

2004–2005

# PRACTITIONER UTILIZATION

Trends Among Privately Insured Patients

**Released May 2007**

Gail R. Wilensky, Ph.D., Vice Chair  
Rex W. Cowdry, M.D., Executive Director



**MARYLAND  
HEALTH CARE  
COMMISSION**

The Maryland Health Care Commission (MHCC) is a public, regulatory commission established in 1999 by the Maryland General Assembly by merging the Health Care Access and Cost Commission and the Maryland Health Resources Planning Commission.

The MHCC mission is to plan for health system needs, promote informed decisionmaking, increase accountability, and improve access in a rapidly changing health care environment by providing timely and accurate information on availability, cost, and quality of services to policymakers, purchasers, providers, and the public. The Commission is administratively located within the Maryland Department of Health and Mental Hygiene, and is composed of 15 members appointed by the Governor, with advice and consent of the Senate, for a term of four years.

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The MHCC is required under Health-General Article §19-133(g)(2-4) to issue a report describing the level of payments to physicians and other health care practitioners. Each year since 1996, the MHCC has published a *Practitioner Utilization* report, which provides a detailed analysis of payments to physicians and other health care practitioners for the care of privately insured Maryland residents under age 65. The reports are based on health care claims and encounter data that most health insurance plans serving Maryland residents submit annually to the MHCC. This report includes measures comparable to those used in previous reports. MHCC benchmarks private sector spending changes over time and relative to Medicare fees in Maryland. These comparisons are presented on a per patient and per relative value unit (RVU) basis.

Improvements in the data provided by Maryland insurers and in health services research methods create opportunities to use new measures and methods. Two major innovations in this report, one supported by better data and the other by application of tools developed by health services researchers at the University of California, San Diego, may be of interest to the Commissioners. First, this report contains comparison of spending by full-year enrollees covered through individual, small group, large group, and public employer programs. Second, MHCC used the Chronic Illness and Disability Payment System (CDPS) to categorize individuals according to overall risk status based on the number and mix of diagnoses and the likelihood that those diagnoses would produce health care spending. We examine risk status alone and in combination with the type of coverage and whether the individual is insured by large payers or other payers that operate in the Maryland market.

The impact of physician reimbursement on a host of issues from physician supply to health care affordability has been hotly debated in the last several years. It is likely these debates will continue in the future. We hope this report will offer new insight to participants in that debate.

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Center for Information Services and Analysis

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Ms. Katie Merrell and Dr. Lan Zhao of the National Organization of Research at the University of Chicago (NORC) in Bethesda, Maryland, are the principal authors of this report. A programming team at SSS consisting of Mr. Adrien Ndikumwami, Ms. Sanee Maphungphong, and Mr. Po-Lun Chou edited the payer data submissions, organized the MCDB, and completed the numerous data analyses included in this report. Ms. Priscilla Thompson and her staff at STI provided data collection and processing support. Ms. Joan Holleman edited the report, and Ms. Laura Spofford and Ms. Hadiya Williams assisted in the preparation of the report. The Commission thanks the SSS and STI teams.

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# Executive Summary

This report describes the number, mix, and cost of practitioner services received by privately insured, nonelderly residents of Maryland in 2005. MHCC has published a *Practitioner Utilization* report each year since 1996, describing the use of insured practitioner services by residents and the associated payments for those services, as required by state law. The analyses in this report are based solely on fee-for-service payments; data on capitated services are not included.

Per-user fee-for-service spending on practitioner services rose about 2.8 percent in 2005, to \$904 across all users, regardless of length of enrollment. The increase roughly matched the rate of overall inflation, so practitioner spending in real terms is essentially unchanged from 2004. The increase was driven by a 2.6 percent increase in price and a modest increase in total resources per user.

Over the five-year period from 2001 to 2005, per-user real practitioner spending increased rapidly in the first three years, declined slightly in real levels in 2004 (with a small negative growth rate), and was virtually unchanged in 2005. Rapid growth in the early years could be partially attributable to the movement from capitation to fee-for-service reimbursement among HMOs. Had capitated services been included, a different growth trend may have existed.

Consumer-directed health plans (CDHPs) account for three times as many users in 2005 as they did in 2004, but still cover less than 1 percent of privately insured service users. Mean spending per user in CDHPs fell slightly in 2005, as did the share of spending paid out of pocket by users, although it remains more than twice as high for almost all types of non-CDHPs and about one-fourth higher than the out-of-pocket share for those in individual plans.

Due to inclusion of additional data in the information reported by plans, this year's report includes two innovations over past reports. First, it is now possible to identify those users who were enrolled for the entire year. As a result, several of the analyses focus on this group of full-year users, insulating cost and use estimates from different lengths of plan enrollment. Overall, about 71 percent of all users were enrolled for the entire year. For these users, the second innovation is a spending risk score, developed from claims data to identify the level of total health care spending expected for reported diagnoses. All resulting risk scores were ranked and used to group full-year users into thirds, with high-risk users composed

of the top third of risk scores and low-risk users the bottom third.

Among non-CDHP users enrolled for the entire year, the ratio of per-user fee-for-service spending for high-risk patients is fairly consistently at about five times that for low-risk patients. Public employer plans include a higher-risk user mix that leads to average spending per full-year user of \$1,027, compared to \$996 among those in private employer plans. Within each user risk group, public employer plans have the lowest per-user mean spending of all coverage types. The Comprehensive Standard Health Benefit Plan (CSHBP) for small employers has a fairly typical risk mix but the highest mean spending (\$1,037) per full-year user. Individual plans had the lowest overall per full-year user spending, but the highest spending in each of the risk groups.

Geographically, per-user spending remains highest in the National Capital Area (NCA) at \$969. Per-user spending grew about 5 percent in the Baltimore metropolitan area, compared to a 2 percent increase in other parts of the state and no change in the NCA. Nonetheless, because of a slight relative increase in the number of users, the total share of practitioner spending accounted for by the NCA grew slightly between 2004 and 2005.

The decomposition of total per-user spending into volume, intensity, and price reveals that high-cost users tend to have higher values of all three, in addition to being higher-risk than low-cost users. In other words, high levels of practitioner spending result from high service volume (42 services for the highest spending quintile versus 2 services for the lowest quintile), higher service intensity (2.5 relative value units [RVUs] for the highest quintile versus 1.6 for the lowest), and price (higher than Medicare for the highest quintile, lower than Medicare among the lowest). Risk status increases with spending, with more than three-fourths of those from the highest spending quintile in the high-risk group compared to less than one-tenth of those from the lowest quintile.

Per-user spending among public employer plan users is higher than that among private employer plan users. This is consistent with the higher risk status of public employer plan users and the higher volume, with more than 16 services per user compared to 14 among private employer plan users. However, intensity and prices are higher among this latter group. Risk status and volume are both positively correlated with

per-user spending while intensity and price are negatively correlated, in a comparison of public employer plan users and private employer plan users.

Coverage type and risk status are both associated with market share. Payers with large market shares account for a disproportionate share of individual, small group, and public employee contracts. Large payers have a relatively higher-risk user pool than other payers, which likely accounts for their higher service volume (mean 18.6 services per user compared to 15.6 among other payers). However, mean service intensity and payment per RVU are both lower for these large payers, so the difference in per-user spending is lower than the difference in risk status might suggest. Enrollees in private employer plans comprise a lower share of users among large payers than in other payers, although large payers insure a larger number of users in this market, too (data not shown). Individual plans and private employer plans have payment rates higher than Medicare's, while public employer plans and CSHBP both have rates lower than Medicare rates.

About 13 percent of all fee-for-service practitioner RVUs are provided out of network. Across practitioners, the mean HMO network payment per RVU is \$35.98, compared to \$60.86 per RVU provided on an out-of-network basis. Out-of-network payments

are also higher for nonparticipating providers in non-HMOs, but the difference between participating and nonparticipating rates is smaller than for HMO plans. Network participation rates differ across specialties, with emergency medicine, pathology, other specialties, and nonphysician providers having higher-than-average mean nonparticipation RVU shares among HMO users.

The relative share of RVUs provided on a nonparticipating basis decreases as practice size increases, from 28 percent among the smallest providers to 3 percent among the largest, nonacademic practices, and 1 percent among academic practices. Care provided on a nonparticipating basis is a much larger share of the total care provided by small providers, but a large majority of all nonparticipating care is provided by large providers for whom it constitutes a relatively small share of their total service volume. Fee-for-service claims in the MCDB suggest that slightly less than 7 percent of practitioners provide all of their care on a nonparticipating basis, suggesting that they have no managed care contracts.

# 1. Introduction

This report analyzes payments to physicians and other health care practitioners made for the care of privately insured Maryland residents under age 65. It is based on data from the Maryland Medical Care Data Base (MCDB). The MCDB contains health care claims and encounter data that most private health insurance plans serving Maryland residents submit annually to the Maryland Health Care Commission (MHCC). Data from 2004 and 2005 are used to track changes in the quantity of care and the price of care for individuals in private plans that report data to MHCC.

This introductory chapter explains key concepts used in the report, summarizes recent trends in provider payment, and describes the new features of the MCDB that are used in this year's *Practitioner Utilization* report. **Chapter 2** presents an overview of fee-for-service spending on practitioner services for insured individuals who used services in 2005. **Chapter 3** analyzes the volume, intensity, and spending for service users who were enrolled for the entire year. **Chapter 4** examines the relationship between payments to participating and nonparticipating providers in Maryland. Appendix A provides a technical background including a summary of data, methods, and caveats for this report. Appendix B lists the payers contributing data to this report. Appendix C contains data on per capita payment and relative value units (RVUs) for practitioner services.

## Mandate for This Report

Each year since 1996, the MHCC has published a *Practitioner Utilization* report describing the use of insured practitioner services by residents and the associated payments by insurance companies and recipients for those services, as required by Health-General Article §19-133(g)(2-4). This report summarizes trends in the volume and pricing of the services of physicians and other practitioners received by privately insured, nonelderly residents of Maryland.

## Key Concepts

Most private health insurance plans that serve Maryland residents submit provider claims and encounter data for inclusion in the MCDB. As a result, the MCDB includes information about individuals covered by private insurance who use provider services during the year. Because an individual may be covered by

more than one plan in the course of the year, spending and utilization are measured per *user* within a plan. As a result, there are fewer individuals included in the database than the number of users reported. Changes in the number of users included in the *Practitioner Utilization* report between years may reflect a number of factors, such as changes in the number of individuals covered by private insurance, the number of insurers that submit data to the MCDB, the completeness of submitted data, and the share of insured individuals who use practitioner services.<sup>1</sup>

Throughout the report, plans are categorized in several key dimensions:

- *Plan type*: distinguishes between health maintenance organizations (HMOs), which use a mix of capitated and fee-for-service payments, and non-HMOs, typically preferred provider organizations (PPOs) that provide care on a fee-for-service basis through networks of providers;
- *Coverage type*: differentiates between consumer-directed health plans (CDHPs) and, among non-CDHPs, whether the private insurance is bought on an individual basis or through an employer, among which there are three groups – private employers, public employers, and the Comprehensive Standard Health Benefit Plan (CSHBP) for small businesses;
- *Market share*: separates the two largest insurers from all smaller plans, since they may, in some sense, be able to lead rather than follow market trends;<sup>2</sup> and
- *Geographic region*: divides the state into three regions: the National Capital Area, metropolitan Baltimore, and all other areas.

The report is based on provider payments made on a fee-for-service basis. Total spending per user reflects *payment levels*, *volume*, and *intensity* (see Key Terms).

Practitioner services paid on a capitated basis are not included in this report. Based on data in the 2004 *Practitioner Utilization* report, the share of total practitioner RVUs accounted for by capitated services has

<sup>1</sup> Anesthesia services are not included in these analyses.

<sup>2</sup> Large payers include CareFirst and United HealthCare product lines.

## Key Terms

### **TOTAL PAYMENTS FOR PRACTITIONER CARE**

— sum of payments from the insurer and patient, including deductible, coinsurance, and balance billing amounts paid directly out of pocket by the patient and reported on the claims data.

### **TOTAL RELATIVE VALUE UNITS (RVUS) OF CARE**

— a measure of the quantity of care, where more complex, resource-intensive (and typically more costly) services have higher RVUs. A more sophisticated measure of the quantity of care than a simple count of services, RVUs measure the level of resources used to produce a particular service. Medicare's physician payment system was used as the source of information on the number of RVUs for each service. For this report, RVUs from the 2005 Medicare fee schedule were applied to both 2004 and 2005 data. Similarly, when data are reported for comparisons between earlier years, e.g., 2002–2003, RVU information for the more recent year (2003) has been applied to services of both years for trend analysis.

**NUMBER OF SERVICE USERS** — a count of the encrypted patient identifiers reported by payers. Because payers may use different numbering systems for their different insurance products, the count is done within each specific plan. Counts of users may overstate the actual number of individuals who use practitioner services because those who are insured under more than one product during a year will be counted separately under each.

**RISK STATUS** — MCDB data have been used to calculate user-specific risk scores based on the Chronic Illness Disability Payment System (CDPS) developed by researchers at the University of California, San Diego. In this report, “low risk” refers to users with risk scores in the lowest third of the risk score distribution, while “high risk” refers to those with scores in the highest third.

**VOLUME** — a count of the number of services provided to users or by providers, without regard to the cost, complexity, or intensity of those services.

**INTENSITY** — a measure of the resources required by a service or group of services, as captured by average number of RVUs per service. Services such as regular office visits have relatively lower RVUs than invasive procedures, for example, so that the overall service intensity of a general internist, as captured by mean RVU per service, is lower than that of a thoracic surgeon.

**PRICE** — represented as the average payment per RVU for a group of services.

### **CONSUMER-DIRECTED HEALTH PLANS (CDHPs)**

— typically include high deductibles, low premiums, and a health reimbursement account (HRA) that is funded by the employer or a health savings account (HSA) that can be financed through employee contributions. An employer may contribute to the HSA but is not required to do so. CDHP products that are compatible with HSAs must have deductibles of at least \$1,050 for individuals and \$2,100 for families in 2006. Consumers use funds from the CDHP HRAs or HSAs for meeting deductibles and other medical-related expenses. CDHP products have been offered in the Maryland market since 2004. Aetna, Carefirst, CIGNA, Coventry, Fortis, Golden Rule, and Trustmark offered these products in 2005.

been falling in recent years, accounting for about 6 percent of total practitioner RVUs in 2004 [see 2004 *Practitioner Utilization*, Maryland Health Care Commission, page 7, table 1-1]. The results reported here include all payments in non-HMO plans, while the exclusion of capitated services means that estimates for HMOs are not representative of total provider services for these users.

## Total Spending: Disentangling the Role of Volume, Intensity, and Prices

Data published in *Practitioner Utilization* reports for the past few years show fairly slow growth in statewide average rates paid by private insurers in Maryland. Rates have been near Medicare levels, although the gap between Medicare and private fees has varied by region, type and place of service, and provider specialty. Analyses in these previous reports did not extensively examine per-user spending growth and the combined effects that volume, intensity, and prices have on spending growth. From an insurer's perspective, per-user spending could increase even in the face of zero or modest fee increases, if the number of services or the intensity of services increases. The analyses in this year's report have been expanded to provide a more complete picture of spending for the privately insured.

The growth in volume and intensity is a continuing issue for private and public payers trying to limit spending growth. These factors have been identified as the source of increased physician spending for private payers and for Medicare. In the past five years, per capita spending has increased on average 6 percent in Maryland [see 2005 *State Health Care Expenditures*, Maryland Health Care Commission, page 20, fig. 12], even though payment rates grew only a total of 5 percent between 1999 and mid-2005 [see 2004 *Practitioner Utilization*, Maryland Health Care Commission, page 12, fig. 2-1].

Prices, volume, and intensity reflect decisions made by insurers, providers, and patients. The role of volume, intensity, and prices in overall per-user spending growth may differ for HMOs relative to PPOs. HMOs presumably use capitated payment in an effort to control all three simultaneously, while PPOs rely on negotiation and network formation to control prices and on other mechanisms such as cost-sharing requirements and prior authorization to control volume and intensity. Providers may respond differently, depending on their specialty and practice style, to payment pressures and incentives.

Changes in measured prices, volume, and intensity can result not only from changes in behavior by insurers, providers, and patients, but also from shifts in the number and mix of individuals included in the data analyzed. In the context of the MCDB, if there is a change in the number of individuals covered by private insurance and using at least one practitioner service during the year, or in their average underlying health status, then measured prices, volume, or intensity might change even in the absence of any policy or practice changes by plans and providers. For example, if relatively healthy individuals leave an insurer, whether by moving to another plan or by exiting the private-insurance market, then measured volume and intensity per user for that insurer will increase even if there is no change in services used by those who remain enrolled.

As an extension of the price analyses presented in the past several *Practitioner Utilization* reports, this report presents a decomposition of total per-user spending. This is possible in part because it is now feasible, as described in the next section, to identify individuals who remain in the same plan throughout the year. A spending decomposition analysis that includes both part-year and full-year enrollees may result in confusing or perverse results. Therefore, these analyses are restricted to full-year enrollees.

## New This Year

As part of an ongoing effort to document and analyze trends in practitioner service use and costs, this report includes measures comparable to those used in previous reports. At the same time, improvements in the data provided by Maryland insurers and in health services research methods more broadly create opportunities to use new measures and methods. There are two major innovations in this report, one supported by better data and the other by application of tools developed by health services researchers.

First, the MCDB now includes information on the number of months each user was enrolled in the reporting plan. As a result, the practitioner data now allow for analysis of those users of practitioner services who were enrolled in a plan for the entire year. By using only full-year enrollees, the analyses in Chapter 3 are more consistent and unbiased than if part-year enrollees were also included.

There are two reasons why someone would be enrolled for only part of the year:

- They had private insurance coverage for only part of the year; or

- They changed insurers (or plans within an insurer) during the year, in which case they would show up as part-year enrollees in more than one plan.

Enrollment periods are most likely to align with the calendar year. However, some employers in all segments of the market may use different coverage periods, including their own fiscal year or a more idiosyncratic cycle. If their employees change plans at open enrollment, they will appear as part-year enrollees in more than one plan, the one they started the year in and the one they switched to. In addition, factors such as job turnover and the stability of plan offerings also affect the number of part-year enrollees.

Of the nearly 2.4 million users who used provider services on a fee-for-service basis in 2005, about 71 percent were enrolled for the entire year (Table 1-1). Individual plans and private employer plans include about this same share of full-year enrollees, while public employer plans have a much higher share of full-year enrollees and CSHBP have a much lower share. The actual number of people included in analyses of the full-year enrollees probably dropped by less than the number of users, since some part-year users were likely to have been enrolled in more than one plan in the course of the year.<sup>3</sup>

**TABLE 1-1: Distribution and Count of All and Full-Year Users by Coverage Type, 2005**

	Percent of All Users	Percent of Full-Year Users
<b>ALL</b>	2,351,363	1,674,109
<b>COVERAGE TYPE</b>		
1: Individual Plan	6%	6%
2: Private Employer Plan	44	43
3: Public Employer Plan	33	39
4: CSHBP	17	13

Using the enrollment data to identify full-year enrollees creates two new analysis opportunities. First, it allows for decomposition of per-user spending to examine price, volume, and intensity. In past years, this analysis was not possible because full-year and part-year enrollees were combined. Second, it supports creation of a risk score to help distinguish users based on evidence about their diagnoses, an undertaking which is again problematic when some users have only part-year data.

<sup>3</sup> There may still be individuals included as more than one user in the analyses of full-year enrollees, if they were covered all year by two plans and neither indicated that it was a secondary payer for the user in data submitted to MHCC.

In an effort to examine how practitioner service utilization varies by risk level, MHCC used the Chronic Illness and Disability Payment System (CDPS) to categorize individuals according to the number and mix of diagnoses recorded on their provider claims.<sup>4</sup> CDPS, developed by researchers at the University of California, San Diego, supports creation of, essentially, an expenditure risk score from utilization data. Scores were calculated for each user enrolled for the entire year of 2005 in a data-reporting plan. The resulting distribution of risk scores was divided into thirds, and individuals were assigned into one of three categories — “low-risk,” “medium-risk,” and “high-risk” — based on their position in the distribution. In other words, each full-year user in the MCDB has been assigned a risk score, with high-risk status reflecting a mix of documented illness likely to be associated with high levels of health services spending.

<sup>4</sup> “Improving Health-Based Payment for Medicaid Beneficiaries: CDPS,” Richard Kronick, Ph.D., Todd Gilmer, Ph.D., Tony Dreyfus, M.C.P., and Lora Lee, M.S., Health Care Financing Review, Spring 2000, 21(3): 29-64. The CDPS includes weights based on total spending, including inpatient, drug, and provider services. It is used here based on diagnoses from only provider claims.

## 2. Overview of 2005 Practitioner Services in Maryland

### The 2001 to 2005 Trend

Real per-user fee-for-service practitioner spending, as a share of Maryland's per capita gross domestic product (GDP), has continued to drop slightly since 2003, although it has not returned to pre-2002 ratios (Figure 2-1). The peak in 2003 was the result of coincident high growth of per-user real practitioner spending and low growth of per capita real GDP. Spending growth stopped in 2004, while GDP rebounded, bringing the share of the state's resources accounted for by insured provider services down for the past two years.

Throughout the five-year period, per-user real practitioner spending has had a rather erratic growth trajectory, with growth rates of more than 10 percent and 7 percent in 2002 and 2003, respectively, followed by a slight drop in real levels in 2004 (with a small negative growth rate) and virtually no change in 2005. Over the same five-year period, per capita real state GDP annual growth ranged between 1.7 percent (2003) and 3.7 percent (2004). The trend in total practitioner spending for the privately insured may be somewhat different than reported here due to the exclusion of all capitated services and users who received only capitated services.

### Changes From 2004 to 2005

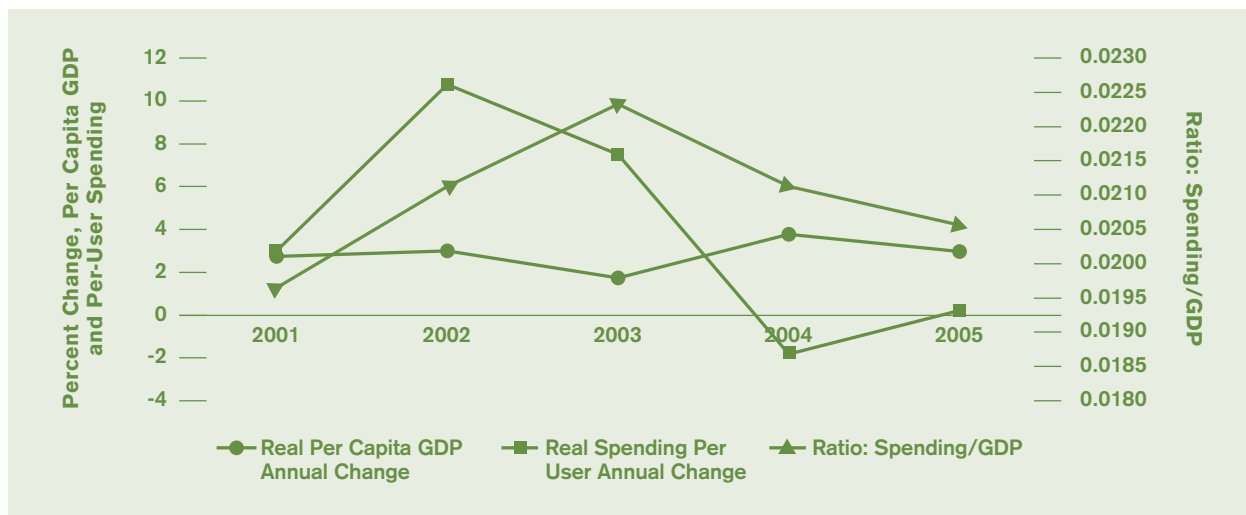
Overall, nominal per-user fee-for-service spending on practitioner services rose about 2.8 percent in 2005, to \$904 from \$880 (Table 2-1). As described above, this roughly matched the rate of inflation, so spending in real terms was unchanged.

The share of users accounted for by consumer-directed health plans (CDHP) nearly tripled from 2004 but was still less than 1 percent of users. Mean per-user spending in CDHPs fell more than 7 percent. The share of spending on provider services paid out of pocket dropped slightly in these plans, although it remains around 50 percent while the share in non-CDHP plans remains below 20 percent.<sup>5</sup>

As a group, all non-CDHP plans reported per-user spending growth of about 2.8 percent (Table 2-1). There were differences across plan type, with increases of nearly 6 percent for the Comprehensive Standard Health Benefit Plan (CSHBP) for small

<sup>5</sup> CDHPs are now offered in all segments of the insurance market, from individual to self-insured products. As the number of patients in CDHPs is still small, it is not possible to present results by market segment.

**FIGURE 2-1: Fee-for-Service Per-User Practitioner Spending and Per Capita GDP, Annual Change, 2001–2005**



NOTES: 1. Both "Real Per Capita GDP" and "Real Spending Per User" are measured in 2000 dollars.  
 2. Population includes all enrollees.

**TABLE 2-1: Distribution of Fee-for-Service Users and Expenditures by Coverage Type, 2004–2005**

	2004			2005			Percent Change in Per-User Expenditure, 2004-2005
	Percent of All Users	Expenditure Per User	Percent Paid Out-of-Pocket	Percent of All Users	Expenditure Per User	Percent Paid Out-of-Pocket	
<b>ALL</b>	100%	\$880	17%	100%	\$904	18%	2.8%
<b>Non-CDHP</b>	100	879	17	99	904	18	2.8
1: Individual Plan	6	807	37	6	840	39	4.2
2: Private Employer Plan	44	851	15	43	884	16	3.9
3: Public Employer Plan	32	981	15	33	973	16	-0.8
4: CSHBP	18	794	20	17	841	20	5.8
<b>CDHP</b>	0	933	51	1	863	48	-7.5

NOTES: 1. 0% indicates <0.5%.

2. Population includes all enrollees.

businesses and a slight drop among public employer plans. Although CSHBP still has relatively low average spending among users, it is now comparable to that of users in individual plans. However, those in individual plans pay about twice as much out of pocket as those in CSHBP.

Among the universe of fee-for-service users in plans that report data to the MCDB, there was a slight shift in composition within the non-CDHP group, with public employer plans growing relative to the other types. To the extent that capitated payment is not evenly distributed across these coverage types, differences in total practitioner payment may be different than the pattern for fee-for-service payments reported here.

Among users enrolled for the entire year, the ratio of per-user fee-for-service spending for high-risk patients is fairly consistently about five times that for low-risk patients (Table 2-2). Among the largest two groups, private employer plans have a slightly healthier en-

rollee mix than public employer plans, with relatively more low-risk users (32 percent in private employer plans versus 30 percent in public employer plans) and relatively fewer high-risk users (35 percent private versus 39 percent public). This risk mix contributes to the lower overall mean spending reported for large private employer plans, since within each risk group, private employer plans have higher per-user spending than public employer plans. Individual plans have the highest per-user spending within each risk group. But they also have the healthiest enrollee mix, with 37 percent of their users' being low-risk, which results in individual plans having the lowest overall average expenditure per user among the non-CDHP products.

CDHPs have an enrollee mix that closely resembles the individual market. Despite having the second highest average spending per user within each risk category, average spending for CDHP products was \$975, the lowest of any product.

**TABLE 2-2: Distribution of Fee-for-Service Users and Expenditures by Risk Status and Coverage Type, 2005**

	Percent of Users				Mean Expenditure Per User				Spending Ratio: High-Risk to Low-Risk Users
	All Users	Low-Risk Users	Medium-Risk Users	High-Risk Users	All Users	Low-Risk Users	Medium-Risk Users	High-Risk Users	
<b>ALL</b>	100%	32%	32%	36%	\$1,013	\$378	\$670	\$1,876	5.0
<b>Non-CDHP</b>	100	32	32	36	1,013	378	670	1,875	5.0
1: Individual Plan	100	37	34	29	989	415	726	2,015	4.9
2: Private Employer Plan	100	32	33	35	996	385	670	1,861	4.8
3: Public Employer Plan	100	30	31	39	1,027	360	649	1,859	5.2
4: CSHBP	100	32	32	36	1,037	387	702	1,922	5.0
<b>CDHP</b>	100	36	34	30	975	435	705	1,939	4.5

NOTE: 1. Population includes only full-year enrollees with complete information regarding coverage type and CDHP status.

2. The resulting risk status groups do not each include exactly one-third of the population, since the cutoff score values applied to many users.

Per-user fee-for-service practitioner spending in the National Capital Area (NCA) remains much higher than that in the other two regions of the state, although the gap between the NCA and Baltimore closed slightly in 2005. Per-user spending in the D.C. area was virtually unchanged from 2004, while spending increased by 4.6 percent in Baltimore. The narrowing in the gap is due to a drop in mean RVUs per user, which captures both volume and intensity, in the NCA from slightly above to just below that in the Baltimore area

(Table 2-3). The NCA accounted for a slightly larger share of overall payments in 2005 relative to 2004 because of a slight increase in the share of users in that region and greater increase in payment per RVU (2.9 percent versus 2.3 percent). On the other hand, Baltimore saw a decline in share of total payments despite volume and payment increases. Mean spending per user grew slightly in the rest of Maryland due to a modest increase in payment per RVU.

**TABLE 2-3: Fee-for-Service Expenditure and Payment Rate by Region, 2004–2005**

REGION	Share of Users		Percent of Payment		Fee-for-Service Expenditure Per User		RVUs Per User		Mean Payment Per RVU	
	2004	2005	2004	2005	2005	%change from 2004	2005	%change from 2004	2005	%change from 2004
<b>TOTAL</b>	100%	100%	100%	100%	\$904	2.8%	22.8	0.2%	\$39.64	2.6%
1: National Capital Area	31	32	34	34	969	0.5	22.9	-2.3	42.27	2.9
2: Baltimore Metropolitan Area	48	47	47	46	894	4.6	23.4	2.2	38.18	2.3
3: Other Maryland Area	21	21	20	19	830	2.1	21.3	-0.3	38.93	2.4

NOTES: 1. Detail may not add to total due to rounding.

2. Population includes all enrollees.

### 3. Decomposition of Spending on Practitioner Services: Volume, Intensity, and Price

This chapter examines the role of service volume, intensity, and price in the overall spending on fee-for-service practitioner services described in the previous chapter. It is based on data for service users who were enrolled in data-reporting plans for the entire year.<sup>6</sup> Following widely used convention, volume is measured through the number of services; intensity is measured through the relative value units (RVUs) represented by services.

As described in other chapters, these data include only services paid on a fee-for-service basis. This creates particular effects for the measurement of volume and intensity. First, to the extent that some users have incomplete data because some of their care is paid on a capitated basis, the volume reported for these users is artificially low. Second, to the extent that certain types of services — such as primary care and basic laboratory tests — are more likely to be paid on a capitated basis than others, measured service intensity is likely to be artificially high, because these lower-intensity services are excluded. If use of capitated services is associated with risk status, service volume, and service intensity, then the relationships reported here based on fee-for-service payments may not be representative of those for total practitioner

spending. These effects will affect only those enrolled in HMOs.

To explore the relationships between spending and measures of volume and intensity, the population was segmented by spending quintiles (Table 3-1). Mean fee-for-service spending in the lowest quintile of users was \$90, nearly 1/40th the mean in the highest quintile (\$3,303). Service volume and intensity are both strongly associated with higher total per-user spending, as is risk status. There is also some evidence that price may be a factor in higher spending.

Only 8 percent of the service users in the lowest expenditure quintile were in the high-risk population, while nearly 60 percent were low-risk. The risk status of the highest-spending group is reversed and even more skewed, with more than three-fourths in the high-risk population and only 6 percent in the low-risk population. This higher-cost, higher-risk population generates higher total fee-for-service spending through both more services and use of more intense services. For example, the mean number of services received climbs steadily from just 2.1 per user in the lowest-spending quintile to 42.4 per user in the highest-spending quintile. Likewise, the intensity of services is higher for each consecutive quintile, rising from an average of 1.6 RVUs for the lowest-spending quintile to 2.5 RVUs for the highest-spending quintile.

<sup>6</sup> The use of only full-year enrollees creates estimates that are less biased than those for all users.

**TABLE 3-1: Decomposition of Fee-for-Service Practitioner Expenditure Per User by Quintiles of Expenditure Per User, 2005**

QUINTILE SPENDING RANGE	Mean Fee- for-Service Practitioner Expenditure Per User	Mean of Number of Fee-for- Service Services Received Per User	Mean RVU Per Fee- for-Service Service	Mean of Expenditure Per User at Medicare Rates	Percent in Top 1/3 of Risk Status (High-Risk)	Percent in Bottom 1/3 of Risk Status (Low-Risk)
<b>ALL</b>	\$1,015	15.2	1.8	\$1,021	36%	32%
\$2–\$155	90	2.1	1.6	105	8	58
\$156–\$332	237	5.1	1.6	263	17	46
\$333–\$655	475	9.4	1.7	512	30	32
\$656–\$1,418	971	17.1	1.9	1,031	49	18
\$1,419–\$347,009	3,303	42.4	2.5	3,196	76	6

NOTE: Population includes only full-year enrollees.

There is apparently a difference in average price per service across the spending quintiles. Among users in the lowest quintile, actual mean spending is about 14 percent below mean spending for the same services if they had been paid for at Medicare rates. For those in the highest quintile, actual spending is about 3 percent above what it would have been at Medicare rates. This price difference is most likely due to the mix of services received by users in the five spending quintiles. For example, high-cost users are more likely to use invasive procedures, for which payment per RVU may typically be higher than that for evaluation and management services, but the price difference may also reflect some differences due to plan and region.

The relationships among risk status, volume, intensity, and total spending vary by market share, plan type, and coverage type (Table 3-2). However, some of these differences may be affected by the nature of the data. For example, as described above, HMOs are most likely to capitate primary-care services, so these services are not included in these fee-for-service data. Thus, it is not surprising that, with these services excluded, total spending and the average number of services per person is lower in HMOs, while the average intensity of services is higher. Although users in HMOs also are slightly lower-risk, it is impossible to say how that difference interacts with the differences caused by the exclusion of the capitated data to affect overall spending and resource utilization.

Mean total spending among payers with large market share is \$1,026, somewhat higher than that for other payers. Users covered by payers with large market share are slightly higher-risk (Figure 3-1b) and have higher service volume but a slightly lower mean RVU per service. Users enrolled in large payers are less likely to be enrolled in an HMO (36 versus 48 percent, Table 3-3), so it is possible that at least part of these differences are being driven by the HMO versus non-HMO pattern. As one might expect, the largest payers' prices are on average slightly lower than what Medicare would pay for the same services, while smaller payers' prices are slightly higher than Medicare's.

The story by type of employer plan (coverage type) is more complicated (Table 3-2). Although users with individual insurance tend to be lower-risk than the other groups, their spending is quite similar to spending by users in private employer plans, with slightly more services per user and slightly lower intensity. By contrast, users in the small employer CSHBP plans had a very similar risk profile to users in the (large) private employer plans and the same service intensity, but had the highest overall spending. The public employer plan is the highest-risk of these four groups (though still near average); these users have the highest service volume, and total spending slightly lower than users in the small employer CSHBP plans, with average intensity. The differing prevalence of HMO coverage (data not shown), and corresponding lack of data on capitated services, may be driving some of the differences among these groups.

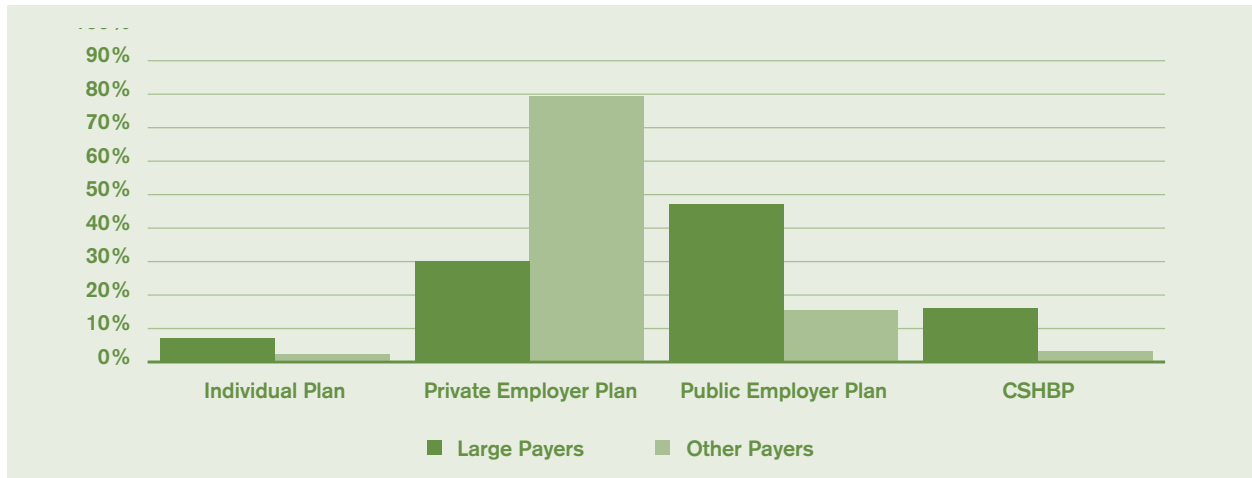
**TABLE 3-2: Decomposition of Fee-for-Service Expenditure Per User by Payer Characteristics and Coverage Type, 2005**

	Number of Users	Mean of Fee-for-Service Expenditure Per User	Mean of Number of Services Received Per User	Mean of RVU Per Service	Mean of Expenditure Per User at Medicare Payment Rate	Percent in Top 1/3 of Risk Status (High-Risk)	Percent in Bottom 1/3 of Risk Status (Low-Risk)
<b>ALL</b>	1,670,283	\$1,015	15.2	1.8	\$1,021	36%	32%
<b>TOTAL – Plan Type</b>							
Non-HMO	1,011,545	1,118	17.9	1.6	1,105	38	31
HMO	659,816	857	11.1	2.1	891	34	34
<b>TOTAL – Market Share</b>							
Largest Payers	1,230,331	1,026	16.0	1.8	1,062	37	31
Other Payers	439,952	987	13.0	1.9	908	34	33
<b>TOTAL – Coverage Type</b>							
Individual Plan	97,157	993	15.0	1.7	958	29	37
Private Employer Plan	718,133	995	14.3	1.9	975	35	32
Public Employer Plan	646,945	1,027	16.1	1.8	1,056	38	30
CSHBP	211,874	1,039	15.3	1.9	1,083	36	32

NOTES: 1. Population includes only full-year enrollees.

2. Total number of users is less than the sum of the individual plan type/coverage type user counts because some users may be covered by more than one plan type/coverage type during the year.

**FIGURE 3-1a: Distribution of Market Share by Coverage Type**



NOTE: Population includes only full-year enrollees.

Coverage type and risk status are both associated with market share. Compared to users insured by smaller payers, users enrolled through large payers are more likely to be covered under individual, small group, or public employee contracts (Figure 3-1a). Payers with large market share have a relatively higher-risk user pool than other payers (Figure 3-1b).

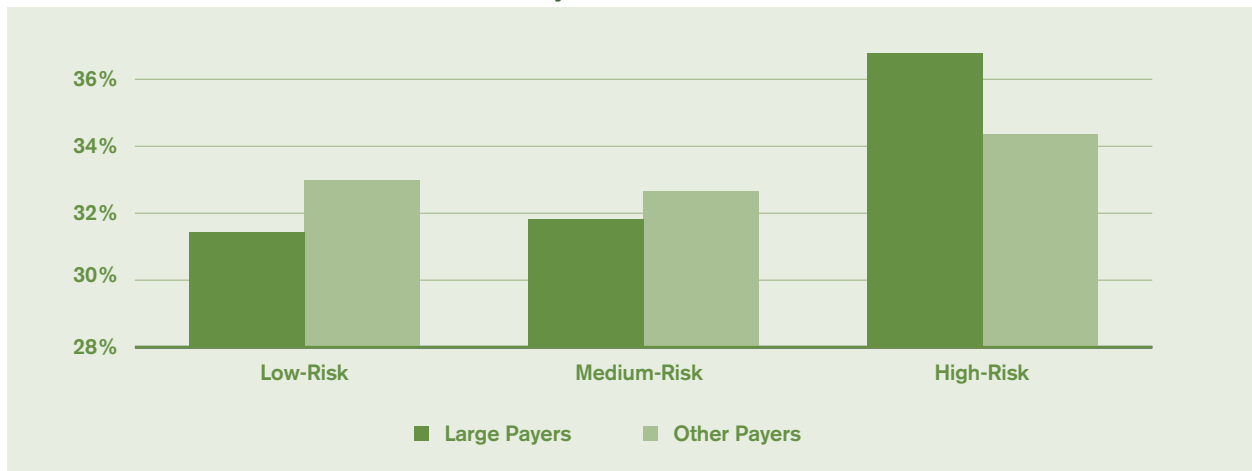
Because their data are most likely to be complete, it is informative to focus on users in non-HMO plans and compare payers with large market share to other payers (Table 3-3). Among these non-HMO users, those insured by large payers spend about 1 percent more (\$1,122 versus \$1,107). Users in these large payer plans receive about 19 percent more services (18.6 versus 15.6 services per year), but the average intensity per service is 5 percent lower in large payers' plans (1.6 versus 1.7 RVUs).<sup>7</sup>

<sup>7</sup> Due to rounding, percentage changes reported in the text may differ from values generated with numbers in the tables.

For these users, payers with large market share reimburse about 13 percent less than other payers on a per RVU basis (\$38.13 versus \$43.61). Payers with large market share also appear to pay less than Medicare, as indicated by the estimated \$1,138 mean spending for their users at Medicare's rates, which is just over 1 percent larger than the actual mean payment of \$1,122. Conversely, other payers would pay about \$110 less per user (about 10 percent) at Medicare's rates than they reported paying for fee-for-service services per user in 2005. The difference in fee level likely reflects the leverage large payers may have in the Maryland market.

Overall, among non-HMO users, the higher service volume in larger plans appears to be offset by the lower service intensity and payment levels. A similar pattern of utilization exists in the HMO segment, but differential use of capitation by plans makes the interpretation of the results more difficult.

**FIGURE 3-1b: Distribution of Market Share by Risk Status**



NOTE: Population includes only full-year enrollees.

**TABLE 3-3: Decomposition of Expenditure Per User by Payer Characteristics and Plan Type, 2005**

CATEGORY	PLAN TYPE	
	Non-HMO	All
<b>LARGEST PAYERS</b>		
Percent of Users	64%	100%
Mean of Expenditure Per User	\$1,122	\$1,026
Mean of Number of Services Received Per User	18.6	16.0
Mean of RVU Per Service	1.6	1.8
Mean of Payment Per RVU	\$38.13	\$37.10
Mean of Expenditure Per User at Medicare Payment Rate	\$1,138	\$1,062
<b>OTHER PAYERS</b>		
Percent of Users	52%	100%
Mean of Expenditure Per User	\$1,107	\$989
Mean of Number of Services Received Per User	15.6	13.0
Mean of RVU Per Service	1.7	1.9
Mean of Payment Per RVU	\$43.61	\$44.03
Mean of Expenditure Per User at Medicare Payment Rate	\$997	\$910

NOTE: Population includes only full-year enrollees.

## 4. Participation in Provider Networks

Managed care organizations and policymakers continue to grapple with balancing strategies for controlling costs and ensuring that patients have appropriate access to care. Payers presumably try to establish networks of participating providers that will attract subscribers but want to avoid contracting with providers that are perceived to be low-quality or to have expensive practice styles. They may recruit high-cost, high-quality providers, such as academic centers, that are perceived to be essential to attract and retain subscribers. Providers balance the opportunity to gain access to insured populations through managed care contracts against limits on charges and balance billing when deciding whether or not to become a participating provider with a managed care plan. As providers and payers continue to negotiate and renegotiate contracts, policymakers have become involved in shaping the managed care playing field through laws such as *any willing provider* and *freedom of choice*.

Balancing the right of nonparticipating providers to set their own fees with the need of patients to obtain required care has posed a challenge for policymakers since the development of managed care. Health care providers are permitted under Maryland law to collect only copayments and coinsurance for a covered service regardless of whether or not the provider participates in the HMO network. The Maryland Legislature has sought to address the tension between a provider's desire to obtain adequate reimbursement and a patient's expectation that HMO product design limits out-of-pocket costs by establishing the level of reimbursement for nonparticipating providers as the greater of:

1. 125 percent of what the HMO pays a similarly licensed provider for the same covered service in the Medicare-defined geographic area (locality), or
2. 100 percent of what the HMO paid a similarly licensed provider for the same covered service in the same Medicare-defined geographic region as of January 2000.

Opponents of this legislation argue that it removes incentives for providers to contract with HMOs. This perspective is cited as a possible reason for a slight increase in the share of physicians nationally who report having no managed care contracts, up from 9.2 percent in 2000-2001 to 11.5 percent in 2004-2005.<sup>8</sup>

To investigate the role of network participation among Maryland providers, the MCDB data were used to calculate provider-level measures of RVUs and payments, overall and by HMO and participation status. Tax identification (ID) numbers were used to identify individual practitioners, although many group practices use the same tax ID for more than one individual. In the extreme case, four of the five large academic practices each use a single ID for their scores of physicians—for this analysis, the dozen or so IDs used by the fifth academic practice have all been collapsed to represent one entity and included with the other four in a “large academic” group. For the purpose of these analyses, providers have been assigned to the location of their primary practice and nonacademic practices have been categorized by specialty, based on the types of services most commonly provided, and by size, based on the total number of RVUs provided. Tax IDs that provided fewer than 75 RVUs have been excluded, resulting in a total of 5,326 cases included in the analysis. Any practitioners that provide care only under capitated arrangements are not included in this analysis.

The resulting tax ID level file suggests that there are some differences by specialty with regard to the use of a single ID by more than one individual provider. Comparing mean total RVUs to physician productivity measures by specialty reported by the Medical Group Management Association (MGMA)<sup>9</sup> suggests that there is variation across specialty with regard to the number of individual providers represented by a single tax ID. Although the MCDB accounts only for privately insured care and so does not measure all of the care provided under each tax ID, the volume of care reported, when compared with MGMA survey data, suggests that the average radiology tax ID includes no fewer than five practitioners and the emergency medicine IDs no fewer than two. As a result, the tax ID level data in some cases represent a group of providers and in other cases a single individual, who may have a solo practice or may be part of a group practice. Specialty, practice size, and practice setting may all affect whether a plan would like to include a provider or practice in its network and the willingness of the provider/practice to participate in a plan's network.

According to the MCDB, about 13 percent of all fee-for-service practitioner RVUs are provided out of network (Table 4-1). The average share of RVUs

<sup>8</sup> O'Malley, A.S. and J.D. Reschovsky, “No Exodus: Physicians and Managed Care Networks,” Tracking Report No. 14, Center for Studying Health System Change, May 2006.

<sup>9</sup> “Total RVUs,” Table 56 (pp. 168-169), Physician Compensation and Production Survey, Medical Group Management Association, 2005.

**TABLE 4-1: Average Per Practice Nonparticipation and Payment Levels by Location, Specialty, and Practice Size, 2005**

	ALL USERS				HMO USERS ONLY				NON-HMO USER ONLY			
	Mean Total RVUs	Percent of RVUs Provided by Non-Par Providers (HMO and Non-HMO)	Percent of RVUs Provided to HMO Patients	Percent of Total RVUs Provided Non-Par	Mean Payment Per RVU in Network	Percent of RVUs Provided to Non-HMO Patients	Percent of Total RVUs Provided Non-Par	Mean Payment Per RVU Out of Network	Percent of RVUs Provided to Non-HMO Patients	Percent of Total RVUs Provided Non-Par	Mean Payment Per RVU Out of Network	
<b>ALL PRACTITIONERS (TAX ID)</b>	7,214	13%	36%	14%	\$35.98	59%	21%	\$36.74	59%	21%	\$55.25	
<b>BY REGION</b>												
National Capital Area	5,251	18	41	18	37.05	53	26	37.85	53	26	69.07	
Baltimore Metropolitan Area	9,308	11	30	12	35.47	65	19	36.30	65	19	48.64	
Other Maryland	5,986	9	39	11	35.24	58	16	35.83	58	16	51.89	
<b>LARGE ACADEMIC PROVIDERS</b>	436,392	1	49	1	47.21	51	1	47.50	51	1	83.77	
<b>NONACADEMIC PROVIDERS BY SPECIALTY</b>												
Emergency Medicine	16,290	19	42	20	51.48	53	28	49.34	53	28	91.63	
Radiology	67,184	6	44	7	40.24	51	8	39.40	51	8	86.84	
Pathology	15,650	15	44	16	53.08	56	18	57.18	56	18	117.64	
Primary Care	7,320	8	36	9	36.05	62	13	36.88	62	13	49.64	
Physicians Medical Specialty	9,785	7	41	7	39.63	58	11	40.06	58	11	60.24	
Physicians Surgical	7,228	7	41	8	37.11	57	13	38.38	57	13	60.73	
Physicians Other Specialties	3,117	29	32	31	37.60	60	42	37.51	60	42	60.39	
Nonphysician Providers	3,241	19	33	20	31.89	59	31	33.05	59	31	50.11	
<b>NONACADEMIC PROVIDERS BY SIZE</b>												
Practices Top 25% RVU	22,735	3	42	3	36.55	58	6	37.44	58	6	59.76	
Practices Higher Mid RVU	3,206	6	39	5	35.64	61	11	36.65	61	11	48.83	
Practices Lower Mid RVU	1,111	15	35	17	35.59	63	22	36.07	63	22	52.98	
Practices Lowest 25% RVU	258	28	28	32	36.01	56	45	36.63	56	45	60.80	

NOTES: 1. Population includes HMOFFS and NONHMO claims of all enrollees with region of service, created from provider's ZIP of service, in MD and DC and total providers' RVUs larger than 75.  
 2. The following providers are in the "Practices Academic Providers" group: Johns Hopkins University, University of Maryland, Georgetown University, Johns Hopkins University Community Physicians, George Washington University Medical Faculty Associates  
 3. "Mean Payment Per RVU in Network" is based on practitioners with more than 75 total participating RVUs.  
 4. "Mean Payment Per RVU Out of Network" is based on practitioners with more than 75 total nonparticipating RVUs.  
 5. Primary Care includes general, family, and general internal medicine, pediatrics, and obstetrics/gynecology.  
 6. Anesthesia services are not included in this analysis.

provided to HMO users is about 36 percent, about 14 percent of which are provided on a nonparticipating basis. Across practitioners, the mean HMO network payment per RVU is \$35.98, compared to \$60.86 per RVU provided on an out-of-network basis. Although out-of-network payments are also higher for nonparticipating providers in non-HMOs, the difference between participating and nonparticipating rates is smaller than for HMO plans. Nonparticipating practitioners provide a larger share of care for non-HMO users than for HMO users.

Network participation rates differ across specialties, with emergency medicine, pathology, other, and nonphysician practices having higher-than-average mean nonparticipation RVU shares among HMO users. For example, the average share of nonparticipating RVUs among emergency medicine practices is 20 percent, compared to the overall average of 14 percent. Emergency medicine and pathology providers receive the highest in-network payment rate per RVU, but have a much smaller difference between network and nonnetwork rates, among both HMO and non-HMO users.

The relative share of RVUs provided on a nonparticipating basis decreases as practice size increases, from 28 percent among the smallest providers to 3 percent among the largest, nonacademic practices and 1 percent among academic practices. From both HMOs and non-HMOs, large academic practices receive an average of more than \$47 per RVU, compared with \$35 to \$37 among all other practices. The difference between network and nonnetwork payment rates for HMO users is lowest for these large academic practices.

The higher reimbursement levels for academic practices are likely due to the larger volume of specialty care provided by these practices. Private payers often perpetuate historic fee differentials for specialty care over primary care. It is also possible that some payers provide higher fees to the academic practices to retain their participation. The decomposition of these two factors is beyond the scope of this study.

At the tax ID level, the mean participating share of RVUs among the lowest-volume providers is 26 percent (Table 4-2). Nearly one-quarter of these small practitioners provide all of their services on a nonparticipating basis. Nonetheless, this group of providers accounts for less than 10 percent of all RVUs provided out of network. Large providers account for half of the RVUs provided on a nonparticipating basis, even though there are no practices of this size that provide all of their care out of network. In other

words, although care provided on a nonparticipating basis is a much larger share of the total care provided by small providers, a large majority of all nonparticipating care is provided by large providers for whom it constitutes a relatively small share of their total service volume.

Overall, fee-for-service claims in the MCDB suggest that slightly less than 7 percent of practitioners provide all of their care on a nonparticipating basis, suggesting that they have no managed care contracts. This is a much lower rate than that of more than 11 percent reported by physicians nationally.<sup>10</sup> It is difficult to know, however, how comparable the two estimates are. On one hand, the MCDB may underreport this phenomenon to the extent that there are nonparticipating practitioners whose care is completely outside the private insurance system, so that they are never paid via claims that end up in the MCDB. Similarly, not all care provided by nonparticipating providers is captured in these data—even if some of a practitioner's care is documented through private insurance claims, there may be some that is not. On the other hand, any practitioner who provides all care under capitated (and therefore participating) arrangements is not represented in these data, nor is the amount of RVUs provided on a capitated basis provided by providers included in the analysis. It is not possible to know the net effect of these different factors.

In coming years, these measures of in-network and out-of-network payment levels and RVU shares will provide an ongoing barometer of plans' and providers' perpetual reconfiguring of network and fee arrangements. As a result, they will enable policymakers to understand the interplay of fee differentials and the use of nonnetwork providers by subscribers, in turn allowing them to identify areas that may require new or modified regulation to help ensure that the insurance system continues to help create a health system where cost and access can both be appropriately managed.

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<sup>10</sup> O'Malley and Reschovsky, *op. cit.*

**TABLE 4-2: Nonparticipation Level by Practice Size, 2005**

<b>Practice Size</b>	Mean	25%	50%	75%	% Providers with 100% RVUs on Non-Par Basis	% Non-Par RVUs Accounted for
Practices Academic Providers (RVU Range: 195,538.64–856,940.87)	1.01	0.50	0.90	1.01	0.00	1.73
Practices Top 25% RVU (RVU Range: 5,196.90–1,127,363.10)	4.34	0.17	0.75	3.67	0.00	50.30
Practices Higher Mid RVU (RVU Range: 1,865.10–5,190.39)	8.50	0.49	3.56	8.82	0.38	21.70
Practices Lower Mid RVU (RVU Range: 526.42–1,864.50)	19.66	1.75	7.70	22.70	3.98	17.17
Practices Lowest 25% RVU (RVU Range: 75.30–525.96)	43.32	4.50	25.83	97.68	23.37	9.10
<b>OVERALL</b>	<b>18.95</b>	<b>0.49</b>	<b>4.73</b>	<b>19.16</b>	<b>6.93</b>	<b>100.00</b>

NOTES: 1. Population includes all enrollees.

2. See notes for Table 4-1.

## APPENDIX A:

# Technical Background: Summary of Data, Methods, and Caveats for This Report

Tables and figures in this report are based on services and payments captured in the MCDB. The MCDB contains extracts of insurance claims<sup>11</sup> for the services of physicians and other medical practitioners such as podiatrists, psychiatrists, nurse practitioners, and therapists. Insurance companies and HMOs meeting certain criteria<sup>12</sup> are required to submit these data to MHCC under the Code of Maryland Regulations (COMAR) 10.25.06 on health care practitioner services provided to Maryland residents. For calendar year 2005, the Commission received usable data from 24 payers, including all major health insurance companies.<sup>13</sup>

Each practitioner service generates a separate record in the MCDB. Patients are identified only by an encrypted number generated by each payer. Insurers use a standard format for reporting the data. Each data record identifies the service provided; payments from the insurer and patient (for noncapitated care); physician specialty; patient characteristics such as age, gender, and county of residence; clinical diagnosis codes; and other attributes of care such as site of service and type of insurance coverage.

This report uses categories and definitions for region, coverage type, plan type, and market share comparable to those in previous reports. It introduces two new analytic tools: risk status and enrollment period. Users have been grouped into low-risk, medium-risk, and high-risk groups based on their scores from the Chronic Illness and Disability Payment System (CDPS). This algorithm, developed by researchers at the University of California, San Diego, creates person-level risk scores from the service utilization data of the MCDB. It has been applied only to users who were enrolled in reporting plans for the entire year, to avoid developing biased scores based on partial-year data. Resulting scores were used to categorize users as “low-risk,” “medium-risk,” or “high-risk,” based on the scores of the top third and bottom

third of the distribution.<sup>14</sup> Plans reported enrollment data for the first time in 2005, making it possible to analyze those users who were enrolled all year. As a result, the decomposition of spending into volume, intensity, and payment level reported in Chapter 3 is not distorted by the anomalies introduced by including part-year enrollees.

This report includes data on services paid on a fee-for-service basis only. Reporting of capitated services by several plans was incomplete or otherwise problematic. Since capitated services are provided only through HMO plans, reported measures for non-HMO plans are unaffected by the exclusion of capitated services, while those for HMO plans are affected in different, sometimes unknown, ways. Fee-for-service spending and volume per user clearly understate total per user values in HMO plans among those who use any fee-for-service care, since capitated services are omitted. However, there are also users who use only capitated services, so they are omitted from the analysis entirely. If complete data not only added costs and utilization for those included in the analysis but also allowed for inclusion of these individuals, it is difficult to predict how overall mean spending and volume would compare to that reported here. Similarly, it is not clear how service intensity (RVUs per service) is affected, both for those HMO users included here and through the omission of those who use only capitated services. The role of HMO plans differs across coverage type and region, so the relationships between the fee-for-service measures reported here and total per-user measures in these dimensions are difficult to predict.

<sup>11</sup> The MCDB also includes information on capitated services, but some capitated primary care is not submitted to MHCC.

<sup>12</sup> The companies are licensed in the State of Maryland and collect more than \$1 million in health insurance premiums.

<sup>13</sup> A number of small payers received waivers from contributing data, but these payers together account for less than 1 percent of total health insurance premiums reported in Maryland.

<sup>14</sup> The resulting risk status groups do not each include exactly one-third of the population, since the cutoff score values applied to many users. Overall, about 32 percent of users were in each of the low-risk and medium-risk groups, while about 36 percent fell in the high-risk group.

## APPENDIX B: Payers Contributing Data to This Report

TABLE B-1: Payers Contributing Data to This Report

PAYER	Payer Identification Number
Aetna Life and Health Insurance Co.	P020
Aetna U.S. Healthcare	P030
American Republic Insurance Co.	P070
CareFirst BlueChoice, Inc.	P130
CareFirst of MD, Inc.	P131
CIGNA Healthcare Mid-Atlantic, Inc.	P160
Assurant/Fortis Benefits Insurance Co.	P280
Golden Rule Insurance Co.	P320
Graphic Arts Benefit Corporation	P325
Great-West Life and Annuity Insurance Co.	P330
Guardian Insurance Company	P350
Unicare Life and Health Insurance Co.	P471
Kaiser Foundation Health Plan of Mid Atlantic	P480
MAMSI Life and Health Insurance Co.	P500
Maryland Fidelity Insurance Co.	P510
MD-Individual Practice Association, Inc.	P520
MEGA Life & Health Insurance Co.	P530
Optimum Choice Inc.	P620
Coventry Healthcare of Delaware, Inc.	P680
State Farm Mutual Automobile Insurance Co.	P760
United Healthcare Corporation	P820
Trustmark Insurance Co.	P830
Union Labor Life Insurance Co.	P850
United Healthcare of the Mid-Atlantic, Inc.	P870

## APPENDIX C: Per Capita Payment and RVUs for Practitioner Services

TABLE C-1: Per Capita Payment for Practitioner Services by Quintile of Payment, 2005

PER CAPITA PAYMENT QUINTILE	PAYMENT					
	All Plans		Non-HMO Plan		HMO Plan	
	Mean	Median	Mean	Median	Mean	Median
<b>TOTAL</b>	\$905	\$391	\$997	\$442	\$765	\$326
1	77	78	84	85	68	69
2	197	194	222	218	166	163
3	400	391	451	442	332	326
4	837	808	938	906	695	671
5	3,011	2,205	3,289	2,427	2,563	1,853

NOTE: Population does not include HMO capitated services.

TABLE C-2: Per Capita RVUs for Practitioner Services by Quintile of Payment, 2005

PER CAPITA PAYMENT QUINTILE	RVUs					
	All Plans		Non-HMO Plan		HMO Plan	
	Mean	Median	Mean	Median	Mean	Median
<b>TOTAL</b>	22.8	10.5	24.7	11.7	20.0	9.0
1	2.3	2.3	2.4	2.4	2.2	2.2
2	5.6	5.4	6.2	6.0	4.8	4.6
3	10.9	10.7	12.2	11.8	9.3	9.1
4	22.4	21.5	24.7	23.7	19.0	18.2
5	72.9	55.9	78.0	60.2	64.5	49.1

NOTE: The population in this table is the same as in Table C-1. Persons are in the same quintiles for the purpose of analyzing RVUs.





4160 Patterson Avenue  
Baltimore, Maryland 21215

Phone: 410-764-3570  
Fax: 410-358-1236  
[mhcc.maryland.gov](http://mhcc.maryland.gov)