# Health Care Financing Trends

## Medicare expenditures for physician and supplier services, 1970-88

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*The trend data in this article focus on Medicare expenditures and allowed charges for physician and supplier services rendered during the period from 1970 through 1988. A brief overview is presented on the provisions of the new Medicare physician payment system mandated by Congress and scheduled to be phased in starting January 1, 1992. The data provide one of the baselines that could be used for measuring and evaluating the impact of the new Medicare payment system for physician services.*

## Introduction

Presented in this article are Medicare expenditure data for physician and supplier services provided to beneficiaries during selected calendar years 1970-88. Trend data for these years on the gross national product, national health care expenditures, total Medicare expenditures, and Medicare physician expenditures (excluding supplier services, except for independent laboratories) are shown in Table 1. Trend data by type of Medicare provider are shown in Table 2 for the period 1970-88 (physician data shown include supplier services). For the years 1984-88, trend data on Medicare physician and supplier services are shown by: distribution of Medicare program payments and beneficiary liability (Table 3); assignment rate by State of residence of the beneficiary (Table 4); allowed charges by physician specialty (Table 5); and allowed charges by place of service (Table 6). The selection of calendar year 1984 as the base year for these tables is related to the significance of the implementation (on July 1, 1984) of the Deficit Reduction Act (DEFRA) of 1984, which is discussed later in the article.

Physician services provided by doctors of medicine and osteopathy are covered by Medicare Part B supplementary medical insurance (SMI). In addition, Part B also pays for specified covered services provided by limited license practitioners, i.e., doctors of dentistry or of dental oral surgery, chiropractors, doctors of podiatry or surgical chiropody, and doctors of optometry—and for covered services and supplies provided by suppliers, i.e., medical supply and ambulance companies, independent laboratories (billing independently), portable X-ray suppliers (billing independently), voluntary health and charitable organizations, and pharmacies. SMI also helps pay for covered services received from certain specially qualified practitioners who are not physicians. These practitioners, who must meet Medicare standards, include certified registered nurse anesthetists, certified nurse midwives, physician assistants, and clinical psychologists.

Physician and supplier services covered by the Medicare Part B program include: diagnosis; therapy; surgery; consultation; home, office, and institutional visits; diagnostic X-ray tests; X-ray therapy; outpatient hospital diagnostic services; outpatient physical therapy and speech pathology; rental or purchase of durable medical equipment; surgical dressings, splints, casts, and other devices used for reduction of fractures and dislocations; ambulance services; institutional and home dialysis; prosthetic devices; and rural health clinic services.

Since its inception, the Medicare program has been paying physicians and suppliers, for the most part, on the basis of allowed charges for each unit of service rendered (i.e., fee for service). For covered physician services, Medicare pays 80 percent of the allowed charge after the beneficiary has met the annual deductible amount ($75 beginning in 1982). The allowed charge is the lowest of the physician's actual charge, customary charge, or prevailing charge. The customary charge is the physician's Medicare charge during the previous fee-screen year for a particular service furnished to all patients. The prevailing charge is the charge at the 75th percentile in an array of customary charges made for similar services by like physicians in the same locality during the previous year. Since 1975, the rate at which the prevailing charge can increase has been limited to the rate of increase in the Medicare Economic Index (MEI), which reflects the physician's cost of doing business.

Medicare allows physicians to determine how they will be paid for covered services rendered to Medicare beneficiaries. If the physician elects to be paid directly by the Part B carrier (the fiscal agent authorized by Medicare to determine amounts of payment due and to make such payments for covered services), the payments are deemed "assigned" and the physician agrees to accept, as payment in full, the amount the carrier determines as reasonable, i.e., the allowed charge. The program reimburses 80 percent of the allowed charge (after the beneficiary has met the annual deductible amount), and the beneficiary is responsible for the 20-percent coinsurance amount required by law. If the physician does not accept assignment, the patient is responsible for the entire submitted charge and must submit the bill to the carrier for reimbursement. In such cases, the beneficiary is paid the Medicare benefit amount but is responsible for paying the physician the difference between the physician's submitted charge and the Medicare allowed charge (balance billing), as well as any deductible or coinsurance amounts. Beginning September 1, 1990, all physicians who bill Medicare (including those who do not accept assignment) are responsible for filing all claims for Medicare beneficiaries.

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For the period 1970-84, the average annual rate of growth (AARG) of Medicare expenditures for physician services (excluding supplier services) was about 17 percent. To constrain the rate of growth in Medicare Part B physician expenditures, DEFRA 1984 placed a freeze on Medicare physician payment levels for a 15-month period beginning July 1, 1984. The freeze period payment levels were extended by Congress through April 1986 for participating physicians and through December 1986 for nonparticipating physicians. DEFRA also created the Medicare participating physician (MPP) and supplier program. Under the MPP program, physicians who accept assignment for all Medicare services for that year thereby agree to accept the allowed charge as payment in full. A physician who does not agree to become an MPP may accept assignment on a case-by-case basis. Medicare provided incentives to encourage physicians to participate in the MPP program. The effort (DEFRA 1984) resulted in a substantial increase in the rate of physician allowed charges assigned, reaching approximately 77 percent in 1988; in 1984, the assignment rate was 61 percent.

Congress passed the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985 and the Omnibus Budget Reconciliation Acts (OBRA) of 1986 and 1987 mandating the Secretary of Health and Human Services to study and develop a relative value scale for paying physicians under the Medicare program. The primary concern of Congress was to control escalating physician costs in the Medicare program.

In 1989, Congress passed OBRA 1989 (Public Law 101-239), which mandated the implementation of a new payment system (beginning in January 1992, with a 4-year transition period) for physician services under the Medicare program. The cornerstone of the Medicare physician payment reform is the replacement of Medicare's current "customary, prevailing, and reasonable" charge payment system with a standardized physician payment schedule. OBRA 1989 physician payment reform consists of three basic characteristics: the Medicare fee schedule (MFS), the Medicare volume performance standard (MVPS), and balance billing liability protection for the Medicare beneficiary.

The first basic characteristic provides that MFS payments for physician procedures will be based on a resource-based relative value scale. The process for determining an MFS payment is summarized below:

- The national relative value (RV) for each service will be the sum of the relative value units (RVUs) representing physician work, physician practice expenses, and the cost of professional liability insurance (i.e., malpractice insurance).
- The physician work, practice expenses, and malpractice components will comprise different proportions of the total national RV for each service.
- The RVUs of each component of the national RV for each service will be adjusted for geographic locality. Geographic adjustment indices will be applied to the three components (i.e., work, practice expenses, and malpractice insurance) of the national RV of each service.
- The national RV for each service (adjusted for geographic locality differences) will be multiplied by a conversion factor to transform RVUs into dollar payment amounts. A budget-neutral conversion factor will be calculated for 1991 and then updated for 1992. Thereafter, Congress will decide updates on the percent increase in the MEI, which is a measure of physician practice costs, and the MVPS (described later).

The MFS payment for a given procedure ($_i$) in a given geographic locality ($_j$) may be stated, in simplistic algebraic terms, as follows:

$$\text{MFS payment} = CF \times [(RVUw_i \times GPCIw_j) + (RVUpe_i \times GPCIpe_j) + (RVUm_i \times GPCIm_j)]$$

where

| | | |
|---|---|---|
| $CF$ | = | conversion factor to transform RVUs into payment amounts; initially, a single national number will apply to all services paid under the fee schedule, |
| $RVUw_i$ | = | physician work RVUs for the service, |
| $RVUpe_i$ | = | physician practice expenses RVUs for the service, |
| $RVUm_i$ | = | physician malpractice RVUs for the service, |
| $GPCIw_j$ | = | geographic index value reflecting one-fourth of geographic variation in physician work applicable in the locality, |
| $GPCIpe_j$ | = | geographic index value for practice expenses applicable in the locality, and |
| $GPCIm_j$ | = | geographic index value for malpractice expenses applicable in the locality. |

The second basic characteristic establishes MVPS rates of increase for Medicare physician services. The goal of these MVPSs is to involve physicians in the effort to slow the high annual rates of increase in expenditures by having them evaluate more carefully the services they provide, with an eye toward eliminating those that are inappropriate or ineffective. In fiscal year 1990, there was a single performance standard, but in subsequent years there may be separate standards for surgical services, nonsurgical services, and any category determined to be appropriate. The fiscal year 1990 performance standard rate of increase of 9.1 percent was announced in December 1989. The updating of the conversion factor used in determining the MFS payment will be based upon adherence to MVPS rates of increase.

The third basic characteristic provides that Medicare beneficiary financial protection from balance billing charges in excess of the MFS will be improved by limiting the total amounts that physicians can charge Medicare beneficiaries. Under OBRA 1989, charges for unassigned Medicare services in 1991 cannot exceed 125 percent of the MFS amount for nonparticipating physicians. (OBRA 1990 changed the limit applicable to evaluation and management services in 1991 to 140 percent.) Charges for unassigned Medicare services cannot exceed 120 percent of the MFS amount for nonparticipating physicians in 1992 and 115 percent in 1993 (and subsequent years).

## Table 1

## Gross national product (GNP), national health care (NHC) expenditures, national physician expenditures, Medicare expenditures[1], and Medicare physician expenditures: Selected calendar years 1970-88

| | | NHC expenditures[2] | | | | | Medicare expenditures[2] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | | Total NHC physician[3] | | | Total Medicare | | | Medicare physician expenditures[3] | | | | |
| Calendar year | GNP in billions | Amount in billions | Relative index[4] | Amount in billions | Relative index[4] | Percent of NHC | Amount in billions | Relative index[4] | Percent of NHC | Amount in billions | Relative index[4] | Percent of NHC expenditures | Percent of Medicare expenditures | Percent of total physician expenditures |
| 1970 | $993 | $74.4 | 100 | $13.6 | 100 | 18.3 | $7.5 | 100 | 10.1 | $1.6 | 100 | 2.2 | 21.3 | 11.8 |
| 1975 | 1,549 | 132.9 | 179 | 23.3 | 171 | 17.5 | 16.3 | 217 | 12.3 | 3.4 | 212 | 2.6 | 20.9 | 14.6 |
| 1980 | 2,732 | 249.1 | 335 | 41.9 | 308 | 16.8 | 36.4 | 485 | 14.6 | 7.9 | 494 | 3.2 | 21.7 | 18.9 |
| 1981 | 3,053 | 285.2 | 383 | 54.8 | 404 | 19.2 | 44.7 | 596 | 15.7 | 9.7 | 606 | 3.4 | 21.7 | 17.7 |
| 1982 | 3,166 | 321.2 | 432 | 61.8 | 454 | 19.2 | 52.4 | 698 | 16.3 | 11.4 | 690 | 3.5 | 21.8 | 18.4 |
| 1983 | 3,406 | 355.1 | 478 | 68.4 | 503 | 19.3 | 58.8 | 784 | 16.6 | 13.4 | 837 | 3.8 | 22.8 | 19.6 |
| 1984 | 3,765 | 387.4 | 521 | 75.4 | 554 | 19.5 | 64.4 | 859 | 16.6 | 14.7 | 919 | 3.8 | 22.8 | 19.5 |
| 1985 | 3,998 | 420.1 | 565 | 74.0 | 544 | 17.6 | 70.1 | 935 | 16.7 | 16.6 | 1,038 | 4.0 | 23.7 | 22.4 |
| 1986 | 4,232 | 452.3 | 608 | 82.1 | 604 | 18.2 | 76.9 | 1,025 | 17.0 | 18.8 | 1,175 | 4.2 | 24.4 | 22.9 |
| 1987 | 4,516 | 492.5 | 662 | 93.0 | 684 | 18.9 | 82.9 | 1,105 | 16.8 | 21.6 | 1,350 | 4.4 | 26.1 | 23.2 |
| 1988 | 4,874 | 544.0 | 731 | 105.1 | 773 | 19.3 | 90.5 | 1,207 | 16.6 | 24.2 | 1,513 | 4.4 | 26.7 | 23.0 |
| | | | | | | | Average annual rate of growth | | | | | | | |
| 1970-84 | 10.0 | 12.5 | — | 13.0 | — | — | 16.6 | — | — | 17.2 | — | — | — | — |
| 1984-88 | 6.7 | 8.9 | — | 8.7 | — | — | 8.9 | — | — | 13.3 | — | — | — | — |
| 1970-88 | 9.2 | 11.7 | — | 12.0 | — | — | 14.8 | — | — | 16.3 | — | — | — | — |

[1]Expenditures shown in this table, as reported by the Office of the Actuary (OACT), are substantially higher than the corresponding program payments reported in this article. The difference is due, for the most part, to OACT's process of projecting total payment based on a complete (100 percent) population of bill records. The program payments reported in this article reflect only those bill records received and processed by the Health Care Financing Administration as of a given processing cutoff date.
[2]Represents expenditures aggregated on an incurred basis (when the claim was paid).
[3]Excludes expenditures for supplier services, with the exception of independent laboratories.
[4]Relative index for 1970 = 100.

SOURCE: Health Care Financing Administration, Office of the Actuary.

The new Medicare payment system for physician services mandated by Congress has the following objectives:

- To slow and constrain the annual growth in Medicare physician expenditures.
- To eliminate or cut back on services or procedures that are found to be ineffective or inappropriate.
- To standardize, simplify, and make more predictable the payments for services.
- To reduce the variation in payments among the physicians and geographic localities.

# Data highlights

## Physician expenditures

For the period 1970-88, the data presented in Table 1 show trends in the growth of the gross national product (GNP), total national health care (NHC) expenditures, total national physician expenditures, total Medicare expenditures, and Medicare physician expenditures. The indices displayed in Figure 1 show graphically the divergence in the growth patterns of the different categories of health care expenditures since 1970.

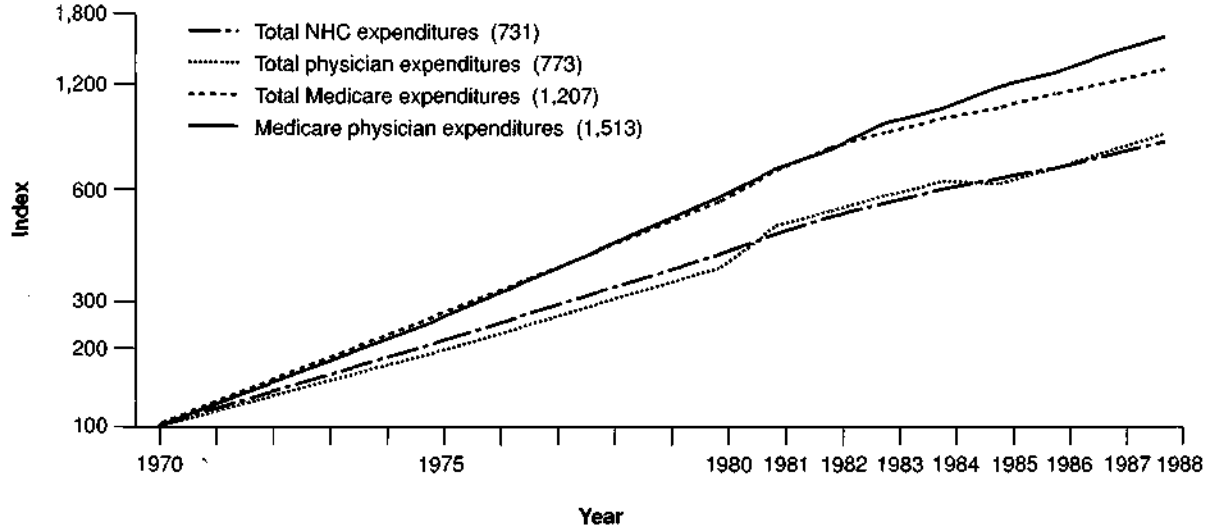
It should be noted, however, that the expenditures for physician services (as shown in this table) do not include expenditures for supplier services, with the exception of expenditures for services provided by independent laboratories.

- Trend data on physician expenditures for 1970-88 show that total national health care expenditures for physician services were $105.1 billion in 1988; in 1970, the figure was $13.6 billion. From 1970-88, the AARG in physician expenditures was 12.0 percent.
- Medicare expenditures for physician services amounted to an estimated $24.2 billion in 1988, or about 23 percent of all physician expenditures in the United States. During the period 1970-88, Medicare physician expenditures increased at an AARG of 16.3 percent. (The Medicare physician expenditures for 1988 shown in Table 1 exclude supplier services of about $3.0 billion).
- Medicare physician expenditures, as a proportion of all Medicare expenditures, increased from 21.3 percent in 1970 to 26.7 percent in 1988. Medicare physician expenditures, as a proportion of total NHC expenditures, increased from 2.2 percent in 1970 to 4.4 percent in 1988.
- The growth of expenditures shown in Table 1 and Figure 1 highlight the rapid growth of Medicare physician expenditures relative to other health care expenditures. During the period 1970-88, the AARG in Medicare physician expenditures of 16.3 percent exceeded the rates of growth in: total Medicare expenditures by 10.1 percent (AARG = 14.8 percent), national physician expenditures by 35.8 percent (AARG = 12.0 percent), total NHC expenditures by 39.3 percent (AARG = 11.7 percent), and GNP by 77.2 percent (AARG = 9.2 percent).

**Figure 1**

**Relative growth in total national health care expenditures, physician expenditures, total Medicare expenditures, and Medicare physician expenditures: Selected calendar years 1970-88**

**(Semi-logarithmic scale, 1970=100)**




NOTES:The numbers in parentheses represent 1988 value of index. NHC is national health care.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Decision Support System; data development by the Office of Research and Demonstrations.

## Table 2

### Medicare supplementary medical insurance expenditures[1], relative index, and percent distribution by type of provider: Selected calendar years 1970-88

| Type of provider | 1970 | 1975 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1970-88 | 1984-88 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dollars in millions | | | | | Average annual rate of growth | |
| Total | $1,975 | $4,273 | $18,106 | $19,661 | $22,947 | $26,239 | $30,820 | $33,969 | 17.1 | 16.6 |
| Physicians and suppliers | 1,801 | 3,454 | 14,287 | 15,715 | 17,869 | 19,937 | 23,503 | 25,353 | 15.8 | 12.7 |
| Outpatient facilities[2] | 117 | 652 | 3,387 | 3,450 | 4,304 | 5,144 | 5,903 | 6,549 | 25.1 | 17.4 |
| All other[3] | 57 | 167 | 442 | 496 | 774 | 1,158 | 1,414 | 2,067 | 22.1 | 42.9 |
| | | | | Relative index[4] | | | | | | |
| Total | 100 | 216 | 917 | 995 | 1,162 | 1,329 | 1,561 | 1,720 | — | — |
| Physicians and suppliers | 100 | 192 | 793 | 873 | 984 | 1,106 | 1,305 | 1,408 | — | — |
| Outpatient facilities[2] | 100 | 557 | 2,895 | 2,949 | 3,679 | 4,397 | 5,045 | 5,597 | — | — |
| All other[3] | 100 | 464 | 1,228 | 1,377 | 2,150 | 3,217 | 3,928 | 5,742 | — | — |
| | | | | Percent distribution | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | — | — |
| Physicians and suppliers | 91.2 | 80.8 | 78.9 | 79.9 | 77.9 | 76.0 | 76.3 | 74.6 | — | — |
| Outpatient facilities[2] | 5.9 | 15.3 | 18.7 | 17.5 | 18.8 | 19.6 | 19.2 | 19.3 | — | — |
| All other[3] | 2.9 | 3.9 | 2.4 | 2.5 | 3.4 | 4.4 | 4.6 | 6.1 | — | — |

[1]Expenditures shown in this table, as reported by the Office of the Actuary (OACT), are substantially higher than the corresponding program payments reported in this article. The difference is due, for the most part, to OACT's process of projecting total payments based on a complete (100 percent) count of bill records. The program payments reported in this article reflect only those bill records received and processed in the Health Care Financing Administration as of a given processing cutoff date.
[2]Includes outpatient hospital facilities, end stage renal disease freestanding facilities, rural health clinics, and outpatient rehabilitation facilities.
[3]Includes health maintenance organizations, competitive medical plans and other prepaid health plans, and home health agency (HHA) services covered under supplementary medical insurance. As a result of the Omnibus Reconciliation Act 1980 legislation, most HHA services were covered under the hospital insurance program.
[4]Relative index for 1970 = 100.

*SOURCE: Health Care Financing Administration, Office of the Actuary.*

The data in Table 2 show, by type of provider, Medicare expenditures under the SMI program for services rendered during the period 1970-88.

- SMI expenditures for physician and supplier services have had a large rate of increase since 1970, rising from $1.8 billion in 1970 to $25.4 billion in 1988, an AARG of 15.8 percent.
- Despite the rapid rise in physician and supplier expenditures, the share of SMI expenditures for physicians and suppliers declined from 91 percent ($1.8 billion) of all SMI expenditures ($2.0 billion) in 1970 to 75 percent ($25.4 billion) of all SMI expenditures ($34.0 billion) in 1988.
- Outpatient services (include only expenditures for institutional services; expenditures for physician services not included) rose from 6 to 19 percent of all SMI expenditures.
- Expenditures for outpatient services increased even more rapidly, rising from $117 million in 1970 to $6.5 billion in 1988, an AARG of 25.1 percent. A major factor in this increase was the extension of Medicare coverage to persons with end stage renal disease (ESRD) in 1973. Renal dialysis for persons with ESRD has become a significant component of outpatient expenditures.
- The relative rate of growth in program expenditures (as measured by the indices presented in Figure 2) shows Medicare physician expenditures increased from an index of 100 in 1970 to 1,408 in 1988, or by a factor of more than 14; outpatient expenditures increased by a factor of 56.

## Program and beneficiary liability

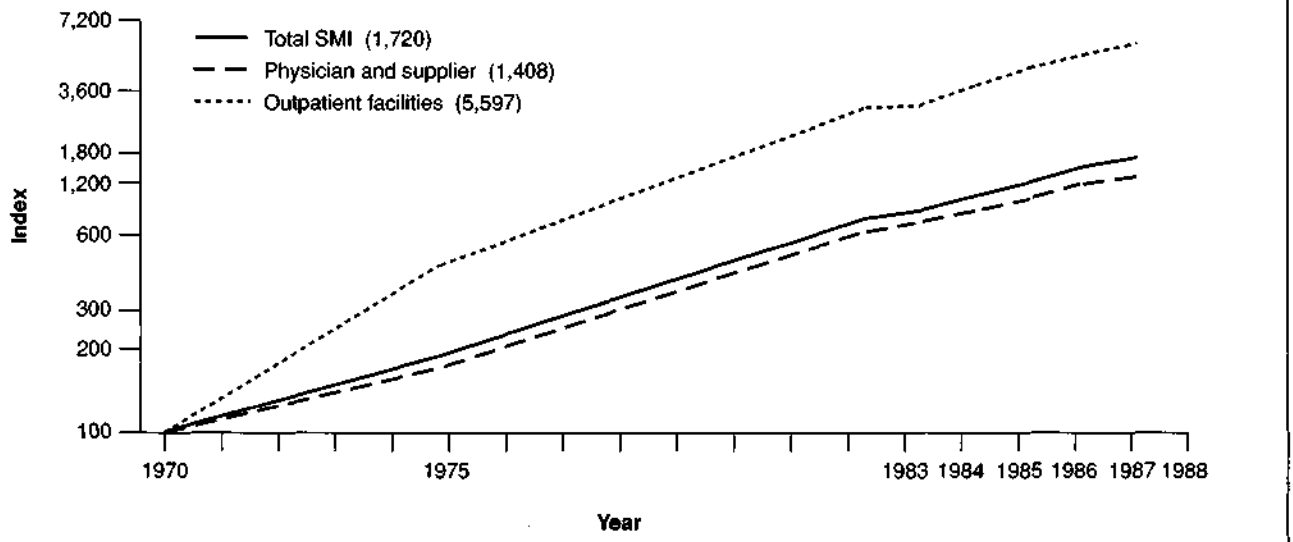
In Table 3, changes from 1984 through 1988 in the patterns of growth associated with the liabilities of both the Medicare program and the Medicare beneficiaries for physician services covered under SMI are shown. Cost-sharing payments made by beneficiaries do not include the SMI premiums.

- The total Medicare program and beneficiary liability for physician and supplier services increased from $24.6 billion in 1984 to $34.8 billion in 1988, representing an AARG of 9.0 percent.
- The AARG in Medicare program payments for physician and supplier services was 10.9 percent, representing the rise in payments from $16.4 billion in 1984 to $24.9 billion in 1988.
- Beneficiary cost-sharing amounts (deductible and coinsurance) increased from $5.5 billion in 1984 to $8.0 billion in 1988, an AARG of 10.0 percent.

**Figure 2**

**Relative growth in total Medicare supplementary medical insurance expenditures, physician and supplier expenditures, and outpatient expenditures, by type of provider: Selected calendar years 1970-88**

**(Semi-logarithmic scale, 1970=100)**




NOTES:The numbers in parentheses represent 1988 value of index. SMI is supplementary medical insurance.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Decision Support System; data development by the Office of Research and Demonstrations.

**Table 3**

**Trends in Medicare program payments and beneficiary cost-sharing liability for physician and supplier services: Calendar years 1984-88**

| Calendar year | Total Medicare and beneficiary liability | Medicare allowed charges | Medicare program payments | Beneficiary cost-sharing liability | | |
|---|---|---|---|---|---|---|
| | | | | Total | Coinsurance and deductible | Balance billing |
| | | | Amount in millions | | | |
| 1984 | $24,639 | $21,919 | $16,426 | $8,213 | $5,493 | $2,720 |
| 1985 | 26,309 | 23,709 | 17,677 | 8,632 | 6,032 | 2,600 |
| 1986 | 28,786 | 26,091 | 19,560 | 9,226 | 6,531 | 2,695 |
| 1987 | 32,316 | 30,115 | 22,698 | 9,618 | 7,417 | 2,201 |
| 1988 | 34,828 | 32,933 | 24,884 | 9,944 | 8,049 | 1,895 |
| | | | Average annual rate of growth | | | |
| 1984-88 | 9.0 | 10.7 | 10.9 | 4.9 | 10.0 | −8.6 |

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Decision Support System; data development by the Office of Research and Demonstrations.

- Beneficiary balance billing liability (the difference between the physician's submitted charge and the charge allowed by Medicare on unassigned claims) decreased from $2.7 billion in 1984 to $1.9 billion in 1988, reflecting the impact of DEFRA 1984, especially MPP incentives to encourage physicians to accept assignment of Medicare claims.
- A simulated balance billing cap of 109.25 percent in 1988 would have saved Medicare beneficiaries about $1.3 billion in balance billing liability; that is, the total balance billing liability would have amounted to $0.6 billion instead of $1.9 billion. (OBRA 1989 mandated a 9.25-percent limit on the amount a physician could charge over the Medicare fee schedule amount on unassigned physician claims.)

## Assignment rates

Table 4 contains program data on the ratio of assigned allowed charges to total allowed charges for physician and supplier services. The assignment rates are shown by the State of residence of the beneficiary for calendar years 1984-88.

- The total assignment rate increased from 61 percent in 1984 to 77 percent in 1988. This growth reflects incentives contained in DEFRA 1984 to encourage physicians to accept assignment.
- There was substantial variability in the assignment rate by State. In 1988, the assignment rate in four States—Idaho, South Dakota, North Dakota, and Wyoming—remained below 50 percent, compared with the national assignment rate of 77 percent.
- In 1988, nine States—Indiana, Kentucky, Maryland, Massachusetts, Michigan, Nevada, New York, Pennsylvania, and Rhode Island—plus the District of Columbia, had an assignment rate of 85 percent or more.

## Physician specialty

Data on allowed charges for Medicare physician and supplier services by physician specialty (Table 5) for calendar years 1984-88 show the following:

- From 1984-88, based on the amount of allowed charges, the leading physician specialties were internal medicine, ophthalmology, radiology, and general surgery. In both 1984 and 1988, these specialties accounted for about 39 percent of all physician and supplier charges (Figure 3).
- During the study period, allowed charges for supplier services increased over 100 percent, going from $2.1 billion in 1984 to $4.3 billion in 1988. In 1988, supplier services accounted for 13.0 percent of all physician and supplier allowed charges; in 1984, it was 11.2 percent.
- The largest increases in allowed charges for the period 1984-88, by physician specialty, were recorded for dermatology (119.5 percent), pathology (115.6 percent), podiatry and surgical chiropody (112.3 percent), clinic and group practice (100.1 percent), and cardiovascular disease (99.0 percent).

## Place of service

The trend data in Table 6 (allowed charges and percent distribution of allowed charges) on the cost of physician and supplier services, by place of service, for calendar years 1984-88 show that:

- Allowed charges for physician and supplier services in the inpatient hospital setting accounted for the highest proportion of allowed physician charges during the study period. However, the proportion dropped substantially from 51.4 percent in 1984 to 38.7 percent in 1988 (Figure 4), reflecting the impact of the Medicare prospective payment system (effective October 1, 1983), which precipitated declines in inpatient hospital admissions and days of care and increased the use of outpatient hospital services. Allowed charges for outpatient hospital services increased 172 percent during this period.
- From 1984-88, allowed charges for services provided in ambulatory surgical centers increased nearly sixfold (rising from $132 million to $790 million) and more than doubled for independent laboratory services (rising 141 percent).

## Table 4

## Medicare assignment rates for physician and supplier services, by State of beneficiary: Calendar years 1984-88

| State of beneficiary | Assignment rate[1] | | | | |
|---|---|---|---|---|---|
| | 1984 | 1985 | 1986 | 1987 | 1988 |
| U.S. total | 0.61 | 0.63 | 0.67 | 0.71 | 0.77 |
| Alabama | 0.65 | 0.72 | 0.74 | 0.79 | 0.84 |
| Alaska | 0.40 | 0.58 | 0.46 | 0.61 | 0.71 |
| Arizona | 0.41 | 0.56 | 0.54 | 0.64 | 0.70 |
| Arkansas | 0.70 | 0.79 | 0.72 | 0.77 | 0.82 |
| California | 0.60 | 0.69 | 0.71 | 0.75 | 0.79 |
| Colorado | 0.47 | 0.56 | 0.57 | 0.63 | 0.66 |
| Connecticut | 0.54 | 0.60 | 0.68 | 0.69 | 0.74 |
| Delaware | 0.61 | 0.79 | 0.75 | 0.82 | 0.81 |
| District of Columbia | 0.79 | 0.80 | 0.82 | 0.83 | 0.86 |
| Florida | 0.58 | 0.63 | 0.63 | 0.70 | 0.76 |
| Georgia | 0.62 | 0.65 | 0.65 | 0.70 | 0.75 |
| Hawaii | 0.48 | 0.61 | 0.62 | 0.70 | 0.75 |
| Idaho | 0.28 | 0.31 | 0.31 | 0.41 | 0.40 |
| Illinois | 0.88 | 0.54 | 0.57 | 0.62 | 0.67 |
| Indiana | 0.40 | 0.50 | 0.54 | 0.62 | 0.87 |
| Iowa | 0.46 | 0.48 | 0.54 | 0.59 | 0.63 |
| Kansas | 0.54 | 0.69 | 0.67 | 0.76 | 0.82 |
| Kentucky | 0.47 | 0.57 | 0.59 | 0.69 | 0.89 |
| Louisiana | 0.56 | 0.59 | 0.60 | 0.69 | 0.79 |
| Maine | 0.73 | 0.74 | 0.75 | 0.81 | 0.84 |
| Maryland | 0.77 | 0.80 | 0.81 | 0.83 | 0.87 |
| Massachusetts | 0.84 | 0.88 | 0.89 | 0.92 | 0.93 |
| Michigan[2] | 0.79 | 0.78 | 0.90 | 0.92 | 0.93 |
| Minnesota | 0.33 | 0.54 | 0.53 | 0.55 | 0.53 |
| Mississippi | 0.58 | 0.63 | 0.59 | 0.65 | 0.72 |
| Missouri | 0.57 | 0.59 | 0.63 | 0.68 | 0.76 |
| Montana | 0.30 | 0.39 | 0.43 | 0.50 | 0.53 |
| Nebraska | 0.32 | 0.39 | 0.41 | 0.46 | 0.54 |
| Nevada | 0.71 | 0.75 | 0.77 | 0.82 | 0.86 |
| New Hampshire | 0.60 | 0.64 | 0.62 | 0.64 | 0.69 |
| New Jersey | 0.61 | 0.62 | 0.63 | 0.64 | 0.70 |
| New Mexico | 0.50 | 0.55 | 0.59 | 0.63 | 0.70 |
| New York | 0.64 | 0.70 | 0.72 | 0.75 | 0.89 |
| North Carolina | 0.55 | 0.61 | 0.62 | 0.67 | 0.75 |
| North Dakota | 0.33 | 0.41 | 0.36 | 0.45 | 0.47 |
| Ohio | 0.44 | 0.54 | 0.56 | 0.63 | 0.73 |
| Oklahoma | 0.37 | 0.44 | 0.48 | 0.56 | 0.63 |
| Oregon | 0.31 | 0.42 | 0.47 | 0.52 | 0.57 |
| Pennsylvania | 0.81 | 0.84 | 0.84 | 0.86 | 0.88 |
| Rhode Island | 0.81 | 0.86 | 0.87 | 0.88 | 0.90 |
| South Carolina | 0.71 | 0.72 | 0.71 | 0.74 | 0.76 |
| South Dakota | 0.28 | 0.34 | 0.32 | 0.35 | 0.46 |
| Tennessee | 0.51 | 0.55 | 0.59 | 0.66 | 0.75 |
| Texas | 0.57 | 0.62 | 0.63 | 0.69 | 0.75 |
| Utah | 0.47 | 0.62 | 0.58 | 0.68 | 0.73 |
| Vermont | 0.62 | 0.60 | 0.62 | 0.73 | 0.78 |
| Virginia | 0.59 | 0.65 | 0.63 | 0.66 | 0.73 |
| Washington | 0.37 | 0.44 | 0.49 | 0.53 | 0.57 |
| West Virginia | 0.60 | 0.65 | 0.68 | 0.74 | 0.81 |
| Wisconsin | 0.42 | 0.54 | 0.53 | 0.56 | 0.61 |
| Wyoming | 0.35 | 0.45 | 0.40 | 0.45 | 0.46 |

[1]Assignment rates are calculated based on the ratio of assigned allowed charges to total allowed charges (which reflects both assigned and unassigned allowed charges) for all physician services. Suppliers' services are excluded from this table.

[2]We are aware that the assignment status of claims from Michigan beneficiaries may have been improperly coded in the Part B Medicare annual data. However, since there was no way to pinpoint the precise coding problems and correct them, 1985 statistics for Michigan may be inaccurate and should be used with caution.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Decision Support System; data development by the Office of Research and Demonstrations.

## Table 5

## Allowed charges and percent distribution for Medicare physician and supplier services, by physician specialty: Calendar years 1984-88

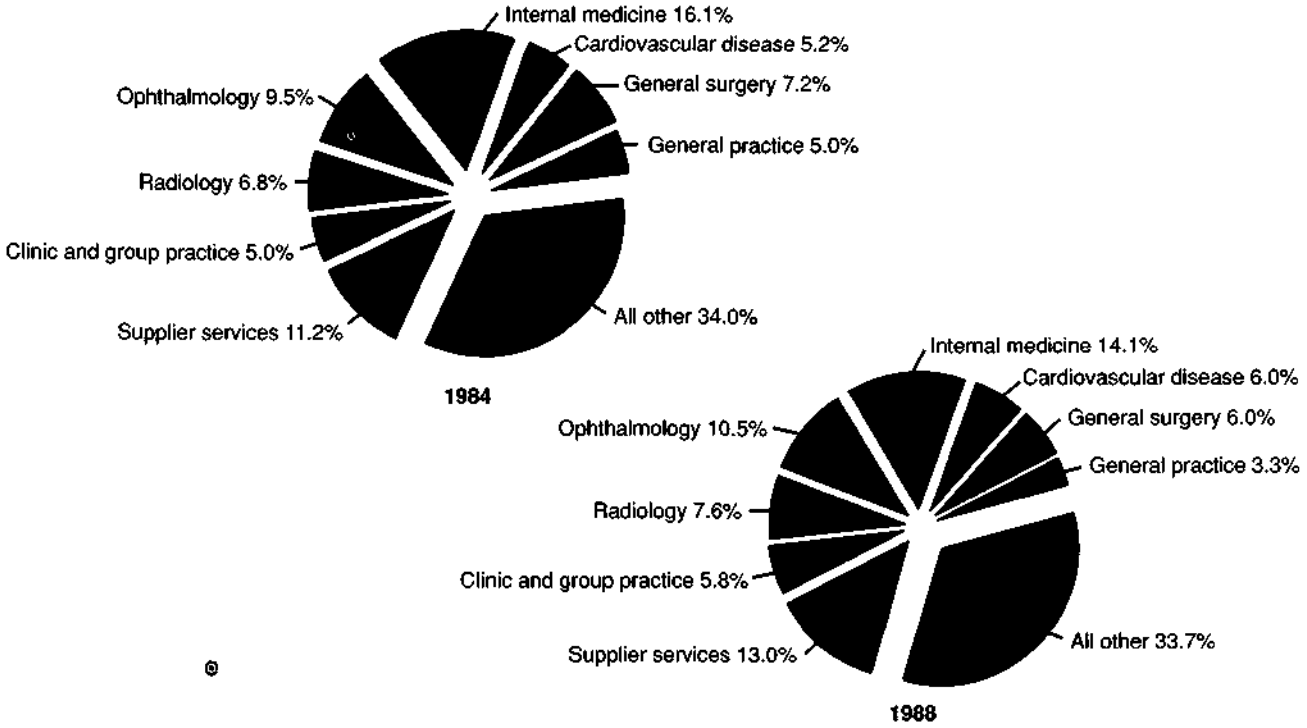
| Physician specialty[1] | 1984 | 1985 | 1986 | 1987 | 1988 | 1984-88 | 1984 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Allowed charges in millions | | | | | Percent change | Percent of allowed charges | | | | |
| Total, all specialties | $19,094 | $23,709 | $26,091 | $30,115 | $32,933 | 72.5 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| General practice | 955 | 1,072 | 1,002 | 1,081 | 1,087 | 13.8 | 5.0 | 4.5 | 3.8 | 3.6 | 3.3 |
| General surgery | 1,375 | 1,638 | 1,717 | 1,918 | 1,976 | 43.7 | 7.2 | 6.9 | 6.6 | 6.4 | 6.0 |
| Otology, laryngology, and rhinology | 172 | 230 | 240 | 274 | 296 | 72.5 | 0.9 | 1.0 | 0.9 | 0.9 | 0.9 |
| Anesthesiology | 764 | 877 | 1,025 | 1,150 | 1,153 | 50.9 | 4.0 | 3.7 | 3.9 | 3.8 | 3.5 |
| Cardiovascular disease | 993 | 1,195 | 1,375 | 1,717 | 1,976 | 99.0 | 5.2 | 5.0 | 5.3 | 5.7 | 6.0 |
| Dermatology | 210 | 325 | 363 | 425 | 461 | 119.5 | 1.1 | 1.4 | 1.4 | 1.4 | 1.4 |
| Family practice | 649 | 844 | 926 | 1,102 | 1,251 | 92.8 | 3.4 | 3.6 | 3.6 | 3.7 | 3.8 |
| Internal medicine | 3,074 | 3,682 | 3,739 | 4,424 | 4,644 | 51.1 | 16.1 | 15.5 | 14.3 | 14.7 | 14.1 |
| Ophthalmology | 1,814 | 2,392 | 2,687 | 3,153 | 3,458 | 90.6 | 9.5 | 10.1 | 10.3 | 10.5 | 10.5 |
| Orthopedic surgery | 878 | 1,091 | 1,151 | 1,334 | 1,383 | 57.5 | 4.6 | 4.6 | 4.4 | 4.4 | 4.2 |
| Pathology | 153 | 218 | 243 | 298 | 329 | 115.6 | 0.8 | 0.9 | 0.9 | 1.0 | 1.0 |
| Radiology | 1,298 | 1,634 | 1,879 | 2,271 | 2,503 | 92.8 | 6.8 | 6.9 | 7.2 | 7.5 | 7.6 |
| Urology | 573 | 752 | 811 | 943 | 955 | 66.7 | 3.0 | 3.2 | 3.1 | 3.1 | 2.9 |
| Chiropractic | 115 | 133 | 130 | 139 | 165 | 43.7 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 |
| Podiatry and surgical chiropody | 248 | 346 | 397 | 455 | 527 | 112.3 | 1.3 | 1.5 | 1.5 | 1.5 | 1.6 |
| Clinic and group practice | 955 | 1,226 | 1,573 | 1,560 | 1,910 | 100.1 | 5.0 | 5.2 | 6.0 | 5.2 | 5.8 |
| Supplier services[2] | 2,139 | 3,009 | 3,350 | 3,749 | 4,281 | 100.2 | 11.2 | 12.7 | 12.8 | 12.5 | 13.0 |
| All other specialties[3] | 2,692 | 2,985 | 3,449 | 4,090 | 4,545 | 68.8 | 14.1 | 12.6 | 13.2 | 13.6 | 13.8 |

[1] Refer to physician specialty code as defined in the Health Care Financing Administration's Part B Medicare annual data users' manual.
[2] Represents supplier services provided by medical supply companies, ambulance service suppliers, independent laboratories (billing independently), portable X-ray suppliers (billing independently), voluntary health or charitable agencies, etc.
[3] Includes clinical diagnostic lab fee screen, allergy, gynecology (osteopaths only), gastroenterology, manipulative therapy (osteopathy only), neurology, neurological surgery, psychiatry, proctology, pulmonary disease, nephrology, geriatrics, etc.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Decision Support System; data development by the Office of Research and Demonstrations.

## Figure 3

**Percent distribution of Medicare allowed charges for physician and supplier services, by physician specialty: Calendar years 1984 and 1988**




SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Decision Support System; data development by the Office of Research and Demonstrations.

## Table 6

**Allowed charges and percent distribution of allowed charges for Medicare physician and supplier services, by place of service: Calendar years 1984-88**

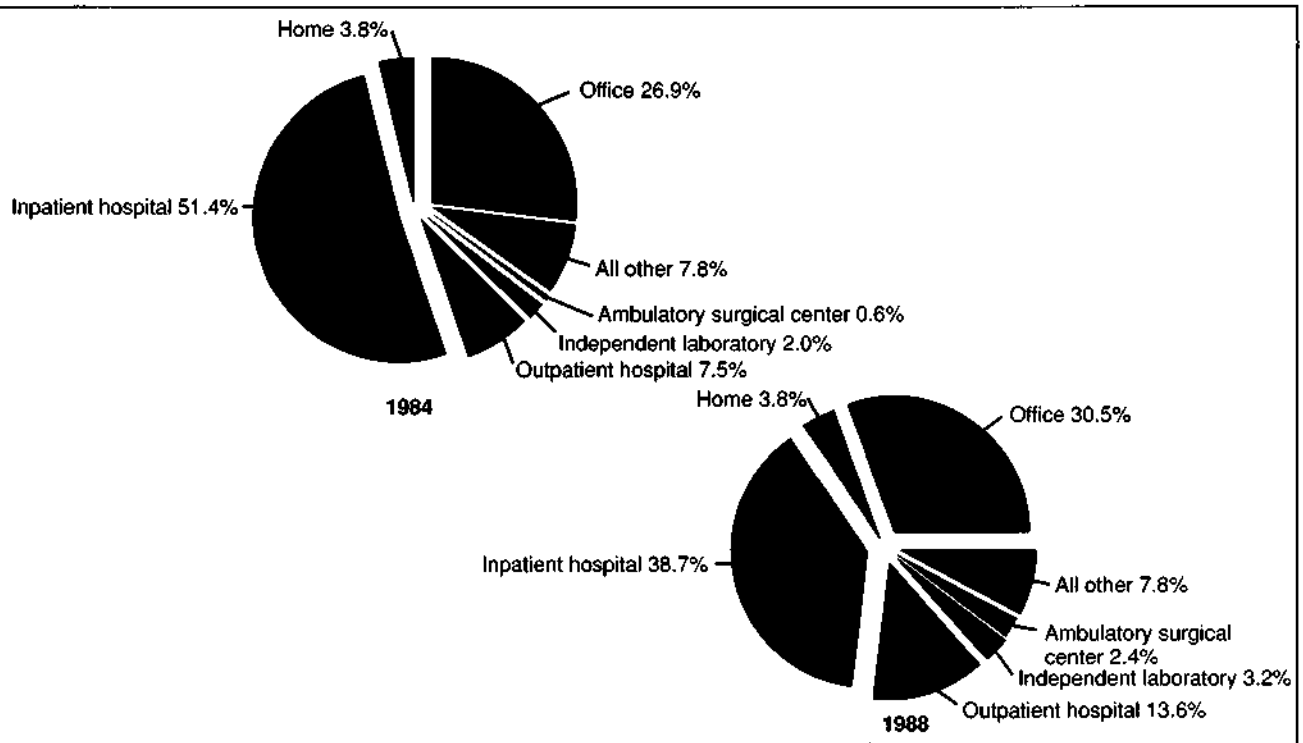
| Place of service | 1984 | 1985 | 1986 | 1987 | 1988 | AARG[1] | Percent change |
|---|---|---|---|---|---|---|---|
| | | | | Total allowed charges in millions | | | |
| Total | $21,919 | $23,709 | $26,091 | $30,115 | $32,933 | 10.7 | 50.2 |
| Inpatient hospital | 11,288 | 10,622 | 11,036 | 12,347 | 12,745 | 3.1 | 12.9 |
| Office | 5,896 | 6,615 | 7,566 | 8,854 | 10,045 | 14.2 | 70.4 |
| Outpatient hospital | 1,644 | 2,608 | 3,287 | 3,915 | 4,479 | 28.5 | 172.4 |
| Home | 833 | 1,043 | 1,018 | 1,114 | 1,251 | 10.7 | 50.2 |
| Independent laboratory | 438 | 593 | 783 | 903 | 1,054 | 24.5 | 140.6 |
| Skilled nursing facility | 351 | 427 | 313 | 331 | 428 | 5.1 | 22.0 |
| Ambulatory surgical center | 132 | 285 | 417 | 663 | 790 | 56.4 | 498.8 |
| Independent kidney center[2] | 44 | 47 | 52 | 60 | 66 | 10.6 | 49.7 |
| Other | 1,293 | 1,470 | 1,618 | 1,927 | 2,075 | 12.5 | 60.5 |
| | | | | Percent distribution | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | — | — |
| Inpatient hospital | 51.4 | 44.8 | 42.2 | 41.0 | 38.7 | — | — |
| Office | 26.9 | 27.9 | 29.0 | 29.4 | 30.5 | — | — |
| Outpatient hospital | 7.5 | 11.0 | 12.6 | 13.0 | 13.6 | — | — |
| Home | 3.8 | 4.4 | 3.9 | 3.7 | 3.8 | — | — |
| Independent laboratory | 2.0 | 2.5 | 3.0 | 3.0 | 3.2 | — | — |
| Skilled nursing facility | 1.6 | 1.8 | 1.2 | 1.1 | 1.3 | — | — |
| Ambulatory surgical center | 0.6 | 1.2 | 1.6 | 2.2 | 2.4 | — | — |
| Independent kidney center[2] | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | — | — |
| Other | 5.9 | 6.2 | 6.2 | 6.4 | 6.3 | — | — |

[1] AARG denotes average annual rate of growth for 1984-88.
[2] Independent kidney disease treatment center.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Decision Support System; data development by the Office of Research and Demonstrations.

**Figure 4**

**Percent distribution of Medicare allowed charges for physician and supplier services, by place of service: Calendar years 1984 and 1988**




SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Decision Support System; data development by the Office of Research and Demonstrations.

## Sources and limitations of data

Trend data (1970-88) on national and Medicare physician expenditures (Tables 1 and 2) represent the most current estimates developed by the Office of the Actuary. These physician expenditures exclude supplier services (except for independent laboratories), represent physician services compiled on an incurred basis, and represent a complete count of all physician expenditures.

The physician and supplier trend data shown in the balance of the article (Tables 3-6) were derived from the Part B Medicare annual data (BMAD) beneficiary file. The BMAD beneficiary file contains line-by-line detail from claims history of services received and allowed charges incurred in a calendar year for a 5-percent sample of aged and disabled beneficiaries. The BMAD beneficiary file was implemented in 1984, and it provides detailed data on place of service, physician specialty, and area of residence of beneficiary. Because the data were generated for a 5-percent sample of Medicare beneficiaries using Part B physician services, the data are subject to sampling variability; sample counts were multiplied by a factor of 20 to estimate population totals.

The BMAD data for each calendar year (1984-88) represent records received and processed in carriers as of March of the following year. Therefore, statistical information derived from the BMAD system is likely to be incomplete at any given time. To adjust for this limitation, total allowed charges and program payments were estimated based on the best source available, to reflect complete population totals and to provide consistency in the data over the study period.

## Acknowledgments

The authors greatly appreciate the technical expertise and consultation of their colleagues, Sherry Terrell, Jesse Levy, Herbert Silverman, Carl Josephson, William Sobaski, Nancy McCall, and Benson Dutton of the Office of Research and Demonstrations.

The authors would also like to thank Will Kirby, Thaddeus Holmes, Brenda Boos, and Beverly Ramsey for providing data and statistical support services, graphic services, and secretarial services, respectively.

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