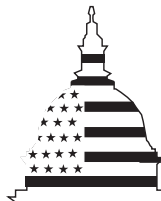


April 2007

MEDICARE

Focus on Physician Practice Patterns Can Lead to Greater Program Efficiency



G A O

Accountability * Integrity * Reliability



Highlights of [GAO-07-307](#), a report to congressional committees

Why GAO Did This Study

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) directed GAO to study the compensation of physicians in traditional fee-for-service (FFS) Medicare. GAO explored linking physician compensation to efficiency—defined as providing and ordering a level of services that is sufficient to meet a patient’s health care needs but not excessive, given the patient’s health status. In this report, GAO (1) estimates the prevalence in Medicare of physicians who are likely to practice inefficiently, (2) examines physician-focused strategies used by health care purchasers to encourage efficiency, and (3) examines the potential for CMS to profile physicians for efficiency and use the results. To do this, GAO developed a methodology using 2003 Medicare claims data to compare generalist physicians’ Medicare practices with those of their peers in 12 metropolitan areas. GAO also examined 10 health care purchasers that profile physicians for efficiency.

What GAO Recommends

Given the contribution of physicians to Medicare spending in total, GAO recommends that CMS develop a system that identifies individual physicians with inefficient practice patterns and, seeking legislative changes as necessary, uses the results to improve the efficiency of care financed by Medicare.

www.gao.gov/cgi-bin/getrpt?GAO-07-307.

To view the full product, including the scope and methodology, click on the link above. For more information, contact A. Bruce Steinwald at (202) 512-7101 or steinwalda@gao.gov.

MEDICARE

Focus on Physician Practice Patterns Can Lead to Greater Program Efficiency

What GAO Found

Based on 2003 Medicare claims data, GAO’s analysis found outlier generalist physicians—physicians who treat a disproportionate share of overly expensive patients—in all 12 metropolitan areas studied. Outlier generalists and other generalists saw similar numbers of Medicare patients and their respective patients averaged the same number of office visits. However, after taking health status and location into account, GAO found that Medicare patients who saw an outlier generalist—compared with those who saw other generalists—were more likely to have been hospitalized, more likely to have been hospitalized multiple times, and more likely to have used home health services. By contrast, they were less likely to have been admitted to a skilled nursing facility.

Certain public and private health care purchasers routinely evaluate physicians in their networks using measures of efficiency and other factors. The 10 health care purchasers in our study profiled physicians—that is, compared physicians’ performance to an efficiency standard to identify those who practiced inefficiently. To measure efficiency, the purchasers we spoke with generally compared actual spending for physicians’ patients to the expected spending for those same patients, given their clinical and demographic characteristics. Most of the 10 purchasers also evaluated physicians on quality. To encourage efficiency, all 10 purchasers linked their physician evaluation results to a range of incentives—from steering patients toward the most efficient providers to excluding physicians from the purchaser’s provider network because of inefficient practice patterns.

CMS has tools available to evaluate physicians’ practices for efficiency but would likely need additional authorities to use results in ways similar to other purchasers. CMS has a comprehensive repository of Medicare claims data to compute reliable efficiency measures for most physicians serving Medicare patients and has substantial experience using methods that adjust for differences in patients’ health status. However, CMS may not currently have the flexibility that other purchasers have to link physician profiling results to a range of incentives encouraging efficiency. Implementation of other strategies to encourage efficiency would likely require legislation.

CMS said that our recommendation was timely and that our focus on the need for risk adjustment in measuring physician resource use was particularly helpful. However, CMS only discussed using profiling results for educating physicians. GAO believes that the optimal profiling effort would include financial or other incentives to encourage efficiency and would measure the effort’s impact on Medicare. GAO concurs with CMS that this effort would require adequate funding.

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Abbreviations

ACP	American College of Physicians
AMA	American Medical Association
BIPA	Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000
CMS	Centers for Medicare & Medicaid Services
FFS	fee-for-service
MMA	Medicare Prescription Drug, Improvement, and Modernization Act of 2003
MedPAC	Medicare Payment Advisory Commission
SGR	sustainable growth rate

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United States Government Accountability Office
Washington, DC 20548

April 30, 2007

Congressional Committees

In recent years, we and others have reported that the Medicare program is unsustainable in its present form.¹ Because of rising health care costs and the aging of baby boomers into eligibility for Medicare, future program spending is projected to encumber an escalating share of the government's resources.² In their 2006 annual report, the Medicare Trustees found that Part B assets now are substantially below appropriate levels and that Medicare's Hospital Insurance Trust Fund—which funds the Medicare Part A program—will be exhausted in 2018.³ They concluded that Medicare's financial challenges call for timely and effective action, and that reforms must be prompt to allow time for health care providers, beneficiaries, and taxpayers to adjust their expectations. Similarly, in 2006 testimony, the Comptroller General noted that dramatic health care reform would require a long transition period, arguing for acting sooner rather than later.⁴

¹GAO, *Suggested Areas for Oversight for the 110th Congress*, [GAO-07-235R](#) (Washington D.C.: Nov. 17, 2006); GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, [GAO-05-325SP](#) (Washington, D.C.: Feb. 2005); Congressional Budget Office, *The Long-Term Budget Outlook* (Washington D.C.: Dec. 2005); *The Wall Street Journal*, "Greenspan Expresses Concerns On Derivatives, Medicare Costs," May 19, 2006, p. A7; *USA Today*, "Bernanke: Savings situation getting dire," October 5, 2006, http://www.usatoday.com/money/economy/fed/2006-10-04-bernanke-retirement-programs_x.htm (accessed Dec. 13, 2006).

²GAO, *21st Century: Addressing Long-Term Fiscal Challenges Must Include a Re-examination of Mandatory Spending*, [GAO-06-456T](#) (Washington, D.C.: Feb. 15, 2006).

³See Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, *2006 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Washington D.C.: May 1, 2006). Medicare Part A pays for inpatient hospital stays, skilled nursing facility care, hospice care, and some home health care. Part B finances physician, outpatient hospital, home health care, and other services.

⁴[GAO-06-456T](#).

Experts agree that physicians play a central role in the generation of health care expenditures in total.⁵ Their services are estimated to account for 20 percent of total health care expenditures, whereas their influence is estimated to account for up to 90 percent of this spending.⁶ For example, physicians refer patients to other physicians; they admit patients to hospitals, skilled nursing facilities, and hospices; and they order services delivered by other health care providers, such as imaging studies, laboratory tests, and home health services.

Based on the centrality of the physician's role with respect to the consumption of health care services, some public and private health care purchasers have initiated programs to identify "efficient" physicians and encourage patients to obtain care from these physicians. (For the purposes of this report, efficiency means providing and ordering a level of services that is sufficient to meet a patient's health care needs but not excessive, given the patient's health status.) These purchasers identify efficient physicians by examining data obtained from medical claims to measure an individual's performance relative to a benchmark, a method known as profiling. Physician profiling activities occur in Medicare today, but they focus largely on improper billing practices rather than on efficient care delivery. Some policymakers have suggested using a profiling approach in Medicare to pay physicians based on their meeting quality and efficiency performance standards.⁷ As a practical matter, such an approach would be carried out by the Centers for Medicare & Medicaid Services (CMS), the agency responsible for administering the Medicare program.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) required us to study aspects of physician compensation, pertaining only to physicians serving beneficiaries in traditional fee-for-

⁵GAO, *Comptroller General's Forum on Health Care: Unsustainable Trends Necessitate Comprehensive and Fundamental Reforms to Control Spending and Improve Value*, [GAO-04-793SP](#) (Washington D.C.: May 1, 2004); Laura A. Dummit, *Medicare Physician Payments and Spending*, National Health Policy Forum, Issue Brief Number 815 (Washington D.C.: Oct. 9, 2006).

⁶John M. Eisenberg, *Doctors' Decisions and the Cost of Medical Care: The Reasons for Doctors' Practice Patterns and Ways to Change Them*, Health Administration Press Perspectives (Ann Arbor, Mich.: 1986); Gail R. Wilensky and Louis F. Rossiter, "The Relative Importance of Physician-induced Demand in the Demand for Medical Care," *Milbank Memorial Fund Quarterly: Health and Society*, 61(2): 252-277, spring 1983.

⁷See H.R. 3617, 109th Cong. §2 (2005).

service (FFS) Medicare.^{8,9} As discussed with the committees of jurisdiction, this report explores key concepts involved in linking assessments of individual physicians' performance—particularly measures of efficiency—to their compensation. Specifically, this report (1) estimates the prevalence in Medicare of physicians who are likely to practice medicine inefficiently, (2) examines physician-focused strategies used by public and private sector health care purchasers to encourage efficient medical care, and (3) examines the potential for CMS to profile physicians in traditional FFS Medicare for efficiency and use the results in ways that are similar to other purchasers that encourage efficiency.

To estimate the prevalence in Medicare of physicians likely to practice medicine inefficiently, we developed a profiling methodology using claims data for beneficiaries in the traditional FFS program. We considered the experience of other purchasers that conduct such analyses and used an approach that was feasible and practical for our purposes. We focused our analysis on generalists—physicians who described their specialty as general practice, internal medicine, or family practice—in 12 metropolitan areas.¹⁰ We selected areas that were diverse geographically and in terms of Medicare spending per beneficiary. Using 2003 Medicare claims data, we examined the degree to which a generalist physician treated a large proportion of Medicare patients for whom Medicare spending was

⁸Pub. L. No. 108-173, § 953, 117 Stat. 2066, 2428. With respect to physician compensation, the MMA included the requirement under which the current study was done as well as several other requirements, which directed us to study the following: the system for annually adjusting physicians' fees and alternatives to this system (Pub. L. No. 108-173, § 953, 117 Stat. 2066, 2427-28), access to physician services by beneficiaries in Medicare's FFS program (Pub. L. No. 108-173, § 604, 117 Stat. 2066, 2301-02), and adjustments in physician fees for area differences in physicians' costs of operating a private medical practice (Pub. L. No. 108-173, § 413(c), 117 Stat. 2066, 2277-78). In response, we issued three reports: *Medicare Physician Payments: Concerns about Spending Target System Prompt Interest in Considering Reforms*, [GAO-05-85](#) (Washington D.C.: Oct. 8, 2004); *Medicare Physician Services: Use of Services Increasing Nationwide and Relatively Few Beneficiaries Report Major Access Problems*, [GAO-06-704](#) (Washington D.C.: July 21, 2006); and *Medicare Physician Fees: Geographic Adjustment Indices Are Valid in Design, but Data and Methods Need Refinement*, [GAO-05-119](#) (Washington D.C.: Mar. 11, 2005).

⁹In 2005, most Medicare beneficiaries (88 percent) were in traditional Medicare FFS. The rest were enrollees in Medicare Advantage plans, which include managed care plans, private FFS plans, and Medical Savings Account/High Deductible plans.

¹⁰These metropolitan areas included Albuquerque, N.M.; Baton Rouge, La.; Des Moines, Iowa; Phoenix, Ariz.; Miami, Fla.; Springfield, Mass.; Cape Coral, Fla.; Riverside, Calif.; Pittsburgh, Pa.; Columbus, Ohio; Sacramento, Calif.; and Portland, Maine.

unusually high, given their health status.¹¹ To identify such patients, we assigned health status scores to all beneficiaries in the 12 areas, using a risk adjustment method similar to the one CMS uses to adjust payments for Medicare enrollees in managed care plans.¹² We grouped these patients into 31 cohorts by health status to remove differences in spending associated with differences in health status. We then identified within each cohort the top 20 percent of beneficiaries ranked by spending for all Medicare services and referred to these beneficiaries as “overly expensive” compared with others of similar health status. We linked these overly expensive patients to the physicians they saw and computed the percentage they represented of each physician’s Medicare practice. We determined whether a generalist physician had a Medicare practice that, relative to the physician’s peers in the same metropolitan area, included a percentage of overly expensive patients that was higher than would occur by chance if these patients were randomly distributed across the area’s generalist physicians.¹³ We identified these physicians as “outliers” relative to the practice patterns prevailing in their area and concluded that they were likely to practice medicine inefficiently.¹⁴ Our results are not statistically generalizable beyond the 12 areas we studied.

We ensured the reliability of the claims data used in this report by performing appropriate electronic data checks and by interviewing agency officials who were knowledgeable about the data. The encounter and cost information in the claims data we used are generally considered to be reliable, as they are used by the Medicare program as a record of payments to health care providers and are closely monitored by both CMS and Medicare’s fiscal intermediaries and carriers—contractors that process, review, and pay claims for Medicare-covered services. In addition, we examined the claims data files for obvious errors, missing values, and values outside of expected ranges. We also interviewed experts at CMS

¹¹We excluded generalist physicians from our study whose practices did not include a sufficient number of Medicare patients to ensure the statistical reliability of our analysis.

¹²To account for differences in health status, CMS uses a risk adjustment tool that assigns Medicare enrollees a health status score based on their diagnoses and demographic characteristics.

¹³We defined “higher” by setting a threshold percentage of overly expensive patients for each area that would be exceeded by no more than 1 percent of generalist physicians if overly expensive patients were randomly distributed across all generalist physicians.

¹⁴See appendix I for further discussion of our methodology.

who regularly use the claims data for evaluation and analysis. We found the claims data were sufficiently reliable for the purpose of our analyses.

To examine physician-focused strategies used by public and private health care purchasers to encourage efficient medical care, we interviewed representatives of 10 health care purchasers,¹⁵ including 5 commercial health plans, 1 provider network, 1 trust fund jointly managed by employers and a union, and 3 government agencies—2 in U.S. states and 1 in a Canadian province.¹⁶ On the basis of discussions with industry experts, we selected these plans because their physician profiling programs explicitly assess efficiency—unlike many such programs that assess quality only. To examine the potential for profiling in Medicare and using the results to encourage efficiency, we reviewed CMS program guidelines and memoranda, interviewed CMS officials, and analyzed how certain components of physician-focused payment strategies would fit with structural features of the Medicare program.

We conducted our work from September 2005 through April 2007 in accordance with generally accepted government auditing standards.

Results in Brief

In each of the 12 metropolitan areas studied, we found generalist physicians who, relative to their peers in the same area, treated a disproportionate share of overly expensive Medicare patients. To identify such patients while accounting for differences in health status, we grouped beneficiaries into 31 health status cohorts and designated, for each cohort, the top 20 percent of beneficiaries, ranked by Medicare spending, as “overly expensive.” We linked these patients to the physicians who saw them and identified the physicians whose Medicare practice included a percentage of overly expensive patients that was higher than would occur by chance for their area. We concluded that these physicians were likely to practice medicine inefficiently.

¹⁵In this report we use the term purchaser to mean health plans as well as agencies that manage care purchased from health plans; one of the entities we interviewed is a provider network that contracts with several insurance companies to provide care to their enrollees.

¹⁶Aetna, BlueCross BlueShield of Texas, Health Insurance BC (British Columbia, Canada), Greater Rochester Independent Practice Association, HealthPartners, Massachusetts Group Insurance Commission, Minnesota Advantage Health Plan, PacificCare Health Systems, UnitedHealthcare, and the Hotel Employees and Restaurant Employees International Union Welfare Fund.

Certain public and private health care purchasers routinely evaluate physicians in their networks using measures of efficiency and other factors. The 10 health care purchasers in our study profiled physicians—that is, compared physicians’ performance to an efficiency standard to identify those who practiced inefficiently. To measure efficiency, the purchasers we spoke with generally compared actual spending for physicians’ patients to the expected spending for those same patients, given their clinical and demographic characteristics. Most of the 10 we spoke with also evaluated physicians on quality. To encourage efficiency, all 10 purchasers linked their physician evaluation results to a range of incentives—from steering patients toward the most efficient providers to excluding physicians from the purchaser’s provider network because of inefficient practice patterns.

CMS has tools to profile physicians for efficiency but would likely need additional authorities to use results in ways similar to other purchasers. CMS has a comprehensive repository of Medicare claims data to compute reliable efficiency measures for most physicians serving Medicare patients and has substantial experience using methods that adjust for differences in patients’ health status. However, CMS may not currently have the flexibility that other purchasers have to link physician profiling results to a range of incentives encouraging efficiency. Although CMS has extensive experience in Medicare with physician education efforts, the implementation of other strategies to encourage efficiency, for example, tying fee updates of individual physicians to meeting efficiency standards, would likely require legislation providing additional authority to the agency.

In our view, physician profiling offers a promising, targeted approach that could be one of an array of measures collectively aimed at realigning the imbalance between Medicare’s outlays and revenues. Given the contribution of physicians to Medicare spending in total, we are recommending that CMS develop a profiling system that identifies individual physicians with inefficient practice patterns and, seeking legislative changes as necessary, uses the results to improve the efficiency of care financed by Medicare.

CMS said our recommendation was timely and characterized our focus on the need for risk adjustment in measuring physician resource use as particularly helpful. The agency also noted that nationwide dissemination of reports of physician resource use would generate significant recurring costs. While our report notes that CMS is familiar with key methodological tools needed to conduct such an effort, we agree that any such

undertaking would need to be adequately funded. The agency was silent on a strategy for using profiling results beyond physician education. We believe that the optimal profiling effort would include financial or other incentives to curb individual physicians' inefficient practices and would measure the effort's impact on Medicare spending. Both the American Medical Association (AMA) and the American College of Physicians (ACP) said that quality standards should be the primary focus of a physician profiling system.

Background

Since 1992, physicians in Medicare have been paid under a national fee schedule in conjunction with a system of spending targets. Under the design of the fee schedule and target system, annual adjustments (updates) to physician fees depend, in part, on whether actual spending has fallen below or exceeded the target. Fees are permitted to increase at least as fast as the costs of providing physician services as long as the growth in volume and intensity of physician services remains below a specified rate—currently, a little more than 2 percent a year. If spending associated with volume and intensity grows faster than the specified rate, the target system reduces fee increases or causes fees to fall. The target system in place today, called the sustainable growth rate (SGR) system, was implemented in 1998. This system acts as a blunt instrument in that all physicians are subject to the consequences of excess spending—that is, downward fee adjustments—that may stem from the excessive use of resources by some physicians relative to their peers.

Medicare spending on Part B physician services has grown rapidly in recent years. From 2000 through 2005, program spending for Part B FFS physician services grew at an average annual rate of 9.8 percent, outpacing average annual Medicare aggregate spending growth of 8.7 percent for this period. Since 2002, actual Medicare spending on physician services has exceeded SGR targets, and the SGR system has called for fee cuts to offset the excess spending. However, the cuts were overridden by administrative action or the Congress five times during this period. In a 2004 report on the SGR system,¹⁷ we found that possible options to modify or eliminate the system would increase the growth in cumulative spending over a 10-year period, usually by double-digit percentages. The difficulty of stabilizing physician fees in the face of the need to maintain fiscal

¹⁷[GAO-05-85](#).

discipline has spurred congressional interest in other ways to restrain spending growth.

As concern about the long-term fiscal sustainability of Medicare has grown, so has the recognition that some of the spending for services provided and ordered by physicians may not be warranted. For example, the wide geographic variation in Medicare spending for physician services—unrelated to beneficiary health status or outcomes—provides evidence that health needs alone do not determine spending. Furthermore, several studies have shown that in some instances growth in the number of services provided may lead to medical harm.¹⁸ Payments under the Medicare program, however, generally do not foster individual physician responsibility for quality, medical efficacy, or efficiency. In recognition of this, the Institute of Medicine has recently recommended that Medicare payment policies should be reformed to include a system for paying health care providers differentially based on how well they meet performance standards for quality or efficiency or both.¹⁹ In April 2005, CMS initiated a demonstration mandated by the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) to test this approach.²⁰ Under the Physician Group Practice demonstration, 10 large physician group practices, each comprising at least 200 physicians, are eligible for bonus payments if they meet quality targets and succeed in keeping the total expenditures of their Medicare population below annual targets.²¹

Several studies have found that Medicare and other purchasers could realize substantial savings if a portion of patients switched from less efficient to more efficient physicians. The estimates vary according to

¹⁸Elliott S. Fisher and H. Gilbert Welch, “Avoiding the Unintended Consequences of Growth in Medical Care: How Might More Be Worse?” *Journal of the American Medical Association*, vol. 281, no. 5 (1999): 446-453; E.S. Fisher, et al., “The Implications of Regional Variations in Medicare Spending. Part 1: The Content, Quality, and Accessibility of Care,” *Annals of Internal Medicine*, vol. 138, no. 4 (2003): 273-287; E.S. Fisher, et al., “The Implications of Regional Variations in Medicare Spending. Part 2: Health Outcomes and Satisfaction with Care,” *Annals of Internal Medicine*, vol. 138, no. 4 (2003): 288-298; and Joseph P. Newhouse, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge, Mass.: Harvard University Press, 1993).

¹⁹Institute of Medicine, *Rewarding Provider Performance: Aligning Incentives in Medicare (Pathways to Quality Health Care Series) – Summary* (Washington D.C.: 2007).

²⁰Pub. L. No. 106-554, app. F, § 412(a), 114 Stat. 2763, 2763A-509-515.

²¹We are currently conducting a study of the demonstration, as required by BIPA (Pub. L. No. 106-554, app. F, § 412(b), 114 Stat. 2763, 2763A-515).

assumptions about the proportion of beneficiaries who would change physicians.²² In 2003, the Consumer-Purchaser Disclosure Project, a partnership of consumer, labor, and purchaser organizations, asked actuaries and health researchers to estimate the potential savings to Medicare if a small proportion of beneficiaries started using more efficient physicians. The Project reported that Medicare could save between 2 and 4 percent of total costs if 1 out of 10 beneficiaries moved to more efficient physicians. This conclusion is based on information received from one actuarial firm and two academic researchers. One researcher concluded, based on his simulations, that if 5 to 10 percent of Medicare enrollees switched to the most efficient physicians, savings would be 1 to 3 percent of program costs—which would amount to about \$5 billion to \$14 billion in 2007.

The Congress has also recently expressed interest in approaches to constrain the growth of physician spending. The Deficit Reduction Act of 2005 required the Medicare Payment Advisory Commission (MedPAC) to study options for controlling the volume of physicians' services under Medicare. One approach for applying volume controls that the Congress directed MedPAC to consider is a payment system that takes into account physician outliers.²³

²²See Consumer-Purchaser Disclosure Project, *More Efficient Physicians: A Path to Significant Savings in Health Care* (Washington D.C.: July 2003).

²³Medicare Payment Advisory Commission, *Report to the Congress: Assessing Alternatives to the Sustainable Growth Rate System* (Washington, D.C.: Mar. 2007).

Physicians Who Treated a Disproportionate Share of Overly Expensive Patients Were Found in Each of 12 Areas Studied

In each of the 12 metropolitan areas studied, we found physicians who treated a disproportionate share of overly expensive patients. Using 2003 Medicare claims data, we identified overly expensive beneficiaries in the 12 areas and computed the percentage they represented in each generalist physician's Medicare FFS practice. We then identified outlier generalist physicians as those with practices that, relative to their peers, had a percentage of overly expensive patients that was unlikely to have occurred by chance. We concluded that such physicians are likely to practice an inefficient style of medicine. The proportion of generalist physicians found to be outliers varied across the 12 areas. In two areas, they accounted for more than 10 percent of the areas' generalist physician population.²⁴

In Identifying Overly Expensive Beneficiaries, We Found Significant Variation in Medicare Spending on Patients with Similar Health Status

We classified beneficiaries as overly expensive if their total Medicare expenditures—for services provided by all health providers, not just physicians—ranked in the top fifth of their health status cohort for 2003 claims.²⁵ We developed 31 health status cohorts of beneficiaries based on the diagnoses appearing on their Medicare claims and other factors.²⁶

Within each health status cohort, we observed large differences in total Medicare spending across beneficiaries. For example, in one cohort of beneficiaries whose health status was about average, overly expensive beneficiaries—the top fifth ranked by expenditures—had average total expenditures of \$24,574, as compared with the cohort's bottom fifth, averaging \$1,155.²⁷ (See fig. 1.) This variation may reflect differences in the number and type of services provided and ordered by these patients' physicians as well as factors not under the physicians' direct control, such as a patient's response to and compliance with treatment protocols. Overly expensive beneficiaries accounted for nearly one-half of total Medicare expenditures even though they represented only 20 percent of beneficiaries in our sample.

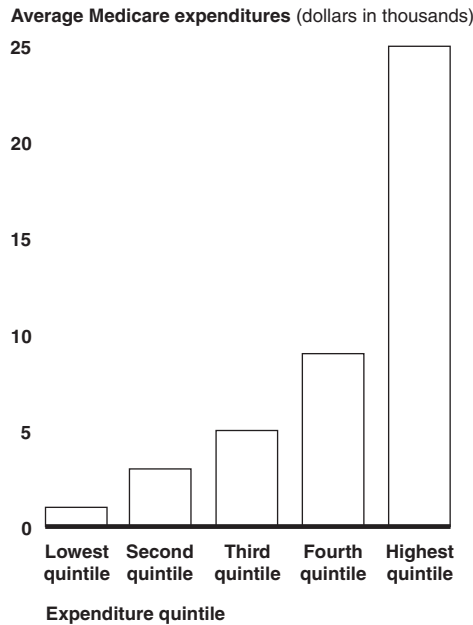
²⁴The population of generalist physicians studied excluded those who had small Medicare practices (see app. I).

²⁵Expenditures identified were for services from inpatient hospital, outpatient, skilled nursing facility, physician, hospice, durable medical equipment, and home health providers.

²⁶For decedents, we also took into account the number of months they were enrolled in Medicare FFS during 2003. For more detail on the development of the cohorts, see appendix I.

²⁷See figures 2 and 3 in appendix I for a depiction of beneficiary expenditures at the 20th, 50th, and 80th percentile for each health status cohort.

Figure 1: Average Medicare Expenditures, by Quintile, for Beneficiaries of Nearly Average Health Status



Source: GAO analysis of 2003 Medicare claims and enrollment data.

Note: Beneficiaries who died during 2003 are excluded in this figure.

Outlier Physicians Were Present in Every Metropolitan Area

Based on 2003 Medicare claims data, our analysis found outlier generalist physicians in all 12 metropolitan areas we studied. Our methodology assumed that, if overly expensive beneficiaries were distributed randomly across generalists, no more than 1 percent of generalists in any area would be designated as outliers. Across all areas, the actual percentage of outlier generalists ranged from 2 percent to over 20 percent.

To identify outlier generalist physicians, we compared the percentage of overly expensive beneficiaries in each physician's Medicare practice to a threshold value—the percentage of overly expensive beneficiaries in a physician's Medicare practice that would be expected to occur less than 1

time out of 100 by chance.²⁸ We classified those who exceeded the threshold value for their metropolitan area as outliers. That is, all physicians had some overly expensive patients in their Medicare practice, but outlier physicians had a much higher percentage of such patients.

The Miami area had the highest percentage—almost 21 percent—of outlier generalists, followed by the Baton Rouge area at about 11 percent. (See table 1.) Across the other areas, the percentage of outliers ranged from 2 percent to about 6 percent.

Table 1: Percentage of Outlier Physicians in 12 Metropolitan Areas, 2003

Metropolitan area	Percentage of outlier physicians
Miami, Fla.	20.9
Baton Rouge, La.	11.2
Cape Coral, Fla.	6.3
Portland, Maine	5.8
Riverside, Calif.	5.8
Phoenix, Ariz.	5.2
Sacramento, Calif.	5.2
Des Moines, Iowa	4.8
Columbus, Ohio	4.6
Pittsburgh, Pa.	3.8
Springfield, Mass.	2.9
Albuquerque, N. Mex.	2.0

Source: GAO analysis of 2003 CMS claims and enrollment data.

Note: Outlier percentages greater than 1 percent indicate that an area has an excessive number of outlier physicians.

In 2003, outlier generalists' Medicare practices were similar to those of other generalists, but the beneficiaries they treated tended to experience higher utilization of certain services. Outlier generalists and other

²⁸In determining the threshold value, we assumed that if all generalists practiced at a similar level of efficiency, overly expensive beneficiaries would be randomly distributed across all generalists, within a geographic area. Under this assumption, in an area such as Phoenix, Ariz., where 19 percent of the beneficiaries were overly expensive, one would expect that the percentage of overly expensive patients in generalist physicians' practices would cluster around 19 percent. However, no more than 1 percent of generalists would have practices in which more than 29 percent of the patients were overly expensive. See appendix I for further detail on our methodology for calculating threshold values.

generalists saw similar average numbers of Medicare patients (219 compared with 235) and their patients averaged the same number of office visits (3.7 compared with 3.5). However, after taking into account beneficiary health status and geographic location, we found that beneficiaries who saw an outlier generalist, compared with those who saw other generalists, were 15 percent more likely to have been hospitalized, 57 percent more likely to have been hospitalized multiple times, and 51 percent more likely to have used home health services. By contrast, they were 10 percent less likely to have been admitted to a skilled nursing facility.²⁹

Health Care Purchasers Used Physician Profiling Results to Encourage Efficient Medical Practice

Consistent with the premise that physicians play a central role in the generation of health care expenditures, some health care purchasers use physician profiling to promote efficiency. The 10 health care purchasers in our study profiled physicians—that is, compared physicians’ performance to an efficiency standard to identify those who practiced inefficiently. To measure efficiency, the purchasers we spoke with generally compared actual spending for physicians’ patients to the expected spending for those same patients, given their clinical and demographic characteristics. Most of the 10 we spoke with also evaluated physicians on quality. The purchasers linked their efficiency profiling results and other measures to a range of physician-focused strategies to encourage the efficient provision of care.

Health Care Purchasers in Our Study Profiled Physicians across Several Dimensions to Evaluate Physician Performance

The 10 health care purchasers we examined used two basic profiling approaches to identify physicians whose medical practices were inefficient.³⁰ One approach focused on the costs associated with treating a specific episode of an illness—for example, a stroke or heart attack—and assessing the physician’s performance based on the resources used during that episode. The other approach focused on costs, within a specific time period, associated with the patients in a physician’s practice. Both approaches shared common features. That is, both used information from medical claims data to measure resource use and account for differences

²⁹These findings were derived from logistic regressions in which health status, geographic area, and beneficiary contact with an outlier generalist were the explanatory variables used to predict whether a beneficiary was hospitalized, used home health services, or was admitted to a skilled nursing facility.

³⁰See appendix II for the names and characteristics of these health care purchasers.

in patients' health status. In addition, both approaches assessed physicians (or physician groups) based on the costs associated with services that they may not have provided directly, such as costs associated with a hospitalization or services provided by a different physician.

Although the method used by purchasers to estimate expected spending for patients varied, all used patient demographics and diagnoses. The programs generally computed efficiency measures as the ratio of actual to expected spending for patients of similar health status. Ratios greater than 1.0 (indicating that actual equals expected spending) suggest relative inefficiency while ratios below 1.0 suggest efficiency, although purchasers were free to set their own threshold. For example, one purchaser scrutinized physicians with scores above 1.2 for inefficient delivery of care. Some purchasers also took account of additional information before making a final judgment. For example, two purchasers told us that they reexamined the results for physicians who exceeded the threshold for inefficiency to see if there were factors, such as erroneous data, that made an otherwise efficient provider appear inefficient.

While our focus was on purchasers who profile for efficiency, purchasers in our study included quality measures as part of their profiling programs. For example, most purchasers evaluated physicians on one or more quality measures, such as whether patients with congestive heart failure were prescribed beta blockers. Some purchasers included factors related to patient access in their evaluations of physicians, such as whether the physician was in a specialty that was underrepresented within the network or within a particular geographic area covered by the network.

Purchasers varied with respect to the types of physicians profiled for efficiency. All of the purchasers we interviewed profiled specialists and all but one also profiled primary care physicians. Several purchasers said they would only profile physicians who treated a minimum number of cases; for example, one did not profile psychiatrists because it felt the volume of data was not sufficient to do statistical profiling. Typically such analyses require a minimum sample size to be valid. Purchasers differed on the inclusion of physician groups and individual practitioners. Four of the purchasers profiled physician group practices exclusively, three profiled individual physicians exclusively, and the remaining three profiled both.

To perform their profiling analyses, eight of the purchasers used episode-grouping models, which group claims into clinically distinct episodes of care—such as stroke—adjusted for case severity or patient health status. This approach can assign one physician primary responsibility for the

episode even if the patient sees multiple physicians. Two purchasers used a population-based model, which aggregated patient claims data to classify a patient's health status score for patients in the population to estimate expected expenditures for the patients a physician treats.

Health Care Purchasers Linked Physician Profiling Results to Range of Incentives Encouraging Efficiency

The health care purchasers we examined directly tied the results of their profiling methods to incentives that encourage physicians to practice efficiently. In some cases, purchasers implemented these incentives directly, while in other cases, incentives were implemented at the discretion of their clients.³¹ We found that the incentives varied widely in design, application, and severity of consequences—from steering patients toward the most efficient providers to excluding a physician from the purchaser's provider network because of inefficient practice patterns. The following were commonly reported incentives:

- *Physician education:* Some health care purchasers told us that they shared their profiling results with physicians to encourage more efficient care delivery or to foster acceptance of the purchaser's physician evaluation methods. For example, one purchaser's profiling report compared a physician's utilization patterns to a benchmark measure derived from the practice patterns of the physician's peer group, such as cardiologists compared with other cardiologists in the network or primary care physicians compared with other primary care physicians in the network. No purchaser employed education as the sole method of motivating physicians to change their practice patterns.
- *Publicly designating physicians based on efficiency or quality:* Some purchasers encouraged enrollees to get their care from certain physicians by designating in their physician directories those physicians who met quality or quality and efficiency standards. Other purchasers offered financial incentives to their enrollees to encourage them to patronize such physicians. The incentives may generate higher patient volume for the designated physicians, thereby achieving savings for the purchaser or their clients.
- *Using tiered arrangements to promote efficiency:* Several purchasers used profiling results to group physicians in tiers—essentially groups of physicians ranked by their level of efficiency. Enrollees selecting physicians in the higher tiers compared with those in lower tiers will

³¹Clients can be employers or organizations that contract with the purchasers.

obtain financial advantages—such as lower deductibles or copayments. From the purchaser’s point of view, tiering has the advantage of affording enrollees freedom of choice within the purchaser’s network, while making it advantageous for them to seek care from the network’s most efficient physicians. Several reported that a portion of their enrollees or employers of enrollees responded to the incentives offered by the tiered arrangements to switch to more efficient physicians.

- *Bonuses and penalties:* Two of the purchasers in our study used bonuses or financial penalties to encourage efficient medical practices. They awarded bonuses to physicians based on their efficiency and quality scores. To finance bonuses, one purchaser withholds 10 percent of each physician’s total reimbursement amount and with those funds pays bonuses to only those physicians who have high quality and efficiency scores. The amount withheld from physicians who did not meet standards serves as an implicit financial penalty.
- *Network exclusion:* One purchaser terminated its contractual relationship with physicians in its network when it determined that the physicians were practicing inefficiently. In an effort to control costs, the purchaser stated that it excluded about 3 percent of the physicians in its network in 2003. Although the purchaser has not ruled out similar actions in the future, it had not excluded additional physicians for reasons of inefficiency at the time of our interview.

Physician Profiling Suggests Potential for Savings

Evidence from our interviews with the health care purchasers in our study suggests that physician profiling programs may have the potential to generate savings for health care purchasers or their clients. Three of the 10 purchasers provided us with estimates of savings attributable to their physician-focused efficiency efforts. One placed more efficient physicians in a special network and reported that premiums for this network were 3 to 7 percent lower than premiums for the network that includes the rest of its physicians. Another reported that growth in spending fell from 12 percent to about 1 percent in the first year after it restructured its network as part of its efficiency program. By examining the factors that contributed to the reduction, an actuarial firm hired by the purchaser estimated that about three-quarters of the reduction in expenditure growth was most likely a result of the efficiency program. The third purchaser reported a “sentinel” effect—the effect of being scrutinized—resulting from its physician profiling efforts. This purchaser estimated that the sentinel effect associated with its physician efficiency program reduced spending by as much as 1 percent. Three other purchasers suggested their

programs might have achieved savings for themselves or their clients but did not provide us with their savings estimates, while four said they had not yet attempted to measure savings at the time of our interviews.

CMS Has Tools Available to Profile Physicians for Efficiency, but May Need Some Additional Authorities to Use Results in Ways Similar to Other Purchasers

Medicare's data-rich environment is conducive to conducting profiling analyses designed to identify physicians whose medical practices are inefficient compared with their peers. CMS has a comprehensive repository of Medicare claims data and experience using key methodological tools. However, CMS may not have legislative authority to implement some of the incentives used by other health care purchasers to encourage efficiency.

Medicare's Data-Rich Environment Is Conducive to Profiling for Efficiency

Fundamental to profiling physicians for efficiency is the ability to make statistical comparisons that enable health care purchasers to identify physicians practicing outside of established norms. CMS has the resources to make statistically valid comparisons, including comprehensive medical claims information, tools to adjust for differences in patient health status, and sufficient numbers of physicians in most areas to construct adequate sample sizes. As with the development of any new system, however, CMS would need to make choices about its design and implementation.

Among the resources available to CMS are the following:

- *Comprehensive source of medical claims information:* CMS maintains a centralized repository (database) of all Medicare claims that provides a comprehensive source of information on patients' Medicare-covered medical encounters. The data are in a uniform format, as Medicare claim forms are standardized. In addition, the data are relatively recent: CMS states that 90 percent of clean claims are paid within 30 days and new information is added to the central database weekly. Using claims from the central database, each of which includes the beneficiary's unique identification number, CMS can identify and link patients to the various types of services they received—including, for example, hospital, home health, and physician services—and to the physicians who treated them.

-
- *Data samples large enough to ensure meaningful comparisons across physicians:* The feasibility of using efficiency measures to compare physicians' performance depends on two factors—the availability of enough data on each physician to compute a reliable efficiency measure and numbers of physicians large enough to provide meaningful comparisons. In 2005, Medicare's 33.6 million FFS enrollees were served by about 618,000 physicians. These figures suggest that CMS has enough clinical and expenditure data to compute reliable efficiency measures for most physicians billing Medicare.
 - *Methods to account for differences in patient health status:* Because sicker patients are expected to use more health care resources than healthier patients, patients' health status needs to be taken into account to make meaningful comparisons among physicians. The 10 health care purchasers we examined accounted for differences in patients' health status through various risk adjustment methods. Medicare has significant experience with risk adjustment. Specifically, CMS has used increasingly sophisticated risk adjustment methodologies over the past decade to set payment rates for beneficiaries enrolled in managed care plans.³²

To conduct profiling analyses, CMS would likely make methodological decisions similar to those made by the health care purchasers we interviewed. For example, the health care purchasers we spoke with made choices about, among other things, whether to profile individual physicians or group practices; which risk adjustment tool was best suited for the purchaser's physician and enrollee population; whether to measure costs associated with episodes of care or the costs, within a specific time period, associated with the patients in a physicians' practice; and what criteria to use to define inefficient practices.

CMS would also likely want to take steps similar to those of other purchasers to supplement its efficiency assessments with additional information before using the results to do more than share information with physicians. For example, some purchasers in our study reviewed their profiling results for physicians who did not meet the efficiency standard to validate the accuracy of their assessments. Such validation of profiling results would be appropriate if CMS were to institute financial

³²Our estimate of the prevalence of physicians likely to practice inefficiently, discussed earlier in this report, relied on a risk adjustment methodology similar to that CMS uses to adjust Medicare payments to health plans in Medicare Advantage.

incentives for physicians to improve the efficiency of the care they provide and order for Medicare beneficiaries.

To Use Profiling Results in Medicare in Ways Similar to Other Purchasers Would Likely Require Additional Authorities

Some of the actions health care purchasers take as a result of their physician profiling may not be readily adaptable to Medicare, given the program's structural underpinnings, but they may be instructive in suggesting future directions for Medicare. Although Medicare has extensive experience with physician education efforts, the implementation of other strategies to encourage efficiency would likely require legislation providing authority to the Secretary of Health and Human Services.

Educational outreach to physicians has been a long-standing and widespread activity in Medicare as a means to change physician behavior based on profiling efforts to identify improper billing practices and potential fraud. Outreach includes letters sent to physicians alerting them to billing practices that are inappropriate.³³ In some cases, physicians are given comparative information on how the physician varies from other physicians in the same specialty or locality with respect to use of a certain service. A physician education effort based on efficiency profiling results would therefore not be a foreign concept in Medicare. For example, CMS could provide physicians a report that compares their practice's efficiency with that of their peers. This would enable physicians to see whether their practice style is outside the norm. In its March 2005 report to the Congress,³⁴ MedPAC recommended that CMS measure resource use by physicians and share the results with them on a confidential basis. MedPAC suggested that such an approach would enable CMS to gain experience in examining resource use measures and identifying ways to refine them while affording physicians the opportunity to change inefficient practices.³⁵

³³Other forms of physician education include face-to-face meetings, telephone conferences, seminars, and workshops.

³⁴MedPAC, 2005.

³⁵In several testimonies before the Congress in the last half of 2005, CMS officials said that they were taking steps to implement this recommendation. See Value-Based Purchasing for Physicians Under Medicare: Hearing Before the House Subcommittee on Health, Committee on Ways and Means, 109th Cong. (2005) (statement of Mark B. McClellan, MD, Ph.D., Administrator of CMS).

Another application of profiling results used by the purchasers we spoke with entailed sharing comparative information with enrollees. CMS has considerable experience comparing certain providers on quality measures and posting the results to a Web site. Currently, Medicare Web sites posting comparative information exist for hospitals, nursing homes, home health care agencies, dialysis facilities, and managed care plans. In its March 2005 report to the Congress, MedPAC noted that CMS could share results of physician performance measurement with beneficiaries once the agency gained sufficient experience with its physician measurement tools.

Several structural features of the Medicare program would appear to pose challenges to the use of other strategies designed to encourage efficiency. These features include a beneficiary's freedom to choose any licensed physician permitted to be paid by Medicare; the lack of authority to exclude physicians from participating in Medicare unless they engage in unlawful, abusive, or unprofessional practices; and a physician payment system that does not take into account the efficiency of the care provided. Under these provisions, CMS would not likely be able—in the absence of additional legislative authority—to designate preferred providers,³⁶ assign physicians to tiers associated with varying beneficiary copayments, tie fee updates of individual physicians to meeting performance standards,³⁷ or exclude physicians who do not meet practice efficiency and quality criteria.

Regardless of the use made of physician profiling results, the involvement of, and acceptance by, the physician community and other stakeholders of any actions taken is critical. Several purchasers described how they had worked to get physician buy-in. They explained their methods to physicians and shared data with them to increase physicians' familiarity with and confidence in the purchasers' profiling. CMS has several avenues for obtaining the input of the physician community. Among them is the federal rule-making process, which generally provides a comment period for all parties affected by prospective policy changes. In addition, CMS forms federal advisory committees—including ones composed of physicians and other health care practitioners—that regularly provide it

³⁶Preferred providers refers to those providers who meet a purchaser's utilization, price, and quality standards. Patients who choose providers who are not preferred are assessed higher copayments.

³⁷Medicare fee updates are annual adjustments made to physicians' fees.

with advice and recommendations concerning regulatory and other policy decisions.

Conclusions

The health care spending levels predicted to overwhelm the Medicare program call for action to be taken promptly. To address this looming problem, no single action or reform is likely to suffice, and policymakers are seeking solutions among an array of reform proposals. Our findings suggest that physician profiling is one promising, targeted approach toward curbing excessive spending both for physician services and for the services that physicians order.

Our profiling of generalist physicians in 12 metropolitan areas found indications of inefficient physician practices occurring in areas with low spending per beneficiary as well as in areas with high spending. To ensure that our estimates were fair, we adjusted them to account for the fact that some physicians have sicker patients than others; in addition, our efficiency standards were based on actual practices by local physicians rather than on a single measure applied to all physicians, regardless of geographic area. Notably, two areas—Miami and Baton Rouge—had particularly large proportions of outlier physicians compared with the other areas.

Some health care purchasers seek to curb inefficient practices through physician education and other measures directed at physicians' income—such as discouraging patients from obtaining care from physicians whom the purchaser, through profiling, ranks as inefficient. If similar approaches were adopted in Medicare—that is, profiling physicians for efficiency and strategically applying the results—the experience of other purchasers suggests that reductions in spending growth could be achieved. The adoption of a profiling system could require the modification of certain basic Medicare principles. For example, if CMS had the authority to rank-order physicians based on efficiency and tier beneficiary copayments accordingly, beneficiaries could retain the freedom to choose among providers but would be steered, through financial incentives, toward those identified as most efficient. CMS would likely find it desirable to base the tiers on both quality and efficiency. It would also be important to develop an evaluation component to measure the profiling system's impact on program spending and physician behavior.

In addition, a physician profiling system in Medicare could work in ways that would be complementary to the SGR system. That is, if Medicare instituted a physician profiling system that resulted in gains in efficiency,

over time the rate of growth in volume and intensity of physician services could decline and the SGR targets would be less likely to be exceeded. At the same time, under a profiling system that focused on total program expenditures, Medicare could experience a drop in unnecessary utilization of other services, such as hospitalizations and home health care. Although savings from physician profiling alone would clearly not be sufficient to correct Medicare's long-term fiscal imbalance, it could be an important part of a package of reforms aimed at future program sustainability.

Recommendation for Executive Action

Given the contribution of physicians to Medicare spending in total, we recommend that the Administrator of CMS develop a profiling system that identifies individual physicians with inefficient practice patterns and, seeking legislative changes as necessary, use the results to improve the efficiency of care financed by Medicare. The profiling system should include the following elements:

- total Medicare expenditures as the basis for measuring efficiency,
- adjustments for differences in patients' health status,
- empirically based standards that set the parameters of efficiency,
- a physician education program that explains to physicians how the profiling system works and how their efficiency measures compare with those of their peers,
- financial or other incentives for individual physicians to improve the efficiency of the care they provide, and
- methods for measuring the impact of physician profiling on program spending and physician behavior.

Agency and Professional Association Comments and Our Evaluation

We obtained written comments on a draft of this report from CMS (see app. IV). We obtained oral comments from representatives of the American College of Physicians (ACP) and the American Medical Association (AMA).

CMS Comments

CMS stated that our recommendation was very timely and that it fits into efforts the agency is pursuing to improve the quality and efficiency of care paid for by Medicare. CMS also found our focus on the need for risk adjustment in measuring physician resource use to be particularly helpful. CMS noted that its current measurement efforts involve evaluation of “episode grouper” technology, which examines claims data for a given episode of care, and called it a promising approach. We do not disagree, but we also believe that approaches involving the measurement of total patient expenditures are equally promising.

CMS said that the agency would incur significant recurring costs to develop reports on physician resource use, disseminate them to physicians nationwide, and evaluate the impact of the program. While our report notes that CMS is familiar with key methodological tools needed to conduct such an effort, we agree that any such undertaking would need to be adequately funded. CMS was silent on a strategy for using profiling results beyond physician education. We believe that the optimal profiling effort would include financial or other incentives to curb individual physicians’ inefficient practices and would measure the effort’s impact on Medicare spending.

Professional Association Comments

AMA and ACP raised three principal concerns about physician profiling: the relative importance of quality and efficiency, the adequacy of risk adjustment methods, and the ways profiling results would be used. Both said that quality standards should be the primary focus of a physician profiling system. AMA said including incentives that promote the provision of high-quality care might increase costs initially but could reduce costs in the long term. Although we agree that quality is an important measure of physician performance, given growing concern about Medicare’s fiscal sustainability, we believe that a focus on the efficient delivery of care is essential.

With regard to the use of risk adjustment methods in assessing physician efficiency, both AMA and ACP said that this technique has significant shortcomings. For example, AMA said that diagnostic information included in the claims data used in risk adjustment may not adequately capture differences in patient health status. AMA also said that these data lack information on other factors that affect health status and spending, such as differences in patient compliance with medical advice. ACP echoed this concern. We believe that these claims data limitations are not of sufficient importance to preclude their use for profiling physicians treating Medicare patients. As our report notes, risk adjustment methods

using claims information are now used by many private payers in measuring physician resource use. Moreover, Medicare currently uses one such risk adjustment method to set payment rates for managed care plans.

Finally, both AMA and ACP expressed reservations about linking the results of profiling to physician reimbursement. The AMA stated that it was acceptable to use profiling results for the purpose of physician education, but an exclusive focus on costs was not. Although all of the purchasers we interviewed included physician education in their profiling programs, none of them relied on it as the sole means for encouraging physicians to practice efficiently. Similarly, we believe that, to restrain the growth in Medicare expenditures, a physician profiling system would need financial or other incentives to motivate physicians to practice medicine efficiently.

We are sending a copy of this report to the Administrator of CMS. We will also provide copies to others on request. In addition, this report is available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have questions about this report, please contact me at (202) 512-7101 or steinwalda@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 who made key contributions to this report are listed in appendix IV.



A. Bruce Steinwald
Director, Health Care

List of Committees

The Honorable Max Baucus
Chairman
The Honorable Charles E. Grassley
Ranking Member
Committee on Finance
United States Senate

The Honorable John D. Dingell
Chairman
The Honorable Joe L. Barton
Ranking Member
Committee on Energy and Commerce
House of Representatives

The Honorable Charles B. Rangel
Chairman
The Honorable Jim McCrery
Ranking Member
Committee on Ways and Means
House of Representatives

The Honorable Frank J. Pallone, Jr.
Chairman
The Honorable Nathan Deal
Ranking Member
Subcommittee on Health
Committee on Energy and Commerce
House of Representatives

The Honorable Pete Stark
Chairman
The Honorable Dave Camp
Ranking Member
Subcommittee on Health
Committee on Ways and Means
House of Representatives

Appendix I: Methodology for Identifying Physicians with a Disproportionate Share of Overly Expensive Beneficiaries

We developed a methodology to identify physicians whose practices were composed of a disproportionate number of overly expensive beneficiaries—that is, beneficiaries whose costs rank them in the top 20 percent when compared to the costs of other beneficiaries with similar health status. We focused our analysis on generalists—physicians who described their specialty as general practice, internal medicine, or family practice—in the following 12 metropolitan areas: Albuquerque, N.M.; Baton Rouge, La.; Des Moines, Iowa; Phoenix, Ariz.; Miami, Fla.; Springfield, Mass.; Cape Coral, Fla.; Riverside, Calif.; Pittsburgh, Pa.; Columbus, Ohio; Sacramento, Calif.; and Portland, Maine.¹ We selected these metropolitan areas to obtain a sample of physicians that was geographically diverse and represented a range in average Medicare spending per beneficiary. We assigned physicians to a particular metropolitan area based on where the plurality of their Medicare expenditures was generated. Our results are not statistically generalizable.

To conduct our analysis, we obtained 2003 Centers for Medicare & Medicaid Services (CMS) data from the following sources: (1) the Standard Analytic Files, a repository of Medicare claims information that include data on physician/supplier, durable medical equipment, skilled nursing, home health, hospice, and hospital inpatient and outpatient services and (2) the Denominator File, a database that contains enrollment and entitlement status information for all Medicare beneficiaries enrolled and/or entitled in a given year. To assess beneficiary health status, we used commercially available software developed by DxCG, Inc. This software uses beneficiary characteristics—age, sex, and Medicaid status—and diagnosis codes included on medical claims to assign each beneficiary a single health “risk score”—a summary measure of the beneficiary’s current health status corresponding to the beneficiary’s expected health care costs relative to the costs of the average Medicare beneficiary.² We analyzed the

¹These areas were based on the following Core-Based Statistical Areas (an umbrella term for micropolitan and metropolitan statistical areas): Albuquerque, N.M.; Baton Rouge, La.; Des Moines, Iowa; Phoenix-Mesa-Scottsdale, Ariz.; Miami-Fort Lauderdale-Miami Beach, Fla.; Springfield, Mass.; Cape Coral-Fort Myers, Fla.; Riverside-San Bernardino-Ontario, Calif.; Pittsburgh, Pa.; Columbus, Ohio; Sacramento-Arden-Arcade-Roseville, Calif.; and Portland-South Portland-Biddeford, Maine.

²For example, a beneficiary with a risk score of .5 is expected to have one-half the health care costs of the average Medicare beneficiary, whereas a beneficiary with a score of 2 is expected to have costs that are twice the national average. CMS uses such measures to prospectively set payment rates for managed care plans, known as Medicare Advantage.

Medicare practices of 7,105 physicians who provided services to 1,283,943 beneficiaries.

Method for Identifying Overly Expensive Beneficiaries

Because our method for identifying overly expensive beneficiaries requires comparable information on total beneficiary costs, we developed a slightly different methodology for two groups of beneficiaries—survivors (beneficiaries who did not die in 2003) and decedents (beneficiaries who died in 2003). Decedents typically have annualized costs that are much higher than survivors³ but usually have less than 12 months of Medicare enrollment in their last year of life. We included survivors in our analysis if they had (1) 12 months of Medicare fee-for-service (FFS) enrollment in 2003 and (2) were not covered by other health insurance for which Medicare was determined to be a secondary payer.⁴ Decedents were included if they were continuously enrolled in Medicare FFS as of January 2003 and met the second criterion. Beneficiaries included in our analysis had at least one office visit with a generalist physician in one of the selected metropolitan areas.

Using DxCG software, we examined the diagnosis codes on survivors' 2003 hospital inpatient, outpatient, and physician claims and generated a separate health risk score for each beneficiary. The risk scores reflect the level of a beneficiary's relative health status, and in our analysis, ranged from .01 (very healthy) to 30.84 (extremely ill). Next, using their risk scores, we assigned survivors into 1 of 31 discrete risk categories. The categories were ordered in terms of health status from very healthy (category 1) to extremely ill (category 31). Finally, we calculated each survivor's total 2003 Medicare costs from all types of providers (hospital inpatient, outpatient, physician, durable medical equipment, skilled nursing facility, home health, and hospice). We included costs from all Medicare claims submitted on survivors' behalf, including claims from locations outside the selected metropolitan areas. Within each risk category, we ranked survivors by their total costs. Survivors who ranked in the top 20 percent of their assigned risk category were designated as

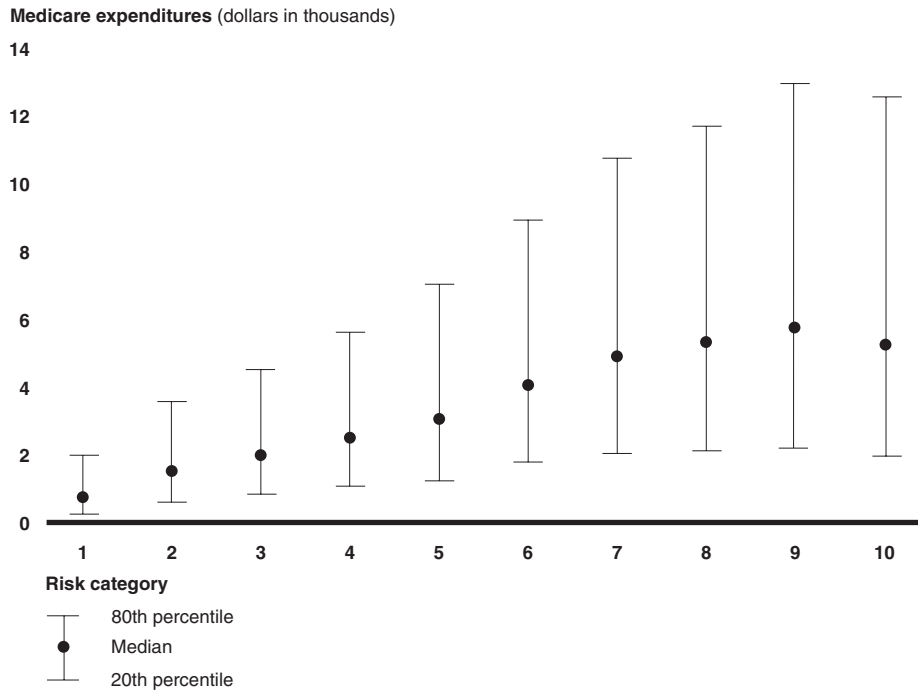
³GAO, *Medicare+Choice: Payments Exceed Cost of Fee-for-Service Benefits, Adding Billions to Spending*, GAO/HEHS-00-161 (Washington D.C.: Aug. 23, 2000).

⁴We excluded beneficiaries for whom Medicare was a secondary payer because we were not able to determine their total costs. Such persons, though eligible for Medicare, may have some of their health care costs covered by employer-sponsored or other private insurance. We also excluded beneficiaries who had End Stage Renal Disease.

Appendix I: Methodology for Identifying Physicians with a Disproportionate Share of Overly Expensive Beneficiaries

overly expensive.⁵ Figure 2 and figure 3 show the range of costs in the 31 risk categories for survivors in our sample.

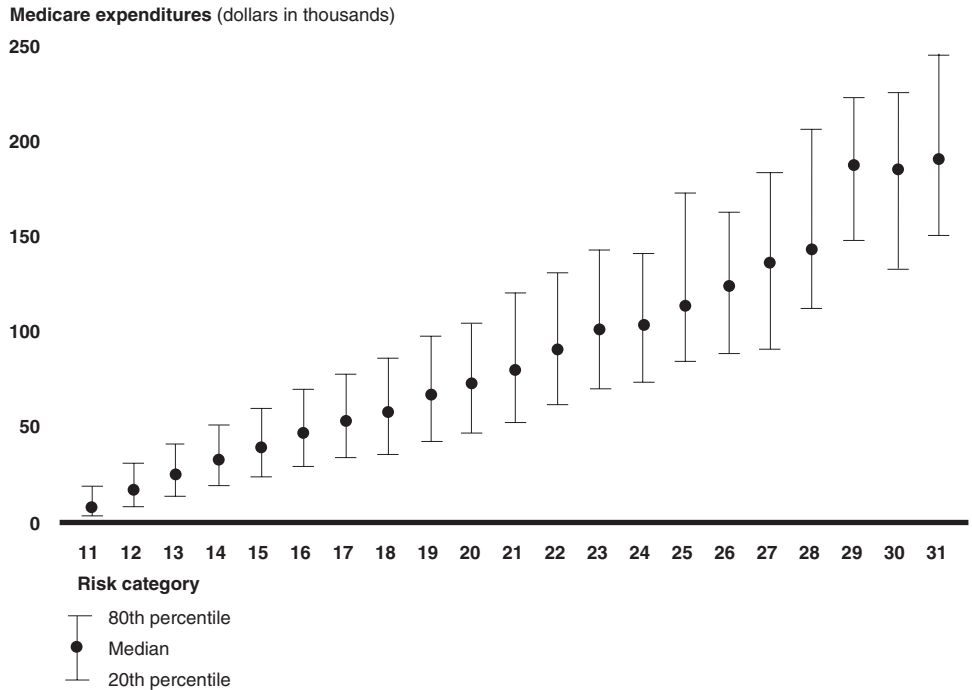
Figure 2: Distribution of Total Per-Beneficiary Medicare Expenditures for Survivors for Risk Categories 1-10



Source: GAO analysis of 2003 Medicare claims.

⁵Our objective was to group together beneficiaries with generally similar health statuses. To assess whether our method of assigning beneficiaries to risk categories achieved this objective, we ranked beneficiaries within each risk category by their risk score and divided them into two equal-sized groups. Despite having slightly lower risk scores, beneficiaries who were placed in the bottom half group were on average about 1 percent more likely to be classified as overly expensive than beneficiaries in the top half group. Consequently, across all risk categories, beneficiaries had roughly the same chance of being classified as overly expensive based on their 2003 expenditures.

Figure 3: Distribution of Total Per-Beneficiary Medicare Expenditures for Survivors for Risk Categories 11-31



Source: GAO analysis of 2003 Medicare claims.

The methodology we used to identify decedents who were overly expensive was identical to that used for survivors, with one exception. Before ranking decedents by their total costs, we further divided them within each risk category by the number of months they were enrolled in Medicare FFS during 2003. This was necessary because decedents varied in the number of months they incurred health care costs. For example, decedents who died in October had up to 10 months to incur costs while those who died in January had 1 month or less to incur costs.

The proportion of overly expensive beneficiaries varied across the areas we examined. We identified overly expensive beneficiaries within health status cohorts that spanned all 12 of the metropolitan areas. As a consequence, it was possible that some areas would have proportionately more overly expensive beneficiaries than others. For example, the Miami Fort Lauderdale-Miami Beach, Fla., Core-Based Statistical Area (CBSA) had the highest proportion of overly expensive beneficiaries, .28, and the

Des Moines, Iowa, CBSA had the lowest proportion with .13. The remaining areas had proportions that ranged from .13 to .21.

Method for Identifying Outlier Physicians

For each generalist physician, we determined the proportion of his or her Medicare patients that were overly expensive. Physicians' proportions of overly expensive beneficiaries varied substantially both across and within metropolitan areas. For example, in Miami, where the overall proportion of overly expensive patients was .28, individual physicians' proportions ranged from .08 to .98. Similarly, in Sacramento, the overall proportion was .16, with individual physicians' proportions ranging from .05 to .60. To ensure that our estimate of each physician's proportion of overly expensive beneficiaries was statistically reliable, we excluded physicians with small Medicare practices.⁶

We classified generalists as outliers if their practice was composed of such a high proportion of overly expensive beneficiaries that the proportion would only be expected to occur by chance no more than 1 time out of 100. In order to determine this proportion (threshold value) we conducted separate Monte Carlo simulations for each area.⁷

In each simulation, which we repeated 200 times for each metropolitan area, we randomly classified each of a generalist's patients into one of two categories—overly expensive or other. The probability of a beneficiary being randomly assigned to the overly expensive category was equal to the proportion of physician-patient pairings in the metropolitan area in which the patient was an overly expensive beneficiary.⁸ We then determined the

⁶Because the composition of a physician's practice may change during the year—a physician may acquire new patients while other patients may die or leave—the proportion of overly expensive patients associated with a particular physician can be treated as a sample statistic. To ensure reliability of this statistic, we limited our analysis to physicians who treated a substantial number of patients. We established a minimum practice size for physicians included in our analysis so that we would be 95 percent confident that our estimate of the true proportion of a physician's practice comprised of overly expensive patients was accurate within 10 percent. See William G. Cochran, *Sampling Techniques* (New York: John Wiley and Sons, 1977), 75-76. Because the precision of our estimate is a function of the overall proportion of overly expensive patients within a metropolitan area, the minimum sampling size varied across metropolitan areas.

⁷Monte Carlo simulation is a statistical technique by which a quantity is calculated repeatedly, using randomly selected "what-if" scenarios for each calculation.

⁸In the simulations, only the beneficiary's status, in terms of being overly expensive, was randomized. The numbers of patients in each generalist's practice, and the number of generalists each patient saw, remained the same in each simulation.

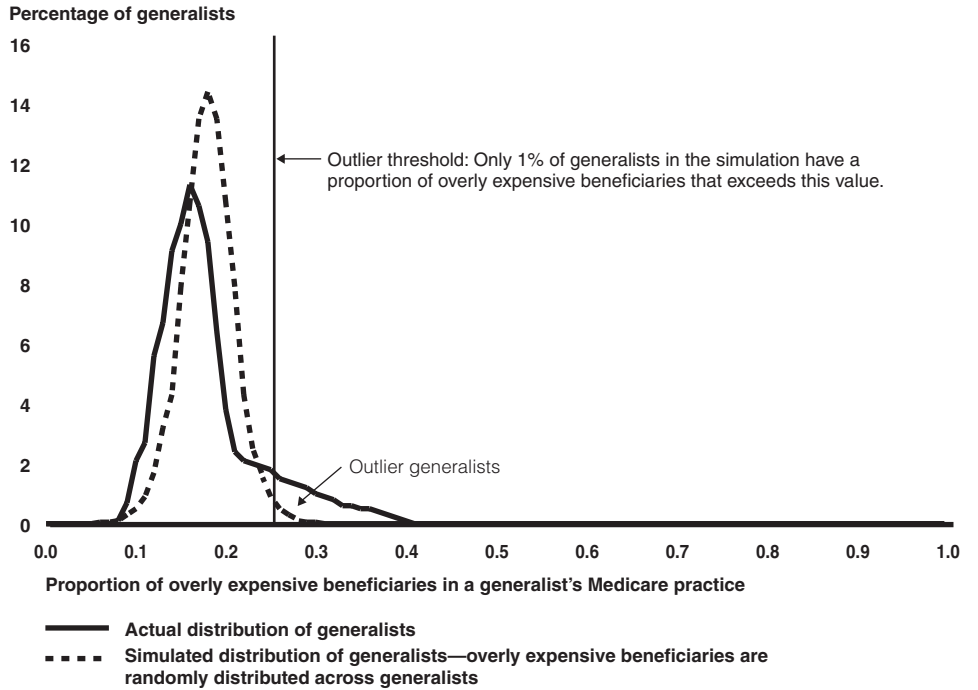
percentage of generalists for each proportion of overly expensive patients.⁹ The results generated by each of the 200 simulations were averaged to determine an expected percentage of generalists at each proportion of overly expensive beneficiaries. We defined the outlier threshold value as the point in the expected distribution where only 1 percent of physicians would have a proportion of overly expensive beneficiaries that large or larger.

To illustrate our method, we present in figure 4 the actual and expected distributions of generalists in a hypothetical metropolitan area. The dotted line represents the distribution of generalists by their proportion of overly expensive beneficiaries that would be expected if such patients were randomly distributed among generalists. The solid line shows the actual distribution of generalists by their proportion of overly expensive patients. The vertical line (outlier threshold value) denotes the 99th percentile of the expected distribution—.25. That is, by chance, only 1 percent of generalists would be expected to have a proportion of overly expensive beneficiaries greater than .25. As shown by the area under the solid line and to the right of the vertical line, about 11 percent of generalists in this hypothetical example had actual proportions of overly expensive beneficiaries that exceeded .25—these generalists would be classified as outliers in our analysis.

⁹In determining the distribution of generalists, the proportion of overly expensive beneficiaries was rounded to one-half percent intervals.

Appendix I: Methodology for Identifying Physicians with a Disproportionate Share of Overly Expensive Beneficiaries

Figure 4: Actual and Simulated Distribution of Generalists by their Medicare Practice's Proportion of Overly Expensive Beneficiaries in a Hypothetical Metropolitan Area



Source: GAO analysis.

Table 2 shows that the proportion of overly expensive beneficiaries and the outlier threshold value varied across metropolitan areas. In general, areas that had higher proportions of overly expensive beneficiaries also had higher outlier threshold values. (See table 2.)

Appendix I: Methodology for Identifying Physicians with a Disproportionate Share of Overly Expensive Beneficiaries

Table 2: Proportion of Overly Expensive Beneficiaries and Outlier Threshold Value by CBSA

CBSA	Proportion of overly expensive beneficiaries^a	Outlier threshold value
Miami-Fort Lauderdale-Miami Beach, Fla.	0.28	0.43
Riverside-San Bernardino-Ontario, Calif.	0.21	0.31
Cape Coral-Fort Myers, Fla.	0.23	0.30
Phoenix-Mesa-Scottsdale, Ariz.	0.19	0.29
Baton Rouge, La.	0.19	0.28
Pittsburgh, Pa.	0.16	0.26
Sacramento-Arden-Arcade-Roseville, Calif.	0.16	0.25
Columbus, Ohio	0.16	0.25
Springfield, Mass.	0.17	0.25
Albuquerque, N.Mex.	0.13	0.22
Portland, Maine	0.13	0.22
Des Moines, Iowa	0.13	0.21

Source: GAO analysis of 2003 Medicare claims data.

^aThe figures presented in this column reflect the proportion of beneficiaries in each metropolitan area who were classified as overly expensive. By contrast, the outlier threshold values are based on the proportion of physician-beneficiary relationships in a metropolitan area that involved an overly expensive beneficiary. Because some beneficiaries saw more than one generalist in 2003, the proportion of overly expensive beneficiaries in an area may differ slightly from the proportion of doctor-patient relationships involving overly expensive beneficiaries. For example, in the Phoenix-Mesa-Scottsdale, Ariz., CBSA, where 19 percent of beneficiaries were overly expensive, 20 percent of physician-beneficiary relationships involved an overly expensive beneficiary. Overly expensive beneficiaries in that CBSA saw slightly more generalists than other beneficiaries and accounted for a proportionately larger share of all doctor-patient relationships than their share of the overall beneficiary population.

Appendix II: Health Care Purchaser Program Characteristics

In 2005 and 2006 we interviewed representatives of 10 health care purchasers who had implemented a physician profiling program. We also conducted some follow-up contacts to ensure the data were current. We had at least one purchaser from each major geographic area of the country as well as one Canadian province. These purchasers represented a mix of traditional health insurance plans and organizations that arrange care for select groups of patients. Five were commercial health plans, three were government agencies, one was a provider network that contracts with several insurance companies to provide care to their enrollees, and one was a trust-fund jointly managed by employers and a union.

Table 2 presents the basic characteristics of each purchaser's profiling program and includes, among other things, (1) the approximate number of covered lives and physicians profiled; (2) the year the purchaser began profiling physicians; (3) whether the purchaser profiled individual or group practices or both; (4) whether the purchaser also used quality measures, such as adherence to clinical practice guidelines, to evaluate physicians; and (5) the unit of resource use employed to measure efficiency. The purchasers with the classification of "Episode" used an episodic grouper, which links claims into an episode of care that may span multiple encounters and multiple providers. By adjusting for the severity of like illnesses, episode groupers allow purchasers to measure payments to a particular physician or physician group relative to their peers. The purchasers with the classification "Patient" used a person-based method of categorizing illness severity. This method allows the purchaser to compare actual expenditures relative to an estimate of what was expected to have been spent given the level of "sickness" of the patients in a particular practice.

**Appendix II: Health Care Purchaser Program
Characteristics**

Table 3: Characteristics of Health Care Purchasers' Physician Profiling Programs

Purchaser name	Approximate number of covered lives affected ^a	Approximate number of physicians profiled	Locations	Year physician profiling began	Type of practice profiled	Quality measures used	Unit of resource use employed to measure efficiency
Aetna	500,000 ^b	15,000	Multistate ^c	2004	Group	Yes	Episode
BlueCross BlueShield of Texas	60,000	26,000	Texas	2004	Group and individual	Yes	Episode
Greater Rochester Independent Practice Association	120,000	640	New York	1996	Individual	Yes	Episode
Health Insurance BC (British Columbia, Canada)	4,100,000	8,000	British Columbia	1997	Individual	No	Patient
HealthPartners	650,000	27,000	Minnesota	1989 ^d	Group	Yes	Episode
Hotel Employees and Restaurant Employees International Union Welfare Fund	130,000	2,000	Nevada	2000	Group and individual	Yes	Episode
Massachusetts Group Insurance Commission	268,000	19,000	Massachusetts	2004	Individual	Yes	Episode
Minnesota Advantage Health Plan	115,000	^e	Minnesota	2002	Group ^f	No	Patient
PacifiCare Health Systems ^g	1,500,000 ^h	14,000	California	1993 ⁱ	Group	Yes	Episode
UnitedHealthcare	10,600,000	80,000	Multistate ^j	2005	Group and individual	Yes	Episode

Source: Health care purchasers.

^aThis column describes the total number of patients or plan members who are potentially affected by the profiling program. In some cases, their exposure may be limited to having access to purchaser evaluations of the profiled physicians.

^bThis figure refers to the number of Aetna enrollees in plans that included the Aexcel network.

^cIn 2006, Aetna's Aexcel network was available in Dallas, Tex.; Jacksonville, Fla.; Seattle, Wash.; Atlanta, Ga.; Connecticut; Houston, Tex.; Los Angeles, Calif.; metropolitan Washington, D.C.; metropolitan New York, N.Y.; Northern New Jersey; Arizona; Austin, Tex.; Chicago, Ill.; Cleveland, Ohio; Columbus, Ohio; Maine; Northern California; Orlando, Fla.; San Antonio, Tex.; South Florida; and Tampa, Fla.

^dHealthPartners began profiling at this time for more limited purposes, such as negotiating fee schedules, rather than trying to influence physician and patient behavior.

^eMinnesota Advantage Health Plan had about 50 provider groups at the time of our interview, each of which may have included physicians and institutional providers together.

**Appendix II: Health Care Purchaser Program
Characteristics**

¹Minnesota Advantage combined individual practitioners into a single entity for the purposes of profiling.

²When we began our study, PacifiCare Health Systems and UnitedHealthcare were separate organizations with their own physician profiling programs. Although PacifiCare Health Systems merged with UnitedHealth Group, of which UnitedHealthcare is a part, in December 2005, as of December 2006, the profiling programs continued to be separate.

³This figure represents the number of PacifiCare Health Systems enrollees who have access to some profiling data. A smaller number of enrollees in select areas have reduced copayments if they patronize physicians rated as higher quality, lower cost providers.

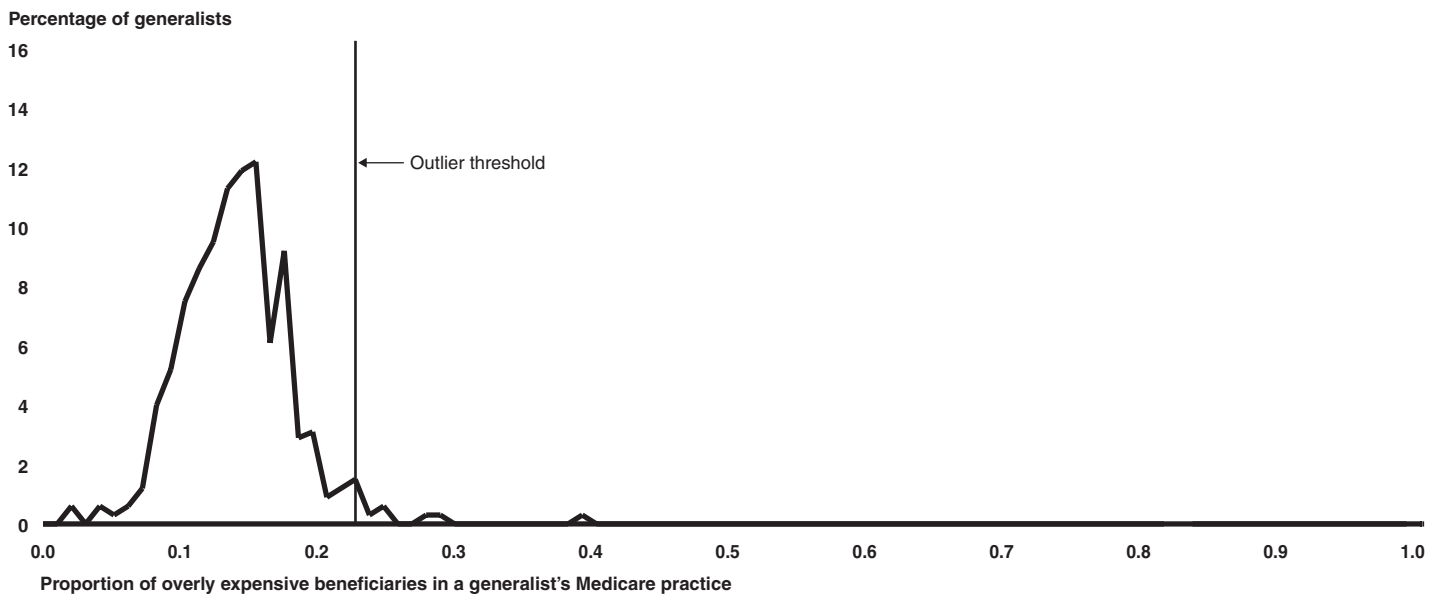
⁴PacifiCare Health Systems began profiling in 1993; in later years the effort was enhanced to include, among other measures, indicators of quality, patient safety, and patient satisfaction.

⁵UnitedHealthcare profiled physicians in their provider networks in Iowa, Illinois, Indiana, Kansas, Kentucky, Michigan, Ohio, Wisconsin, North Carolina, Washington, Florida, Georgia, Louisiana, Tennessee, Arizona, Colorado, Texas, Nebraska, Mississippi, and Utah.

Appendix III: Distribution of Physicians by Their Proportion of Overly Expensive Beneficiaries by Metropolitan Area

This appendix displays the distribution of generalist physicians by the proportion of overly expensive beneficiaries in their Medicare practice for each of the 12 metropolitan areas in our study. The vertical line in each chart represents the outlier threshold value for that area. If the proportion of overly expensive beneficiaries in a physician's practice exceeded this value, then the physician was designated an outlier physician.

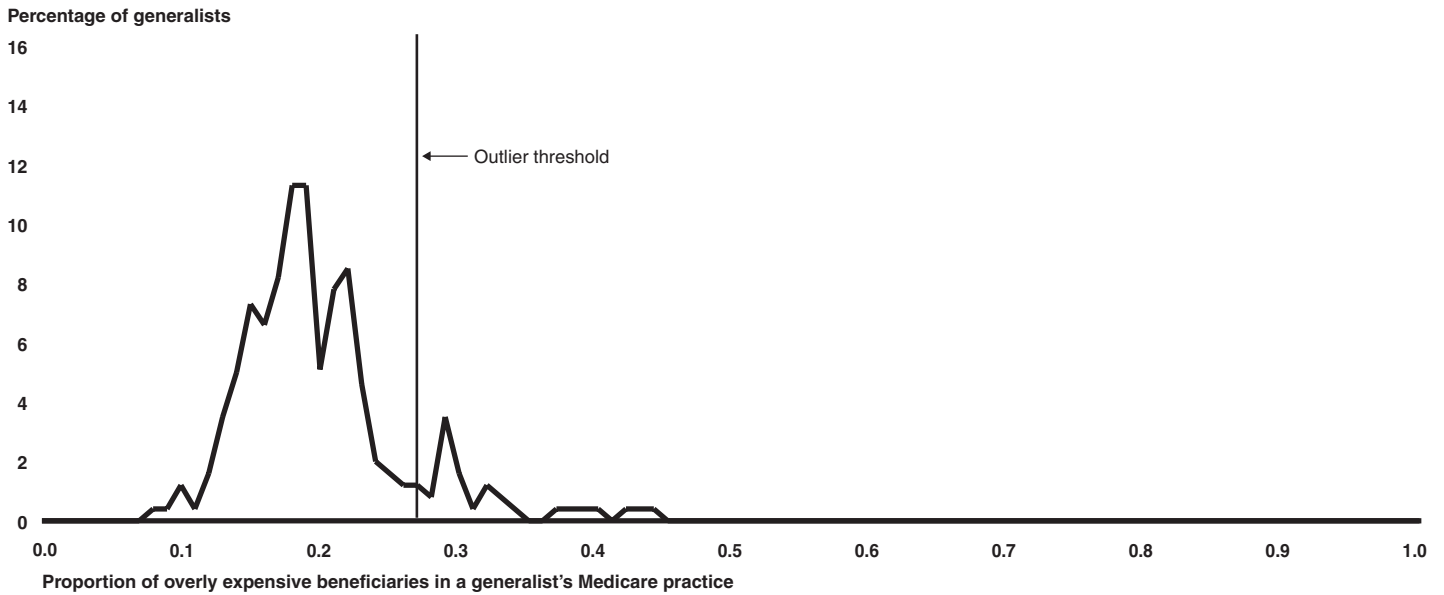
Figure 5: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Albuquerque, N.Mex.



Source: GAO analysis of 2003 Medicare claims data.

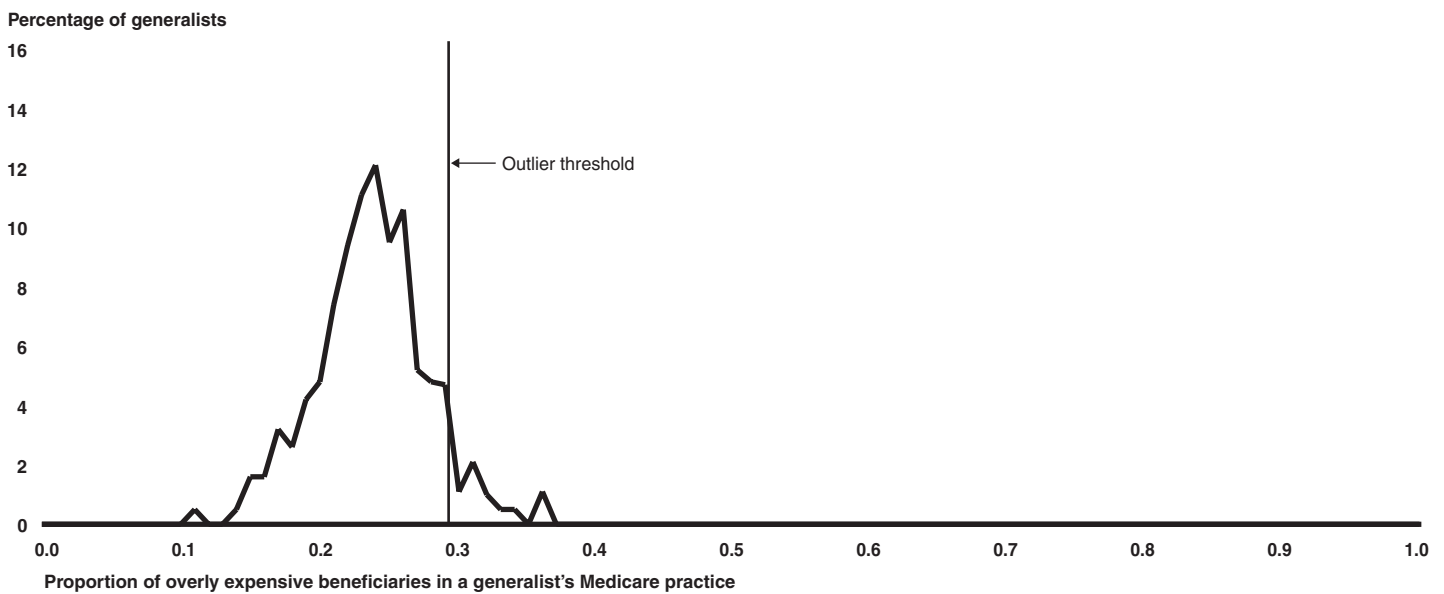
**Appendix III: Distribution of Physicians by
Their Proportion of Overly Expensive
Beneficiaries by Metropolitan Area**

**Figure 6: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—
Baton Rouge, La.**



Source: GAO analysis of 2003 Medicare claims data.

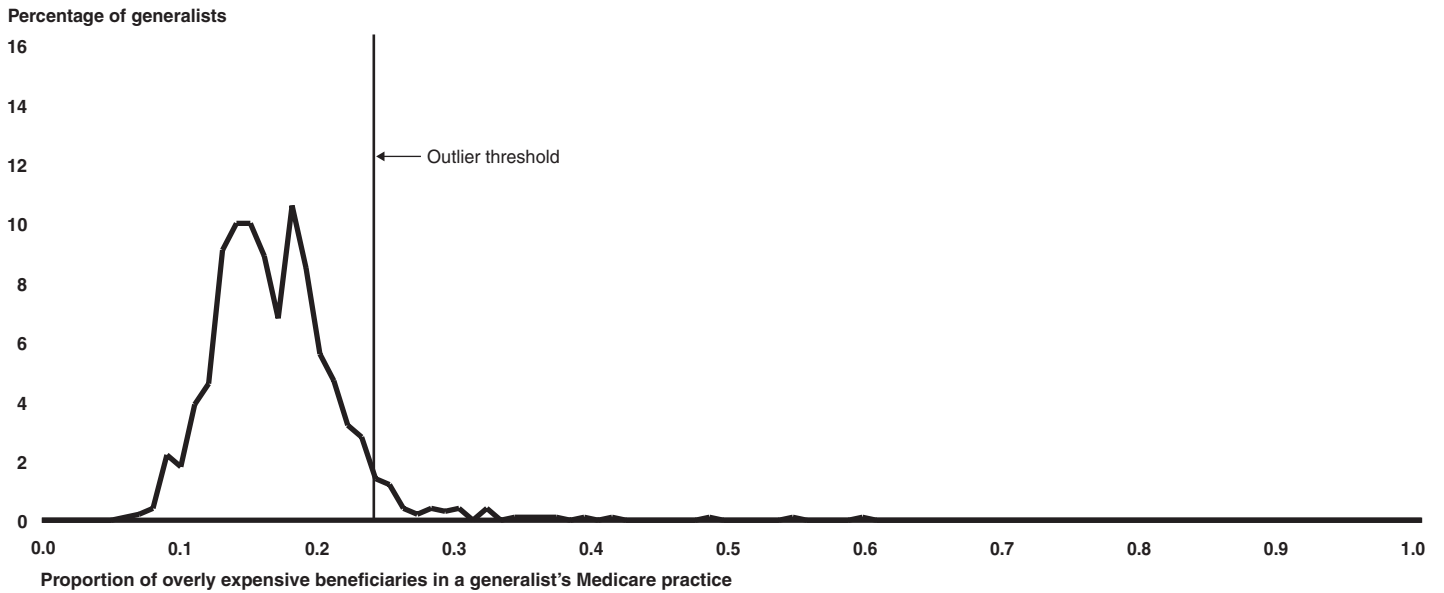
**Figure 7: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—
Cape Coral, Fla.**



Source: GAO analysis of 2003 Medicare claims data.

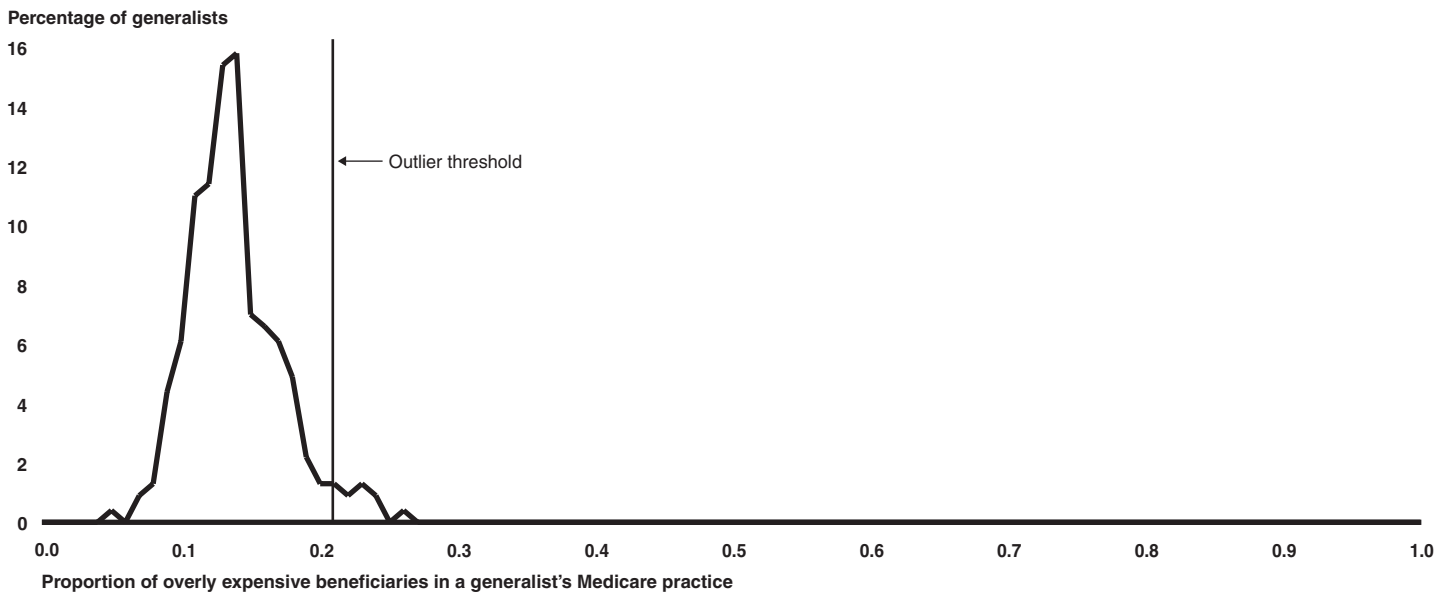
**Appendix III: Distribution of Physicians by
Their Proportion of Overly Expensive
Beneficiaries by Metropolitan Area**

Figure 8: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Columbus, Ohio



Source: GAO analysis of 2003 Medicare claims data.

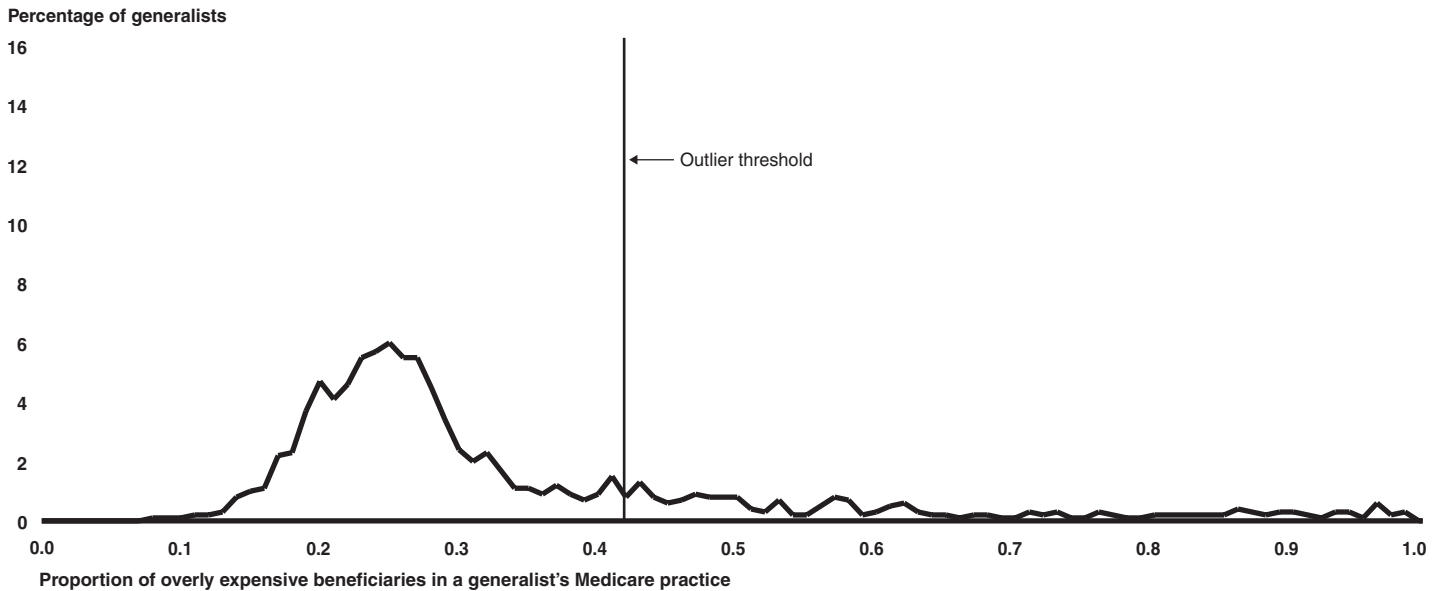
Figure 9: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Des Moines, Iowa



Source: GAO analysis of 2003 Medicare claims data.

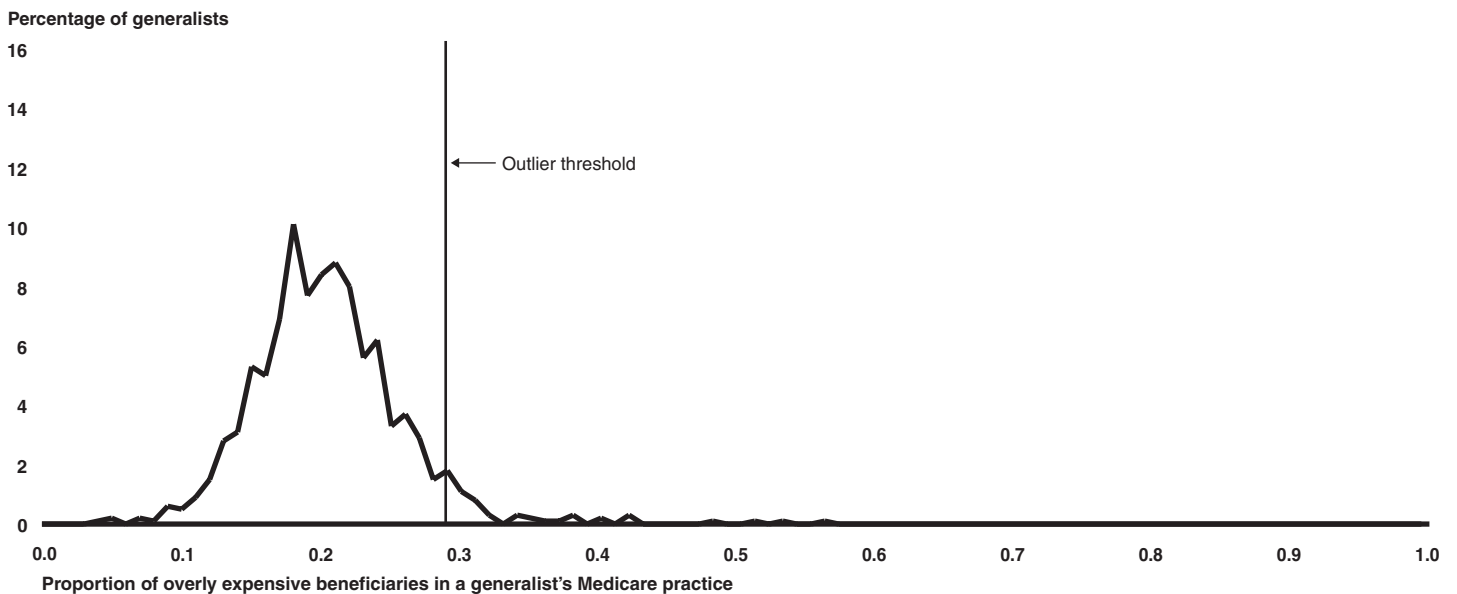
**Appendix III: Distribution of Physicians by
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Beneficiaries by Metropolitan Area**

Figure 10: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Miami, Fla.



Source: GAO analysis of 2003 Medicare claims data.

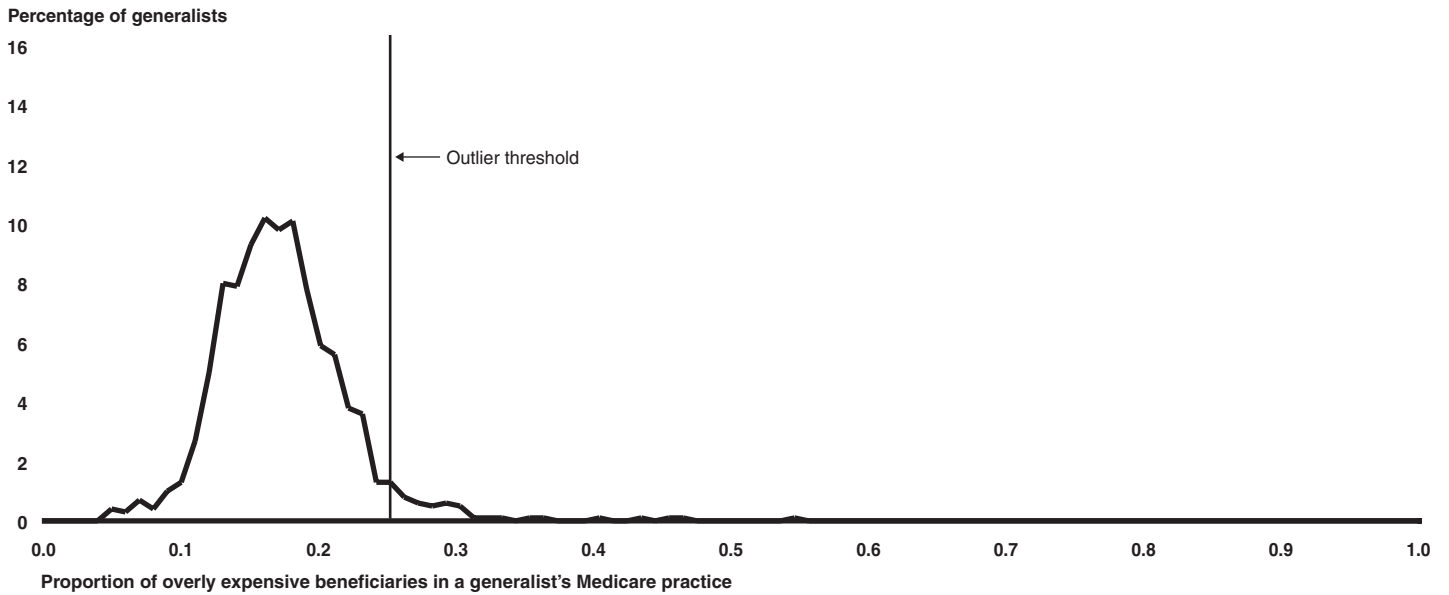
Figure 11: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Phoenix, Ariz.



Source: GAO analysis of 2003 Medicare claims data.

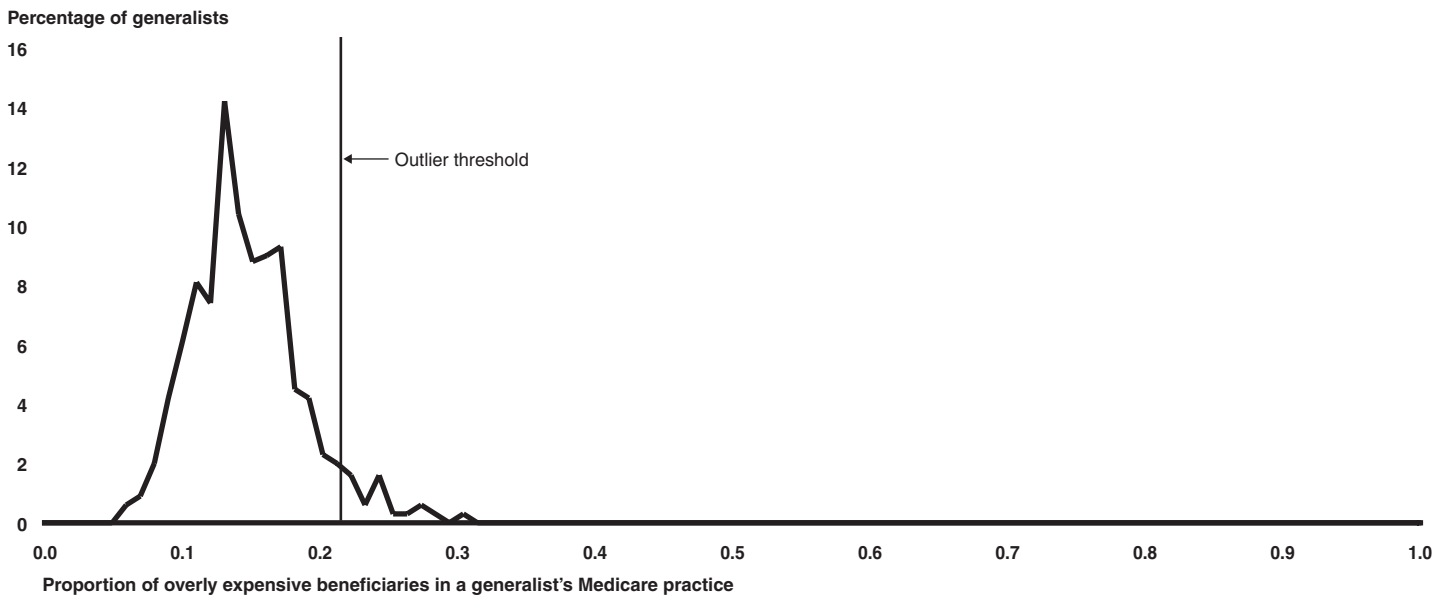
**Appendix III: Distribution of Physicians by
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Beneficiaries by Metropolitan Area**

Figure 12: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Pittsburgh, Pa.



Source: GAO analysis of 2003 Medicare claims data.

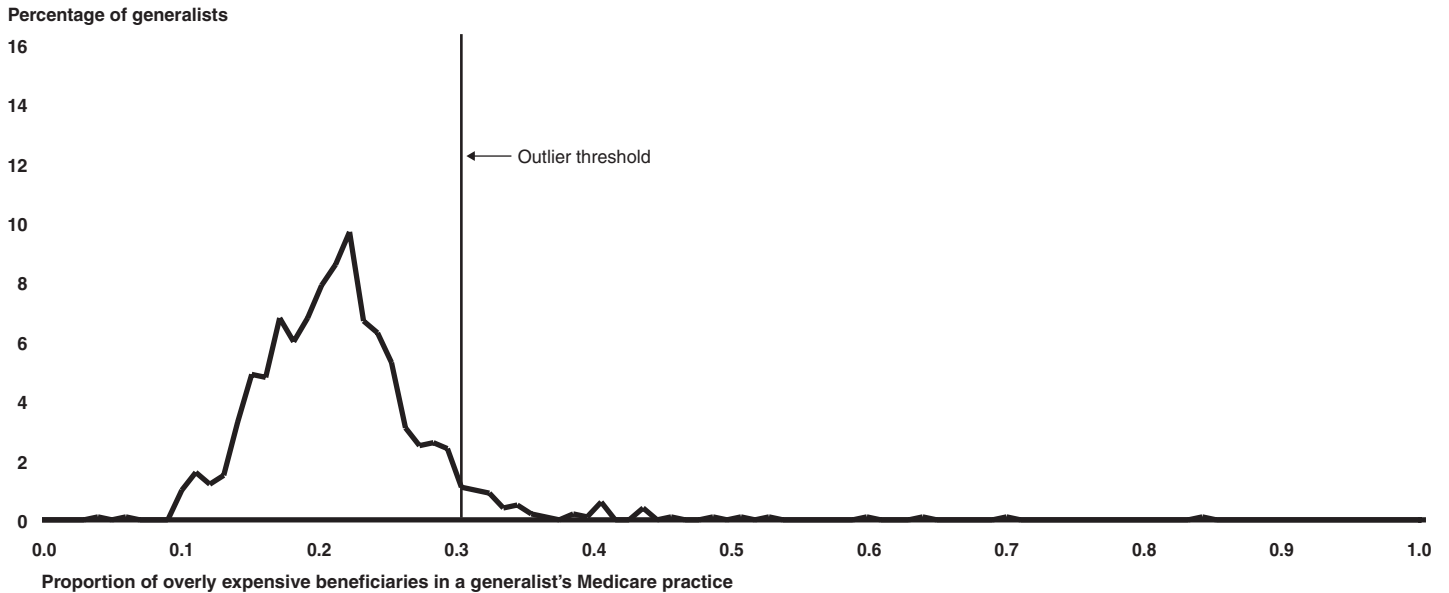
Figure 13: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Portland, Maine



Source: GAO analysis of 2003 Medicare claims data.

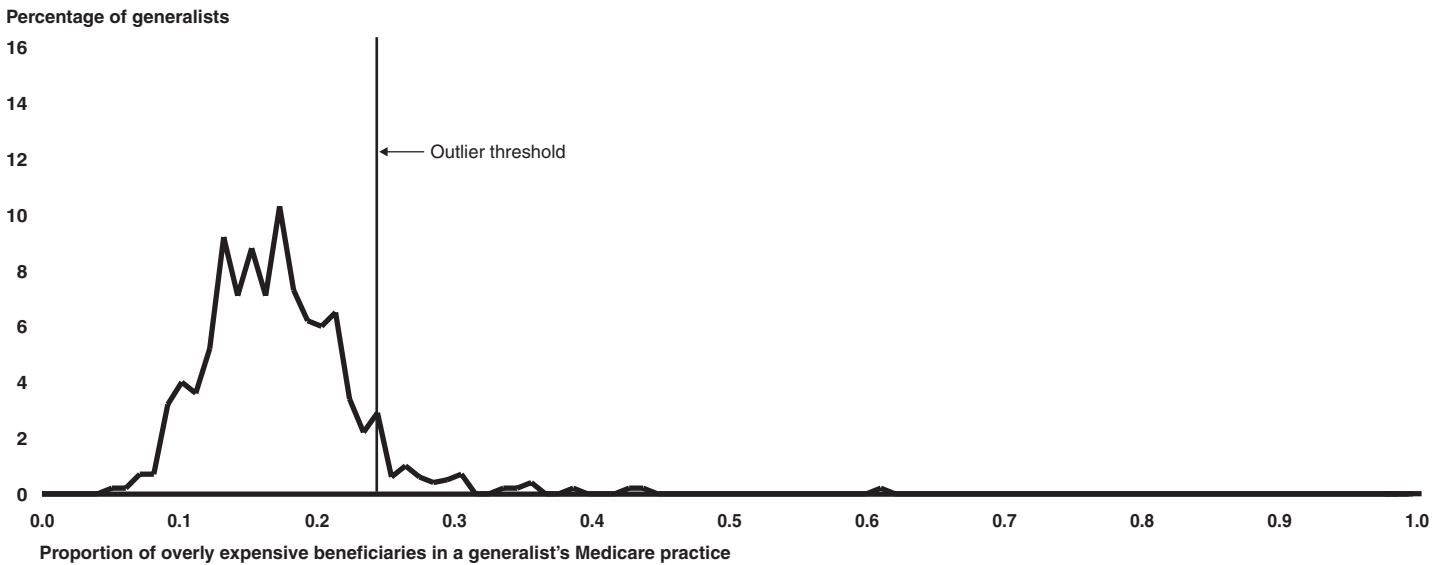
**Appendix III: Distribution of Physicians by
Their Proportion of Overly Expensive
Beneficiaries by Metropolitan Area**

Figure 14: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Riverside, Calif.



Source: GAO analysis of 2003 Medicare claims data.

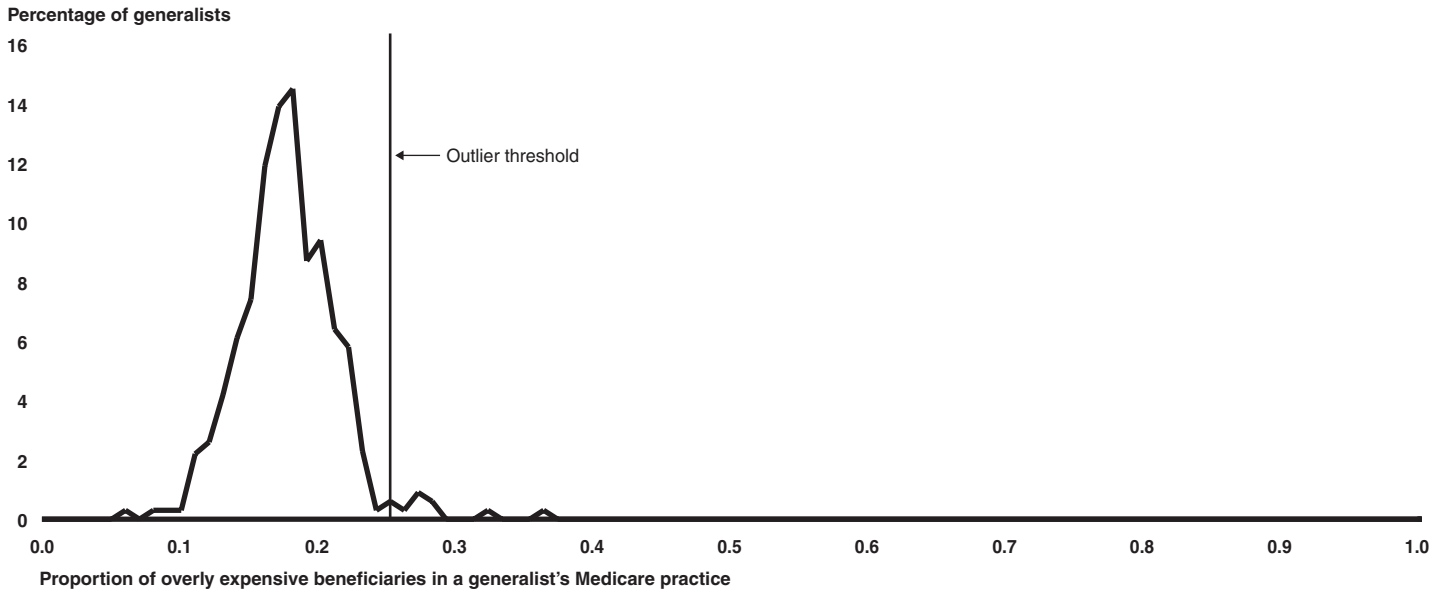
Figure 15: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—Sacramento, Calif.



Source: GAO analysis of 2003 Medicare claims data.

**Appendix III: Distribution of Physicians by
Their Proportion of Overly Expensive
Beneficiaries by Metropolitan Area**

**Figure 16: Percentage of Generalist Physicians by Their Medicare Practice's Proportion of Overly Expensive Beneficiaries—
Springfield, Mass.**



Source: GAO analysis of 2003 Medicare claims data.

Appendix IV: Comments from the Centers for Medicare & Medicaid Services



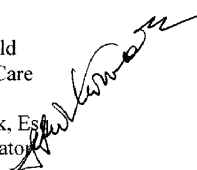
DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Services

MAR 29 2007

Administrator
Washington, DC 20201

TO: A. Bruce Steinwald
Director, Health Care

FROM: Leslie V. Norwalk, Esq.
Acting Administrator 

SUBJECT: Government Accountability Office's Draft Report: "MEDICARE: Focus on Physician Practice Patterns Can Lead to Greater Program Efficiency" (GAO-07-307)

The Centers for Medicare & Medicaid Services (CMS) appreciates the opportunity to respond to the Government Accountability Office's draft report entitled, "Medicare: Focus on Physician Practice Patterns Can Lead to Greater Program Efficiency." This report studied the prevalence of physicians in Medicare who are likely to practice inefficiently, the existence of physician-focused strategies used by health care purchasers to encourage efficiency and the potential for Medicare to profile physicians for efficiency. We agree that, given the role of physicians in driving total Medicare spending, there is opportunity to increase the efficiency of the Medicare program by measuring and reporting on physician resource use. In addition, we found the attention in the report to the need for adequate risk adjustment for physician resource use reports to be particularly helpful.

The CMS is in the process of transforming from a passive payer to an active purchaser of health care services. To maximize the value of the Medicare dollar, we are studying and implementing value-based purchasing initiatives for various Medicare payment systems, including physicians' services. Value-based purchasing links assessment of performance, through the use of measures, to financial and other incentives, such as public reporting. A comprehensive set of performance measures includes not only measures of clinical effectiveness and patient-centeredness, but also measures of resource use. Thus, value-based purchasing recognizes the importance of measuring and encouraging both the provision of high quality care and the avoidance of unnecessary resource use in the provision of care.

GAO Recommendation

The GAO recommends that CMS develop a system that identifies individual physicians with inefficient practice patterns and to seek legislative changes as necessary, to improve the efficiency of care financed by Medicare.

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CMS Response

This is a very timely recommendation and fits into the broader work that CMS is pursuing with regard to maximizing the value of the services for which Medicare pays. Specifically, CMS is investigating measuring individual physician resource use with the goal of improving the quality and efficiency of care paid for by Medicare. We believe that measuring resource use needs to maintain quality in the provision of care to Medicare beneficiaries and encourage physicians focus on efficiency. Consequently, our goals are to develop and implement measures of physician resource use that are linked to our physician quality measures.

A goal of resource use measurement is to provide information that is meaningful, actionable, and fair to physicians in order to reduce inefficient practice patterns. We have tested various approaches to reporting of resource use with physician focus groups and have learned that physicians understand their practices from a patient-by-patient perspective, not from an aggregate statistics perspective. Disseminating high-level outlier reports on total annual Medicare expenditures would likely not provide adequate detail to make the reports meaningful or actionable by physicians. We have also learned that detailed data for a specific procedure or service out of context limits the meaningfulness of the report and the ability of physicians to act on the information. The physician focus groups also emphasized that adequate risk adjustment is essential to creating a fair measurement tool that can be used to compare actual to expected resource use. They were skeptical that current risk adjustment methodologies can adequately account for the complex variables among patient populations.

Our current efforts to measure physician resource use involve evaluation of episode grouper software products currently on the market. In so doing, we are coordinating our episode grouper evaluation closely with similar work being conducted by Medicare Payment Advisory Commission, the Ambulatory Care Quality Alliance, National Committee for Quality Assurance, National Quality Forum, and Agency for Healthcare Research and Quality, among others. Episode grouper software uses data from multiple claims streams to capture all of the services and procedures associated with an episode of care. Those resources can then be assigned to individual physicians, and the data can be used to develop comparative reports. We are evaluating the extent to which these episode groupers can handle Medicare data, and the risk adjustment capabilities of those products. We believe that episode grouper technology holds promise for the measurement of physician resource use.

An issue in the routine, nationwide dissemination of reports of physician resource use is the potential return on investment for the Medicare program. There would be a significant and recurring cost to designing the measurement tool, analyzing the data, populating the reports, disseminating the reports, educating physicians on the use of the information, and evaluating the impact of providing the information on physician behavior. These factors would need to be considered.

Page 3 - A. Bruce Steinwald

In summary, we applaud GAO's focus on physician efficiency and the need for robust risk adjustment in resource use reporting. We are also committed to developing meaningful, actionable, and fair measurement tools for physician resource use that, along with quality measures, would provide a comprehensive assessment of physician performance. We look forward to working with GAO as we move forward on these initiatives.

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact

A. Bruce Steinwald, (202) 512-7101 or steinwalda@gao.gov

Acknowledgments

In addition to the contact above, James Cosgrove and Phyllis Thorburn, Assistant Directors, and Todd Anderson, Hannah Fein, Gregory Giusto, Richard Lipinski, and Eric Wedum made key contributions to this report.

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