
Physician Payment Reform Under Medicare: Monitoring Utilization and Access

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The Omnibus Budget Reconciliation Act (OBRA) of 1989 brought about significant changes in physician payment policy under Medicare. A major component of physician payment reform was the implementation on January 1, 1992, of the Medicare fee schedule (MFS). The Secretary of Health and Human Services is required to monitor and report annually on the impact of the changes in physician payment on access to and utilization of health care services.

This article provides an overview of the 1993 Report to Congress. First, the article discusses the changes made in physician payment policy as well as the complexities involved in assessing the effects of the MFS. Next, the article discusses the approaches that were implemented in the Health Care Financing Administration (HCFA) to generate timely data to monitor and evaluate the impact of physician payment reform on Medicare beneficiaries. Last, the article describes six analyses that were designed to provide differing perspectives for understanding the impact of the OBRA 1989 physician payment changes on access and utilization. Some of the most salient results of these analyses are presented, including preliminary data from the first year during which the MFS was in effect.

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INTRODUCTION

OBRA 1989 (Public Law 101-239), required the development of a new payment system for physicians' services provided under Medicare. This legislation brought about the most significant changes in physician payment policy since Medicare was enacted in 1965. The three major components of the OBRA 1989 physician payment reforms were the introduction of a Medicare fee schedule (MFS); the establishment of restrictions on the ability of physicians to bill Medicare beneficiaries for amounts exceeding the fee schedule; and the institution of target rates of growth for expenditures for physicians' services. The issues that motivated the Congress to make these fundamental changes in physician payment under Medicare have been widely discussed. For an overview of the issues and options considered by Congress in formulating the OBRA 1989 physician payment reforms, see Ginsburg (1989).

The MFS was implemented on January 1, 1992, which began a transition period that will end in 1995, with the largest proportion of fee schedule changes having been implemented in 1992. The MFS is expected to have the effect of shifting Medicare payments toward primary care services and toward rural areas. In recognition of these far-reaching changes, OBRA 1989 requires the Secretary of Health and Human Services to monitor and report annually to Congress on

changes in utilization and access, by population groups, geographic areas, types of service, and on possible sources of inappropriate utilization.

This article presents an overview of the 1993 Third Annual Report to Congress, "Monitoring Utilization of and Access to Services for Medicare Beneficiaries Under Physician Payment Reform" (Health Care Financing Administration, 1993). The first and second Annual Reports to Congress focused on potential analytical approaches, sources of data, and the design by HCFA of a monitoring system for Part B services in order to observe the effects of the MFS (Health Care Financing Administration, 1991; 1992). Although the Second Report to Congress contained some analyses on patterns of use in the period preceding the implementation of the MFS, data were not yet available on the use of physicians' services after the MFS became effective. The 1993 Report to Congress contains the first preliminary data from the monitoring system on use of Part B services in 1992, the first year the MFS was in effect.

First, the article discusses the OBRA 1989 physician payment changes and the complexities involved in monitoring access to care under the MFS. Next, the article describes approaches being used in HCFA for monitoring changes in access to and utilization of physicians' services. Last, the article discusses the six analyses included in the 1993 Report to Congress and the major findings.

OBRA 1989 PAYMENT CHANGES AND MONITORING ISSUES

Under OBRA 1989, the charge-based system for paying physicians was replaced by a nationwide resource-based

fee schedule to be phased in during the period 1992-95. The MFS is expected to bring about greater equity in payments between procedure-based services and primary care services. Across geographic areas fees will vary only to reflect differences in practice costs. Differences in Medicare payments for the same procedure performed by different specialists have been eliminated. Efforts are being made to eliminate variations across areas in how Medicare services are defined and coded. The use of local codes developed by carriers to define procedures for their area is being reduced. There are now standard definitions of what is included under global fees.

To curtail the shifting of billings to the beneficiary, restrictions were placed on the ability of physicians to bill the beneficiary for amounts above the allowed Medicare charge. Beneficiaries' liability for the amount above the allowed charge on unassigned claims will be no more than 15 percent of the non-participating fee schedule amounts in 1993 and thereafter. (The non-participating fee schedule is 95 percent of the fee schedule for participating physicians, i.e., physicians who accept assignment on 100 percent of their claims.) Moreover, Medicare will pay a 10-percent bonus to physicians practicing in health professional shortage areas.

To curb the overall growth in spending for physicians' services, a process was instituted for setting target rates of growth, or Medicare volume performance standards (MVPS). The MVPS and fee schedule updates are to be set by Congress or, if Congress does not set a target, by a formula prescribed in the law. The Secretary is required to provide annual recommendations to Congress for the target MVPS, and the Physician Payment Review Com-

mission (PPRC) is charged with advising Congress on the Secretary's recommendations. If the growth in physician expenditures exceeds the target, then the percentage increase in physician fees may be reduced and vice versa. As with MVPS targets, the Secretary recommends to Congress the fee schedule update for the next year, and the Commission advises Congress on this matter. MVPS have been in effect since 1990.

Potential Impacts of the MFS

In general, the MFS was designed so that physicians in urban areas and in surgical specialties would have reduced fees, relative to rural physicians and medical specialties. There will be many exceptions to these patterns, especially during the transition period, because of the variation in historic payment levels among individual physicians as well as among urban and rural areas. Simulations released by HCFA with the Final Rule (*Federal Register*, 1991) suggest that national average payment changes by specialty will range from +10 percent to -15 percent during the first year of implementation of the fee schedule. Thus, the impact of the MFS on Medicare payments to physicians would be expected to vary by physician specialty and locality.

The effects of the MFS on the beneficiary population can result from changes in the supply of services provided by physicians and/or in the demand for services by the beneficiaries themselves. The supply of services may be affected by the price shifts and by the limits placed on what physicians may charge. Physicians might increase the volume of those Medicare services for which prices have been cut, or restrict care for Medicare patients

in favor of higher paying patients, or alter the mix of services that they provide to Medicare beneficiaries. Price shifts could also have an impact on geographic differences in access, particularly if increases in prices make rural areas more attractive as practice sites for physicians. In some cases, consultations formerly included in a global fee may now be billed separately. Standardization in billing rules for surgery could increase the number of consultations billed separately.

The demand for services may be affected by changes in out-of-pocket costs, resulting from changes in coinsurance as Medicare fees change or from the new statutory limits on physicians' charges. As the MFS raises or lowers physician payments for certain services, the 20-percent coinsurance amount required of the beneficiary will be raised or lowered (Mitchell, 1990). Also, because the amount above the allowed charge that physicians can bill beneficiaries will be limited to 15 percent, more Medigap policies might be offered that would cover the difference between physicians' charges and Medicare fees on unassigned claims. This could increase the demand for physicians' services.

Payment Reform Part of a Continuum

It is important to recognize that before the OBRA 1989 reforms were instituted, a number of significant changes were initiated in physician payment policy that affected and will very likely continue to affect utilization and access. These include the institution in 1975 of the Medicare Economic Index as a limit on increases in prevailing charges; the participating physician program begun in 1984, which provided incentives for physicians to accept

assignment; the maximum allowable actual charge (MAAC) limits, which began in 1987 and restricted the amount non-participating physicians could charge; the reductions in prevailing charges for overpriced procedures instituted for one group of procedures in 1988 and for another in 1990; and the institution of fee schedules for radiology in 1989 and anesthesiology in 1990.

There will continue to be other forces unrelated to Medicare physician payment reform that are likely to influence the demand for and supply of physicians' services received by Medicare beneficiaries, including changes in medical technology and the diffusion of new technology into the health delivery system, which may affect measures of utilization in the aggregate or for subgroups of the Medicare population. Moreover, other efforts undertaken by the Federal Government to improve the appropriateness and efficiency of the health delivery system may affect demand for and supply of physicians' services. As examples, the peer review organizations, which review the necessity and appropriateness of care received by Medicare beneficiaries, and the programs implemented by the Agency for Health Care Policy and Research to develop and disseminate scientifically based guidelines for appropriate care, are likely to affect utilization. It is important, therefore, to view any changes found in access, utilization, and appropriateness in light of these many factors.

Defining and Monitoring Access and Utilization

For the annual reports required by Congress, access is being viewed primarily as "... those dimensions which describe

the potential and actual entry of a given population group to the health care delivery system" (Aday, 1984). In essence, access measures are intended to reflect whether or not an individual is able to obtain care when needed or desired.

There are many measures of access, which generally can be grouped into measures of potential access and of realized access. Potential access refers to the structural features of the medical care system and to various characteristics that influence whether or not people may obtain care. For Medicare beneficiaries, they include such system characteristics as physician-to-population ratios and the percentage of physicians participating in Medicare and such individual characteristics as having a regular source of care and ease of getting to a doctor. Commonly used measures of realized access are utilization rates overall and those by specialty and type of service. Access to care is a critical dimension of quality of care, because it reflects whether or not individuals and population groups can gain entrance to appropriate services in the health care delivery system.

The most readily available source of information for monitoring the impact of the MFS on access and utilization is from claims data accumulated in the Medicare administrative data system. However, there are well-known limitations in the use of administrative data for measuring access to care, especially the lack of information about whether care is medically indicated or appropriate. Proxy measures of health status such as age, gender, and race, which are available in administrative data, can be used to a limited advantage in assessing access to care.

National surveys can be used to supplement administrative data. Several have been designed to relate information on health services use and costs to the characteristics of the population. Analysis of the roles of income, health status, and health insurance can provide insight into the complex issues relating to the potential effects of the MFS on access and utilization.

PLAN FOR MONITORING BENEFICIARY ACCESS

Basic Analytical Approach

The basic approach being used for monitoring access to Part B services has two components. First, trends in access and utilization are being analyzed for the periods before and after the MFS went into effect. Understanding the trends in the baseline period is critical to gaining an understanding of whether or not the MFS is associated with changes in access and utilization after the MFS was implemented. Second, trends in utilization and access are being monitored overall and especially for several vulnerable subgroups of the population, including minority, low-income, very old, and rural beneficiaries, as well as for persons living in areas expected to be most affected by the OBRA 1989 changes.

The importance of understanding baseline trends for population subgroups is illustrated by the fact that studies of in-hospital procedures found differences by race before the MFS went into effect (Health Care Financing Administration, 1990a and 1990b; Council Report, 1990). Studies of revascularization procedures also showed differences by gender before the MFS went into effect (Health

Care Financing Administration, 1990a and 1990b; Ayanian and Epstein, 1991). Similarly, geographic differences were observed in the supply of physicians and other providers of care for residents of rural areas compared with urban residents in the period preceding the MFS (Office of Technology Assessment, 1990; Hewitt, 1989). Thus, understanding the effects of the MFS on access to care for vulnerable subgroups of the Medicare population requires an understanding of patterns and trends existing prior to the OBRA 1989 changes in physician payment.

Development of a Monitoring System

A monitoring system has been developed by HCFA to observe utilization changes. The monitoring system is based on a redesign that occurred in the processing of Medicare claims. Beginning in October 1990, claims processing and authorization were reorganized into a system known as the HCFA common working file. Providers continue to send claims to the fiscal agents for processing, but the fiscal agents are required to send the processed claims to one of nine "host sites" in the United States. The host sites review and authorize payment for each claim and provide records of payment authorizations to HCFA on a daily basis. As the claims enter HCFA, they flow into a Medicare data system known as the National Claims History (NCH). The current flow of data permits more timely and more complete data files for administration and evaluation purposes. The data received from the host sites are expected to be more reliable and uniform across the United States than were the several BMAD (Part B Medicare Annual Data) files

developed by HCFA from carrier tabulations for the period 1986-90.

Part B Beneficiary-Based Monitoring System

The NCH is the basic source of Part B utilization data, beginning with services received on January 1, 1992, and later. Computer files were designed for monitoring utilization, with the beneficiary as the unit of analysis. The files contain information for the total Medicare population and for subgroups of the population, aggregated by place of residence of the beneficiary. The system captures data at a time when 100 percent of claims information is accessible from the NCH. Because the beneficiary-based files use 100 percent of all claims information, the data can be aggregated into a number of meaningful subgroupings with cells that have large numbers of observations.

The beneficiary monitoring file also contains data assembled by a number of geographic groupings. First, States are being grouped into four categories according to the expected average fee change from 1991 to 1996, when the MFS will be fully phased in. Second, data for Dade, Los Angeles, and Manhattan counties are being accumulated separately because these three metropolitan areas are expected to show substantial decreases in overall fee rates. Third, data are being assembled using the Human Resource Profile Code groupings, which categorize metropolitan counties into four groups and non-metropolitan ones into six groups (Hewitt, 1989). A further geographic grouping, which is still being developed, will assemble utilization information by Health Professional Shortage Areas. Utilization rates are being devel-

oped for demographic and geographic aggregations, based on information contained in the "denominator" file developed by HCFA. (Utilization information for Medicare enrollees in health maintenance organizations [HMOs] is incomplete. These enrollees are excluded from the analyses.)

Tabulations are being generated to show utilization on a quarterly basis. The information accumulated for each calendar quarter will continue to be updated for four additional quarters, which is expected, in time, to result in complete information by the time updating has ceased.

Part B Physician Monitoring Files

As a complement to the beneficiary-based monitoring files, two separate physician-based monitoring files have been designed to generate information from the NCH. One is the physician/supplier procedure summary file. This file is being used to monitor aggregate changes that occur in the services provided and Medicare payments, within various physician specialty or supplier designations, across several kinds of geographic areas and by place of service. The physician/supplier procedure summary file also uses information from 100 percent of Medicare claims data. The annual file will be updated 6 months after the close of a calendar year.

The other is the physician file that has been designed to contain all claims for roughly a 5-percent sample of physicians who bill Medicare for services, beginning with services provided on January 1, 1992. The unit of analysis will be the performing physician. In 1989, HCFA implemented a national Medicare Physician Identifica-

tion and Eligibility System registry that uniquely identifies physicians serving Medicare beneficiaries. This data base is designed to link all Medicare carrier provider numbers with a unique physician identifier number (UPIN). In April 1991 HCFA required that the UPIN be placed on physicians' claims and in January 1992 began enforcing this requirement, although compliance is not yet complete. (The UPIN is also being required on hospital bills to identify physicians ordering diagnostic tests or requesting consultations and for attending physicians and principal operating surgeons.) A similar file was retrospectively created for 1991 services of a sample of performing physicians whose bills were coded with a UPIN.

In the past, it has not been possible to reliably assemble claims of individual physicians because of carrier-specific differences in assigning provider practice identification numbers. Physicians might have been assigned more than one designated provider number if they practiced in different settings or if they had more than one designated specialty. Several physicians might have been assigned the same provider number if they practiced in a single-specialty group or clinic. Therefore, the UPIN system, when fully operational, will offer the opportunity for monitoring physicians' responses to Medicare's physician payment reform.

When the physician sample file is operational, it will be used to monitor the number of physicians treating Medicare beneficiaries and their Medicare practice characteristics. The major characteristics of a physician's Medicare practice that can be analyzed from the physician sample file are: 1) the number of benefici-

aries a physician treats and the characteristics of the beneficiaries, 2) the volume and types of services provided by the physician, and 3) Medicare payments for services of the physician.

Classification System for Physicians' Services

A workable classification system was needed for the monitoring files. The classification system used in HCFA for paying for physicians' services is known as the HCFA Common Procedure Coding System (HCPCS), which contains all Current Procedural Terminology (CPT) codes as well as HCFA-specific codes. There are over 7,000 individual CPT codes. For monitoring, HCPCS contains more detail than can be used productively, making it essential to institute a grouping system to collapse the codes into a manageable number of categories for analysis.

The Urban Institute developed a type of service classification system for analyzing expenditures for physicians' services under Medicare (Berenson and Holahan, 1990). Their system included 22 mutually exclusive and exhaustive categories of physician services. For monitoring access and utilization under the MFS, a further level of clinical specificity was developed under a joint effort by The Urban Institute and HCFA. The 22 categories were partitioned to distinguish specific categories of procedures and types of medical care. The expanded classification system has 77 "Berenson-Eggers" categories of services. As new codes are approved for payment purposes, they are being incorporated into the classification system.

1993 REPORT TO CONGRESS: SIX ANALYSES

To provide a range of perspectives on access and utilization, six separate analyses were presented in the 1993 Report to Congress. The first two analyses are based on the Medicare Part B monitoring files and present preliminary data for 1992 from claims received as of December 1992. The other four analyses offer data for the baseline period only. The major results are summarized next.

The first analysis uses data from the Part B monitoring files designed with the procedure, physician specialty, or geographic area as the unit of analysis. The 1992 preliminary payment distribution data are compared with data for 1991. (It is estimated that the 1992 data are about 85 percent complete.) Preliminary 1992 data indicate that, in general, the expectations for the MFS are being realized: A greater share of Medicare payments flowed from procedure-oriented services toward primary care-oriented services and from areas where physician earnings were higher toward areas where physician earnings were lower.

Among eight broad types of physician services (medical care, surgery, consultation, diagnostic X-ray, diagnostic laboratory, radiation therapy, anesthesia, and assistants at surgery), the preliminary 1992 data indicate that nationally the share of payments for surgery services fell nearly 8 percent; for anesthesia and assistants at surgery the share fell by a similar percentage. The share for diagnostic radiology fell nearly 5 percent. For medical services the share grew by more than 3 percent while the share for consultation services grew by 25 percent (data not shown).

The distribution of payments among physician specialties changed about as expected: The primary care proportion increased almost 11 percent; the share for all specialties classified as surgical fell by nearly 4 percent; the share for medical specialties grew by about 1 percent; and the proportion for other physician specialties fell about 1 percent. These data indicate that several non-MFS services and providers had large (10 percent or more) increases in their shares. Among these were independent laboratories and ambulance service suppliers (data not shown).

Estimates of State Impacts accompanying the November 25, 1991, Final Rule for the 1992 MFS were that, relative to a continuance of the former payment system, outlays for physicians' services in 1992 would increase in 17 States by 1 percentage point or more, would show virtually no change in 10 States, and would fall by 1 percentage point or more in 24 States and the District of Columbia (*Federal Register*, 1991). These estimates were based largely on the physician analysis file developed for that rule, which simulated 1991 payments from a file of actual 1989 payments, after adjusting for various updates and overpriced procedure reductions. The expected direction (+ or - or 0) in the State's proportion of allowed charges is shown next to each State in Table 1.

Table 1 shows indexed shares of allowed charges in two ways. (The indexed share of allowed charges is the ratio of the State's share of allowed charges in 1992 to the State's share of allowed charges in 1991, multiplied by 100.) The first column of indexed shares represents the ratio of shares of allowed charges for all types of carrier-paid Part B services. The second column represents only the

Table 1

Indexes of Changes in Shares of Medicare-Allowed Charges for Aged and Disabled for Total Part B Services and for Type of Service (TOS) Codes, by State and Within State: Preliminary 1992 to 1991

State (Expected Change)	Preliminary 1992 Allowed Charges Indexes		Type of Service Change in Share of State-Allowed Charges										State (Expected Change)	Preliminary 1992 Allowed Charges Indexes		Type of Service Change in Share of State-Allowed Charges									
	Total	TOS 1-8	1	2	3	4	5	6	7	8	Other	Total		TOS 1-8	1	2	3	4	5	6	7	8	Other		
National (0)	100.0	100.0	+	-	+	-	+	+	-	-	+	Montana (0)	104.7	100.4	+	-	+	-	+	-	-	-	+		
Alabama (-)	101.9	101.3	+	-	+	-	-	+	-	-	+	Nebraska (+)	99.8	99.2	+	-	+	-	+	+	-	-	+		
Alaska (-)	94.5	96.5	+	-	-	-	-	-	-	-	+	Nevada (-)	98.2	98.2	-	-	+	+	+	-	-	-	+		
Arizona (-)	100.4	99.3	-	-	+	+	+	+	-	-	+	New Hampshire (+)	109.3	107.7	+	-	+	-	-	-	-	-	+		
Arkansas (-)	100.4	99.6	+	-	+	-	-	+	-	-	+	New Jersey (0)	103.2	104.5	+	-	+	-	+	+	-	-	-		
California (-)	94.8	93.0	-	-	+	-	+	+	-	+	+	New Mexico (-)	96.9	98.6	+	-	+	-	-	-	-	-	+		
Colorado (+)	101.4	104.3	+	-	+	-	+	+	-	-	-	New York ¹ (-)	97.6	97.5	+	-	+	+	+	+	-	-	+		
Connecticut (-)	100.8	100.7	+	-	+	-	+	+	-	-	-	North Carolina (-)	105.6	105.5	+	-	+	-	+	+	-	-	+		
Delaware (0)	124.5	127.8	-	-	+	-	+	-	-	+	-	North Dakota (-)	104.6	104.8	-	-	+	-	+	+	-	-	+		
Dist. of Columbia (-)	102.3	103.4	+	-	+	-	+	+	-	-	-	Ohio (-)	98.8	98.1	+	-	+	-	-	-	-	-	+		
Florida (-)	101.0	99.4	-	-	+	-	+	-	-	-	-	Oklahoma (0)	100.3	100.1	+	-	+	-	+	-	-	-	+		
Georgia (-)	103.8	103.1	+	-	+	-	+	-	-	-	+	Oregon (0)	102.9	103.3	+	-	-	-	-	+	-	-	+		
Hawaii (-)	96.2	97.6	+	-	+	-	-	-	-	-	-	Pennsylvania (0)	99.4	102.4	+	-	+	-	+	+	-	-	-		
Idaho (+)	103.1	103.2	+	-	+	-	-	-	-	-	+	Puerto Rico (NE)	96.3	96.0	+	-	+	-	-	-	-	-	+		
Illinois (-)	100.7	99.4	+	-	+	-	+	+	-	-	+	Rhode Island (+)	101.0	101.2	+	-	+	-	-	-	+	-	+		
Indiana (0)	103.9	103.9	+	-	+	-	-	+	-	-	+	South Carolina (0)	106.3	108.7	+	-	+	-	-	+	-	-	-		
Iowa (+)	103.6	103.9	+	-	+	-	-	+	-	-	+	South Dakota (0)	104.6	104.8	-	-	+	-	+	+	-	-	+		
Kansas (-)	103.9	102.3	+	-	+	-	+	0	-	-	+	Tennessee (-)	101.9	101.1	+	-	+	-	+	-	-	-	+		
Kentucky (+)	103.8	103.7	+	-	+	-	+	-	-	-	+	Texas (-)	100.9	99.5	+	-	+	-	+	+	-	-	+		
Louisiana (-)	98.6	96.3	+	-	+	-	-	+	-	-	+	Utah (+)	106.5	106.1	+	-	+	-	-	-	+	-	+		
Maine (+)	102.9	102.6	+	-	+	-	-	-	-	-	+	Vermont (+)	104.6	103.0	+	-	+	-	-	-	-	-	+		
Maryland (-)	95.7	94.8	+	-	-	-	-	+	-	-	+	Virginia (+)	102.0	108.6	+	-	+	-	-	-	-	-	-		
Massachusetts (-)	101.6	100.3	+	-	+	-	-	-	-	-	+	Washington (+)	101.8	99.7	-	-	+	-	-	+	-	-	+		
Michigan (+)	100.1	101.3	+	-	+	-	-	-	-	-	-	West Virginia (-)	98.6	96.8	+	-	+	-	-	+	+	-	+		
Minnesota (+)	101.6	101.4	+	-	+	-	-	+	-	-	+	Wisconsin (0)	101.5	101.9	+	-	+	-	+	+	-	-	+		
Mississippi (+)	105.9	105.2	+	-	+	-	-	-	-	-	+	Wyoming (+)	111.1	109.1	-	-	+	-	+	+	-	-	+		
Missouri (+)	101.4	100.8	+	-	-	-	+	-	-	-	+														

¹For the New York State calculations, type of service 9, "Other medical," is included to improve comparability between the 1991 data and preliminary 1992 data.

NOTES: Type of service (TOS) codes: 1 = medical care; 2 = surgery; 3 = consultation; 4 = diagnostic X-ray; 5 = diagnostic laboratory; 6 = radiation therapy; 7 = anesthesia; 8 = assistants at surgery. + = increase, - = decrease, 0 = no change. NE is not estimated.

SOURCE: (Health Care Financing Administration, Third Annual Report to Congress, May 6, 1993; Chapter 2, William Sobaski: Data from 5 percent Part B Medicare Annual Data, 1991; Part B monitoring system, 1992).

eight broad categories of services discussed previously. For the eight broad types of physician services, the preliminary 1992 data indicate that the share of payments increased in 15 of the 17 States expected to have increases, increased in 8 States and the District of Columbia where decreases were expected; and increased in 10 States where virtually no change was expected. Payments decreased in Puerto Rico and in 15 States expected to have decreases and in 2 States where increases were expected.

There are many reasons why the changes in outlay proportions (shown in Table 1) differ from the changes estimated for the Final Rule. The estimates for the Final Rule considered the services covered by the MFS. The changes reported here encompass all carrier-paid types of Part B services. Another factor that may affect these figures is that the actual change in shares for a State reflects changes that occurred from 1991 to 1992 in the number of Part B enrollees and in the number of HMO enrollees. In addition, changes in the supply, participation, and specialty mix of physicians and suppliers billing Medicare and changes in the mix of services provided to Medicare enrollees may affect these figures.

Table 1 also shows changes in allowed-charge shares by type of service within States. The direction of the changes (+ or - or 0) within each State in the share of allowed charges from 1991 to 1992 is shown for the nine broad types of service categories. For medical care (service type 1), the share of carrier-allowed charges increased (+) in all but nine States. For surgical services (type 2), the share of allowed charges fell (-) in all States. This preliminary information will be updated

and final 1992 figures will be included in next year's report.

The second analysis included in the 1993 Report to Congress uses data from the Part B monitoring files, created to analyze changes in utilization with the beneficiary as the unit of analysis. Preliminary 1992 data from the Part B monitoring files were compared with data for 1990 and 1991. First, changes were examined in the distribution of allowed charges, using the classification system developed by The Urban Institute and HCFA.

Table 2 shows the distribution of allowed charges for 1990-92 for 22 categories of services. The findings were similar to those found in the first analysis, that is, there was a substantial shift in the relative share of allowed charges from the procedural categories of physicians' services to the management and evaluation categories. In 1991, visits and consultations comprised 40.2 percent of allowed charges, whereas in 1992 the corresponding figure was 43.7 percent. The indexed share of allowed charges (the ratio of the share in 1992 to the share in 1991) was greater than 100 for each of the categories under visits and consultations, except for inpatient hospital visits, where the share in 1992 was the same as in 1991. In contrast, the indexed share of allowed charges was less than 100 for each of the categories under procedures, except for minor and oncology procedures. Imaging procedures had an overall indexed share of 101.7.

To monitor the impact of the MFS, data for 1990 and 1991 were compared with data for 1992 from the Part B beneficiary monitoring files. Figure 1 shows allowed charges for 11 calendar quarters, from the first quarter of 1990 to the third quarter of 1992. Total physician services are col-

lapsed into three broad categories: Medical (visits and consultations), procedures, and imaging. The figure shows that the percent of allowed charges for procedures declined in the first quarter of 1991 (reflecting earlier payment changes) and again, more sharply, in the first quarter of 1992 as the MFS was implemented.

To understand patterns of utilization of physicians' services in the baseline period, detailed utilization data by demographic and geographic factors were examined for the baseline year 1990. The rate of total physician visits for persons 85 years of age or over was nearly twice the rate for persons age 65 to 74. The visit

rate for women was 8 percent greater than that for men. The visit rate for black beneficiaries was 2 percent lower than the rate for white beneficiaries (data not shown).

In 1990, the rate of physician visits per person was about 14 percent lower in non-metropolitan areas than in metropolitan areas. Rates were highest in the large core counties of metropolitan areas. States in which the MFS is expected to decrease physician fees had higher rates of physician visits per 1,000 beneficiaries than did States in which fees are expected to increase or in which there is no expected change (data not shown).

Table 2

Medicare-Allowed Charges for Part B Services for All Beneficiaries for 1990 and 1991, and Preliminary 1992 Under the Medicare Fee Schedule, by Major Type of Service Category: United States

Service Category	Total Charges in Millions			Percent Distribution			Preliminary Index 1992 ¹ -91
	1990	1991	1992 ¹	1990	1991	1992 ¹	
Total	\$29,922	\$33,038	\$28,519	100.0	100.0	100.0	100.0
Visits and Consultations	11,631	13,276	12,468	38.9	40.2	43.7	108.8
Office Visits	4,027	4,706	4,553	13.5	14.2	16.0	112.1
Inpatient Hospital Visits	3,725	4,007	3,459	12.4	12.1	12.1	100.0
Emergency Room	483	610	547	1.6	1.8	1.9	103.9
Home/Nursing Home	419	493	451	1.4	1.5	1.6	105.8
Specialists	1,711	2,026	1,894	5.7	6.1	6.6	108.3
Consultation	1,094	1,242	1,381	3.7	3.8	4.8	128.8
Chiropractic	173	191	183	0.6	0.6	0.6	110.9
Procedures	13,902	15,132	11,988	46.5	45.8	42.0	91.8
Major Procedure: General	1,704	1,690	1,268	5.7	5.1	4.4	86.9
Major Procedure: Cardiovascular	888	934	734	3.0	2.8	2.6	91.1
Major Procedure: Orthopedic	1,009	1,069	859	3.4	3.2	3.0	93.1
Major Procedure: Eye	2,527	2,930	2,314	8.4	8.9	8.1	91.5
Ambulatory Procedures	1,164	1,286	987	3.9	3.9	3.5	88.9
Minor Procedures	1,181	1,348	1,220	3.9	4.1	4.3	104.8
Oncology	618	719	686	2.1	2.2	2.4	110.5
Endoscopy	1,442	1,657	1,334	4.8	5.0	4.7	93.2
Dialysis	143	164	133	0.5	0.5	0.5	93.9
Tests	1,001	988	563	3.3	3.0	2.0	66.0
Anesthesia	1,301	1,392	1,124	4.3	4.2	3.9	93.5
Imaging	4,389	4,629	4,063	14.7	14.0	14.2	101.7
Standard Imaging	1,889	1,937	1,636	6.3	5.9	5.7	97.8
Advanced Imaging	868	893	816	2.9	2.7	2.9	105.9
Sonography	979	1,069	995	3.3	3.2	3.5	107.8
Imaging/Procedure	653	730	616	2.2	2.2	2.2	97.7

¹1992 data are incomplete. Note that the index was calculated using more significant digits than the percent distributions show.

²Decline in allowed charges for tests was due to a change in payment methodology for electrocardiograms.

SOURCE: (Health Care Financing Administration, Third Annual Report to Congress, May 6, 1993; Chapter 3, Paul Eggers: Data from 5 percent Part B Medicare Annual Data, 1990 and 1991; Part B monitoring system, 1992).

The preliminary data indicate that the relative rates of use of physician services by demographic categories have remained unchanged. As an example, Figure 2 shows the ratio of the rate of physician visits for black beneficiaries to white beneficiaries for 11 calendar quarters. Similarly, Figure 3 shows the ratio of the rate of physician visits in Dade, Los Angeles, and Manhattan counties to the national average. Each of these counties is expected to have substantial decreases in allowed charges under the MFS. Figures 2 and 3 illustrate what has generally been found to be true in the monitoring of beneficiary access and utilization, based on information available to date. The MFS does not appear to have changed access to care or to have exacerbated any of the

differentials that may have existed in the baseline period.

The third analysis in the 1993 report presents baseline data on utilization rates by race for selected in-hospital procedures during the period preceding the implementation of the MFS. Because the MFS was designed to shift outlays from procedure-oriented services toward primary care, baseline utilization of procedure-oriented services is being monitored.

When the Medicare program began in 1966, the overall hospital discharge rate was higher for white beneficiaries than for black beneficiaries. Over time, the hospital discharge rate for black beneficiaries rose faster than the rate for white beneficiaries. By 1986, the rate for black

Figure 1

Medicare-Allowed Charges for All Beneficiaries for Physicians' Services for 1990-91, and Preliminary 1992 Under the Medicare Fee Schedule, by Quarter: United States

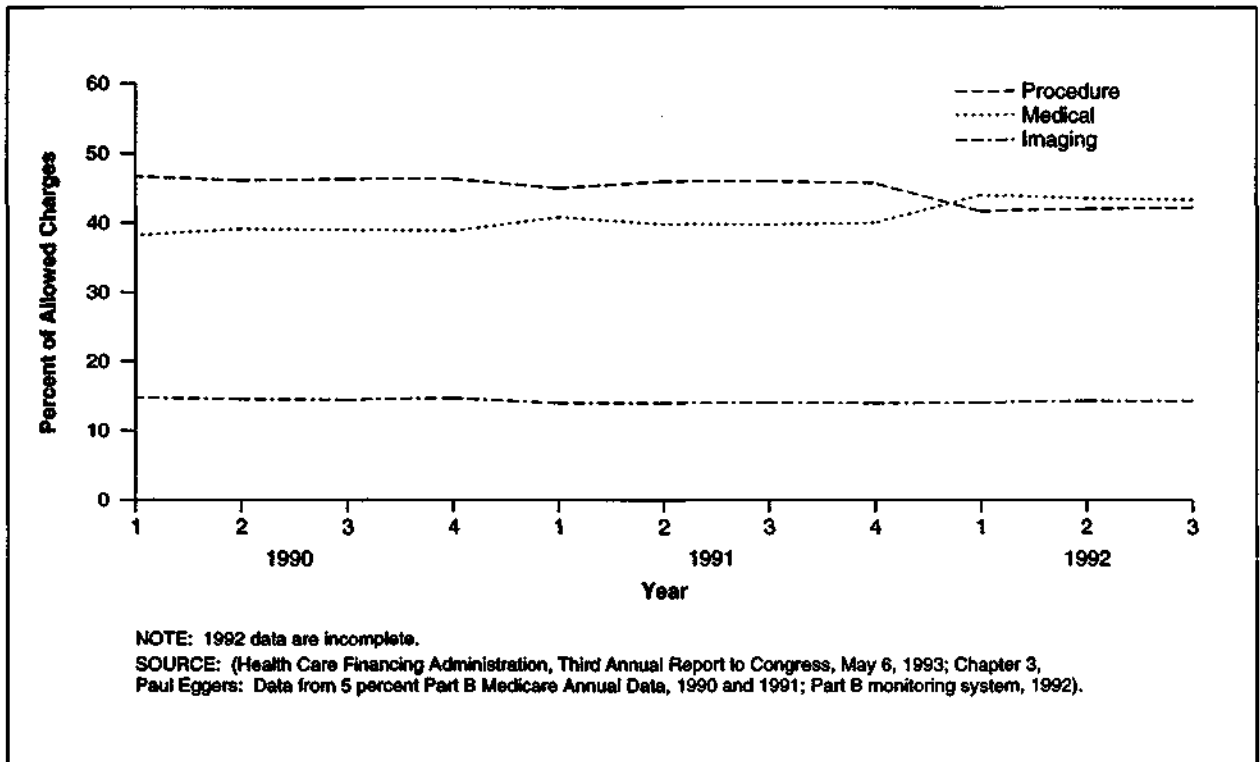


Figure 2
Ambulatory Physician Visits per 1,000 Aged Beneficiaries for 1990-91, and Preliminary 1992 Under the Medicare Fee Schedule, by Race and Quarter: United States

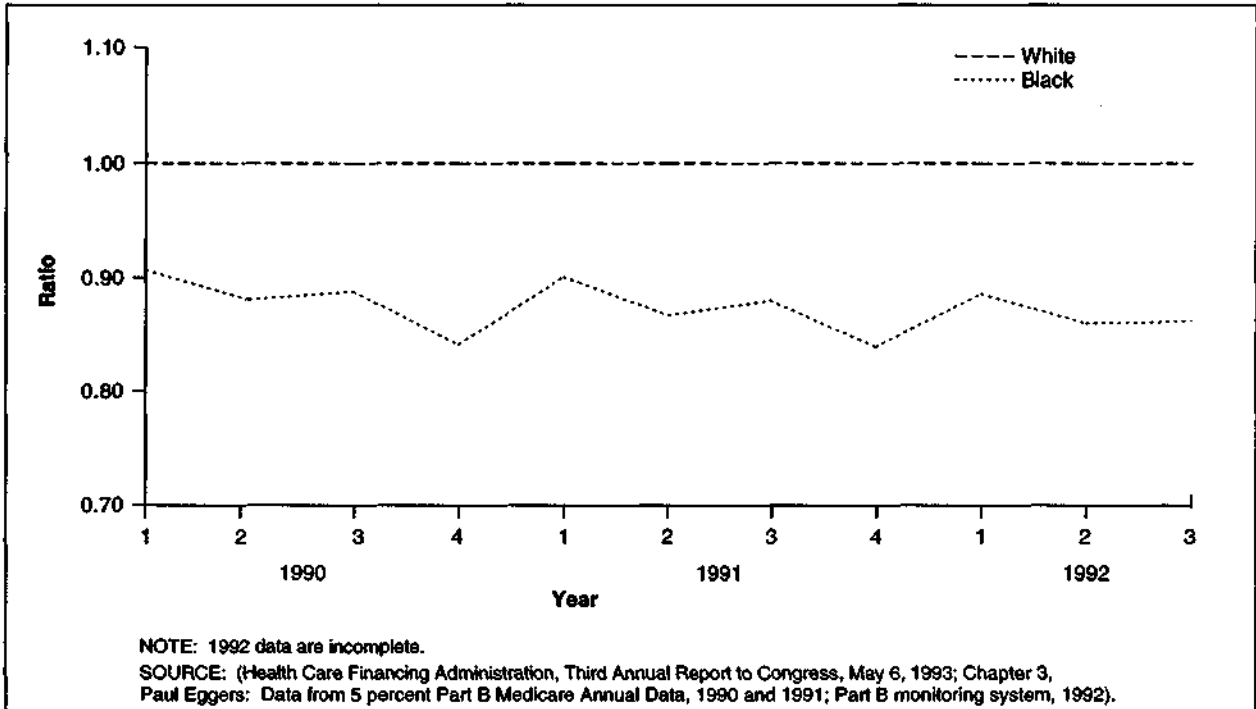
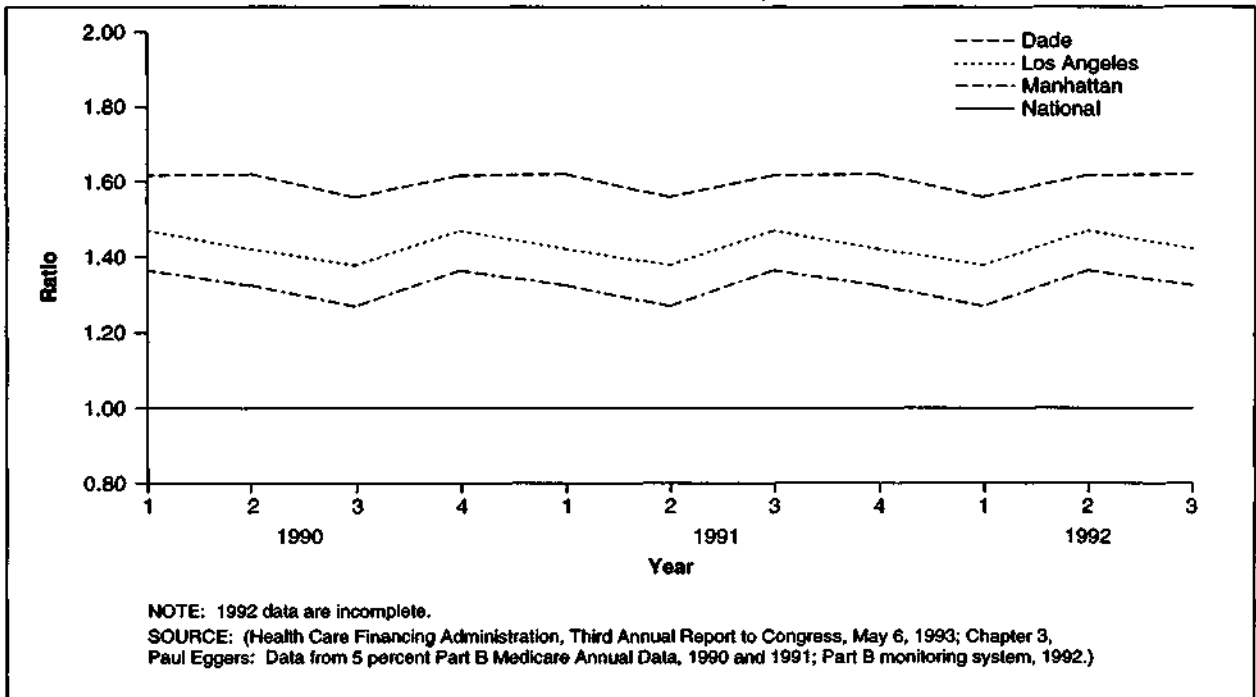


Figure 3
Ambulatory Physician Visits per 1,000 Aged and Disabled Beneficiaries for 1990-91, and Preliminary 1992 Under the Medicare Fee Schedule, by County and Quarter: United States



beneficiaries was 3 percent higher, and in 1990, the rate was 9 percent higher than for white beneficiaries. However, the examination of hospitalizations classified by diagnosis-related groups (DRGs) for the period 1986-90 showed that black beneficiaries had a higher discharge rate for

all medical DRGs combined but a lower discharge rate for all surgical DRGs combined in comparison to white beneficiaries.

Interpreting differences by race in the rate of hospitalization presents a number of difficulties. It is well established that,

Table 3
Number of Discharges, Discharge Rate per 1,000 Medicare Enrollees 65 Years of Age or Over, and 30-Day Post-Admission Death Rate, by Selected Procedure and Race: United States, 1990

Selected Procedure	White Beneficiaries		Black Beneficiaries		Ratio Black to White	30-day Post-Admission Death Rate ²		Ratio Black to White
	Number of Discharges	Discharge Rate ¹	Number of Discharges	Discharge Rate ¹		White Beneficiaries	Black Beneficiaries	
Heart and Vascular Procedures								
Cardiac Catheterization Percutaneous Transluminal Coronary Angioplasty	344,039	13.82	18,689	8.97	0.65	NA	NA	—
Coronary Artery Bypass Graft	88,594	3.56	2,942	1.41	0.40	23.88	27.59	1.16
Pacemaker Implantation	90,749	3.64	2,792	1.34	0.37	32.87	42.11	1.28
Carotid Endarterectomy	75,349	2.97	5,275	2.48	0.84	27.22	32.45	1.19
	43,314	1.73	1,090	0.52	0.30	18.54	23.66	1.28
Orthopedic Procedures								
Reduction of Fracture of Femur	121,773	4.76	4,343	2.02	0.42	58.28	45.71	0.78
Other Arthroplasty of Hip	62,945	2.46	2,474	1.15	0.47	55.88	53.35	0.95
Total Knee Replacement	80,990	3.24	4,256	2.02	0.62	5.52	8.75	1.59
Total Hip Replacement	63,260	2.52	2,408	1.14	0.45	14.71	15.42	1.05
Back Procedures								
Laminectomy	33,852	1.36	1,536	0.74	0.54	11.75	18.53	1.58
Excision of Disk	30,589	1.23	1,289	0.62	0.50	6.38	15.48	2.43
Spinal Fusion	11,387	0.46	581	0.28	0.61	18.87	20.99	1.11
Other Procedures								
Prostatectomy ³	226,416	22.41	16,911	20.44	0.91	9.59	11.31	1.18
Cholecystectomy	131,430	5.25	6,919	3.28	0.62	29.87	39.77	1.33
Partial Excision of Large Bowel	104,224	4.14	7,766	3.68	0.89	70.25	84.43	1.20
Repair of Inguinal Hernia	59,174	2.34	3,489	1.68	0.72	13.75	21.10	1.53
Mastectomy ³	54,284	3.59	3,491	2.69	0.75	5.23	8.13	1.55
Hysterectomy ³	51,258	3.46	2,779	2.19	0.63	7.40	16.41	2.22
Appendectomy	11,157	0.45	691	0.33	0.73	27.39	47.84	1.75
Incidental Appendectomy	10,635	0.43	747	0.36	0.84	30.74	44.77	1.46

¹Per 1,000 enrollees, age-sex adjusted.

²Per 1,000 discharges, age-sex adjusted.

³Discharge rates for prostatectomy based on male enrollees; rates for mastectomy and hysterectomy based on female enrollees.

NOTES: Only aged Medicare enrollees who were not members of health maintenance organizations are included. NA is not applicable.

SOURCE: (Health Care Financing Administration, Third Annual Report to Congress, May 6, 1993; Chapter 4, Marian Gornick and Marshall McBean; Data from Bureau of Data Management and Strategy, Medicare Provider Analysis and Review files).

for some conditions, there are differences by race in risk factors and/or disease prevalence that would be expected to result in different hospitalization or procedure rates. For example, white beneficiaries experience more osteoporosis and are, therefore, at greater risk of hip fracture. Conversely, black beneficiaries experience more hypertension and are at greater risk of stroke.

For the 1993 Report to Congress, hospital discharge rates for 1990 were examined for 19 specific procedures. These procedures included the relatively newer ones such as coronary artery bypass graft and well-established procedures such as prostatectomy. As shown in Table 3, the discharge rate for each of these procedures was higher for white beneficiaries than for black beneficiaries. The ratio of the discharge rate for black beneficiaries to the rate for white beneficiaries is shown. Differences by race in the procedure rates were generally found to be greater for the newer and/or more elective procedures and smaller for the well-established procedures. The 30-day post-admission death rates are also shown in the table. Higher post-admission death rates in a population subgroup may be an indicator that a greater proportion of those hospitalized for the procedures are more severely ill and/or that the quality of care received by one group differs from

that received by the other group. For nearly every procedure studied, the 30-day death rate was higher for black beneficiaries; the exceptions were two procedures (reduction of fracture of femur and other arthroplasty of hip) that are generally performed for hip fracture patients.

Understanding the factors that influence the differences in treatment rates and outcomes requires more information, including knowledge about medical need and appropriateness for these procedures, which is not generally available. These procedures will continue to be monitored as the MFS is implemented.

The fourth analysis presents baseline data about the supply of physicians in the United States during the period 1984-90 (Table 4). The counts of physicians were confined to physician specialties likely to treat Medicare beneficiaries. The analysis shows that the supply of physicians increased from 362,063 in 1984 to 426,332 in 1990. In the United States, for every two physicians in a medical specialty (i.e., not counted as a surgical specialty under the MVPS rules) there was about one physician in a surgical specialty. During the study period, the ratio of physicians in medical specialties to those in surgical specialties rose from 2.04 to 2.26, reflecting an increasing trend in the supply of medical physicians relative to surgeons.

Table 4
Medical and Surgical Physician Supply Trends: United States, 1984-90

Type of Physician	1984	1985	1986	1987	1988	1989	1990
Total Physicians	362,063	371,949	381,833	393,996	409,277	421,587	426,332
Total Medical Physicians	243,051	250,591	258,130	268,415	280,286	289,312	295,471
Total Surgical Physicians	119,012	121,358	123,703	125,581	128,991	132,275	130,861
Ratio of Medical to Surgical Physicians	2.04	2.06	2.09	2.14	2.17	2.19	2.26

NOTE: The counts of physicians include only medical and surgical specialties that are likely to treat Medicare beneficiaries.

SOURCE: (Health Care Financing Administration [HCFA], Third Annual Report to Congress, May 6, 1993; Chapter 5, Lawrence Kucken; Derived from tables prepared by Project HOPE; data from the Area Resource File and HCFA denominator file).

In 1990, the number of physicians per 100,000 beneficiaries in metropolitan areas was more than twice as great as the corresponding number in non-metropolitan areas, with the lowest physician-to-population ratios occurring in thinly populated non-metropolitan areas. It is important to observe that the differences in physician-to-Medicare-population ratios between metropolitan and non-metropolitan areas are of a much greater magnitude than the 14-percent difference found in physician visit rates for beneficiaries living in non-metropolitan areas compared with those living in metropolitan areas. These findings may well reflect the reliance of non-metropolitan beneficiaries on services provided by physicians practicing in metropolitan localities.

The fifth analysis in the Report to Congress uses data from the 1991 Medicare Current Beneficiary Survey (MCBS), based on information collected in round 1 of the MCBS. The MCBS was conducted from September 1991 to December 1991. It was used to provide a baseline picture of issues relating to access to care prior to implementation of the MFS. Information is provided for the Medicare aged and disabled populations. Table 5 illustrates several important measures of access that are available from the MCBS, such as use of preventive services, barriers to care, and satisfaction with care. As shown, persons in lower income categories tended to have lower proportions receiving preventive services and greater proportions with barriers to care, compared with the highest income group. The table also shows that beneficiaries with private supplemental insurance coverage had the highest proportion receiving preventive services and lowest proportion re-

ceiving a health problem and not receiving care.

The analysis of the MCBS also showed that beneficiaries residing in areas expected to have payment increases as a result of the MFS exhibited the greatest proportion having a health problem and not receiving care in the baseline period. The multivariate analysis showed that the strongest determinants of seeing a physician were income, supplemental health insurance, and health status.

The sixth analysis uses data from the National Health Interview Survey (NHIS) for the period 1984-90. The NHIS was used to examine patterns of use of physicians' services for several vulnerable groups within the population 65 years of age or over and 18-64 years of age. The analysis of the baseline period found similar determinants of health care use as found in the MCBS. Elderly persons who report poor health have about 86 percent more physician visits than elderly persons who report excellent health. Elderly persons with insurance supplemental to Medicare (medigap or Medicaid) use significantly more physicians' services than the elderly with Medicare coverage only, even controlling for a number of factors (e.g., age, gender, and health status). And, elderly persons with higher incomes tend to have higher rates of physicians' services (data not shown).

Table 6 presents data averaged across the 1984, 1986, 1989, and 1990 NHIS surveys. The table illustrates the effect of health insurance and income on the rate of use of physicians' services, by activity status. For persons 65 years of age or over who are unable to perform their major activity, the percent of persons with a physician visit and the mean number of visits was lowest for those without insur-

ance supplemental to Medicare. Within the population 18-64 years of age who were unable to perform their major activity, the lowest use of physician visits was for those who were uninsured. Similarly, for those in both age groups with the greatest activity limitations, poor/low-income persons had the lowest use rates.

DISCUSSION

As this article illustrates, for the Annual Reports to Congress HCFA is using a multifaceted approach for monitoring access to and utilization of physicians' services by Medicare beneficiaries. A critical component of the approach is to establish baseline data—from Medicare administrative data, national surveys, and other

sources—about the use and availability of physicians' services, especially for vulnerable subgroups of the Medicare population. Developing an understanding of patterns and trends in the baseline period is clearly necessary, as illustrated by several of these analyses, if we are to monitor effectively the impact of the MFS on access and utilization.

The design of a three-pronged monitoring system has been, for the most part, successful in providing timely data for analysis of Part B utilization. Two of HCFA's new monitoring files have produced preliminary 1992 data for assessing the impact of the MFS, while the third file designed to monitor a sample of physicians' practices is still under develop-

Table 5
Utilization, Access, and Satisfaction Indicators for Aged and Disabled Medicare Beneficiaries, by Income and Supplemental Coverage: United States, 1991

Indicator	Income				Supplemental Coverage			
	\$10,000 or Less	\$10,001 to \$20,000	\$20,001 to \$35,000	\$35,001 or More	None	Medicaid	Private	Other or Combination
	Percent				Percent			
Preventive Use								
Had Flu Shot in Previous Winter	33.2	*41.4	*47.2	53.5	26.9	30.2	**44.6	*41.0
Ever Had Pneumonia Vaccine	18.7	*21.0	24.4	28.0	15.1	12.0	**23.1	*20.6
Women with Mammogram in Previous Year	30.0	*37.3	*45.3	53.0	23.1	*30.0	**41.0	*38.7
Women with Pap Smear in Previous Year	37.5	*49.1	56.5	59.6	27.5	*35.8	**51.6	*41.6
Barriers to Care								
Reported a Health Problem and Did Not Receive Care Of Those, Percent	15.1	*9.7	*6.9	4.2	13.9	*18.2	**7.7	11.6
Reporting a Financial Barrier	60.2	51.6	43.9	38.3	63.6	*48.1	**52.7	60.8
Satisfaction With Care								
Satisfied With:								
Quality of Medical Care	92.9	*94.2	95.3	96.2	93.5	94.1	94.7	91.1
Availability of Medical Care	94.1	93.9	94.8	93.2	94.7	95.1	93.9	92.2
Ease of Getting to Doctor	88.1	*92.5	95.1	95.2	90.7	*84.5	**93.5	89.4
Costs of Medical Care	66.7	*67.2	74.4	77.4	63.4	*79.9	**70.2	68.3

*Significantly different from those with incomes over \$35,000 ($p < .05$).

**Significantly different from those with Medicare coverage only ($p < .05$).

NOTE: Age-adjusted using the direct method of standardization.

SOURCE: (Health Care Financing Administration, Third Annual Report to Congress, May 6, 1993; Chapter 6, Margo Rosenbach and Joyce Huber, Center for Health Economics Research: Data from the Medicare Current Beneficiary Survey, Round 1 data).

ment. It is expected that these monitoring files will support increasingly effective monitoring analyses.

It was important to enhance HCFA's administrative data capabilities with survey data to gain a better perspective on issues relating to access and utilization. Both the MCBS and the NHIS helped broaden the perspective on the relationship between beneficiary characteristics and access and utilization of physicians' services. Data from these surveys underscore what is becoming generally well known, that health insurance can play a key role in access to care. Persons with similar health status and similar activity limitations differ in barriers to care and in the amounts of health care use, based on their health insurance status. A project is

currently under way in HCFA to test the feasibility of a Medicare Beneficiary Health Status Registry, which would provide better measures of health status and medical need than are available from existing national surveys.

Why black Medicare beneficiaries have lower rates for procedures performed in the hospital but higher rates of overall hospital admissions needs study. Differences by race in the use of inpatient hospital procedural services by Medicare beneficiaries may reflect, to some extent, differences in health status, health insurance supplementation, income, and other factors not well understood, including the appropriateness of the procedures being rendered under Medicare.

Table 6
Percent of Persons with a Physician Visit and Mean Number of Visits per Person, by Selected Sociodemographic Characteristics and Activity Status: Average of 1984, 1986, 1989, and 1990

Sociodemographic Characteristic	Activity Limitation Status					
	Not Limited		Limited		Unable to Perform Major Activity	
	Percent with a Physician Visit	Mean Number of Visits	Percent with a Physician Visit	Mean Number of Visits	Percent with a Physician Visit	Mean Number of Visits
Health Insurance Status						
65 Years of Age or Over ¹	79	5.8	91	11.2	93	20.4
Medicare Only	69	4.7	85	9.2	90	19.0
Medicare and Other Public Program	82	7.2	91	12.7	95	24.6
Medicare and Other Coverage	81	6.0	93	11.5	95	20.6
18-64 Years ²	69	3.9	86	10.2	91	19.8
Public Program	77	6.1	90	12.6	92	18.5
Insured But Not Public Program	72	4.1	88	10.3	93	23.4
Uninsured	54	2.6	76	7.6	84	15.2
Income Level						
65 Years of Age or Over	79	5.8	91	11.2	93	20.4
Poor/Low Income	76	5.6	89	11.0	92	19.7
Not Poor	81	6.0	93	11.4	94	21.4
18-64 Years	69	3.9	86	10.2	91	19.8
Poor/Low Income	64	3.6	83	9.7	89	17.8
Not Poor	71	4.1	88	10.5	93	22.6

¹Includes persons with insurance other than Medicare and unknown insurance.

²Includes persons with unknown insurance.

SOURCE: National Center for Health Statistics, Division of Health Interview Statistics: Data from the National Health Interview Survey; prepared by Renee Mentnech, Health Care Financing Administration.

The set of analyses summarized here has permitted the Secretary of Health and Human Services to report to the Congress in 1993 that, from the data available to date, the implementation of the MFS does not appear to have had a detrimental effect on beneficiaries' use of and access to care nor has it exacerbated any of the differentials in access that may have existed before the MFS went into effect. OBRA 1989, recognizing the importance of Medicare physician payment reform, directs the PPRC to comment on the Secretary's reports and to offer recommendations to the Congress. In addition, the PPRC conducts its own monitoring activities (Physician Payment Review Commission, 1993).

Measuring beneficiary access and utilization of physicians' services will continue to be assessed in future reports to Congress. The analyses described here will be updated. It is also expected that new analyses will be designed to provide additional insights.

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