Use and cost of physician and supplier services under Medicare, 1986

by Charles Helbing and Roger Keene

There is general consensus that the present Medicare physician payment system and related policies should be revised. Therefore, the Health Care Financing Administration and Congress are examining the physician reimbursement system for potential changes that could reverse the inflationary incentives in the present system and induce greater incentives for efficiency and cost savings.

Medicare program data and information are provided to assist health care managers and administrators in the development and analysis of Medicare physician research and policy initiatives. The data may also be helpful in monitoring and measuring the use and cost of Medicare physician and supplier services as related to program performance and administration.

Introduction

Presented in this article are program data and information on the use and cost of physician and supplier services by Medicare beneficiaries during calendar year 1986. In addition, trend data (including actuarial projections) on national and Medicare physician expenditures (excluding supplier services, except for independent laboratories) are presented for selected calendar years, 1965-90.

The use and cost of physician and supplier services are measured by the number of persons served, the number of services, submitted charges, allowed charges, and reimbursements. Beneficiary protection against out-of-pocket expenses (in excess of Medicare cost sharing) is measured by the Medicare assignment rate and reduction rate. Generally, a higher assignment rate and a lower reduction rate on unassigned claims will reduce the beneficiary out-of-pocket liability.

Physician services—those provided by doctors of medicine and osteopathy—represent services covered by Medicare Part B (supplementary medical insurance—SMI). Part B also pays for specified covered services provided by limited licensed practitioners (LLP's)—e.g., 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—e.g., medical supply and ambulance companies, independent laboratories (billing independently), portable X-ray suppliers (billing independently), voluntary health and charitable organizations, and pharmacies.

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 amount the physician most frequently charged in 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, 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 responsible for paying the physician the difference (the reduction amount) between the physician's submitted charge and the Medicare allowed charge, as well as any deductible or coinsurance amounts. In 1986, the average reduction amount was about 28 percent.

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From 1970 to 1986, the average annual rate of growth of Medicare reimbursements for physician services was 16.7 percent. The average annual rate of growth for all national health care expenditures during this period was 12.0 percent. To constrain the rate of growth in Medicare Part B physician expenditures, the Deficit Reduction Act (DEFRA) of 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.

In addition, DEFRA created the Medicare participating physicians and suppliers program (MPP)—that is, physicians who accept assignment for all Medicare services for that year and, thereby, agree to accept the allowed charge as payment in full. Medicare provided incentives to encourage physicians to participate in the MPP program. The effort resulted in a substantial increase in the rate of physician claims assigned, reaching approximately 70 percent in 1986; in 1983, the assignment rate was 52 percent.

There is general consensus that the present Medicare physician payment system and related policies should be revised. Therefore, the Health Care Financing Administration (HCFA) and Congress are examining the physician reimbursement system for potential changes that could reverse the inflationary incentives in the present system and induce greater incentives for efficiency and cost savings.

"Any proposal for reform of the Medicare physician payment policy should be evaluated in terms of several fundamental goals. They are: (1) to improve efficiency and establish fairer relative prices; (2) to provide incentives for appropriate utilization and cost-containment; (3) to help assure that high quality and effective medical care is delivered while discouraging ineffective treatments; and (4) to assure that beneficiaries have access to services. . . . In short, the above may be referred to as the issues of price, volume, intensity, effectiveness, and access" (Roper, 1988).

Overview

- In 1986, 30.6 million persons were enrolled in the Medicare supplementary medical insurance (SMI) program. Of these enrolled persons, 21.4 million beneficiaries (70 percent of all SMI enrollees) received reimbursable physician and supplier services during the year.
- These beneficiaries received an estimated 734.2 million physician and supplier services under Medicare, an average of 34 services per user.
- During 1986, physicians and suppliers submitted charges of $35.2 billion for services rendered to Medicare beneficiaries. Of this total, Medicare allowed charges of $25.4 billion and paid out $19.0 billion ($16.5 billion for physician services and $2.5 billion for supplier services); the difference ($6.4 billion) reflects beneficiary cost-sharing liability (deductible and coinsurance amounts).
- The average allowed charge for Medicare physician and supplier services was $1,185 per user; the average reimbursement was $888 per user.
- In 1986, an estimated 69 percent ($24.3 billion) of all submitted charges ($35.2 billion) for physician and supplier services were from claims taken on assignment.
- The amount of reduction—the difference between submitted charges ($35.2 billion) and allowed charges ($25.4 billion)—amounted to $9.9 billion in 1986, or 28 percent of the total submitted charges. (Based on unpublished program data, an estimated $2.7 billion, or 27 percent of the total reduction amount, represents beneficiary out-of-pocket liability—that is, reduction liability on unassigned claims.)

Data highlights

Physician expenditures

Trend data on physician expenditures for 1970-86 (Table 1 and Figure 1) show the following:

- Total national health care expenditures for physician services were $92.0 billion in 1986; in 1970, the figure was $14.3 billion (Figure 1). From 1970 through 1986, the average annual rate of growth (AARG) in physician expenditures was 12.3 percent. (The national and Medicare physician expenditures shown in Table 1, as estimated by the Office of the Actuary, exclude supplier services, except for independent laboratory services.)
- Medicare reimbursements for physician services amounted to an estimated $19.0 billion in 1986, or about one-fifth of all physician expenditures in the United States ($92.0 billion). During the period 1970-86, Medicare physician expenditures increased at an AARG of 16.7 percent. (The Medicare physician expenditures ($19.0 billion) shown in Table 1 exclude supplier services of about $2.0 billion and are nearly the same as the Medicare physician and supplier expenditures shown in Tables 2-6. This is because of several factors described in the section on sources and limitations of the data: different sources and methods for estimating the data, different updates or completeness of the data, different methodology in measuring the cost of services, sampling variability, etc.)
- Expenditures for physician services under Medicare are projected (by the Office of the Actuary) to grow at an AARG of 13.5 percent, from $19.0 billion in 1986 to $31.5 billion in 1990. The lower projected growth rate reflects a number of factors, including a lower rate of inflation during the projection period, increased competition from outpatient departments, a continued decline in inpatient hospital use, and a larger role for hospital administrators in hospital management.

Table 1

Gross national product (GNP), national health care (NHC) expenditures, national physician expenditures, Medicare expenditures, and Medicare physician expenditures: Selected calendar years 1965-90

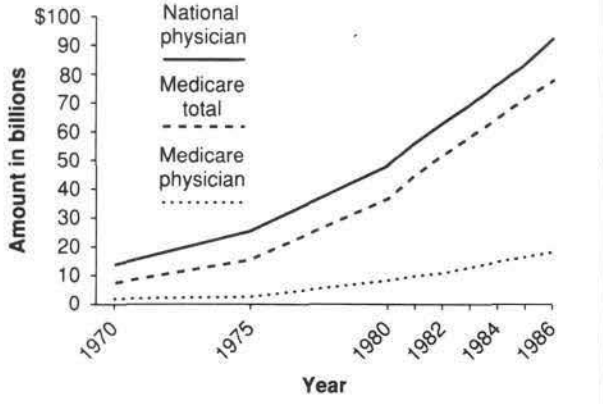
		NHC expenditures[1]					Medicare expenditures[1]						
		Total		Physician[2]			Total			Physician[2]			
Calendar year	GNP in billions	Amount in billions	Percent of GNP	Amount in billions	Percent of GNP	Percent of NHC	Amount in billions	Percent of GNP	Percent of NHC	Amount in billions	Percent of GNP	Percent of NHC expenditures	Percent of Medicare expenditures
1965	$691.0	$41.9	6.1	$8.5	1.2	20.3	—	—	—	—	—	—	—
1970	992.7	75.0	7.6	14.3	1.4	19.1	$7.5	0.8	10.0	$1.6	0.2	2.1	21.3
1975	1,549.2	132.7	8.6	24.9	1.6	18.8	16.3	1.1	12.3	3.4	0.2	2.6	20.9
1980	2,732.0	247.5	9.1	46.8	1.7	18.9	36.8	1.3	14.9	7.9	0.3	3.2	21.5
1981	3,052.6	285.2	9.3	54.8	1.8	19.2	44.7	1.5	15.7	9.7	0.3	3.4	21.7
1982	3,166.0	321.2	10.1	61.8	2.0	19.2	52.4	1.7	16.3	11.4	0.4	3.5	21.8
1983	3,405.7	355.1	10.4	68.4	2.0	19.3	58.8	1.7	16.6	13.4	0.4	3.8	22.8
1984	3,765.0	387.4	10.3	75.4	2.0	19.5	64.6	1.7	16.7	14.7	0.4	3.8	22.8
1985	3,998.1	422.6	10.6	82.8	2.1	19.6	72.3	1.8	17.1	16.9	0.4	4.0	23.3
1986	4,206.1	458.2	10.9	92.0	2.2	20.1	77.7	1.8	17.0	19.0	0.5	4.1	24.5
1987[3]	4,432.2	496.6	11.2	101.4	2.3	20.4	80.8	1.8	16.3	22.0	0.5	4.4	27.2
1988[3]	4,733.6	541.7	11.4	110.7	2.3	20.4	92.4	2.0	17.1	24.9	0.5	4.6	26.9
1989[3]	5,044.3	591.1	11.7	120.9	2.4	20.5	103.2	2.0	17.5	28.0	0.6	4.7	27.1
1990[3]	5,414.3	647.3	12.0	132.6	2.4	20.5	115.8	2.1	17.8	31.5	0.6	4.9	27.2
							Average annual rate of growth						
1970-86	9.4	12.0	—	12.3	—	—	15.7	—	—	16.7	—	—	—

[1]Represents expenditures aggregated on a cash-flow basis (when the claim was paid).
[2]Excludes expenditures for supplier services, with the exception of independent laboratories.
[3]Represents projected estimates.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from National Health Expenditures.

Figure 1

National physician expenditures, Medicare total expenditures, and Medicare physician expenditures: Selected calendar years 1970-86



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

- Medicare physician expenditures, as a proportion of all Medicare expenditures, increased from 21.3 percent in 1970 to 24.5 percent in 1986.

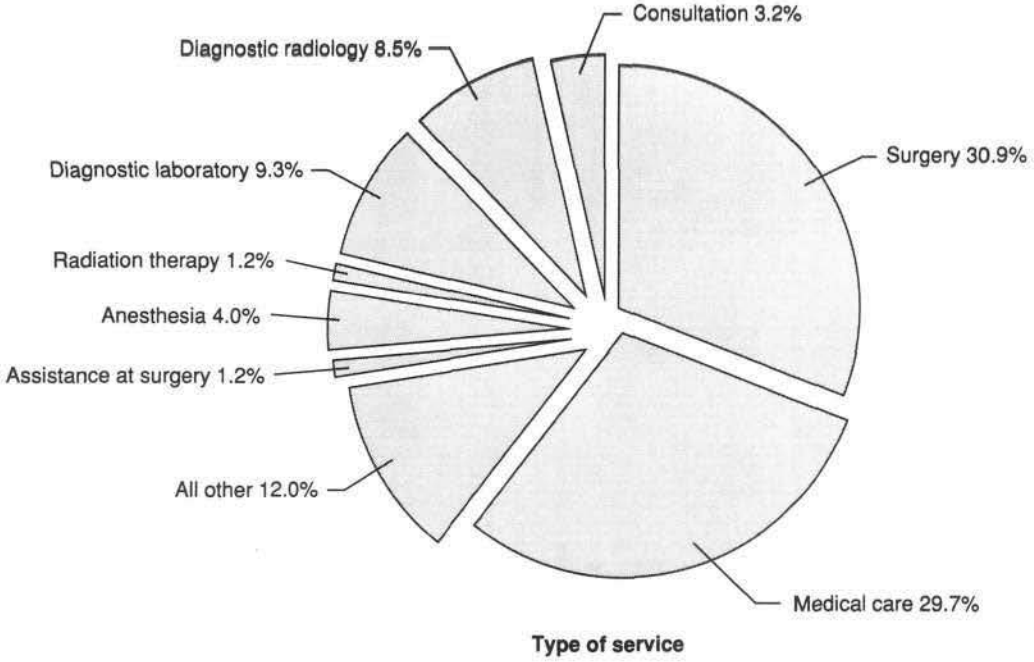
Type of service

Use and cost of physician and supplier services for 1986 are shown by type of service in Table 2, and the percent distribution of allowed charges is given in Figure 2. The program highlights that follow focus, for the most part, on allowed Medicare charges for physician and supplier services.

- The difference between allowed Medicare physician and supplier charges ($25.4 billion) and reimbursements ($19.0 billion) represents beneficiary cost sharing (deductible and coinsurance amounts).
- Medicare physician and supplier allowed charges are concentrated in two types of service. Medical care (primarily physician visits) and surgery accounted for 29.7 percent ($7.5 billion) and 30.9 percent ($7.8 billion), respectively, of all allowed charges for physician and supplier services (Figure 2).
- Diagnostic radiology services accounted for 8.5 percent ($2.2 billion), and diagnostic laboratory services comprised 9.3 percent ($2.4 billion) of all Medicare physician and supplier allowed charges.
- Together, these four types of services represented nearly four-fifths ($19.9 billion) of all allowed Medicare charges for physician and supplier services.
- The average allowed charge per user of physician and supplier services ranged from $136 for diagnostic laboratory services to $894 for radiation therapy.
- The number of services per user varied substantially among the different types of service, ranging from

Figure 2

Percent distribution of Medicare allowed charges for physician and related services, by type of service: Calendar year 1986



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

Table 2

Use and cost of physician and supplier services for Medicare beneficiaries, by type of service: Calendar year 1986

Type of service	Number of users in thousands[1]	Services: Number in thousands	Services: Per user[1]	Submitted charges: Total in thousands	Submitted charges: Assigned in thousands	Submitted charges: Percent	Allowed charges: Amount in thousands	Allowed charges: Per user[1]	Reduction: Amount in thousands	Reduction: Percent	Reimbursement: Amount in thousands	Reimbursement: Per user[1]
Total, all services	21,405	734,158	34.3	$35,245,966	$24,319,717	69	$25,358,342	$1,185	$9,887,624	28	$19,010,005	$888
Medical care	20,806	295,951	14.2	10,290,718	6,477,781	63	7,544,107	363	2,746,612	27	5,332,581	256
Surgery	11,532	38,384	3.3	10,906,185	7,491,850	69	7,825,584	679	3,082,601	28	6,150,792	533
Consultation	5,133	12,197	2.4	1,075,899	811,973	75	800,859	156	275,041	26	616,214	120
Diagnostic radiology	14,325	64,017	4.5	2,908,546	2,013,469	69	2,160,012	151	748,533	26	1,593,840	111
Diagnostic laboratory	17,404	173,666	10.0	3,479,363	2,457,615	71	2,368,469	136	1,110,894	32	1,675,474	96
Radiation therapy	338	5,725	17.0	414,365	314,408	76	301,764	894	112,601	27	240,806	713
Anesthesia	3,156	4,396	1.4	1,775,426	1,029,015	58	1,004,190	318	771,236	43	798,968	253
Assistance at surgery	852	1,117	1.3	486,493	330,360	68	304,300	357	184,193	38	243,957	286
All other[2]	NA	138,705	NA	3,904,971	3,393,226	87	3,049,057	NA	855,914	22	2,357,373	NA

[1]Detail does not sum to total because one person may have many services.

[2]Includes the following physician and supplier services: other medical services, blood services, purchase or rental of durable medical equipment, medical equipment, ambulatory surgery services, kidney donor services, pneumococcal vaccine services, second and third surgical opinions, etc.

NOTE: NA is not available.

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

Table 3

Use and cost of physician and supplier services for Medicare beneficiaries, by place of service: Calendar year 1986

Place of service	Number of users in thousands[1]	Services: Number in thousands	Services: Per user[1]	Submitted charges: Amount in thousands	Submitted charges: Assigned in thousands	Submitted charges: Percent	Allowed charges: Amount in thousands	Allowed charges: Per user[1]	Reduction: Amount in thousands	Reduction: Percent	Reimbursement: Amount in thousands	Reimbursement: Per user[1]
Total, all services	21,405	734,158	34.3	$35,245,966	$24,319,717	69	$25,358,342	$1,185	$9,887,624	28	$19,010,005	$888
Office	19,810	314,167	15.9	9,897,191	5,554,186	56	7,363,912	372	2,533,279	26	5,029,380	254
Home	2,019	58,332	28.9	1,237,195	1,132,041	92	985,909	488	251,286	20	758,686	376
Inpatient hospital	7,861	174,544	22.2	15,465,649	10,813,635	70	10,701,806	1,361	4,763,844	31	8,455,289	1,076
Skilled nursing facility	1,324	16,348	12.3	438,305	358,576	82	313,240	237	125,065	29	224,980	170
Outpatient hospital[2]	11,209	49,076	4.4	4,993,741	3,751,055	75	3,605,539	322	1,388,202	28	2,765,021	247
Independent laboratory	9,421	71,781	7.6	1,151,575	984,391	85	763,698	81	387,877	34	523,391	56
Independent kidney disease treatment center	55	2,094	38.1	84,488	77,960	92	50,992	927	33,496	40	39,469	718
All other[3]	NA	47,816	NA	1,977,822	1,647,874	83	1,573,247	NA	404,575	20	1,213,789	NA

[1]Detail does not sum to total because one person may have many services.
[2]Includes ambulatory surgical centers.
[3]Includes hospice, nursing home, etc.

NOTE: NA is not available.

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

a low of 1.3 services for assistance at surgery to a high of 17.0 services for radiation therapy.
- The assignment rate, based on submitted charges, ranged from a low of 58 percent for anesthesia services to a high of 76 percent for radiation therapy.
- The reduction rate showed only small variation by type of service, with two exceptions; submitted charges for anesthesia and assistance at surgery were reduced by 43 percent and 38 percent, respectively.

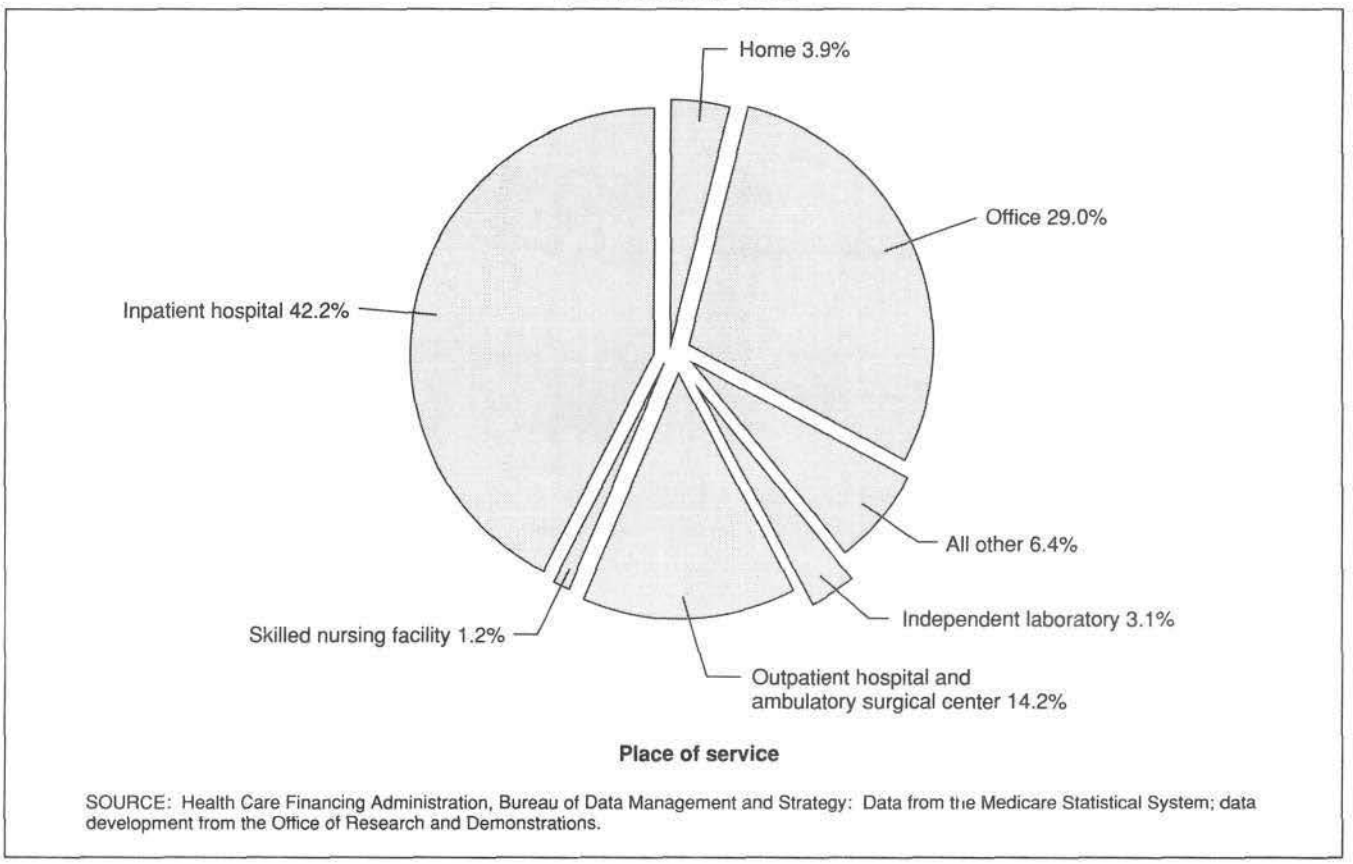
Place of service

The following data (allowed dollar amount, Table 3, and percent distribution of allowed charges, Figure 3) on the use and cost of physician and supplier services by place of service in 1986 show that:

- Of all allowed Medicare physician and supplier charges ($25.4 billion), more than two-fifths (42 percent or $10.7 billion) were attributable to services provided on an inpatient hospital basis. Another 29 percent ($7.4 billion) reflected services provided in a physician's office; care rendered in hospital outpatient facilities (including ambulatory surgical center care) accounted for 14 percent ($3.6 billion). Together, services provided in these three settings accounted for 85 percent of all Medicare-allowed physician and supplier charges.
- Assignment rates were highest for services provided in the home (92 percent), in independent kidney disease treatment centers (92 percent), in independent laboratories (85 percent), and in skilled nursing facilities (82 percent). However, services provided in these settings, together, accounted for only 8 percent of all physician and supplier submitted charges.
- Assignment rates for physician and supplier services in office and inpatient hospital settings were 56 percent and 70 percent, respectively; services provided in these settings accounted for 72 percent of all submitted charges ($35.2 billion).
- Nearly all (19.8 million or 93 percent) persons receiving physician and supplier services (21.4 million) had an office visit, and more than one-half (11.2 million or 52 percent) used hospital outpatient services. (For the purpose of this article, hospital outpatient services include services rendered to beneficiaries in ambulatory surgical centers.)
- Services provided in office (314.2 million or 43 percent) and inpatient hospital settings (174.5 million or 24 percent) accounted for more than two-thirds of all physician and supplier services (734.2 million) rendered during 1986; the average number of services per user was 15.9 and 22.2, respectively.
- Among the places of service, the highest average

Figure 3

Percent distribution of Medicare allowed charges for physician and related services, by place of service: Calendar year 1986



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

Table 4

Use and cost of physician and supplier services for Medicare beneficiaries, by physician specialty: Calendar year 1986

Physician specialty[1]	Number of users in thousands[2]	Services: Number in thousands	Services: Per user[2]	Submitted charges: Amount in thousands	Submitted charges: Assigned in thousands	Submitted charges: Percent	Allowed charges: Amount in thousands	Allowed charges: Per user[2]	Reduction: Amount in thousands	Reduction: Percent	Reimbursement: Amount in thousands	Reimbursement: Per user[2]
Total, all services	21,405	734,158	34.3	$35,245,966	$24,319,717	69	$25,358,342	$1,185	$9,887,624	28	$19,010,005	$888
General practice	5,957	53,098	8.9	1,371,868	811,866	59	974,946	164	396,922	29	645,798	108
General surgery	3,488	18,043	5.2	2,437,368	1,674,920	69	1,671,419	479	765,949	31	1,291,589	370
Otology, laryngology, and rhinology	1,690	5,449	3.2	348,611	198,842	57	233,721	138	114,890	33	168,761	100
Anesthesiology	3,058	5,053	1.7	1,765,367	1,022,682	58	998,233	326	767,134	43	790,974	259
Cardiovascular disease	4,334	28,788	6.6	1,811,004	1,327,498	73	1,337,649	309	473,355	26	1,023,212	236
Dermatology	2,215	11,477	5.2	455,599	295,804	65	351,971	159	103,628	23	246,386	111
Family practice	4,850	49,484	10.2	1,242,014	684,544	55	901,325	186	340,690	27	595,919	123
Internal medicine	11,090	157,255	14.2	4,964,043	2,302,842	46	3,638,820	328	1,325,224	27	2,639,122	238
Ophthalmology	6,406	20,282	3.2	3,448,875	2,501,621	73	2,616,001	408	832,875	24	1,986,936	310
Orthopedic surgery	2,323	11,406	4.9	1,630,223	988,377	61	1,120,417	482	509,807	31	864,062	372
Pathology	3,182	7,559	2.4	379,108	275,689	73	236,995	74	142,113	37	182,539	57
Radiology	10,989	51,680	4.7	2,468,899	1,780,501	72	1,827,303	166	641,596	26	1,374,427	125
Urology	2,039	12,785	6.3	1,118,656	668,400	60	789,771	387	328,884	29	606,308	297
Chiropractor	872	8,351	9.6	174,489	73,800	42	127,415	146	47,074	27	81,110	93
Podiatry	2,728	13,039	4.8	541,268	402,674	74	384,514	141	156,754	29	269,739	99
Clinic or group practice	5,045	45,955	9.1	2,202,998	1,573,700	71	1,530,753	303	672,246	31	1,137,267	225
Supplier[3]	11,783	180,799	15.3	4,299,392	4,004,072	93	3,356,572	285	942,820	22	2,511,651	213
All other specialties[4]	NA	53,655	NA	4,586,184	3,731,885	81	3,260,518	NA	1,325,665	29	2,594,206	NA

[1]Refer to physician specialty code as defined in the Health Care Financing Administration's Part B Medicare annual data users' manual prepared by the Office of Statistics and Data Management.
[2]Detail does not sum to total because one person may have many services.
[3]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.
[4]Includes clinical diagnostic lab fee screen, allergy, gynecology (osteopaths only), gastroenterology, manipulative therapy (osteopaths only), neurology, neurological surgery, psychiatry, proctology, pulmonary disease, nephrology, geriatrics, etc.

NOTE: NA is not available.

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

allowed charge per person was shown for physician and supplier services in the inpatient hospital ($1,361). This was nearly 1½ times higher than the place of service (independent kidney disease treatment center) with the next highest average charge ($927).

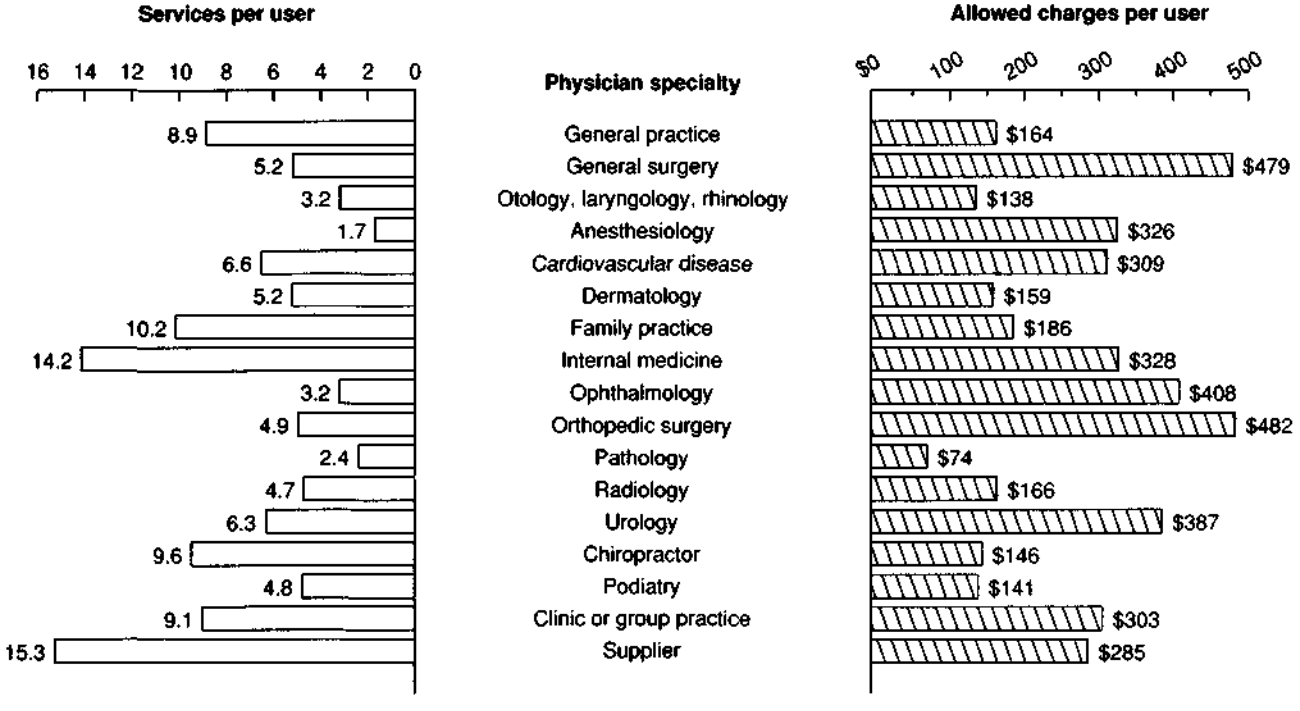
Physician specialty

Data on the use and cost of physician and supplier services by physician specialty (Table 4) and on the number of physician services per user and average allowed charge per user (Figure 4) show the following:

- In 1986, internists and radiologists served more Medicare beneficiaries than did any other type of physician specialty; 52 percent (11.1 million) of all persons served received physician services from internists, and 51 percent (11.0 million) were served by radiologists.
- Supplier services were rendered to about 55 percent (11.8 million) of all Medicare users of physician and supplier services (21.4 million).
- Suppliers provided an average of 15.3 services per user during 1986. Internists and family practitioners provided 14.2 and 10.2 services per user, respectively (Figure 4.)
- Based on the amount of allowed charges, the leading physician specialties were internal medicine ($3.6 billion or 14 percent of all allowed charges), ophthalmology ($2.6 billion or 10 percent), and radiology ($1.8 billion or 7 percent). Together they accounted for $8.0 billion or 31 percent of all allowed Medicare physician and supplier charges.
- Supplier services accounted for $3.4 billion or 13 percent of all allowed physician and supplier charges.
- The average allowed charge per user for all types of physician specialties (including suppliers) was $1,185 in 1986. The average charges per user, by physician specialty, were highest for persons who used services in orthopedic surgery ($482), general surgery ($479), and ophthalmology ($408). The lowest average charges per user were for pathology ($74); otology, laryngology, and rhinology ($138); podiatry ($141); and chiropractic services ($146).
- The highest assignment rates (based on submitted physician charges) among the physician specialties (excluding suppliers) were for podiatry (74 percent), pathology (73 percent), ophthalmology (73 percent), cardiovascular disease (73 percent), radiology (72 percent), and clinic or group practice (71 percent). (A higher assignment rate would tend to reduce out-of-pocket liability because the beneficiary is responsible for the reduction amount on unassigned claims.)
- The highest reduction rates among the physician specialties were in anesthesiology (43 percent) and pathology (37 percent). (A lower reduction rate would tend to reduce the out-of-pocket liability

Figure 4

Number of Medicare physician services per user and average allowed charge per user, by physician specialty: 1986



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

Table 5

Use and cost of physician and supplier services by Medicare beneficiaries, by area of residence: Calendar year 1986

Area of residence	Number of users in thousands[1]	Services		Submitted charges			Allowed charges		Reduction		Reimbursement	
		Number in thousands	Per user[1]	Total in thousands	Assigned in thousands	Percent	Amount in thousands	Per user[1]	Amount in thousands	Percent	Amount in thousands	Per user[1]
All areas[2]	21,405	734,158	34.3	$35,245,966	$24,319,717	69	$25,358,342	$1,185	$9,887,624	28	$19,010,005	$888
United States	21,321	731,542	34.3	35,110,429	24,197,046	69	25,264,368	1,185	9,846,061	28	18,939,832	888
Northeast	5,049	171,365	33.9	9,010,459	7,093,853	79	6,200,366	1,228	2,810,093	31	4,659,224	923
New England	1,275	40,679	31.9	1,906,906	1,599,845	84	1,328,202	1,042	578,704	30	986,458	774
Middle Atlantic	3,775	130,687	34.6	7,103,553	5,494,008	77	4,872,165	1,291	2,231,388	31	3,672,766	973
North Central	5,535	213,000	38.5	8,054,614	5,113,817	63	5,894,693	1,065	2,159,921	27	4,385,415	792
East North Central	3,955	163,703	41.4	5,984,325	3,920,203	66	4,371,153	1,105	1,613,172	27	3,260,873	824
West North Central	1,579	49,297	31.2	2,070,290	1,193,616	58	1,523,540	965	546,749	26	1,124,543	712
South	6,992	228,429	32.7	11,044,513	7,319,023	66	7,975,261	1,141	3,069,252	28	5,963,079	853
South Atlantic	3,761	119,991	31.9	5,944,223	4,061,883	68	4,280,726	1,138	1,663,497	28	3,200,239	851
East South Central	1,310	41,173	31.4	1,831,786	1,197,835	65	1,337,742	1,021	494,044	27	992,066	757
West South Central	1,922	67,267	35.0	3,268,505	2,059,306	63	2,356,793	1,226	911,712	28	1,516,879	789
West	3,745	118,748	31.7	7,000,843	4,670,353	67	5,194,048	1,387	1,806,795	26	3,932,115	1,050
Mountain	920	27,679	30.1	1,443,393	815,635	57	1,059,053	1,152	384,340	27	792,398	862
Pacific	2,826	91,068	32.2	5,557,453	3,854,718	69	4,134,995	1,463	1,422,458	26	3,139,716	1,111

[1]Detail does not sum to total because one person may have many services.
[2]Includes outlying areas not shown separately.

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

because a smaller amount of reduction would be subject to beneficiary liability on unassigned claims.)

Area of residence

Table 5 contains the following information on use and cost of Medicare physician services by area of residence for 1986.

- Among the four U.S. census regions, the average allowed charge per user was highest in the West ($1,387), followed by the Northeast ($1,228), the South ($1,141), and the North Central ($1,065).
- By division, there was marked variation in the average charge per user. The highest average charge in the Pacific Division ($1,463) was 52 percent higher than the average charge in the West North Central Division ($965).
- The average number of services per user was highest in the North Central Region (38), followed by the Northeast (34), the South (33), and the West (32).
- By division, the range was from a low of 30 services per person in the Mountain Division to a high of 41 per person in the East North Central Division, a difference of 37 percent.
- Among the regions, assignment rates on submitted charges ranged from a low of 63 percent in the North Central to a high of 79 percent in the Northeast.
- There was substantial variation in assignment rates among the divisions, ranging from 57 percent in the Mountain Division to 84 percent in New England.
- The reduction rate among the regions was highest in the Northeast (31 percent) and lowest in the West (26 percent).
- By division, there was only slight variation in the reduction rate, ranging from 26 percent in the Pacific Division to 31 percent in the Middle Atlantic.

HCFA Common Procedure Coding System

Data in Table 6 are on the 1986 use and cost of physician services by the 23 leading services with their HCPCS (HCFA Common Procedure Coding System) codes.

- Based on allowed charges, the leading Medicare physician services and related HCPCS codes (Technical note) during 1986 were extracapsular cataract removal (HCPCS-66984) ($1.25 billion); office medical services, intermediate service (HCPCS-90060) ($883 million); office medical services, limited services (HCPCS-90050) ($785 million); hospital medical services, intermediate services (HCPCS-90260) ($716 million); and hospital medical services, limited services (HCPCS-90250) ($540 million). Together, these 5 leading services accounted for $4.2 billion in allowed charges, or approximately 16 percent of all allowed physician and supplier charges.
- The 23 selected leading services shown in Table 6 accounted for $8.4 billion of allowed physician and supplier charges, or one-third of all allowed Medicare physician and supplier charges during 1986. Similarly, in terms of number of services, the 23 leading services accounted for 243.0 million services, or one-third of all Medicare physician services (734.2 million).
- For the leading services shown in Table 6, there wa substantial variation in the average allowed charge per user. The highest average allowed charges per user occurred for coronary artery procedures, coronary artery bypass (HCPCS-33512) ($3,920 per user); arthroplasty, total hip replacement (HCPCS-27130) ($2,199); extracapsular cataract removal (HCPCS-66984) ($1,895); and additional oxygen-related supplies and equipment, oxygen concentrator (HCPCS-E1396) ($1,703).
- In contrast, 10 of the 23 leading services had an average allowed charge per user of less than $100; had an average charge ranging from $104-$162.
- The number of services per user for the 23 leading services ranged from 1.2 for office medical services new patient, comprehensive service (HCPCS-90020) and office medical services, established patient, comprehensive service (HCPCS-90080) to 9.6 for hospital medical services, intermediate service (HCPCS-90260) and hospital medical services, limited services (HCPCS-90250).

Definition of terms

Assignment—Under supplementary medical insurance (Part B), if the beneficiary and the provider (physician or supplier) agree, the beneficiary may assign his or her rights to benefits to the provider. When this assignment method is used, the provider agrees that the total charge for a covered service will be the reasonable charge approved by the carrier. The provider submits a claim to the carrier and is reimbursed for the reasonable charge, less the 20 percent coinsurance and any deductible that remains unmet. The provider may then charge the beneficiary only for the coinsurance and any applicable deductible.

Carrier—A private or public organization with which HCFA enters into agreement to help administer the Part B benefits under Medicare. Also referred to as "contractors," the carriers determine coverage and benefit amounts payable and make payment to physicians or suppliers or to beneficiaries.

Coinsurance—Under Part B, after the annual deductible has been met, Medicare will pay 80 percent of reasonable charges for covered services and supplies; the remaining 20 percent of reasonable charges is the cost sharing or coinsurance amount payable by the beneficiary.

Customary charge—The amount the physician usually bills patients for a particular service; that is, generally the charge most frequently made (50th percentile) by a physician for a particular service furnished to all patients in the previous calendar year.

Deductible—The amount payable by the beneficiary for covered services before Medicare makes

Table 6

Use and cost of physician and supplier services for Medicare beneficiaries, 23 leading physician services with HCFA Common Procedure Coding System (HCPCS) codes: Calendar year 1986

HCPCS code[1]	Number of users in thousands[2]	Services		Submitted charges		Allowed charges		Reduction	
		Number in thousands	Per user[2]	Amount in thousands	Per user[2]	Amount in thousands	Per user[2]	Amount in thousands	Percent
Total, all HCPCS	21,405	734,158	34.3	$35,245,966	$1,647	$25,358,342	$1,185	$9,887,624	28.1
Leading HCPCS	NA	243,031	NA	11,315,349	NA	8,359,536	NA	2,955,813	26.1
A0010	1,578	3,328	2.1	335,553	213	255,148	162	80,405	24.0
E1396	136	1,038	7.6	272,722	2,002	232,038	1,703	40,684	14.9
27130	71	137	1.9	220,315	3,118	155,426	2,199	64,890	29.5
33512	41	86	2.1	219,863	5,367	160,575	3,920	59,288	27.0
52601	251	450	1.8	413,819	1,649	292,820	1,167	120,998	29.2
66983	322	448	1.4	433,590	1,348	316,851	985	116,740	26.9
66984	658	1,165	1.8	1,621,426	2,466	1,246,255	1,895	375,171	23.1
71010	4,178	11,469	2.7	214,655	51	144,183	35	70,472	32.8
71020	8,131	14,486	1.8	391,829	48	286,922	35	104,907	26.8
90020	2,496	2,894	1.2	199,868	80	145,100	58	54,769	27.4
90040	5,093	14,511	2.8	312,305	61	226,850	45	85,454	27.4
90050	11,358	42,212	3.7	1,081,050	95	784,967	69	296,082	27.4
90060	10,503	38,218	3.6	1,130,723	108	882,901	84	247,822	21.9
90070	3,230	7,059	2.2	274,975	85	209,820	65	65,155	23.7
90080	3,133	3,840	1.2	226,357	72	166,095	53	60,262	26.6
90220	3,630	5,443	1.5	522,162	144	375,736	104	146,426	28.0
90240	1,090	9,165	8.4	255,599	235	166,850	153	88,749	34.7
90250	2,477	23,741	9.6	776,288	313	540,056	218	236,232	30.4
90260	2,827	27,230	9.6	997,387	353	716,205	253	281,183	28.2
90270	1,163	5,982	5.1	286,242	246	205,681	177	80,561	28.1
90620	2,950	4,667	1.6	515,340	175	383,269	130	132,071	25.6
93000	6,277	9,613	1.5	365,917	58	292,114	47	73,802	20.2
93010	5,878	15,851	2.7	247,366	42	173,676	30	73,690	29.8
All other HCPCS	NA	491,127	NA	23,930,616	NA	16,378,440	NA	7,552,175	31.6

[1]See Technical note for definition of HCPCS codes.
[2]Detail does not sum to total because one person may have many services.

NOTE: NA is not available.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Division of Program Studies.

reimbursement. The Part B deductible is the amount of reasonable charges (for covered services each calendar year) for which a beneficiary is responsible. This amount, currently fixed by law, is the first $75 of covered charges per calendar year, effective January 1, 1982.

HCFA Common Procedure Coding System (HCPCS)—HCPCS is based on the American Medical Association's (AMA) *Physicians' Current Procedural Terminology, Fourth Edition* (CPT-4). HCPCS includes three levels of codes and modifiers. Level one contains only the AMA CPT-4 codes (all numeric codes), with the exception of anesthesiology services. The second level contains the codes for physician and nonphysician services that are not included in CPT-4—e.g., ambulance, durable medical equipment, orthotics and prosthetics. These are alphanumeric codes maintained jointly by HCFA, Blue Cross and Blue Shield Association, and the Health Insurance Association of America. The third level (local assignment) contains the codes for services needed by individual contractors or State agencies to process Medicare and Medicaid claims. There is an upward progression of codes from the lowest (third) level to the highest (first) level (national assignment). HCFA monitors the system to ensure uniformity in level one and two codes.

Physicians' services—Under Medicare and Medicaid, physicians' services are those provided by an individual licensed under State law to practice medicine, osteopathy, dentistry, optometry, podiatry, or chiropractic therapy.

Prevailing charge—The prevailing charge is the charge at the 75th percentile in an array of the weighted customary charges made for similar services in the same locality. The prevailing charge, adjusted by the Medicare Economic Index, is the upper limit of charges deemed reasonable for Medicare reimbursement.

Reasonable charge—An individual charge determination made by a carrier on a covered Part B medical service or supply. In the absence of unusual medical complications or circumstances, the reasonable charge is the lowest of (1) the physician's or supplier's actual charge, (2) the physician's or supplier's customary charge for that service, or (3) the prevailing charge for the physicians or suppliers rendering the service in the same locality.

Reduction amount—The difference between the physician's submitted charge and the Medicare allowed charge.

Reduction rate—The ratio of the reduction amount to the physician's submitted charge.

Reimbursement amount—The amount reported as being paid by the Medicare program to or on behalf of the beneficiary for services provided by the physician or supplier, including institutions. For institutional providers, this is usually an interim amount that is adjusted at the end of the provider's fiscal year based on its cost report.

Supplementary medical insurance (SMI)—SMI (also known as Part B) is a voluntary insurance program that provides insurance benefits for physician and other medical services in accordance with provisions of Title XVIII of the Social Security Act.

Supplier services—The supplementary medical insurance program pays for covered supplier services. As defined in the HCFA Part B Medicare annual data users' manual, these services include those provided by medical supply companies (durable medical equipment), ambulance suppliers, independent laboratories (billing independently), pharmacies, portable X-ray suppliers (billing independently), and voluntary health or charitable agencies.

Sources and limitations of data

Trend data (1965-90) on national and Medicare physician expenditures shown in Table 1 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 a cash-flow basis, and represent a complete count of all physician expenditures.

The physician and supplier data shown in the balance of the article (Tables 2-6) were derived from the 1986 Part B Medicare annual data (BMAD) beneficiary file. The BMAD beneficiary file contains line-by-line detail from claims history of services received and expenditures incurred in calendar year 1986 for a 5-percent sample of aged and disabled beneficiaries.

The BMAD beneficiary file was implemented in 1984, and it provides detailed data on type of service, place of service, physician specialty, area of residence of beneficiary, and procedure codes from the HCFA Common Procedure Coding System (HCPCS). The file also contains the physician's submitted charges, the allowed charges under Medicare, and the amount reimbursed by Medicare. Data on the amounts reimbursed, however, are not available for HCPCS codes and the BMAD beneficiary file used to prepare this article.

The data were generated from BMAD statistical records for a 5-percent sample of Medicare beneficiaries. Therefore, the data are subject to sampling variability. Sample counts were multiplied by a factor of 20 to estimate population totals.

These BMAD data represent 1986 records received and processed in carriers as of March 1987. Records for 1986 recorded after that date were not included in the file used to prepare this article. Therefore, a complete count of all claims for physicians and supplier services during 1986 will probably increase the number of services and the amount of charges by about 5 percent above the figures shown in this article.

Reference

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Technical note

HCFA Common Procedure Coding System (HCPCS) codes for the 23 leading physician services, based on number of services: 1986

HCPCS code	Name of service
A0010	Transportation services including ambulance, ambulance service, basic life support base rate, emergency transport, one way
E1396	Durable medical equipment, additional oxygen-related supplies and equipment, oxygen concentrator, equivalent to over 1,952 cubic feet
27130	Pelvis and hip joint, repair, revision or reconstruction arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip replacement)
33512	Heart and pericardium, coronary artery procedures, coronary artery bypass, autogenous graft (EG, saphenous vein or internal mammary artery); three coronary grafts
52601	Urodynamics, transurethral surgery (vesical neck and prostate), including control of postoperative bleeding, complete (vasectomy, meatotomy, cystourethroscopy, urethral calibration and/or dilation, and internal urethrotomy are included)
66983	Anterior segment, removal cataract, intracapsular cataract extraction with insertion of intraocular lens prosthesis (one-stage procedure)
66984	Anterior segment, removal cataract, extracapsular cataract removal with insertion of intraocular lens prosthesis (one-stage procedure), manual or phacoemulsification technique
71010	Diagnostic radiology, chest, radiologic examination, chest; single view, frontal
71020	Diagnostic radiology, chest, radiologic examination, chest; two views, frontal and lateral
90020	Office medical services, new patient, comprehensive service
90040	Office medical services, established patient, brief service
90050	Office medical services, established patient, limited service
90060	Office medical services, established patient, intermediate service
90070	Office medical services, established patient, extended service
90080	Office medical services, established patient, comprehensive service
90220	Hospital medical services, new and established patient, initial hospital care, comprehensive history and examination, initiation of diagnostic and treatment programs, and preparation of hospital records
90240	Hospital medical services, new and established patient, subsequent hospital care, each day, hospital subsequent care requiring; brief service
90250	Hospital medical services, new and established patient, subsequent hospital care, each day, hospital subsequent care requiring; limited services
90260	Hospital medical services, new and established patient, subsequent hospital care, each day, hospital subsequent care requiring; intermediate services
90270	Hospital medical services, new and established patient, subsequent hospital care, each day, hospital subsequent care requiring; extended services
90620	Consultations, initial consultation, comprehensive
93000	Cardiovascular, cardiography, electrocardiogram, routine ECG with at least 12 leads; with interpretation and report
93010	Cardiovascular, cardiography, electrocardiogram, routine ECG with at least 12 leads; with interpretation and report only