Practitioner Utilization: 2002-2003

Trends Within Privately Insured Patients

Stephen J. Salamon, Chairman

Released March 2005

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 decision-making, increase accountability, and improve access in a rapidly changing health care environment by providing timely and accurate information on availibility, cost, and quality of services to policy makers, purchasers, providers and the public. The Commission is administratively located within the Maryland Department of Health and Mental Hygiene, and is composed of 13 members appointed by the Governor, with advice and consent of the Senate, for a term of four years.

The MHCC is required under Health-General Article §19-134(g)(2-4) to issue a report describing the level of payments to physicians and other health care pracitioners. 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 year's report tracks changes in utilization and payment from 2002 and 2003 for health maintenance organizations (HMO) and non-HMO plans for Maryland and the five regions of the State. The report examines trends in payment for different categories of health care professionals and compares Maryland's experience to payment levels in other States. The last segment of the report considers several issues of interest to policymakers including a comparison of patient cost sharing in the Comprehensive Standard Health Benefit Plan (CSHBP) with other insurance products.

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Dr. Curt Mueller of the National Organization of Research at the University of Chicago (NORC) in Bethesda, Maryland, is the principal author of this report. Dr. Chris Hogan of Direct Research, LLC provided valuable suggestions on research approaches and commented on report drafts. A programming team at SSS, consisting of Ms. Laurie Hamilton (group leader), Mr. Adrien Adikumwami, 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. Mr. Robert Hardy edited the report and Ms. Lauralynn Clay assisted in the preparation of the report. The Commission thanks the SSS and STI teams.

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Executive Summary

The total spending increases for medical services provided by physicians and other health care professionals to insured Maryland residents under age 65 grew by 6 percent in 2003 (Table ES-1).[1] The increase was driven by a 2 percent increase overall in the average fee paid to providers and 3 percent increases in the volume of services and in the intensity of those services. The number of users seeking care fell slightly overall (-2 percent). The decline in users was driven by a 5 percent decline among non-HMO plans, which more than offset the 5 percent growth estimated for HMO plans. The decline in the users seeking care is consistent with results of a recent MHCC analysis that identified a decline in the percent of the population under age 65 insured by employer-sponsored plans.[2] The growth in HMO users is consistent with another MHCC analysis that showed increased HMO enrollment in 2003.[3]

Table ES-1: Estimated Sources of Spending Growth by Plan Type, 2002-2003

SOURCES OF SPENDING GROWTH	TOTAL	NON-HMO	HMO-FFS
Increase in Payment Rates	2%	1%	3%
Increase in Reported Persons Using Services	-2	-5	5
Increase in Services per Reported User	3	4	3
Increase in Intensity per Service	3	2	6
Total Expenditure Increase	**6%**	**2%**	**17%**

The shift from capitation as a method of payment continued in 2003, although the decline was not as dramatic as in 2002. Measured in terms of total relative value units (RVU) of care, HMO capitated care fell by 3 percent. As use of fee-for-service (FFS) payment by HMOs increased by 14 percent, about 16 percent of reported care (as measured by RVUs) is reimbursed under capitation, down from almost one-third of all reported HMO care in 2001. The decision by one major non-profit payer to convert its HMO products to all FFS is a factor in the declining capitation share from 2001-2003.

In 2003, payment rates for practitioner services rose modestly on average, for both non-HMO plans and for the FFS payments of HMO plans (Figure ES-1). This increase

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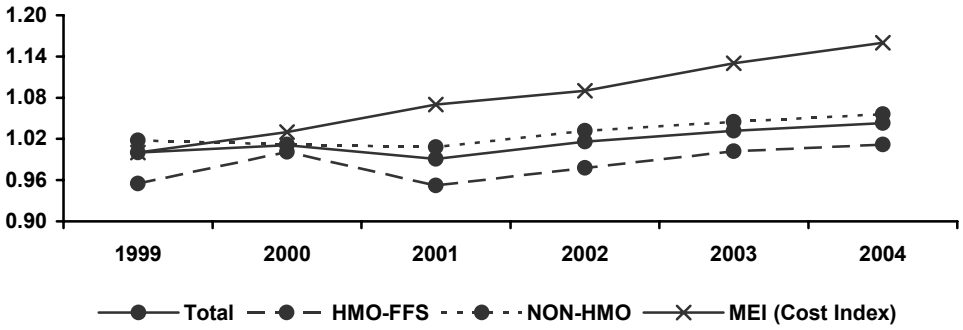
[1] This estimate differs somewhat from estimated growth reported in MHCC's State spending analysis that used additional data sources. For that report, physician and other health care professional spending grew an estimated 8 percent.

[2] Maryland Health Care Commission (MHCC), *Health Insurance Coverage in Maryland Through 2003*. Baltimore, MD: MHCC, November 2004.

[3] Maryland Health Care Commission (MHCC), *State Health Care Expenditures: Experience from 2003*. Baltimore, MD: MHCC, January 2005.

continues the modest fee growth MHCC reported in 2002, when average fees increased 2 percent. Recent increases are in contrast to 1999 through 2001, when fees paid by private payers were essentially flat. With the recent increases, average private fees are about 4 percent above their 1999 level. This increase did not keep up with medical inflation as measured by the Medicare Economic Index (MEI), which rose by over 12 percent during the comparable period. Medicare professional fees grew by 12 percent over the same period. Although much of the Medicare fee growth occurred during the 1999-2001 period, the 2003 increase of about 1.5 percent is in line with the private market. Traditional Medicaid program reimbursement rates have been flat since 1999, although payment rates for most visits increased in 2002.

Figure ES-1: Trend in Average Practitioner Payment Levels, 1999-April 2004



Private payers in Maryland paid practitioner fees that were, in 2003, quite close to the typical Medicare rate. FFS payments of HMOs were 97 percent of the Medicare rate, on average, while payments from non-HMO plans averaged 102 percent of Medicare levels. These small and offsetting differences between average HMO and non-HMO rates and between private and Medicare rates remain consistent with findings from previous *Practitioner Utilization* reports. Differences continue to exist between what HMOs pay in and out of network: rates for participating providers are about 95 percent of average Medicare fees, and nonparticipating providers are paid 134 percent of average Medicare fees.

Average professional fees paid by non-HMO and HMO plans are close to Medicare rates statewide, but gaps are wider in some regions of Maryland. Local market factors influence the rates payers offer in a region, particularly the supply of physicians willing to accept a rate. One more contributor to regional variations is that most private payers do not adjust professional fees for higher practice expenses or malpractice liability insurance costs in the Baltimore and Washington (D.C.) metro areas. The largest differential between HMO and non-HMO pricing occurs in the National Capital Area (NCA), where non-HMO plans pay rates 5 percent above the Medicare level and FFS payments

by HMOs are about 3 percent below these rates. In the Baltimore Metro region, private non-HMO rates average about 1 percent below Medicare rates and HMO rates are about 4 percent below Medicare. On the Eastern Shore and in Western Maryland both categories of plans pay at, or in excess of, Medicare rates. Fees in Southern Maryland track with the State pattern: higher than Medicare for non-HMOs, slightly below for HMOs.

Professional fees by type of service vary significantly relative to Medicare. Rates for evaluation and management (office visits) are below Medicare levels, while procedure care is reimbursed at more favorable rates. Private payers have historically paid higher fees for procedures than does Medicare, while cognitive care (visits) is typically reimbursed at lower levels relative to Medicare fees. The fastest-growing broad category of service was imaging. Simple imaging, advanced imaging (MRI, CAT, and Cardiac), and echography all increased more rapidly than the growth for all services. This pattern parallels the results that MHCC reported the last 2 years. However, fees for imaging declined from 1 to 3 percent depending on category of service and plan type. This modest roll-back in imaging fees may reflect payers' initial efforts to slow the rapid growth of this service. Nationally, efforts to slow the growth of imaging — particularly advanced imaging — are gathering momentum. Procedures — particularly major surgical procedures — were not a significant contributor to spending growth, although these services account for nearly 26 percent of spending for non-HMOs and 29 percent of FFS spending for HMOs.

This report considered several issues that have been the topic of legislative debate. In 2005, the Maryland Legislature will consider removing the sunset on legislation setting minimum payment rates for HMO out-of-network care. This is a particularly important consideration for emergency care, where physicians must deliver care regardless of a patient's insurance status. Current law requires HMOs to reimburse a nonparticipating provider at 125 percent of what an equivalent contracting provider is paid. MHCC examined an alternative approach that would peg nonparticipating rates to a percent of the Medicare Fee Schedule — a much more transparent standard. If a floor based on the Medicare fee were established, nonparticipating providers could easily determine the Medicare equivalent because Medicare fees are readily available from the Centers for Medicare and Medicaid Services (CMS). HMOs contend that pegging payment floors to Medicare would add administrative expense to claims processing. A threshold of 120 percent of Medicare fees was used as the floor for assessing impact. About one-half of services by nonparticipating providers are paid at amounts equal to or in excess of 120 percent of the Medicare level, with 34 percent above the 150 percent threshold. The remaining 47 percent of services fell below 120 percent of the Medicare fee. If a Medicare fee threshold is used, payments for services below the threshold would

increase while payments for services currently paid above the threshold could fall. Those services currently paid above 150 percent of Medicare fees could fall substantially.

The burden of patient out-of-pocket costs for professional services under the Comprehensive Standard Health Benefit Plan (CSHBP) is still within the mainstream of Maryland private health insurance coverage. In 2003, 19 percent of FFS payments for practitioner services under CSHBP coverage were paid by the enrollee. This places the out-of-pocket burden for the average CSHBP well below the out-of-pocket share under individually purchased FFS coverage (40 percent), but somewhat higher than the out-of-pocket share found in traditional privately insured employer and public employer plans (13 and 14 percent, respectively). MHCC found that the pattern of cost sharing is similar to the pattern for 2002, and results remain consistent with anecdotal information from payers, employers, and insurance brokers that participate in the small group market.

In January 2005, Maryland enacted a medical-malpractice reform that capped medical increases on medical liability premiums. As part of this report, MHCC examined whether payments for specialists with high malpractice expense are higher than for specialists at low risk. The study confirmed that the burden of malpractice liability is heavily concentrated among surgical specialists. Over one-quarter of surgical specialist RVUs were for high-risk services in 2003, but less than 1 percent of RVUs by medical specialists were for high-risk services. High-risk services commanded higher payments per RVU than the average service under non-HMO and HMO-FFS plans for all service categories except tests.

This study found that non-HMOs compensated high-risk services in 2003 at rates 12 percent above the average and HMOs at about 16 percent above their average rate. Although rates for high-risk procedures were higher relative to average fees, increases in malpractice premiums and reductions in volume of service may be eroding the benefits of higher payments. Obstetrician-gynecologists, who faced an 11 percent increase in malpractice insurance premiums in 2003, saw payment per RVU increase by 4 percent, but total RVUs fell by 3.5 percent, so total payments were essentially unchanged. As malpractice increases were even more dramatic in 2004, obstetric practices could likely see malpractice expenses absorbing an even greater share of total revenue.

1. Introduction

This report provides a detailed description of payments to physicians and other health care practitioners for the care of privately insured Maryland residents under age 65. It is based on analyses using 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 2002 and 2003 are used to track changes in the quantity of care and the price of care, separately, for individuals in health maintenance organization (HMO) plans and individuals in other, non-HMO plans. Some data from earlier and later years supplement the main analyses of quantity and price of care.

This introductory chapter explains why and how this report is produced. First, the legal mandate for the report and several issues of current legislative and policy interest are described. An overview of statistical methods and some technical caveats about the underlying data and the conclusions drawn from these data are presented in the second part of this chapter.

Chapter 2 presents an overview of changes in the utilization of practitioner services. It discusses growth in users, and per-user spending and volume of care, in the aggregate and separately, for HMO and non-HMO plans. In **Chapter 3**, private payers' fees are compared to Medicare fees. Fees paid by HMO and non-HMO plans are compared, and trends in private insurers' fees are examined. **Chapter 4** summarizes analyses of several policy-relevant issues. Analyses include payment for services that drive malpractice premiums and the diffusion of imaging services. Appendices list practitioner services data by plan type and region for 2002-2003 (Appendix A) and the payers contributing data to this report (Appendix B), and define Maryland regions for the purpose of presenting estimates (Appendix C). Technical detail on the methodology will be available in a document posted on the MHCC Web site (www.mhcc.state.md.us).

MANDATE AND POLICY ISSUES 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.

One of the main findings of this series of reports continues to be that Maryland private insurers' fees appear to be stable and are relatively low compared to private insurers' fees in other parts of the United States. On average, the prices that private insurers pay for individual medical services did not increase substantially from 1999 through 2001, then increased slowly beginning in 2002. Further, average private insurers' rates in Maryland are close to the rates paid by Medicare, while for the United States as a whole, private insurers' rates significantly exceed the Medicare level. In recent analyses of data from private payers, Medicare payment rates for physician services averaged 81 percent of private rates nationwide for both years, 2002 and 2003.[4]

Against this backdrop of restraint on private fees, the adequacy of physician reimbursement has been an important issue for the Maryland legislature. In 2004, for example, the MHCC and the Health Services Cost Review Commission (HSCRC) reported findings to the Maryland General Assembly from studies of the adequacy of private-sector reimbursement relative to provider costs.[5] In general, findings were that private payers' rates in Maryland in 2002 significantly exceeded the average practice and malpractice expenses associated with providing care, but that Maryland Medicaid rates were often set below average cost. Yet malpractice premiums have continued to increase, increasing the costs of practice, especially for a number of surgical care specialists. Increasing malpractice premiums are of serious concern to many policymakers serving the State legislature. A number of proposals to deal with rising premiums were discussed in 2004, culminating in legislation that is creating a short-term fund to help physicians cover increasing premium costs. In Chapter 3, private payments for services that are deemed most "risky" and directly affect malpractice premiums are compared to private payment levels of other services.

In the adequacy-of-payment studies cited above, the MHCC and HSCRC recommended against setting minimum and maximum physician payment rates other than in those circumstances already defined in law. One such law, passed in 2002 (Chapter 250 of the Acts of 2002), established a floor on payments for nonparticipating physicians at the greater of 125 percent of the HMO's fee schedule or 100 percent of what the HMO pays any other similarly licensed provider for the same specific service in a given geographic

[4] Medicare Payment Advisory Commission (MedPAC), *Medicare Payment Policy: Report to the Congress, 2004*, (Washington, DC: MedPAC, March 2004), pp. 111-112, and testimony of C. Boccuti before MedPAC, "Physicians: Assessing Payment Adequacy and Updating Payments," January 12, 2005.
[5] Maryland Health Care Commission and Health Services Cost Review Commission, *Study of Reimbursement of Health Care Providers, Required Under HB 805 (2002)*, Baltimore, MD: MHCC and HSCRC, January 2004.

region. This law is due to sunset in 2005. This report presents some evidence that might be used in deciding whether such legislation is warranted.

Providers also face pressures that help drive up health care costs in the aggregate, including the spread of new, often cost-increasing medical technologies. Nationally, the use and cost of imaging procedures have increased, as has the number of new applications for the more sophisticated (and costly) technologies. In this report, data from Maryland private payers are used to characterize trends in the use of and payment for imaging procedures.

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[6] for the services of physicians and other medical practitioners such as podiatrists, psychiatrists, nurse practitioners, and therapists. Insurance companies and HMOs meeting certain criteria[7] 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 2003, the Commission received usable data from 26 payers, including all major health insurance companies.[8]

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, attributes of care such as site of service and type of coverage, and patient age and county of residence.

Several terms and concepts are used in presenting findings from the MCDB. These include the following:

- **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.

[6] The MCDB also includes information on capitated services, but some capitated primary care is not submitted to MHCC.
[7] The companies are licensed in the State of Maryland and collect more than $1 million in health insurance premiums.
[8] 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.

- **Count of services** — a simple count of the number of services provided to patients (as listed on the bills), without regard to the cost, complexity, or intensity of those services.
- **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 2003 Medicare fee schedule were applied to both 2002 and 2003 data. Similarly, when data are reported for 2001-2002, RVU information for the more recent year (2002) has been applied to services of both years for analysis of that trend data point.
- **Count 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 separately for HMO capitated data, HMO fee-for-service (FFS) data, and non-HMO data. Counts of persons may be subject to significant uncertainty because the same individual may be assigned two different identifiers if insured under two different products during the year.
- **Count of services per user or per 100 users** — a per capita measure of utilization. In general, the number of users is the number of health care users per plan type. In the discussion of the use and diffusion of imaging procedures in Chapter 3, for example, use is measured by dividing the number of imaging procedures in the encounter database by the number of *all health care users* in a plan type, rather than just the number of users of imaging procedures. By contrast, RVUs per service user in Table 2-4 in Chapter 2 is the number of RVUs per *user of the service.*
- **Average fee level or payment per RVU** — calculated as the ratio of total payments and RVUs for the relevant unit of service. Thus, the average fee level per RVU is the per-RVU price of practitioner care, using RVUs to measure units of care. This ratio is higher in areas where insurers' fee schedules are higher and increases when insurers raise their fee schedules.

The definition of practitioner specialty is more aggregated in this year's *Practitioner Utilization* report tabulations than in tabulations published in previous years. Specialty groupings for physicians used in this report are adopted from (and frequently used by) the American Medical Association (AMA).[9] Physician specialties reported in the MCDB were classified into the following AMA groupings: general/family practice, medical

[9] Composition of the specialty groupings is defined in a number of AMA publications, e.g., *Physician Socioeconomic Statistics,* AMA: Chicago, 2003.

specialties, surgical specialties, and other specialties. Selected data are reported for certain more narrowly defined specialties, as appropriate.

The comparison between the *level* of Medicare and private fees in this report is based on total payments divided by total RVUs of care. The Medicare RVU scale — a metric of resources used to produce services and procedures — is a means by which the comparative values of products can be assessed. Each service has its associated private payment and RVU, and the analysis of prices is based on private payment per RVU compared to the corresponding Medicare ratio.

The analysis of *trends* in private fees, by contrast, is based on price indices constructed solely from the private plan data. For that analysis, the value of a procedure is not based on the Medicare RVU benchmark, but instead is based on the average private payment for that procedure. As is typical with analysis of price index data, the value of the price index is set to 1.00 for the initial year of data (e.g., 1999 in Figure 3-1), and the price level in subsequent years is expressed relative to the value of 1.00 for the base year. For example, a 2 percent inflation of rates between 1999 and 2000 would result in a price index value of 1.02 for 2000.

A significant difference between this year's and last year's *Practitioner Utilization* reports introduces an important caveat for making comparisons between data items presented in the two reports. As noted in last year's report, one of the largest Maryland insurers consolidated operations of several HMO and non-HMO subsidiaries in 2001 and 2002. These modifications inadvertently led to under-reporting of 2002 non-HMO utilization from this insurer. To show a consistent trend from 2001 to 2002, this insurer's non-HMO claims were excluded from both years of data reported in the 2002 *Practitioner Utilization* report. In this report, however, these data have been included in all analyses for the sake of completeness this year and over time. Also, in the 2002 data about 54,000 HMO users enrolled in Comprehensive Standard Health Benefit Plans (CSHBP) were miscoded by one payer as being enrolled in fully insured, private-employer plans. This error has been corrected in this report. Thus, certain results shown here will differ modestly from results published last year.

2. Changes in the Utilization of Practitioner Services

This chapter shows spending, volume of care, and number of users of care in total for all private plans, and then separately for non-HMO and HMO plans. The total number of nonelderly users of care declined by 2 percent from 2002 to 2003 (Table 2-1). This reduction in users reflects the 3 percentage point decline in the proportion of nonelderly Maryland residents with employer-based health insurance from 2001-2002 to 2002-2003.[10] In spite of the reduction in users, the reported volume of practitioner care, measured by total RVUs, increased 4 percent overall from 2002 to 2003 (Table 2-1).[11] This was just one-third of the volume increase during the previous period (2001-2002), when the number of users grew by 3 percent.

OVERVIEW OF USERS, SERVICES, AND PAYMENTS REPORTED BY THE PLANS

Data in Table 2-1 characterize private plan activity in 2003 — numbers of users, measures of quantity, and payments — and how private plan experiences have changed since 2002. Estimates are for privately insured, under-age-65 patients only. All payers and services that passed routine data quality edits are included in this table; underlying data have been subject to various edits, and claims that do not reflect full payment for services have been excluded from the analysis.

Although the total number of users declined 2 percent between 2002 and 2003, the number of services provided increased by 1 percent and the volume of RVUs provided grew by 4 percent. The greater growth in RVUs relative to services indicates that practitioner services are continuing to become more resource-intensive, and therefore more expensive. On a per-user basis, the average nonelderly user in Maryland received 4 percent more services and 6 percent more RVUs in 2003 than in 2002 (data not shown).

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[10] Maryland Health Care Commission (MHCC). *Health Insurance Coverage in Maryland Through 2003*. Baltimore, MD: MHCC, 2004.

[11] RVUs from the 2003 Medicare fee schedule were used in analysis of both 2002 and 2003 data in this report. Thus, the percentage change in RVUs during 2002-2003 is calculated by applying 2003 RVUs to services in both 2002 and 2003. Data reported for 2001-2002 changes similarly uses RVU information for the more recent year (2002) applied to both years.

Table 2-1: Practitioner Services Data by Plan Type, 2002-2003

PLAN TYPE (See Note)	2003 DATA					PERCENT CHANGE, 2002-2003				
	Pymts ($000s)	RVUs (000s)	Services (000s)	Users of Any Care (000s)	Pymts Per User	Payments	RVUs	Services	Users of Any Care	Pymts per User
Non-HMO Plans	$1,361,278	34,998	21,866	1,431	951	2%	1%	-1%	-5%	7%
HMO Plans, All	-----	21,042	13,742	1,158	-----	-----	11	5	2	-----
HMO Plans, FFS Data	660,778	17,686	8,293	925	714	17	14	8	5	11
HMO Plans, Capitated Services	-----	3,356	5,449	735	-----	-----	-3	1	6	-----
All Plans, All Services	-----	56,040	35,608	2,578	-----	-----	4	1	-2	-----

Note: A "-----" means not available. Count of HMO persons served is based on unique patient identifiers separately for individuals with fee-for-service (FFS) claims and capitated encounter data. Total number of users is less than the sum of the individual plan type user counts because most HMO patients with capitated services also receive HMO-FFS services; in addition, estimates of percent changes in users are affected by overlapping coverage. Various edits of the database exclude about 15 percent of spending from the data shown in this table.

In addition to the 2 percent decline in users from 2002 to 2003, there was also a change in the mix of users. Statewide there was a 5 percent decline in non-HMO users but a 2 percent increase in the number of HMO users, resulting in an increase in the HMO share of nonelderly users in the data base. This small rebound in HMO enrollment after several years of a declining HMO share is consistent with the 2 percent increase in total private-sector HMO enrollees reported in the Commission's recent *State Health Care Expenditures* report.[12] The number of users in HMO plans increased in four of the State's five regions, and in each of these regions non-HMO users decreased (Appendix A, Table A-1). The exception was the National Capital Area (NCA), the only area where more than half of all users are in HMOs. NCA, in contrast, experienced a slight decrease in HMO users and a slight increase in non-HMO users.

A change in the mix of HMO and non-HMO users was also evident by coverage type, although some plans were affected differently than others. The most significant increase in HMO share occurred in the CSHBP, a fully insured program for small employers (including the self-employed). In 2002, the majority of CSHBP users were in non-HMO plans. But a large decline in non-HMO users (Table 2-2) coupled with a similar increase in HMO users (Table 2-6, on page 18) resulted in an overall 1 percent decrease in CSHBP users (data not shown), with slightly more than half in HMO plans

[12] Maryland Health Care Commission (MHCC). *State Health Care Expenditures: Experience from 2003*. Baltimore, MD: MHCC, January 2005.

in 2003.[13] Only one coverage type did not exhibit a gain in the share of users in HMOs: among public employees, the share in HMOs declined slightly to 36 percent of users.

Other marketplace changes evident in the data include a continuing shift away from capitation as a method for paying practitioners. Data on capitated and FFS RVUs show that HMOs are reducing the share of their services that are covered under capitated arrangements in favor of FFS reimbursement. The amount of capitated RVUs declined by 3 percent while FFS RVUs increased by 14 percent (Table 2-1), making the share of total HMO RVUs provided through capitated services in 2003 just 16 percent, down from 18 percent in 2002 (data not shown).

Although each user, on average, obtained 6 percent more RVUs and 4 percent more services from practitioners in 2003 compared to 2002, the growth in utilization differed somewhat between non-HMO and HMO users. Non-HMO users received 6 percent more RVUs per capita (Table 2-2) but HMO users exhibited a slightly higher growth in RVUs per capita (8 percent, Table 2-6) and a slightly smaller gain in number of services per user (3 percent versus 4 percent). The number of RVUs per user in non-HMO plans was about 24 (Table 2-2), compared to 18 (Table 2-6) per user in HMOs. Although RVUs per user is significantly lower in HMOs, HMO plan data typically do not include capitated primary care. Therefore, estimates of RVUs per HMO user may be understated to the extent HMO plans capitate primary care.

In non-HMO plans as a group, per-user gains in the number of services and RVUs obtained resulted in an increase in payments per user of 7 percent to $951 (including both insurer and patient payments).[14] Per-user growth in utilization more than offset the 5 percent decline in number of users, resulting in a 1 percent increase in the total number of non-HMO RVUs from 2002 to 2003 (Table 2-1). Total non-HMO payments for practitioner services increased 2 percent as a result, considerably less than the 18 percent increase reported for the 2001-2002 period and the 16 percent rise during 2000-2001 when the numbers of non-HMO users increased.

For HMOs, the 2 percent increase in the number of users and per-user gains in RVUs combined to produce an 11 percent increase in the total number of HMO RVUs. The

[13] Data presented here on 2002 CSHBP and fully insured, private employer products differ from results published last year. The original 2002 HMO data from CareFirst of DC misclassified about 54,000 CSHBP users as being in fully insured, private employer products. This error was corrected in the analyses for this report, resulting in more CSHBP-HMO users and RVUs in 2002, balanced by fewer users and RVUs in fully insured, private-employer HMO products, compared to last year's report.

[14] Calculated from data in Table 2-1 and data for 2002. The 7 percent increase in payment per user for non-HMO enrollees is somewhat smaller than the 10 percent per capita increase in insurer payments reported in the State health expenditures report (*ibid.*). This difference in estimates reflects a number of factors, including data sources, differences in covered populations (the State health expenditures report covers all ages), and service mix.

increased utilization and the continuing shift to greater use of FFS reimbursement produced an 11 percent increase in FFS reimbursement per HMO user to $714 (Table 2-1), resulting in a 17 percent increase in total FFS payments on behalf of HMO enrollees. The change in the value of capitated services, overall and per user, is unknown.

TRENDS UNDER NON-HMO PLANS

In spite of a 5 percent reduction in non-HMO users, total practitioner spending under non-HMO plans rose about 2 percent due to both more care (i.e., RVUs) per user and a 1 percent increase in the average payment per RVU (Table 2-2). This increase in average payment per RVU was somewhat smaller than during 2001-2002 (3 percent), and contrasts with a 1 percent decline in 2000-2001.

By coverage type. The largest share of provider payments for enrollees in non-HMOs was on behalf of Maryland residents with traditional, private employer-sponsored coverage. Payments for services obtained by those with private employer-sponsored self-funded and fully insured coverage totaled 43 percent of total payments in 2003 (Table 2-2). The traditional employers' share of 2003 payments was smaller than in 2002 (self-funded and insured shares totaled 50 percent) because declines in users came mainly from these employers, especially self-funded employers. Public employees account for 37 percent of 2003 non-HMO payments, up from 30 percent in 2002. The CSHBP share of payments was stable.

Table 2-2: Payment and Utilization by Coverage Type, Non-HMO Plans, 2002-2003

CLASSIFICATION	2003 DATA				PERCENT CHANGE, 2002-2003		
	Payments ($millions)	% of Payments	Users of Any Care (000)	RVUs per User of Any Care	Price (Payment per RVU)	Users of Any Care	RVUs per User of Any Care
Total	**$1,361**	**100%**	**1,431**	**24**	**1%**	**-5%**	**6%**
Individual Plan	91	7	109	21	4	6	0
Private Employer–Self-funded	438	32	474	23	2	-7	2
Private Employer–Insured	152	11	182	21	-1	-4	3
Public Employee	497	37	459	29	1	0	10
CSHBP	178	13	207	23	3	-15	7
Taft-Hartley Trust	5	0	3	33	3	-17	0

Resource use — as measured by the number of RVUs per user — increased from 2002 to 2003, except for those with coverage through individual or Taft-Hartley Trust

products.[15] The largest increase, a 10 percent gain in RVUs per user, was for public employees. In 2003, RVUs per user for public employees was 29, more than 20 percent higher than for the average user (24 RVUs) under non-HMO coverage. Utilization was slightly higher for private employees in self-funded plans compared to fully insured plans: 23 versus 21, and CSHBP utilization was the same as in self-funded private employer plans. Average payment per RVU increased in 2003 for all payers except fully insured private employers, with increases from 1 percent in public employee products to 4 percent in individual products.

Table 2-3: Payment and Utilization by Place and Type of Service, Non-HMO Plans, 2002-2003

CLASSIFICATION	2003 DATA					PERCENT CHANGE, 2002-2003	
	Payments ($millions)	% of Payments	Users of Any Care (000)	% of Users	Price (Payment per RVU)	Price (Payment per RVU)	Users of Any Care
Total	**$1,361**	**100%**	**1,431**	**100%**	**$38.90**	**1%**	**-5%**
Place of Service							
Inpatient	146	11	109	8	47.39	-2	-1
Office	932	68	1,382	97	36.27	4	-5
Outpatient	191	14	578	40	47.62	-3	-7
Other	93	7	386	27	41.71	-1	-6
Type of Service							
Evaluation/Management	580	43	1,379	96	37.19	5	-4
Procedures	351	26	500	35	43.12	-2	-3
Imaging	197	14	589	41	38.38	-2	-6
Tests	127	9	951	66	41.30	-2	-3
Other/not grouped	106	8	373	26	34.80	5	16

By type and place of service. Evaluation and management (E&M) services accounted for 43 percent of payments in 2003 (Table 2-3), more than any other service category, and up from its 41 percent share in 2002 due in part to a price increase of 5 percent. It was the only major service category with an increase in average payment per RVU, but its payment rate continues to rank below the rates for procedures, tests, and imaging, in spite of 2 percent declines in the average payment per RVU for these services. Nearly all users (96 percent) obtained E&M services, and most users (66 percent) had tests. Slightly more than one-third received procedures, and 26 percent received uncategorized services, up from 21 percent in 2002. For most service categories there was a 1 percentage point increase in the share of users who obtained the service in 2003 relative

[15] Taft-Hartley Trust allows labor unions to administer health benefit plans. Union Labor Life is the payer operating under Taft-Hartley provisions.

to 2002, but the share with at least one imaging service declined by 1 percentage point (data not shown).

Because E&M services are provided primarily in the office setting, the increase in average payment per RVU for E&M translated into a 4 percent increase in payment per RVU for office-based services. Average payment per RVU in all other settings declined. In 2003, more than two-thirds of non-HMO payments were made for care provided in offices, up from 65 percent in 2002. The share of users who obtained office care was stable from 2002 to 2003 (97 percent). But the share with inpatient care increased from 7 percent to 8 percent in 2003, while the portion with hospital outpatient care fell slightly from 41 percent to 40 percent.[16]

Spending and utilization for detailed type-of-service categories is displayed in Table 2-4.[17] These are the categories shown in Table 2-3 separated into subcategories. The majority of payments for visits (E&M services) went for standard office visits, and minor procedures account for the majority of procedure payments. Standard imaging services, however, account for only about one-third of all imaging payments.

Nearly all users (91 percent) had at least one standard office visit, 41 percent had at least one specialty office visit, and 14 percent had at least one visit to the emergency room. Most users of care (61 percent) received a non-automated lab test. Just 28 percent of users received an automated general profile lab test, while 23 percent received non-lab testing.[18] Standard imaging services (x-rays) were obtained by 33 percent of users, while 13 percent of users received echography services.

The 5 percent average price increase for E&M services (Table 2-3) comprises an 8 percent fee increase for standard office visit services, with a smaller fee increase for specialty visits and fee reductions for emergency room and hospital/nursing home visits. The 2 percent reduction in the average price of a procedure (Table 2-3) results from a small fee reduction for minor procedures and larger reductions for major procedures and endoscopies. Similarly, the 2 percent fee reductions for imaging services and tests result from a mix of different price changes for different service types. The largest price reduction (-10 percent) was for automated lab tests.

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[16] The "other" place of service category in Table 2-3 is primarily constructed from encounters with errors or omissions in place-of-service coding.

[17] The categories shown here are aggregations of Medicare's Berenson-Eggers Type of Service (BETOS) categories. The categories of visits refer only to E&M services, and do not include other procedures that might be performed in the course of an office or hospital visit.

[18] Non-lab tests include allergy testing, cardiovascular tests (e.g., ECGs, stress tests), neurological tests (e.g., EEGs), pulmonary function tests, and special otorhinolaryngology studies (e.g., audiology testing).

Table 2-4: Payment and Utilization by Type of Service, Non-HMO Plans, 2002-2003

CATEGORY	2003 DATA					PERCENT CHANGE, 2002-2003	
	Payments ($millions)	% of Payments	Service Users (000s)	% of Users	RVUs per Service User	Average Payment per RVU	RVUs per Service User
Total	**$1,361**	**100%**	**1,431**	**100%**	**24**	**1%**	**6%**
Visits, Office	330	24	1,297	91	7	8	3
Visits, Specialty (Consults, Psychiatry, Other)	185	14	580	41	9	3	4
Visits, Hospital/Nursing Home/Home	34	2	58	4	13	-2	2
Visits, Emergency Room	32	2	199	14	3	-1	2
Procedures, Major	114	8	83	6	29	-3	2
Procedures, Minor/Ambulatory	184	14	407	28	11	-1	3
Procedures, Endoscopies	53	4	116	8	10	-6	6
Imaging, Standard (xray)	64	5	479	33	4	-1	7
Imaging, Advanced/Procedure (CAT, MRI, Cardiac)	86	6	172	12	14	-3	0
Imaging, Echography	47	3	187	13	6	-2	7
Tests, Automated General Profile Lab Tests	16	1	398	28	1	-10	4
Tests, Other Lab Tests	77	6	871	61	2	0	3
Tests, Non-Lab	34	2	325	23	2	-1	-1
Miscellaneous and Not Grouped	106	8	373	26	8	5	-10

Nearly all service types exhibit higher RVUs per service user than in 2002, with the largest increases in resource use occurring for echography and standard imaging services (7 percent more RVUs per user), followed by endoscopies (6 percent). Major procedures produce the highest annual resource consumption per service user (29 RVUs per user), with other procedures accounting for 10 to 11 RVUs per service user. Advanced imaging services results in the second highest annual resource consumption at 14 RVUs per service user.

By specialty. Spending and prices for the major specialty categories are displayed in Table 2-5. Medical specialists received the largest share of payments (28 percent), followed by surgeons (20 percent), with all physicians accounting for about two-thirds of non-HMO payments. On average, all physician specialties except "other" were paid higher prices in 2003 compared to 2002. The largest tabulated price increase (7 percent) was for family and general practitioners, but their price continues to be below those of

other physicians. Nonphysician providers, who received a 2 percent price increase in 2003, also have an average price above that of family and general practice physicians.

Table 2-5: Payment Trends, Non-HMO Plans, by Practitioner Specialty, 2002-2003

CLASSIFICATION	2003 DATA			PERCENT CHANGE, 2002-2003
	Payments ($millions)	% of Payments	Price (payment per RVU)	Price (payment per RVU)
Total	**$1,361**	**100%**	**$38.39**	**1%**
Family and General Practice	68	5	37.36	7
Physicians, Medical Specialties	381	28	38.62	3
Physicians, Surgical	268	20	38.38	2
Physicians, Other Specialties	213	16	38.43	-2
Non-Physician Providers	143	11	38.17	2
Pharmacy/Lab/Supplies	70	5	37.18	2
Other	219	16	37.82	-3

VOLUME OF SERVICE GROWTH IN HMO PLANS

The number of users in HMOs grew by 2 percent from 2002 to 2003, marking a rebound in HMO enrollment which had been on the decline in recent years (Table 2-6). Between 2002 and 2003, the number of health care services among Maryland's HMO population increased by 5 percent (Table 2-1) and volume of care, measured in RVUs grew by 11 percent, driven by both more users and 8 percent more RVUs per user (Table 2-6). Payments are not reported for HMO plans because there is no way to determine reimbursement for services paid through capitation.

By coverage type. The majority of HMO users (56 percent, Table 2-6) have traditional, private employer-sponsored coverage, the same share as in 2002. There was a small reduction in users who were public employees. In contrast, users in all other coverage types increased during 2002-2003, most notably CSHBP users. CSHBP users accounted for 19 percent of HMO users in 2003, up from 17 percent in 2002.[19] The shares of users in individual and self-funded private employer plans were stable during 2002-2003, while the public employee share fell slightly.

[19] See footnote 13 regarding a change in the number of CSHBP and fully insured, private employer users in 2002.

Table 2-6: RVUs and Percent Change, by Coverage Type, HMO Plans, 2002-2003

CLASSIFICATION	2003 DATA				PERCENT CHANGE, 2002-2003	
	RVU (000s)	% of RVUs	Users of Any Care (000s)	RVUs per User	Users of Any Care	RVUs per User
Total	**21,042**	**100%**	**1,158**	**18**	**2%**	**8%**
Individual Plan	578	3	37	16	24	13
Private Employer–Self-funded	4,707	23	231	20	2	6
Private Employer–Insured	6,245	30	412	15	1	2
Public Employee	4,887	24	263	19	-5	5
CSHBP	4,238	21	220	19	17	13

Notes: Entries may not add to totals due to rounding, and to omission of some small miscellaneous categories. The sum of users does not equal the total because some persons had more than one type of coverage.

Per capita RVUs (the number of RVUs per user), which grew 8 percent across all HMO users in 2003, increased for users in all coverage types, ranging from a 2 percent increase for those in fully insured private employer-sponsored plans to a 13 percent increase among those with CSHBP and individual coverage.

In 2003, RVUs per HMO user was highest (20 RVUs per user) for those in self-funded, private employer-sponsored products. As in non-HMO plans, utilization was higher for private employees in self-funded products compared to fully insured products (15 RVUs per user), and CSHBP utilization (19 RVUs) was similar to that in self-funded private employer products. Unlike the non-HMO data, public employees, with 19 RVUs per user, were not the highest users of HMO care.

The differences in per capita utilization make the distribution of RVUs among plan types slightly different from the distribution of users. Plans with above-average utilization (self-funded private employer-sponsored, public employees, and CSHBP), have RVU shares in excess of their shares of users. RVUs for services obtained by those with private employer-sponsored self-funded and fully insured coverage accounted for the majority (53 percent) of HMO RVUs in 2003. The traditional employers' share of 2003 RVUs was smaller than in 2002 (59 percent) due to fully insured, private employer-sponsored enrollees, who decreased in number and also had a relatively small per capita increase in RVUs in 2003. CSHBP users, with 21 percent of HMO RVUs, obtained a higher share of HMO care compared to CSHBP users in non-HMO plans, with just 13 percent of non-HMO payments (Table 2-2).

By type and place of service. E&M services accounted for 42 percent of HMO RVUs in 2003, more than any other service category (Table 2-7). This is nearly identical to the

E&M share of payments in non-HMO plans. Considerably more of HMO users appear to have obtained E&M services in 2003 compared to 2002 (88 percent versus 77 percent), but it is possible that some of this apparent increase results from a more complete capture of HMO service use in 2003 data due to the increasing substitution of FFS reimbursement to practitioners in place of capitated payments by HMOs. Without any capitation, we would expect the share of HMO users with E&M services to be closer to the share in non-HMO plans (96 percent, Table 2-3). About two-thirds of HMO users had tests, the same share as in non-HMO plans. Although the proportion of HMO users with imaging services grew to 35 percent from 32 percent in 2002, it is below the comparable share for non-HMO users (41 percent). Similarly, a lower percentage of HMO users obtained procedures compared to non-HMO users (27 percent versus 35 percent). These differences are expected if most HMO plans exercise tighter control over higher cost and discretionary services compared to non-HMO plans.

Table 2-7: RVUs and Percent Change, by Attributes of Service, HMO Plans, 2002-2003

CLASSIFICATION	2003 DATA				PERCENT CHANGE, 2002-2003
	RVU (000s)	% of RVUs	Users of Any Care (000)	% of Users	Users of Any Care
Total	**21,042**	**100%**	**1,158**	**100%**	**2%**
Place of Service					
Inpatient	2,187	10	72	6	11
Office	14,329	68	1,062	92	2
Outpatient	1,950	9	295	25	9
Other	2,576	12	518	45	9
Type of Service					
Evaluation/Management	8,831	42	1,015	88	17
Procedures	4,706	22	317	27	-6
Imaging	3,170	15	409	35	11
Tests	2,370	11	778	67	0
Other/not grouped	1,965	9	259	22	2

Notes: Entries may not add to totals due to rounding, and to omission of some small miscellaneous categories. The "Other" place of service includes errors and omissions in place-of-service coding and should be ignored.

The share of HMO users who obtained office care was stable from 2002 to 2003 (92 percent), while the shares with hospital inpatient and outpatient care increased somewhat in 2003. Even with these increases, the share of HMO users with at least one hospital inpatient service is smaller than the share in non-HMO users, while the share of HMO users with hospital outpatient care is considerably less than the corresponding share of

non-HMO users (Tables 2-3 and 2-7). While tighter HMO control over care is expected to result in fewer users of inpatient care, the large discrepancy in users with outpatient care may be due to errors in coding place of service in the HMO data; nearly half (45 percent) of HMO users received care in the unidentified "other" place of service compared to only 27 percent of non-HMO users.[20] The share of HMO RVUs allocated to inpatient care declined slightly during 2002-2003 from 11 percent to 10 percent, just as the inpatient share of non-HMO payments declined (from 12 percent to 11 percent). For the second consecutive period, the share of HMO RVUs provided in the hospital outpatient setting appears to have declined (from 11 percent in 2002 to 9 percent in 2003) while the share provided in physicians' offices increased slightly (from 67 percent to 68 percent).

[20] As noted previously, the "other" place of service largely reflects errors or omissions in place-of-service coding.

3. Trends in Payment for Practitioner Services

The previous chapter reported that while the number of privately insured, non-elderly users declined slightly, the number of RVUs per user increased by 6 percent leading to a 4 percent increase in total RVUs of care. This chapter compares private payers' fees to the fees paid by Medicare and examines recent trends in private payers' fees.[21] Medicare's resource-based fee schedule provides a uniform framework for comparing the average level of Medicare and private practitioner fees, both regionally and by type of service. Medicare is a large purchaser of practitioners' services in all geographic areas, accounting for about 23 percent of all spending on physician services.[22] At the practice level, Medicare accounts for between one-quarter and one-half of revenue for most specialties.[23]

Data published in *Practitioner Utilization* reports for the last few years show that private rates in Maryland were near Medicare levels on average, although the gap between Medicare and private fees has varied by region, type and place of service, and provider specialty. This pattern continues through 2003. As in prior years, Maryland private rates remain near the Medicare level on average. Fees paid by HMOs averaged about 2.7 percent below the Medicare level, while fees paid by the non-HMO plans were about 1.8 percent above the Medicare level.

PAYMENT RATES

Statewide and by region. Table 3-1 shows the difference between private fee levels and Medicare rates for 2003, for both non-HMO plans and the FFS claims of HMO plans. The analysis of prices produces several interesting findings.

Private payers in Maryland paid practitioner fees that were, in 2003, quite close to the typical Medicare rate and even closer than last year in the aggregate. FFS payments of HMOs were slightly below the Medicare rate (2.7 percent below), on average, while

[21] Throughout this chapter, the term "fee" and "price" refer to the total payment physicians receive for a service, including payments from the insurer and patient, including any deductible or coinsurance paid directly by the patient.
[22] Maryland Health Care Commission (MHCC), *State Health Care Expenditures: Experience from 2003*. Baltimore, MD: MHCC, January 2005.
[23] Current data on the share of physician practice revenue from Medicare for representative practices do not appear to be available. Medicare's share of practice revenue has been substantially below 25 percent only for

payments from non-HMO plans averaged slightly above Medicare levels (1.8 percent above). The small and offsetting differences between average HMO and non-HMO rates and between private and Medicare rates remain consistent with findings from earlier years, reported in previous *Practitioner Utilization* reports.

Table 3-1: Payment Rates for Private Non-HMO and HMO Fee-for-Service Claims versus Medicare, 2003

CLASSIFICATION	NON-HMO PLANS				HMO PLANS			
	Pymt per RVU Using Medicare Rates	% of Pymts	Pymt per RVU	% Diff from Medicare	Pymt per RVU Using Medicare Rates	% of Pymts	Pymt per RVU	% Diff from Medicare
Total	**$38.19**	**100%**	**$38.90**	**1.8%**	**$38.39**	**100%**	**$37.36**	**-2.7%**
Region								
National Capital Area	39.94	31	42.00	5.2	39.95	38	38.73	-3.1
Baltimore Metro Area	37.75	51	37.25	-1.3	37.90	40	36.31	-4.2
Eastern Shore	36.58	5	39.45	7.8	36.39	7	37.92	4.2
Southern Maryland	36.98	5	37.94	2.6	37.09	6	36.53	-1.5
Western Maryland	36.46	7	38.93	6.8	36.61	9	36.70	0.2
Type of Service								
Evaluation/Management	38.27	43	37.19	-2.8	38.37	42	35.36	-7.8
Procedures	38.09	26	43.12	13.2	38.28	29	40.62	6.1
Imaging	38.65	14	38.38	-0.7	38.82	15	36.67	-5.5
Tests	37.37	9	41.30	10.5	38.09	5	42.90	12.6
Other/Not Grouped	38.11	8	34.80	-8.7	38.22	10	36.44	-4.7
Place of Service								
Inpatient	37.88	11	47.39	25.1	38.17	15	46.52	21.9
Office	38.34	68	36.27	-5.4	38.53	64	34.15	-11.4
Outpatient	37.61	14	47.62	26.6	37.94	14	48.40	27.6
Other	38.00	7	41.71	9.8	38.06	7	36.48	-4.2
Physician Participation								
Participating	38.17	88	37.03	-3.0	38.40	94	36.72	-4.4
Nonparticipating	38.44	12	58.65	52.6	38.13	6	50.95	33.6

Note: Detail may not add to total due to rounding and omission of small "miscellaneous" categories. The "other" place of service includes errors and omission in place-of-service coding and should be ignored.

Across Maryland regions, the non-HMO plans pay their highest rates in the National Capital Area ($42.00 per RVU) and lowest rates in the Baltimore Metro Area ($37.25), with other Maryland regions falling between these extremes. Rates for HMO plans exhibit less regional variation, $36.31 to $38.73. The highest and lowest HMO rates are

obstetrics, pediatrics, and psychiatry. See *Physician Marketplace Statistics 1997/1998*, ML Gonzalez and P Zhang, editors (Chicago, IL: American Medical Association Center for Health Policy Research, 1998).

in the regions with the highest and lowest non-HMO rates: the National Capital and Baltimore Metro areas, respectively.

Payers' rates in the regions of Maryland reflect the supply of physicians, competition among plans, and other market forces that are difficult to quantify. The Medicare program, by contrast, sets rates that are in proportion to the cost of inputs to medical practice, which vary across regions. When the Centers for Medicare & Medicaid Services (CMS) calculate Medicare payments, the three components of total RVUs for a service are each multiplied by its Geographic Practice Cost Index (GPCI). That is, separate GPCIs for the physician work, practice expense, and professional liability expense components of total RVUs are used to adjust payments for regional differences in the costs of physician work, practice expense, and professional liability insurance. Rather than analyzing how each of these three indices varies by geographic area, analysts use the Medicare Geographic Adjustment Factor (GAF), which is a weighted average of the three GPCIs (weights derived from the work-practice expense-professional liability composition of the average service). The GAF shows how costs vary across the three Medicare payment areas in Maryland: the National Capital Area (NCA), the Baltimore Metro Area, and the rest of Maryland. According to the GAF, costs in the NCA are 9.5 percent above the U.S. average, 2.5 percent above the U.S. average in the Baltimore Metro Area, and 2.8 percent below the U.S. average in the rest of Maryland.[24]

Regional variations in the gap between Medicare and private-sector payment rates possibly reflect differences in pricing strategies of HMO and non-HMO plans and regional differences in the mix of payers. Most private payers do not adjust fee schedules for regional differences in costs. In these instances, private fees will be lower relative to Medicare in the high-cost areas of Baltimore and Washington (D.C.), and higher in the rest of the State. By far, the largest differential between HMO and non-HMO pricing occurs in the NCA, where non-HMO plans pay rates over 5 percent more than the Medicare level and FFS service payments by HMOs are about 3 percent below Medicare rates. In the NCA, both markets are dominated by the same payer. On the Eastern Shore, the largest non-HMO and FFS HMO payers are distinct market entities. Both types of payers pay well relative to Medicare rates on the Eastern Shore, as was the case in 2002. In the Baltimore Metro region, both private HMO and non-HMO rates are below Medicare rates.[25]

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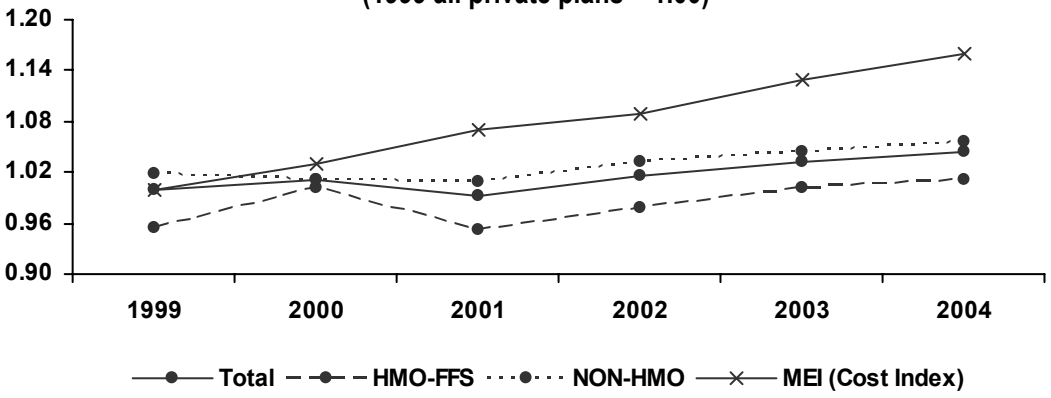
[24] Addenda E and F, HCFA, *Federal Register*, November 1, 2000, and "Proposed 2002 versus 1999 geographic adjustment factors (GAFs)," http:/www.cms.hhs.gov/physicians/pfs/add-h.pdf.

[25] At first glance, it may be perplexing that payment per RVU using Medicare rates (in the first and fifth columns of the plan sections of Table 3-1) varies within region. This variation reflects differences in the mix of services within each region and variation in Medicare rates by provider place of service. Observed differences are due primarily to the propensity/necessity of users to cross Medicare payment area borders to receive services. This propensity/necessity varies among HMO and non-HMO users, depending on requirements of plans and

The Medicare program's RVUs have been used as the primary basis for comparison in *Practitioner Utilization* reports. Changes in RVUs across years may modestly affect the results of this price measurement. That is, resulting estimates reflect not only the change in private payers' fees, but also, to a lesser degree, changes in Medicare's RVUs. An alternative means of tracking changes in private rates is through a private-payer price index.[26] This price index is an alternative accounting of price changes that is devoid of changes in Medicare's RVUs over time. Based on this analysis, average private fees have been increasing since 2002 and continued to increase through early 2004 (Figure 3-1). As of April 2004, the price index was 1.04, or 4 percent higher than in 1999, the base year. In contrast, the Medicare Economic Index (MEI) — one of the factors considered by CMS when the yearly Medicare fee update is calculated — increased 16 percent since 1999.[27] Medicare fees increased by about 12 percent between 1999 and 2003. Since 2002, however, Medicare fees fell by nearly 5 percent and then increased by about 1.5 percent in 2003 and 2004.

Figure 3-1: Index of Private Payment Rates, 1999-April 2004
(1999 all private plans = 1.00)



By type and place of service. HMO and non-HMO plans appear to have similar pricing structures by type of service (Table 3-1). Both pay less than Medicare for E&M services, most of which are provided in office-based settings, and generally pay more for procedures and tests which are more likely to be provided in inpatient or outpatient locations. Non-HMO payments for imaging services are comparable to Medicare levels,

availability of providers and facilities. This explains why the largest within-region differences are for Southern and Western Maryland and for the Eastern Shore; the difference in the National Capital Area is only $0.01.

[26] A weighted average of HMO FFS payments and non-HMO payments is calculated for each year in the time series, weighting the contribution of each service in proportion to typical private use rates. An index is constructed by dividing each weighted average by the average for the base year.

[27] The process of updating Medicare fees is complicated, depending on a number of other factors, including real gross domestic product per capita, enrollment in the traditional, FFS Medicare program, changes in laws and regulations that impact payments and benefits, and adjustments for actual versus expected spending in previous years. See, for example, "Review of CMS's preliminary estimate of the physician update for 2005," in Medicare Payment Advisory Commission (MedPAC), *Report to the Congress; New Approaches in Medicare*, MedPAC, 2004, pp. 185-89.

whereas payments by HMOs are more than 5 percent less than Medicare rates.

Services provided in the inpatient and outpatient settings command substantial payment premiums over Medicare rates, irrespective of type of plan. Private payments are highest relative to Medicare for outpatient services — about 27 percent higher under non-HMO plans and 28 percent higher under HMO plans. Non-HMO versus HMO differences in relative prices for inpatient and outpatient services are also narrower than the difference for office-based services. Under non-HMOs, office-based services average about 5 percent less than Medicare-level payments, versus 11 percent less than Medicare under HMO plans. The difference between the latter percentages (6 percentage points) dwarfs the differences for inpatient (3 percentage points) and outpatient (1 percentage point) services. The overall levels of private payments relative to Medicare rates for non-HMO and HMO plans (1.8 percent and -2.7 percent, respectively) and their difference reflect the importance of office-based services, which account for 68 percent of non-HMO payments and 64 percent of HMO payments.

By participation status. HMO and non-HMO rates are closer to Medicare rates for participating than for nonparticipating (out-of-network) physicians. For participating physicians, non-HMO plans pay 3 percent less than Medicare, while HMO plans pay 4 percent less than Medicare, on average. By contrast, the differences in payment relative to Medicare are large for nonparticipating physicians. Under non-HMO plans, nonparticipating physicians account for 12 percent of payments, and are paid about 53 percent above the Medicare level. Under HMO plans, nonparticipating physicians account for just 6 percent of payments and rates average about 34 percent above the Medicare level. As was the case for 2001-2002, most of the difference between the average HMO and non-HMO payment rates (in the top row of Table 3-1) is attributable to the higher payment rates and a larger fraction of payments made to nonparticipating physicians by non-HMO plans.

By specialty. In the aggregate, the "small" difference of 1.8 percent between non-HMO and Medicare payment rates masks larger differences by specialty (Table 3-2). The difference for general/family practitioners (4.6 percent) is more than twice the aggregate difference, whereas the difference in payments from Medicare rates under non-HMO plans is 2.5 percent for surgical specialists. Differences in payment relative to the Medicare level under HMO-FFS plans are negative for three of the four physician specialty groupings, and payments are closest to the Medicare level for surgical

specialists. Prices facing nonphysician providers are 7 percent less than Medicare in non-HMO plans and 16 percent less under HMO-FFS plans.[28]

Table 3-2: Payment Rates for Private Non-HMO and HMO Fee-for-Service Claims versus Medicare, by Specialty, 2003

CLASSIFICATION	NON-HMO PLANS				HMO PLANS			
	Pymt per RVU Using Medicare Rates	% of Pymts	Pymt per RVU	% Diff from Medicare	Pymt per RVU Using Medicare Rates	% of Pymts	Pymt per RVU	% Diff from Medicare
Total	**$38.19**	**100%**	**$38.90**	**1.8%**	**$38.39**	**100%**	**$37.36**	**-2.7%**
Family and General Practice	37.94	5	39.70	4.6	37.96	5	36.72	-3.3
Physicians, Medical Specialties	38.35	28	37.88	-1.2	38.62	33	36.54	-5.4
Physicians, Surgical	38.24	20	39.19	2.5	38.38	26	37.71	-1.7
Physicians, Other Specialties	38.46	16	40.77	6.0	38.43	21	40.25	4.7
Non-Physician Providers	38.20	11	35.52	-7.0	38.17	9	31.93	-16.4
Pharmacy/Lab/Supplies	36.95	5	40.03	8.3	37.18	2	39.72	6.8
Other	38.05	16	40.49	6.4	37.82	4	43.27	14.4

Note: Detail may not add to total due to rounding and omission of small "miscellaneous" categories.

HOW DO MARYLAND PRIVATE INSURANCE PAYMENTS COMPARE WITH PRIVATE INSURERS' PAYMENTS ELSEWHERE?

Available information suggests that Maryland private insurers' practitioner payments are significantly below the national average, and as was the case last year, Maryland appears to rank below the 25th percentile of States in terms of the level of private rates relative to Medicare.

Results from two studies commissioned by the Medicare Payment Advisory Commission (MedPAC) suggest that in 2002 and 2003, Medicare payment rates as a percentage of private rates were 81 percent. In the geographic areas studied, private rates fell during 2002 by 1 percent, a decrease attributable to a continuing shift in enrollment from more traditional indemnity plans to plans such as PPOs, with relatively lower payment rates. Meanwhile, Medicare payment rates had dropped by an even larger amount during 2002 due to a decline in the Medicare update factor by about 5 percent. The total impact was

[28] The results shown in Table 3-2 are based on services provided before passage of SB-437, "Health Insurance – Required Reimbursement – Podiatrists," which requires private payers to reimburse podiatrists at the same rates as physicians for the same services.

a reduction in the ratio of Medicare to private fees from the 2001 level (0.83) to the 2002 level (0.81).[29] There was no change in the relationship between Medicare and private rates between 2002 and 2003.[30] The Medicare to private payment ratio of 0.81 from the MedPAC study means that private rates exceeded Medicare rates by about 23 percent in 2002.

Results presented in this report suggest that in Maryland, private rates on average were no higher and may in fact have been somewhat less than Medicare rates overall in 2003 because the 1.8 percent differential between private and Medicare rates (Table 3-2) in the (albeit larger) non-HMO segment of the market is more than offset by the -2.7 percent differential in the HMO-FFS segment of the market. Together, these results suggest that private rates in Maryland are probably lower overall, compared to Medicare, than are private rates elsewhere.

As indicated in last year's *Practitioner Utilization* report, there is reason to believe that Maryland ranked between the 20th and 25th percentile of States in terms of the level of private insurance rates for physicians and other practitioners. The report cited a MedPAC-sponsored study that indicated that about 25 percent of studied health plans of all types had fees that were below the Medicare level on average.[31] In a second study of HMO plans, estimated HMO payment rates were less than the Medicare level in only four of 22 States (the four States included California, Arizona, Florida, and New Jersey).[32] While Maryland was not included as one of the 22 study States because data from the State were not sufficient, if the estimated 2001 Maryland HMO fee-for-service rate level was included in that distribution, Maryland would have fallen at the 22nd percentile of ranked States.

It was also argued that this relative ranking was consistent with factors that characterize the health care environment in Maryland.[33] Evidence suggests that private payment rates are influenced by location, the supply of physicians, and HMO penetration.[34] The gap between Medicare and private rates was smallest for the Northeast Census region and for urbanized areas, and Maryland is adjacent to these Northeast States with low private payment rates relative to Medicare. Obtaining adequate physician participation is an

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[29] Hogan, C. *Medicare Physician Payment Rates Compared to Rates Paid by the Average Private Insurer: Updated Using 2002 Claims Data.* Vienna, VA: Direct Research, LLC, 2003; Chapter 3 of Medicare Payment Advisory Commission (MedPAC), *Report to the Congress: Medicare Payment Policy,* Washington, DC: MedPAC, March 2004.
[30] Boccuti, C, "Physicians: Assessing Payment Adequacy and Updating Payments," testimony before MedPAC, January 12, 2005.
[31] Dyckman, Z, and Hess, P. *Survey of Health Plans Concerning Physician Fees and Payment Methodology.* Washington, DC: Dyckman and Associates, June 2003.
[32] Milliman USA, *2001 HMO Intercompany Rate Survey.* Brookfield, WI: Milliman USA, 2001.
[33] Maryland Health Care Commission (MHCC), *Practitioner Utilization: Trends Within Privately Insured Patients, 2001-2002*. Baltimore, MD: MHCC, March 2004.
[34] Dyckman and Hess, *ibid.*

important factor affecting plans' fee update decisions,[35] and a large supply of physicians makes it easier for plans to provide enrollees with adequate access to physician care. In 2002, Maryland was the third-ranking State in the nation with respect to the number of patient-care medical doctors per capita, having 39 percent more than the United States overall.[36] Last year's *Practitioner Utilization* report also noted that as managed-care penetration helps contain premiums of other types of plans,[37] higher penetration is expected to help contain physician service price levels. In 2003, Maryland ranked 4th in the nation in terms of total HMO market penetration, compared to 9th in 2002.[38] In short, location near the Northeast States (where fee levels appear lowest), a large supply of physicians, and moderately high HMO penetration are all factors that have not dramatically changed, and that work to produce lower fees in Maryland than in the United States as a whole. Although it is difficult to determine exactly where Maryland falls among the States in terms of private fee levels, there is little reason to think that Maryland's position relative to the other States has significantly altered during the past few years.

[35] Dyckman and Hess, *ibid*., Exhibit 14, page 18.
[36] In 2002, Maryland was also the third ranking state with respect to total physicians, including non-patient care physicians and doctors of osteopathy. Data are presented in National Center for Health Statistics, *Health, United States, 2004 With Chartbook on Trends in the Health of Americans*. Hyattsville, MD: 2004.
[37] Baker LC, Cantor JC, Long SH, Marquis MS., "HMO market penetration and costs of employer-sponsored health plans," *Health Affairs*, 19 (September-October, 2000), 121-8.
[38] State rankings of 2003 HMO penetration rates were compiled by InterStudy and published at the Kaiser Family Foundation State Health Facts Web site, http://www.statehealthfacts.org. Data for 2002 were obtained at the same Web site for last year's *Practitioner Utilization* report.

4. Current Issues of Policy Interest

This chapter summarizes findings from the MCDB on several issues of current importance to policymakers. First, additional evidence from the MCDB on the level of payments to nonparticipating providers by HMOs is presented. Another issue of interest to Maryland policymakers is cost growth under the CSHBP. Here the MCDB is used to examine out-of-pocket spending in CSHBP products compared to other types of private coverage. A third concern is the recent upsurge in malpractice premiums. This analysis focuses on payments for services and procedures that are assigned high malpractice risk and compares them, by plan type, to payments for services generally and across physician specialties. Finally, data from the MCDB have been used to examine an issue that is emblematic of increases in health expenditures over time: the diffusion of medical technology. This analysis describes the diffusion of imaging services in general, and by type, from 2000 to 2003.

HMO Payments to Nonparticipating Physicians

At present, the level of reimbursement of nonparticipating providers by HMOs is set by law. Payment levels are set at the greater of 125 percent of the HMO's fee schedule or 100 percent of what the HMO pays any other similarly licensed provider for the same service in the same geographic region. Analysis of effects of this legislation is problematic, insofar as payment thresholds vary by payer, region, service, and over time. A more transparent reference or benchmark for payment to nonparticipating providers is the allowed charge under the Medicare Fee Schedule. On average, payments to nonparticipating HMO providers exceed Medicare payments by about 34 percent (Table 3-1). The distribution of payments to nonparticipating providers relative to the Medicare level is examined in more detail in this section.

Under Maryland law, providers under contract with HMOs (participating providers as well as nonparticipating providers) may not balance-bill HMO members or subscribers for covered services. All HMOs are required under Maryland law to have "enrollee hold harmless" language in their contracts with providers. This prohibition limits the ability of nonparticipating providers to negotiate with HMOs on fees at the time of service as might occur in a freer market. The Maryland legislature has sought to balance this restriction by requiring that the rate paid for any service provided by a nonparticipating

provider must exceed the in-network rate for that service.[39] Some HMO spokespersons contend that this law creates disincentives for providers to join managed care networks, as higher fees can be earned by not participating.

In previous years, complicated manipulation of MCDB data was undertaken to study payer compliance with nonparticipating physician payment conditions. Payment rates for participating and nonparticipating physicians were calculated by payer and region of the State, and rates for participating and nonparticipating physicians were matched by plan, region, and service. The payer was deemed in compliance when the service payment to a nonparticipating physician was either the billed charge or more than 125 percent of the payment received by a provider participating in the plan. Results presented in previous *Practitioner Utilization* reports indicate that "somewhat less than half of HMO nonparticipating bills" were in compliance, and there was "essentially no change" in compliance between 2000 and 2002.[40] Several caveats with the Commission's analysis of compliance were raised in the 2002 report, each of which addresses a problematic aspect of data manipulation that was necessary for the study of compliance.

For this report, a more transparent and more readily applied payment standard has been adopted as a benchmark for review of relative payment levels by policymakers. Payments to nonparticipating physicians were compared to Medicare payments (adjusted for geographic location) for the same service/procedure, and the distribution of the payment ratio was examined for high-volume service categories. In the aggregate, payment levels averaged 4 percent less than Medicare payments for participating physicians;[41] *a priori*, the ratio of nonparticipating provider payment and Medicare payment should exceed 1.20 for many service billings.

Overall, FFS payments to HMO nonparticipating physicians account for a small share of private insurance payments to practitioners. Payments by HMOs to nonparticipating providers accounted for 6 percent of FFS payments in 2003 versus 7 percent in 2002 (Table 3-1). Payments by nonparticipating physicians were concentrated in a few service categories, as indicated in Table 4-1. Clearly, the nonparticipating differential varies by service. One-fifth of all nonparticipating services were for emergency room visits. Emergency room visits with nonparticipating providers accounted for 25 percent of emergency room HMO-FFS services. In contrast, 4 percent of nonparticipating services were for minor procedures. These results confirm that issues of network participation remain most salient to emergency medicine physicians.

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[39] The current law sunsets in 2005, and HB 294, "Reimbursement of Health Care Providers – Sunset Repeal," removes the sunset provision.
[40] MHCC, *ibid.*, p. 31.
[41] This percent is calculated for participating physicians in non-HMOs and HMOs continued, unlike the data displayed separately in Table 3-1.

Most services provided by nonparticipating physicians — 78 percent overall — were at payment levels in excess of the Medicare allowed charge, and more than one-half of service payments were for amounts equal to or in excess of 120 percent of the Medicare level (nonparticipating to Medicare payment ratio of 1.20 or greater in Table 4-1). Forty-one percent of payments for office visits by established patients exceeded 120 percent of the Medicare level. Thirty-four percent of services overall were at rates that exceeded the Medicare payment level by at least 50 percent (from the "150% of Medicare" column). Forty-five percent of minor procedures by nonparticipating physicians exceeded the Medicare rate by at least 50 percent, versus about 18 percent of established office visits.

Table 4-1: Data on the Distribution of Service Price Relative to Medicare Fee Level for Nonparticipating Physicians, by Type of Service, 2003

	PERCENT WITH PAYMENT-TO-MEDICARE RATIO LARGER THAN			2003 HMO NONPARTICIPATING PHYSICIAN SERVICES AS A PERCENT OF		
	Medicare	120% of Medicare	150% of Medicare	All HMO Nonparticipating Services	HMO-FFS Services	Total FFS (HMO and Non-HMO) Services
Total	**78%**	**53%**	**34%**	**100%**	**4%**	**2%**
Five Highest-Volume BETOS Categories						
Emergency Room Visits	99	64	43	20	25	12
Office Visits – Established	59	41	18	12	2	1
Specialist Visits – Psychiatry	64	43	24	7	14	4
Lab Test	70	54	41	7	7	1
Minor Procedures (misc.)	65	54	45	4	6	1

Note: BETOS is Berenson – Eggers Type of Service, Centers for Medicare & Medicaid Services.

Results of this analysis suggest that compliance with payment requirements that are defined using a Medicare payment-level standard could be more easily monitored by physicians and policymakers at a point in time and over time than payment requirements based on less transparent payment standards. The payment impacts of future legislative changes could be estimated with more precision than has been possible under current law. A more transparent standard would enable nonparticipating physicians to easily determine whether payments met the requirements of the law because Medicare fees are readily available from CMS. HMOs might contend that pegging payment floors to Medicare would add administrative expense to claim processing. Some surgical specialists who provide services as nonparticipating providers could see payment levels fall because payments of 125 percent of the HMO fee may exceed 125 percent of the Medicare fee.

THE COMPREHENSIVE STANDARD HEALTH BENEFIT PLAN (CSHBP)

The Maryland legislature created the CSHBP as a standard, regulated insurance product to be offered to small businesses in Maryland. The average premium of the CSHBP was initially limited to 12 percent of the average Maryland wage. The structure of the benefit must be revised if the premium exceeds that level. Recent increases in health care premiums have required the MHCC to increase the affordability of the package, principally by increasing patient cost sharing. In the 2003 session of the Maryland Legislature, Senate Bill 477 lowered the affordability cap to 10 percent of the average Maryland wage.[42] In this analysis, the MCDB was used to examine whether the burden of patient out-of-pocket costs differs substantially between the CSHBP plans and other types of coverage in Maryland — that is, whether the structure of benefits purchased under the CSHBP is still within the mainstream of Maryland private health insurance coverage.

In 2003, 19 percent of FFS payments for practitioner services under CSHBP coverage were paid by the enrollee (Table 4-2). This places the out-of-pocket burden for the average CSHBP product well below the out-of-pocket share under individually purchased fee-for-service coverage (40 percent), but somewhat higher than the out-of-pocket share under traditional private employer and public employee products (13 and 14 percent, respectively).

Table 4-2: Patient Out-of-Pocket Share of Fee-for-Service Practitioner Payments, by Plan Type, 2003

COVERAGE TYPE	ALL FEE-FOR-SERVICE	HMO-FFS PLANS	NON-HMO PLANS
Individual Plan	40%	12%	46%
Private Employee – Self-Insured	16	11	17
Private Employee – Insured	13	10	16
Public Employee	14	11	15
CSHBP	19	14	23
Taft-Hartley Trust	8	-----	8

The pattern of cost sharing displayed in Table 4-2 is similar to the pattern for 2002, and results remain consistent with anecdotal information from payers, employers, and

[42] Maryland Health Care Commission (MHCC), *Annual Review, Comprehensive Standard Health Benefit Plan for Year Ending December 31, 2002.* Baltimore, MD: MHCC, October 2003.

insurance brokers who participate in the small group market. Cost sharing under CSHBP is above levels typically found in the large group market. Small employers often add insurance riders that "buy-down" deductibles and co-payments so that they are more in line with benefits offered in the large group market. However, these buy-downs may absorb only a portion of the difference in the patient's share of payments. Thus, out-of-pocket payments under CSHBP are higher than what is typically seen in the large group market.[43]

PAYMENT FOR SERVICES AND PROCEDURES ASSIGNED HIGH MALPRACTICE RISK

During the past few years, malpractice premiums in Maryland have risen significantly. Insurance rates for coverage by Mutual Liability Insurance Society of Maryland (MML) — the insurer of roughly two-thirds of Maryland physicians — increased by about 28 percent in 2004 and were expected to increase by about 33 percent in 2005.[44] While malpractice premiums have historically accounted for a relatively small portion of the average physician's practice costs, malpractice premiums as a percent of costs have increased dramatically during the past few years.[45] Not surprisingly, a number of proposals to control premium increases were discussed by the State legislature. In early January 2005, legislation was passed that establishes a State fund for use in limiting malpractice premium increases to 5 percent per year.

According to a recent study conducted by the MHCC, overall private sector reimbursement was adequate to cover allocated practice and liability expenses, although the study did not specifically examine the adequacy of payment for high malpractice risk services.[46] Two issues are addressed in this section — whether provider payments by private insurers are higher for services that "expose" physicians to higher malpractice risk, and whether payments to specialists who face the highest malpractice premiums are higher than payments to lower-risk specialists.

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[43] Estimates for CSHBP out-of-pocket spending are based on the base package of benefits plus riders that "buy down" patient deductibles and cost sharing.

[44] Boodman, SG, "Insuring controversy: when malpractice premiums jump, some docs ask patients to 'donate' to the cause," *Washington Post*, Sept. 21, 2004, p. HE01.

[45] Premiums as a percent of the physician's total income have increased threefold over the past 4 years; in 2001, premiums were about 3 percent of physician income for a group of physicians at Johns-Hopkins, but are nearly 10 percent of physician income (Brody WR, "Dispelling malpractice myths," *Washington Post*, November 14, 2004, B7).

[46] Mueller, CD, Hogan, C, and Schur, CL, *Adequacy of Payments Relative to Costs and Implications for Maryland Health Care Providers*, Maryland Health Care Commission, 2004.

A resource-based relative value measure of the malpractice risk of physician services is a component of the payment formula that underlies the resource-based Medicare Fee Schedule. The malpractice component of each service's RVUs is derived in part from malpractice premiums paid by providers who most frequently provide the service. Thus, for example, the malpractice relative value portion of the Medicare fee for a carotid artery endarterectomy (CE) is based on malpractice premiums of vascular and other surgeons who provide the majority of CE procedures. Services and procedures appearing in MCDB data records were ranked according to malpractice risk — that is, according to the percent of the service's RVUs that represent malpractice relative value units of the service ("the malpractice percent"). For purposes of this analysis, "high-risk" services/procedures were identified as those provided by physicians for which the malpractice percent was at least 6 percent, and services for which the total number of RVUs was at least 1.0.[47]

High-risk services as defined here represent a small portion of total services provided by physicians, accounting for about 10 percent of payments to physicians under non-HMO and HMO-FFS plans. A disproportionate amount of high-risk work, however, is performed by surgical specialists. Of all services performed under all plans, over 25 percent of RVUs of surgical specialists were for high-risk services in 2003 and less than 1 percent of RVUs by medical specialists were for high-risk services.

High-risk services were categorized by service type using BETOS categories, and payment per RVU for each group was estimated for comparison to payment per RVU received for the average service. About 93 percent of high-risk services provided to Maryland residents within non-HMO plans were procedures, whereas procedures comprised only a quarter of all non-HMO services (Table 4-3). High-risk services commanded higher payments per RVU than the average service, under non-HMO and HMO-FFS plans, for each BETOS category except tests. Payment per RVU for high-risk procedures ($49.20) exceeded the payment per RVU for the average procedure ($43.79) by 12 percent under non-HMO plans. The payment difference between high-risk procedures and the average procedure under HMO fee-for-service plans was somewhat larger (16 percent), although the absolute payments per RVU ($48.55 for high-risk versus $41.79 on average) were less than under non-HMO plans.

[47] The malpractice percent was calculated using Medicare RVUs before adjusting for geographic differences in costs. The malpractice percent ranges from 5.6 to 44 percent among the top 1,000 services appearing in the MCDB when ranked by malpractice percent. The median malpractice percent among the top 1,000 services/procedures is about 6.6 percent. The malpractice percent range for the top 100 services/procedures is 10-44 percent. A total of 811 services in the MCDB met the criteria for "high-risk" services.

Table 4-3: Payment Share and Payment per RVU, Non-HMO and HMO-FFS Plans, by Type of Service, 2003

SERVICE/PROCEDURE TYPE	NON-HMOs		HMO-FFS PLANS	
	% of Payments	Price (payment per RVU)	% of Payments	Price (payment per RVU)
High Risk Services				
Total	**100%**		**100%**	
Evaluation/Management	1	53.40	1	39.87
Procedures	93	49.20	94	48.55
Imaging	5	43.55	4	40.44
Tests	1	39.81	1	38.52
Other/not grouped	1	54.91	0	49.19
All Services				
Total	**100%**		**100%**	
Evaluation/Management	45	38.17	43	37.21
Procedures	25	43.79	28	41.79
Imaging	18	40.49	17	39.40
Tests	6	42.80	4	44.61
Other/not grouped	6	37.48	8	38.29

Note: Detail may not add to total due to rounding and omission of small "miscellaneous" categories.

Data on high-risk services in Table 4-4 are from the perspective of the physician's specialty. Most high-risk services were provided by surgical specialists — specialists who face the highest malpractice premiums. In 2003, surgical specialists in non-HMO plans received about 83 percent of payments to physicians for high-risk services from private insurers. Payments for high-risk services from HMO-FFS plans are even more concentrated than from non-HMO plans: 89 percent of payments for high-risk services from HMO-FFS plans were to surgical specialists. By contrast, surgical specialists received about 29 percent of all private insurance payments to physicians in non-HMO and HMO-FFS plans combined.

Data in Table 4-4 also indicate that payments per RVU for high-risk services are higher than for the average service by specialty. Family and general practitioners receive the highest price per RVU for high-risk services under non-HMOs and HMO-FFS coverage, reflecting obstetric services that generalists are trained to provide on occasion.[48] For all surgical specialists, the price per RVU for high-risk services ranges from $45 to $46, depending on plan type, versus $39 for the average service.

[48] But high-risk services are not often provided by these specialists. As noted in Table 3-6, generalists and family practitioners in non-HMO and HMO-FFS plans provide between 1 and 2 percent of high-risk services, versus about 7 percent of services overall.

Table 4-4: Payment Share and Payment per RVU for High-Risk and All Physician Services, Non-HMO and HMO-FFS Plans, by Specialty, 2003

SPECIALTY	PAYMENT SHARE		PAYMENT PER RVU	
	Percent 2003	Percent Change 2002-2003	Payment 2003	Percent Change 2002-2003
High-Risk Services, Non-HMO Plans				
Family and General Practice	2%	31%	$63.35	16%
Physicians, Medical Specialties	4	31	50.09	-3
Physicians, Surgical	83	0	45.74	-3
General Surgery	8	0	46.81	-7
Obstetrics/Gynecology	47	-5	45.10	-1
Orthopedic Surgery	19	5	46.42	-7
Physicians, Other Specialties	11	-11	45.28	-11
Neurology	5	-29	44.94	-14
High-Risk Services, HMO-FFS Plans				
Family and General Practice	1	50	52.88	17
Physicians, Medical Specialties	2	22	52.64	19
Physicians, Surgical	89	0	45.40	-1
General Surgery	7	-9	44.16	-5
Obstetrics/Gynecology	55	-3	46.32	0
Orthopedic Surgery	19	-2	43.76	-3
Physicians, Other Specialties	8	-6	44.46	-5
Neurology	6	-10	45.73	-4
All Services, Non-HMO and HMO-FFS Plans				
Family and General Practice	7	1	38.64	6
Physicians, Medical Specialties	39	3	37.38	3
Physicians, Surgical	29	0	38.60	2
General Surgery	4	9	39.92	-1
Obstetrics/Gynecology	11	-6	38.86	4
Orthopedic Surgery	6	2	39.36	1
Physicians, Other Specialties	25	-4	40.38	-2
Neurology	2	-8	42.00	0

Not surprisingly, payment levels for aggregate specialty categories mask variation in payment among more narrowly defined specialties. Among payment levels for surgical specialists, payment for high-risk services provided by obstetrician-gynecologist specialists are less than payments to general surgeons under non-HMOs by about 4 percent. By contrast, under HMO-FFS plans, obstetrician-gynecologist payments exceed the general surgery payment by 5 percent.

On the one hand, findings from this study indicate that private payers more than compensated physicians for high-risk services in 2003. In other words, private payers appear to be covering costs of high-risk specialties at rates that exceed Medicare rates.

But on the other hand, these higher payments seem to be eroded by increases in premium costs and changes in revenue. For obstetrician-gynecologist specialists who faced an 11 percent increase in malpractice insurance premiums in 2003,[49] for example, payment per RVU over all services increased by 4 percent (Table 4-4) but total RVUs fell by about 3.5 percent (data not shown), and total payments increased by only 0.2 percent. (Ironically, while payment per RVU increased overall for obstetrician-gynecologist specialists, payment per RVU *for high-risk services* was unchanged under HMO-FFS plans, and declined by 1 percent under non-HMO plans as indicated in Table 4-4.) Additional research on this issue may prove useful in future years.

USE OF IMAGING PROCEDURES BY THE PRIVATELY INSURED

New imaging technologies are developing and existing technologies are being used in new applications. While diffusion of this technology has contributed to improvements in treatment and outcomes, it has increased cost and is of concern to policymakers at the Federal level.[50] Growth of these technologies is also of interest to payers in Maryland as private insurers often follow Medicare's lead in approving new technologies. Diffusion of imaging as evidenced by Maryland encounters is documented in this section.

The MCDB was used to examine use of imaging services in Maryland during 2003 and to trace imaging diffusion during the last several years. Imaging services were categorized according to their BETOS groupings. The primary groups include "standard" procedures, including radiologic procedures with and without various contrast agents; echography procedures, including ultrasound; and "advanced" procedures, including magnetic resonance imaging (MRI) and computerized axial tomography (CAT) scans. Use of imaging procedures was measured on a per-user basis, where the user population consisted of those with private insurance who used *any* type of practitioner service in 2003, both overall and by plan type.

In 2003, the advanced imaging procedures group had the largest market share in terms

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[49] Average premiums for obstetrician-gynecologist specialists and internists in Baltimore City and Baltimore County were expected to be $74,109 and $14,767 in 2003, respectively (data from personal communication with Medical Mutual Liability Insurance Society of Maryland, October 29, 2003, reported in Mueller, CD, Hogan, C, and Schur, CL, *Adequacy of Payments Relative to Costs and Implications for Maryland Health Care Providers*, Maryland Health Care Commission, 2004); premium increases of 28 percent were expected between 2003 and 2004 for these specialties.

[50] In January 2005, the Medicare Payment Advisory Commission (MedPAC) recommended that the Secretary of Health and Human Services (1) set standards for physicians who perform and interpret results of diagnostic tests — standards that should cover imaging equipment, personnel training, education, and experience, image quality, supervising physicians and patient safety — and (2) measure the volume of imaging services/procedures.

of payments for imaging services: over $86 million in payments under non-HMO plans and about $41 million under HMO-FFS plans (Table 4-5).[51] Standard imaging procedures accounted for one-third of the imaging market, and echography procedures accounted for one-quarter of the market. Payment shares for the major imaging groups were similar for persons covered by non-HMO and HMO-FFS plans.

Table 4-5: Data on Selected Imaging Procedures, by Type of Plan and Imaging Procedure, 2003

PROCEDURE	2003				
	Payments (000s)	% of Payments	Procedures per 100 Plan Users	RVUs per Procedure	Price per RVU
Non-HMO					
Standard Imaging	$64,442	33%	75.1	1.6	$38.38
Echography	46,799	24	31.3	2.5	41.19
Advanced Imaging	86,011	44	24.9	6.5	37.00
HMO ALL (See Note)					
Standard Imaging	32,743	33	59.1	1.6	36.09
Echography	26,000	26	26.4	2.6	39.19
Advanced Imaging	40,680	41	19.0	5.9	35.66
ALL (See Note)					
Standard Imaging	97,184	33	68.3	1.6	37.58
Echography	72,799	25	29.3	2.5	40.45
Advanced Imaging	126,691	43	22.4	6.3	36.56

Notes: Payment data for HMOs are based on HMO-FFS only; payment data for the ALL category are based on HMO-FFS and non-HMO services. All Price per RVU calculations are based on FFS payments only. "Plan User" is the number of persons using *some* type of medical care under the corresponding plan type.

While payment for advanced imaging services is the largest of the tabulated imaging payment categories, these procedures were used less frequently than standard and echography procedures. About 25 advanced imaging procedures were performed per 100 health care users of non-HMO plans. Standard imaging procedures were performed much more frequently: over 75 procedures per 100 users under non-HMOs. Advanced procedures command a large market share because of their relative complexity, as measured by the number of RVUs per procedure. For advanced procedures administered under non-HMO plans, the average number of RVUs per procedure ranges from 2.4 for CAT scans of the head to 15.0 for MRIs of the brain. MRIs of the brain and other body parts (with an average of 12.8 RVUs per procedure) together

[51] As indicated in the note to Table 3-7, payment estimates reported for HMOs are based on data from HMO-FFS plans only.

account for over one-third of advanced imaging procedures administered to non-HMO plan members (data not shown).

The data in Table 4-5 also demonstrate that while the composition of imaging procedures is similar across plan types, the level of use of imaging services varies by plan type. The number of imaging procedures per user for each type of imaging is somewhat less in HMO-FFS than in non-HMO plans. The number of RVUs per procedure for standard imaging and echography are comparable under non-HMO and HMO plans, while advanced imaging is somewhat more RVU intensive under non-HMO plans than under HMO plans.

Table 4-6: Trend Data on Selected Imaging Procedures, by Type of Plan and Imaging Procedure, 2000-2003

	NON-HMO			HMO ALL			ALL		
	Standard	Echography	Advanced	Standard	Echography	Advanced	Standard	Echography	Advanced
2003									
Procedures (000s)	1,075	448	357	685	306	220	1,760	754	577
Payments (000s)	$64,442	$46,799	$86,011	$32,743	$26,000	$40,680	$97,184	$72,799	$126,691
Procedures/ Plan User	0.8	0.3	0.2	0.6	0.3	0.2	0.7	0.3	0.2
RVUs/Plan User	1.2	0.8	1.6	0.9	0.7	1.1	1.1	0.7	1.4
Payment/FFS RVU	$38.38	$41.19	$37.00	$36.09	$39.19	$35.66	$37.58	$40.45	$36.56
Percent Change, 2000-2003									
Procedures	27%	49%	74%	39%	48%	78%	31%	48%	76%
Payments	51	46	77	101	73	115	65	55	87
Procedures/ Plan User	13	32	55	62	72	108	33	50	77
RVUs/Plan User	35	32	63	101	67	106	61	48	83
Payment/FFS RVU	-1	-2	-4	-3	-4	-3	-2	-3	-4

Note: Payment data for HMOs are based on data for HMO-FFS only; payment data for All are based on HMO-FFS and non-HMO only. Data for counts of services and RVUs were available for non-HMOs and all HMO users. "Plan User" is the number of persons using *some* type of medical care under the corresponding plan type.

Data on the diffusion of imaging procedures in Maryland by type of plan are displayed in Table 4-6. The most rapid diffusion, measured as growth in the number of procedures and procedures per plan member, has been for advanced imaging services. Between 2000 and 2003, the number of advanced procedures and number per plan user increased by 76 percent and 77 percent, respectively, overall. Growth in procedures per plan user, however, was almost twice as fast under HMO plans (108 percent) as under non-HMO coverage (55 percent). This growth (since 2000) was "catch-up," as absolute levels of use were comparable in 2003.

Total payment and RVUs per plan user for advanced imaging procedures grew faster than for standard imaging and echography. Growth in these two measures under HMOs also exceeded growth under non-HMO plans. The number of total RVUs (i.e., across all services) per user was also increasing during this time period, most often more rapidly than the number of services per user, under each plan type. This suggests that service intensity — in terms of RVUs per user per procedure — was increasing. Payment per RVU for each type of imaging procedure declined during the 2000-2003 period, irrespective of plan type.

Appendix A

Practitioner Services Data by Plan Type and Region, 2002-2003

Table A-1: Practitioner Services Data by Plan Type and Region, 2002-2003

PLAN TYPE AND REGION	2003 DATA					PERCENT CHANGE, 2002-2003				
	Pymts ($000s)	RVUs (000s)	Services (000s)	Users (000s)	Pymts Per User	Payments	RVUs	Services	Users	Pymts per User
Non-HMO Plans (see Note)										
Total	**$1,361,278**	**34,998**	**21,866**	**1,431**	**951**	**2%**	**1%**	**-1%**	**-5%**	**7%**
National Capital Area	425,829	10,139	6,180	390	1,092	7	6	5	1	5
Baltimore Metro Area	696,758	18,704	11,762	762	914	1	-1	-3	-6	8
Eastern Shore	71,620	1,816	1,138	83	865	-5	-6	-5	-12	8
Southern Maryland	72,249	1,904	1,258	84	861	0	0	1	-2	3
Western Maryland	94,822	2,435	1,527	112	844	-3	-3	-6	-9	6
HMO Plans, Total										
Total	-----	21,042	13,742	1,158	-----	-----	11	5	2	-----
National Capital Area	-----	7,974	5,497	461	-----	-----	7	-2	-1	-----
Baltimore Metro Area	-----	8,546	5,319	455	-----	-----	12	8	4	-----
Eastern Shore	-----	1,383	908	76	-----	-----	12	16	1	-----
Southern Maryland	-----	1,283	834	70	-----	-----	11	7	5	-----
Western Maryland	-----	1,855	1,185	97	-----	-----	21	18	7	-----
HMO Plans, Fee-for-Service Data										
Total	**660,778**	**17,686**	**8,293**	**925**	**714**	**17**	**14**	**8**	**5**	**11**
National Capital Area	252,535	6,520	2,929	322	784	17	12	5	4	12
Baltimore Metro Area	265,222	7,303	3,487	392	676	17	15	11	8	9
Eastern Shore	46,244	1,220	608	70	665	10	9	7	-1	11
Southern Maryland	39,542	1,083	499	59	671	17	13	5	4	12
Western Maryland	57,234	1,560	770	83	693	20	17	7	1	19
HMO Plans, Capitated Services										
Total	**-----**	**3,356**	**5,449**	**735**	**-----**	**-----**	**-3**	**1**	**6**	**-----**
National Capital Area	-----	1,453	2,568	329	-----	-----	-11	-9	1	-----
Baltimore Metro Area	-----	1,243	1,832	268	-----	-----	-6	3	7	-----
Eastern Shore	-----	163	299	41	-----	-----	41	42	19	-----
Southern Maryland	-----	200	335	43	-----	-----	3	10	6	-----
Western Maryland	-----	295	415	55	-----	-----	52	44	32	-----
All Plans, All Services										
Total	-----	**56,040**	**35,608**	**2,578**	-----	**-----**	**4**	**1**	**-2**	-----
National Capital Area	-----	18,113	11,677	846	-----	-----	6	1	0	-----
Baltimore Metro Area	-----	27,250	17,081	1,212	-----	-----	3	0	-2	-----
Eastern Shore	-----	3,199	2,046	158	-----	-----	1	4	-4	-----
Southern Maryland	-----	3,187	2,092	154	-----	-----	4	3	1	-----
Western Maryland	-----	4,291	2,712	208	-----	-----	6	3	-2	-----

Note: A "-----" means not available. Count of HMO persons served is based on unique patient identifiers separately for individuals with fee-for-service (FFS) claims and capitated encounter data. Total number of users is less than the sum of the individual plan type user counts because most HMO patients with capitated services also receive HMO FFS services. Various edits of the database exclude about 15 percent of spending from the data shown in this table.

Appendix B

Payers Contributing Data to This Report

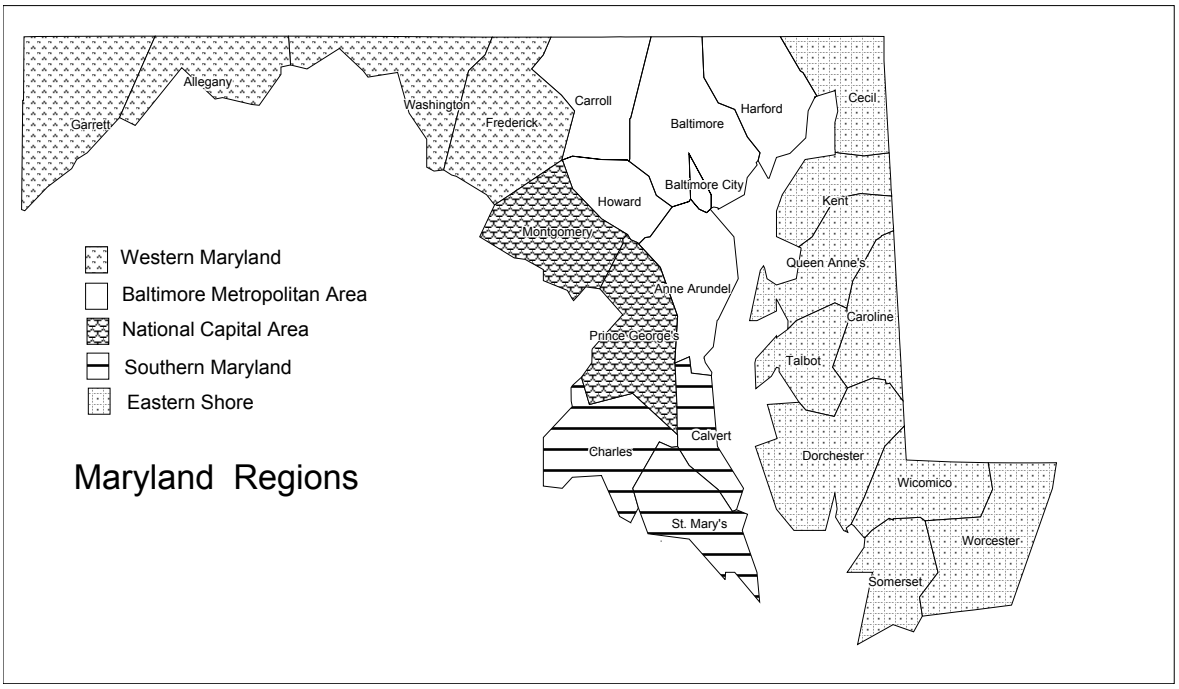
Table B-1: Payers Contributing Data To This Report

PAYER NAME
Aetna Life & Health Insurance Co.
Aetna U.S. Healthcare
Allianz Life Insurance Co. of North America
American Republic Insurance Co.
CareFirst DC
CareFirst MD
CIGNA Healthcare Mid-Atlantic, Inc.
Fortis Insurance Co.
Golden Rule Insurance Co.
Graphic Arts Benefit Corporation
Great-West Life & Annuity Insurance Co.
Guardian Life Insurance Co.
Unicare Life & Health Insurance Co.
Kaiser Foundation Health Plan of Mid-Atlantic
MAMSI Life Insurance Co.
Maryland Fidelity Insurance Co.
MD-Individual Practice Association, Inc.
MEGA Life & Health Insurance Co.
Optimum Choice, Inc.
PHN-HMO, Inc.
Coventry Healthcare of Delaware, Inc.
State Farm Mutual Automobile Insurance Co.
United Healthcare Insurance Co.
Trustmark Insurance Co.
Union Labor Life Insurance Co.
United Healthcare of the Mid-Atlantic, Inc.

Appendix C

Map of Maryland Regions

Table C-1: Map of Maryland Regions



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