Health Care Financing Note

Use and cost of short-stay hospital inpatient services under Medicare, 1986

by Charles Helbing and Roger Keene

This article is part of a continuing effort to monitor the operation of the Medicare program. A synopsis is given of the legislation that implemented the prospective payment system for short-stay hospitals, and the data show the program experience for 1986, the third full year of implementation under prospective payment.

Introduction

Annual estimates of use, charges, and program payments are presented for Medicare hospital insurance (HI) beneficiaries discharged from participating short-stay hospitals during 1986. Data are also presented comparing hospitals paid under the prospective payment system (PPS) and those hospitals exempt from PPS. This is discussed more fully in relation to the data presented in Table 5. Trend data are presented in Tables 1 and 2. Data are shown for aged beneficiaries (Table 3), and disabled beneficiaries (Table 4), by area of residence of the beneficiary. Data are also presented by prospective payment status and by area of the provider (Table 5). Finally, data are presented for the leading principal diagnoses (Table 6) and leading principal surgical procedures (Table 7).

Trends and patterns of hospital use that affect the amount of Medicare expenditures are identified in this article. As a means of measuring hospital use, a discussion is provided on the annual total days of care (TDOC) rate per 1,000 HI enrollees. Because the annual TDOC rate has direct expenditure implications, it is the most important statistic for analyzing hospital use.

In April 1983, President Reagan signed into law the Social Security Amendments of 1983 (Public Law 98-21). Title VI of Public Law 98-21 established the Medicare prospective payment system (PPS) for most short-stay hospitals certified to provide inpatient services to Medicare beneficiaries. Effective October 1, 1983, prospective payment was aimed at providing incentives to hospitals to control the costs without concurrently reducing the quality of care. Consequently, title VI contained sweeping revisions that radically restructured the payment system by which hospitals are reimbursed for inpatient services provided to Medicare beneficiaries. For the most part, PPS replaced the original retrospective cost-based system. Prospective payment offers incentives for cost containment by setting predetermined rates of program payments for a hospital stay. If the hospital provides services at a cost less than the predetermined rate, it retains the difference.

To assure appropriate quality of care standards, peer review organizations (PRO's) are authorized to review patient cases before, during, and after admission. PRO preadmission screening may reduce unnecessary admissions and surgery; that is, certain conditions and procedures may be channeled to less expensive alternative treatment sites. During the hospital stay, PRO activity may bring about the result of shorter stays and eliminate unnecessary tests and services. Shorter stays may, in turn, lower the risk of nosocomial infection. Post-admission PRO review determines whether the admission was necessary, the treatment was appropriate, and the patient had received quality care.

Section 603(a)(2)(A) of title VI required the Secretary of Health and Human Services to conduct studies and to prepare annual reports to Congress about the impact of prospective payment on the use, cost, and quality of care of short-stay hospital services under the Medicare program. In mandating the annual reports, Congress recognized that the impact of the new payment system should be evaluated over a sufficient period of time to allow for the development of appropriate data, methodology, and analysis. Title VI required reports for fiscal years 1984-87; however, the Omnibus Budget Reconciliation Act of 1986 (Public Law 99-509), subtitle D, part 1, section 9305(i) extended the mandate for annual reports through 1989.

In the *Report to Congress: The Impact of the Medicare Hospital Prospective Payment System, 1986 Annual Report*, some of the findings show that:

- The number of Medicare discharges and the average length of stay for Medicare patients increased slightly in 1986, after declining during the first 2 years of the Medicare PPS. The discharge rate, however, reflecting the continuing growth of the Medicare population, continued to decline.
- The annual growth rate in total Medicare expenditures, which decreased substantially during the first year of PPS, leveled off (to an estimated 4 percent) during the second and third years of PPS.
- The overall financial status of hospitals has improved under PPS.
- There is indirect evidence that Medicare patients are sicker when they leave the hospital, an outcome that was expected given the emphasis on transferring the locus of care to other more appropriate settings, which are likely to be less costly than hospital care.

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- The Medicare case-mix index, which increased sharply with the implementation of PPS, has continued to increase at an annual rate of about 3 percent during the second and third years of PPS.

For all Medicare short-stay hospital stays, preliminary data from the Medicare Statistical System indicate that the average length of stay declined from calendar years 1983 through 1985 and then increased slightly for 1986 and 1987. For PPS stays, data show that the average length of stay increased during calendar years 1986 and 1987 (Table 1).

Table 1

Average length of stay in days for short-stay hospital inpatients under Medicare: 1983-87

Calendar year	All short-stay hospital discharges	Prospective payment system (PPS) hospital discharges
1983	9.8	([1])
1984	8.9	7.8
1985	8.6	7.8
1986	8.7	8.2
1987 [2]	8.7	8.3

[1]PPS became effective October 1, 1983.
[2]Projected data based on preliminary estimates.

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

Selected data highlights

Presented in Table 2 are trend data for Medicare HI beneficiaries, displayed by the use and cost of short-stay hospital inpatient services. For the period 1972-83, the annual TDOC rate for Medicare beneficiaries discharged from short-stay hospitals increased slightly, from 3,656 per 1,000 enrollees to 3,786 per 1,000 enrollees (Figure 1). This pattern reflects the net effect of offsetting trends in the annual discharge rate and in the average (mean total) length of stay (ALOS) per discharge.

- The discharge rate per 1,000 enrollees increased from 302 in 1972 to 387 in 1983, or about 28 percent.
- During this period, however, the ALOS per discharge dropped from 12.1 days in 1972 to 9.8 days in 1983, a decrease of 19 percent.

Coinciding with the introduction and implementation of the Medicare PPS, program data for the period 1983-86 show that there has been a significant decrease in the rate of utilization of short-stay hospital inpatient services.

- The TDOC rate per 1,000 enrollees dropped from 3,786 in 1983 to 2,784 in 1986, a decrease of 26 percent.

The dramatic decline in the TDOC rate during this period reflects a decrease in both the ALOS (11 percent), from 9.8 days in 1983 to 8.7 days in 1986, and the discharge rate (17 percent), from 387 per 1,000 enrollees in 1983 to 322 per 1,000 enrollees in 1986.

From 1972 through 1983, total inpatient short-stay hospital program payments for Medicare beneficiaries rose from $5.6 billion to $34.3 billion, an average annual rate of increase of 17 percent. Since the introduction of prospective payment, the average annual rate of growth of program payments from 1983 ($34.3 billion) through 1986 ($41.8 billion) slowed to an estimated 9 percent (Figure 2).

In Table 3, we examine 1986 data on the use and cost of short-stay hospital inpatient services for aged Medicare HI beneficiaries, focusing on the number of discharges, days of care, total charges, and program payments by the area of residence.

- For all areas, the 8.9 million discharges of aged beneficiaries in 1986 accounted for 77.2 million total days of short-stay hospital care.
- The ALOS for all areas was 8.7 days per discharge.
- The annual TDOC rate was 2,733 per 1,000 HI enrollees.
- For all areas, total charges amounted to $52.6 billion, an average charge of $5,901 per discharge and $681 per day.
- Program payments for all areas amounted to $37.0 billion; average payment per discharge, $4,153, and per day, $479.

Among the four U.S. census regions, the Northeast Region displayed the highest annual TDOC rate (3,283 per 1,000 enrollees); this reflected the highest ALOS (10.6 days, or 22 percent above the national average), which more than offset the lowest annual discharge rate (310 per 1,000 enrollees, or about 3 percent below the national average).

In contrast, the West Region had the lowest TDOC rate (2,040 per 1,000 enrollees). This region reflected the lowest ALOS (7.2 days) among the regions (21 percent below the national average) and the lowest discharge rate (281 per 1,000 enrollees), which was nearly 14 percent below the U.S. average.

Among the four regions, the average total charge per discharge ranged from $5,467 in the South to $6,751 in the West, a difference of 23 percent. The West Region had the highest charge per discharge mainly because its average charge per day ($931) was substantially higher (36 percent) than the U.S. average ($683).

- Among the States, the annual TDOC rate per 1,000 enrollees ranged from 1,345 in Oregon to 3,498 in New York, a difference of 160 percent (Figure 3).
- The ALOS per discharge for aged beneficiaries ranged from 6.2 days in Idaho to 11.9 days in New York (Figure 4).
- The average total charge per discharge ranged from $3,943 in South Dakota to $9,377 in Nevada, a difference of 138 percent.
- The average total charge per day ranged from $497 in New Jersey to $1,236 in Nevada, a difference of 149 percent.
- The average program payment per discharge ranged from $2,592 in Mississippi to $6,170 in the District of Columbia, a difference of 138 percent.

Table 2

Discharges, mean length of stay in days, days of care, total charges, and program payment for Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by Medicare status of beneficiary: Calendar years 1972-86

Beneficiary status and calendar year	Discharges		Mean length of stay in days per discharge		Days of care			Total charges			Program payments		
					Total		Covered						
	Number in thousands	Rate per 1,000 enrollees	Total	Covered	Number in thousands	Rate per 1,000 enrollees	Number in thousands	Amount in millions	Per discharge	Per day	Amount in millions	Per discharge	Percent of total charges
All beneficiaries													
1972	6,380	302	12.1	11.8	77,198	3,656	75,284	$7,401	$1,160	$96	$5,576	$874	75.3
1973	6,984	300	11.7	11.5	81,529	3,499	79,976	8,494	1,216	104	6,446	952	78.2
1974	7,629	319	11.5	11.3	87,523	3,658	86,193	10,471	1,373	120	7,837	1,027	74.8
1975	8,001	325	11.2	11.0	89,275	3,623	87,656	13,073	1,634	146	9,748	1,218	74.6
1976	8,465	334	11.0	10.8	93,480	3,693	91,770	15,951	1,882	170	11,803	1,394	74.1
1977	8,808	338	11.0	10.8	96,825	3,711	95,119	19,157	2,170	197	13,944	1,583	73.0
1978	9,216	344	10.8	10.6	99,372	3,711	97,598	22,408	2,431	225	16,008	1,737	71.4
1979	9,642	351	10.7	10.4	102,469	3,750	100,521	26,120	2,709	254	18,463	1,915	70.7
1980	10,279	366	10.6	10.4	109,175	3,890	106,512	31,992	3,112	293	22,099	2,150	69.1
1981	10,660	368	10.4	10.1	110,806	3,827	107,233	38,164	3,580	344	25,936	2,433	68.0
1982	11,109	382	10.2	9.8	113,047	3,889	109,249	46,369	4,174	410	30,601	2,755	66.0
1983	11,436	387	9.8	9.5	112,011	3,786	109,189	54,127	4,733	483	34,338	3,003	63.4
1984	10,896	363	8.9	8.6	96,485	3,217	93,850	52,901	4,855	548	[2]38,500	[2]3,533	72.8
1985	10,027	328	8.6	8.4	86,339	2,822	84,052	53,397	5,332	618	[2]40,200	[2]4,009	75.2
1986[1]	10,044	322	8.7	8.4	86,910	2,784	84,608	59,376	5,911	683	41,781	4,160	70.4
Aged beneficiaries													
1972	6,380	302	12.1	11.8	77,198	3,656	75,284	7,401	1,160	96	5,576	874	75.3
1973	6,751	313	11.7	11.5	78,987	3,662	77,637	8,227	1,219	104	6,245	925	75.9
1974	7,033	320	11.5	11.3	80,880	3,677	79,770	9,614	1,367	119	7,209	1,025	75.0
1975	7,285	324	11.2	11.0	81,592	3,631	80,135	11,853	1,627	145	8,859	1,216	74.7
1976	7,607	332	11.1	10.9	84,438	3,684	82,916	14,263	1,875	169	10,589	1,392	74.2
1977	7,850	334	11.1	10.9	86,967	3,705	85,471	17,072	2,175	196	12,455	1,587	73.0
1978	8,133	339	10.9	10.7	88,557	3,692	87,033	19,772	2,431	224	14,182	1,744	71.7
1979	8,478	345	10.8	10.5	91,239	3,717	89,075	22,938	2,706	251	16,251	1,917	70.8
1980	9,051	361	10.7	10.4	96,772	3,855	94,422	28,114	3,106	291	19,460	2,150	69.2
1981	9,400	367	10.4	10.1	98,223	3,838	94,270	33,564	3,571	342	22,814	2,427	68.0
1982	9,817	376	10.2	9.9	100,431	3,846	97,059	40,875	4,164	407	27,008	2,751	66.1
1983	10,152	381	9.8	9.6	99,740	3,740	97,253	47,851	4,713	480	30,398	2,994	63.5
1984	9,705	358	8.9	8.6	86,062	3,174	83,759	46,964	4,839	546	[2]34,188	[2]3,523	72.8
1985	8,918	322	8.6	8.4	76,926	2,779	74,897	47,371	5,312	616	[2]35,738	[2]4,007	75.4
1986[1]	8,917	316	8.7	8.4	77,240	2,733	75,234	52,623	5,901	681	37,030	4,153	70.4

See footnotes at end of table.

Table 2—Continued

Discharges, mean length of stay in days, days of care, total charges, and program payments for Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by Medicare status of beneficiary: Calendar years 1972-86

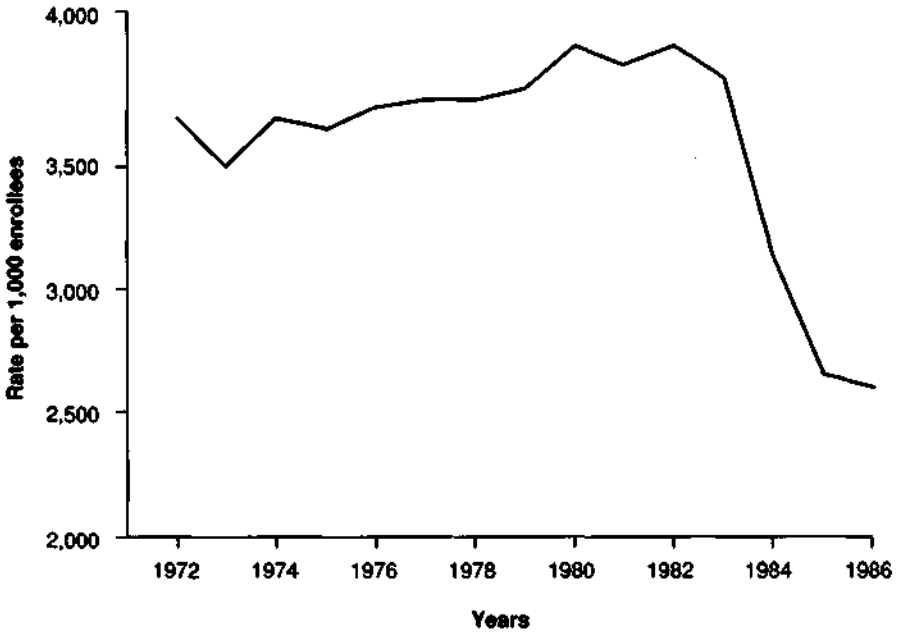
Beneficiary status and calendar year	Discharges		Mean length of stay in days per discharge		Days of care			Total charges			Program payments		
					Total		Covered						
	Number in thousands	Rate per 1,000 enrollees	Total	Covered	Number in thousands	Rate per 1,000 enrollees	Number in thousands	Amount in millions	Per discharge	Per day	Amount in millions	Per discharge	Percent of total charges
Disabled beneficiaries													
1974[3]	596	309	11.1	10.8	6,643	3,446	6,423	$857	$1,438	$129	$628	$1,054	73.3
1975	716	330	10.7	10.5	7,683	3,544	7,521	1,220	1,704	159	889	1,242	72.9
1976	858	359	10.5	10.3	9,042	3,780	8,854	1,688	1,947	187	1,214	1,415	71.9
1977	958	366	10.3	10.1	9,858	3,764	9,648	2,085	2,176	212	1,489	1,554	71.4
1978	1,083	388	10.0	9.8	10,815	3,872	10,565	2,636	2,434	244	1,826	1,686	69.3
1979	1,164	400	10.0	9.8	11,230	3,858	11,446	3,182	2,734	283	2,212	1,900	69.5
1980	1,228	414	10.0	9.8	12,403	4,186	12,090	3,878	3,158	313	2,639	2,149	68.1
1981	1,260	420	9.9	9.7	12,583	4,196	12,263	4,600	3,651	366	3,122	2,478	67.9
1982	1,292	437	9.8	9.4	12,616	4,271	12,190	5,494	4,252	435	3,593	2,781	65.4
1983	1,284	440	9.6	9.3	12,272	4,206	11,937	6,276	4,887	511	3,940	3,068	62.8
1984	1,191	413	8.8	8.5	10,423	3,614	10,090	5,937	4,987	570	[2]4,312	[2]3,621	72.6
1985	1,109	381	8.5	8.3	9,413	3,238	9,155	6,026	5,435	640	[2]4,462	[2]4,023	73.9
1986[1]	1,127	381	8.6	8.3	9,670	3,269	9,374	6,752	5,991	698	4,751	4,216	70.4

[1]Preliminary data are estimated to be about 5 percent below the total expected population amounts for 1986.
[2]Short-stay hospital inpatient care program payment amounts are based on expenditures (prospective payments system (PPS) and non-PPS) reported on the Health Care Financing Administration (HCFA) inpatient hospital billing form (HCFA-1450) plus PPS pass-through expenditures reported on the HCFA intermediary benefit payment report. Program payment amounts for these years should be used with caution.
[3]Effective July 1, 1973, Medicare coverage was extended to disabled beneficiaries under the social security and railroad retirement programs. Coverage was also extended to persons under 65 years of age who require dialysis or a kidney transplant for end stage renal disease (ESRD). Public Law 95-292 removed the "under age 65" restriction for persons with ESRD, effective October 1978.

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

Figure 1

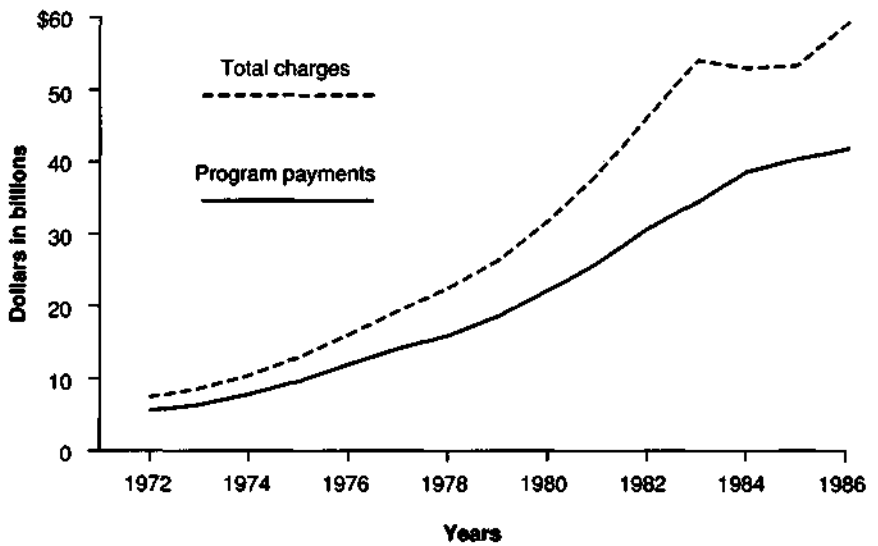
Annual total days of care rate per 1,000 enrollees for Medicare beneficiaries discharged from short-stay hospitals: Calendar years 1972-86



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.

Figure 2

Charges and program payments for inpatient services rendered to Medicare beneficiaries discharged from short-stay hospitals: Calendar years 1972-86



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.

Table 3

Discharges, mean length of stay in days, days of care, total charges, and program payments for aged Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by area of residence: Calendar year 1986

Area of residence	Discharges		Mean length of stay in days per discharge		Days of care			Total charges			Program payments		
					Total		Covered						
	Number in thousands	Rate per 1,000 enrollees	Total	Covered	Number in thousands	Rate per 1,000 enrollees	Number in thousands	Amount in millions	Per discharge	Per day	Amount in millions	Per discharge	Per day
All areas	8,917	316	8.7	8.4	77,240	2,733	75,234	$52,623	$5,901	$681	$37,030	$4,153	$479
United States	8,852	320	8.7	8.4	76,718	2,769	74,719	52,428	5,923	683	36,934	4,172	481
Northeast	1,991	310	10.6	10.0	21,068	3,283	19,920	12,672	6,364	601	9,181	4,611	436
North Central	2,337	326	8.4	8.3	19,633	2,735	19,349	13,253	5,671	675	9,893	4,234	504
South	3,146	342	8.3	8.1	26,025	2,830	25,612	17,198	5,467	661	11,351	3,608	436
West	1,378	281	7.2	7.1	9,989	2,040	9,835	9,304	6,751	931	6,509	4,723	652
New England	489	299	10.0	9.4	4,891	2,992	4,602	2,956	6,042	604	2,185	4,465	447
Connecticut	102	251	9.6	9.4	978	2,401	965	660	6,450	674	512	5,003	524
Maine	50	323	9.3	8.5	462	3,006	424	244	4,910	528	179	3,611	387
Massachusetts	239	315	10.5	9.6	2,504	3,301	2,296	1,541	6,445	615	1,099	4,597	439
New Hampshire	36	311	8.6	8.3	312	2,682	301	181	4,993	579	135	3,724	433
Rhode Island	42	309	10.7	10.4	450	3,313	437	232	5,526	516	187	4,456	416
Vermont	20	320	9.2	8.8	185	2,933	178	99	4,933	538	73	3,614	395
Middle Atlantic	1,502	314	10.8	10.2	16,176	3,382	15,318	9,715	6,469	601	6,996	4,659	432
New Jersey	284	302	11.5	11.3	3,270	3,483	3,201	1,626	5,733	497	1,256	4,430	384
New York	637	293	11.9	10.8	7,592	3,498	6,851	4,137	6,498	545	3,126	4,910	412
Pennsylvania	582	348	9.1	9.1	5,314	3,176	5,265	3,953	6,797	744	2,614	4,495	492
East North Central	1,581	325	8.7	8.6	13,792	2,834	13,602	9,510	6,015	689	7,112	4,498	516
Illinois	450	340	9.3	9.1	4,182	3,161	4,108	3,067	6,810	733	2,113	4,692	505
Indiana	202	317	8.3	8.1	1,669	2,645	1,633	1,027	5,075	608	812	4,013	481
Michigan	304	299	8.7	8.6	2,654	2,611	2,629	2,098	6,895	791	1,470	4,829	554
Ohio	436	342	8.7	8.6	3,769	2,959	3,745	2,463	5,655	654	1,948	4,472	517
Wisconsin	188	307	8.0	7.9	1,499	2,439	1,486	855	4,534	570	769	4,081	513
West North Central	756	327	7.7	7.6	5,841	2,526	5,747	3,743	4,953	641	2,781	3,681	476
Iowa	127	312	7.7	7.6	984	2,416	965	569	4,478	578	455	3,583	462
Kansas	117	364	7.4	7.3	869	2,695	855	559	4,774	644	412	3,519	474
Minnesota	135	262	6.9	6.8	930	1,805	915	615	4,553	661	472	3,491	508
Missouri	236	352	8.6	8.5	2,028	3,028	2,005	1,378	5,852	679	990	4,203	488
Nebraska	68	319	7.5	7.3	512	2,398	499	315	4,613	614	227	3,323	443
North Dakota	34	390	7.3	7.2	249	2,855	245	154	4,541	620	112	3,298	450
South Dakota	39	399	7.0	6.8	266	2,771	264	152	3,943	567	114	2,943	425
South Atlantic	1,533	315	8.6	8.5	13,238	2,723	13,000	8,845	5,770	668	5,817	3,795	439
Delaware	23	329	8.8	8.6	204	2,892	199	135	5,805	660	94	4,060	461
District of Columbia	18	270	10.1	9.8	182	2,724	176	140	7,792	772	111	6,170	610
Florida	562	299	8.4	8.3	4,710	2,505	4,646	3,845	6,837	816	2,310	4,108	490
Georgia	216	382	7.7	7.6	1,663	2,942	1,630	1,060	4,917	638	673	3,119	405
Maryland	142	322	9.7	9.5	1,377	3,129	1,353	757	5,340	550	628	4,431	456
North Carolina	180	261	9.1	8.8	1,643	2,377	1,593	871	4,832	530	627	3,480	382
South Carolina	111	334	8.7	8.6	959	2,891	950	551	4,978	574	378	3,414	394
Virginia	186	327	9.3	9.1	1,721	3,027	1,694	1,007	5,409	585	681	3,661	396
West Virginia	95	384	8.2	8.0	779	3,148	759	480	5,052	616	316	3,325	406

See footnotes at end of table.

Table 3—Continued

Discharges, mean length of stay in days, days of care, total charges, and program payments for aged Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by area of residence: Calendar year 1986

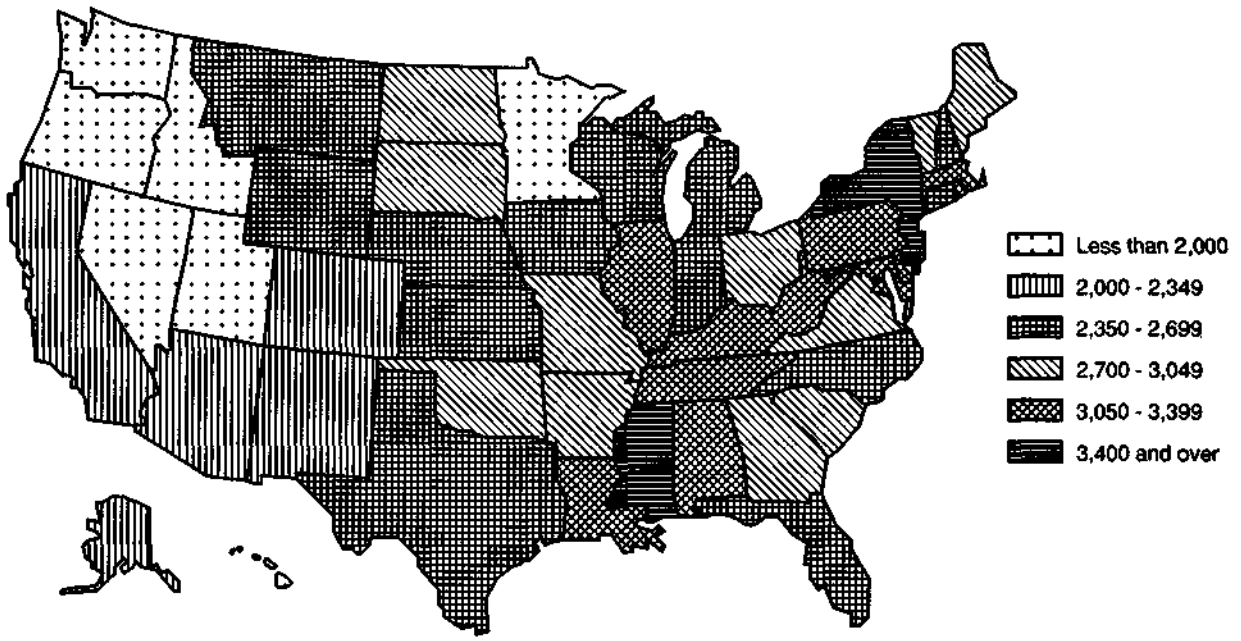
Area of residence	Discharges		Mean length of stay in days per discharge		Days of care			Total charges			Program payments		
					Total		Covered						
	Number in thousands	Rate per 1,000 enrollees	Total	Covered	Number in thousands	Rate per 1,000 enrollees	Number in thousands	Amount in millions	Per discharge	Per day	Amount in millions	Per discharge	Per day
East South Central	701	404	8.1	8.0	5,675	3,272	5,599	$3,533	$5,040	$623	$2,185	$3,116	$385
Alabama	179	386	8.1	8.0	1,452	3,125	1,430	1,041	5,808	717	599	3,343	413
Kentucky	170	399	8.0	7.9	1,351	3,180	1,343	783	4,619	579	515	3,037	381
Mississippi	130	447	7.8	7.6	1,015	3,490	994	526	4,042	518	337	2,592	332
Tennessee	222	401	8.4	8.2	1,856	3,353	1,831	1,183	5,326	637	733	3,301	395
West South Central	912	351	7.8	7.7	7,113	2,737	7,014	4,819	5,284	678	3,349	3,671	471
Arkansas	122	379	7.7	7.6	943	2,921	928	532	4,343	564	364	2,976	386
Louisiana	173	415	7.6	7.5	1,318	3,159	1,304	937	5,410	711	641	3,700	486
Oklahoma	138	359	7.7	7.6	1,054	2,750	1,043	690	5,014	655	483	3,513	458
Texas	479	325	7.9	7.8	3,798	2,574	3,738	2,661	5,557	701	1,860	3,884	490
Mountain	380	297	7.1	7.0	2,686	2,098	2,648	2,129	5,606	793	1,536	4,044	572
Arizona	114	296	7.5	7.3	852	2,212	836	700	6,144	821	508	4,459	596
Colorado	78	276	7.4	7.3	574	2,033	568	450	5,776	784	344	4,417	599
Idaho	32	288	6.2	6.2	198	1,795	196	136	4,288	688	101	3,160	510
Montana	36	363	6.6	6.5	237	2,382	234	154	4,257	649	118	3,271	498
Nevada	25	261	7.6	7.5	189	1,978	187	233	9,377	1,236	120	4,803	635
New Mexico	43	315	6.9	6.8	296	2,166	293	222	5,152	749	153	3,564	517
Utah	36	275	6.3	6.2	224	1,737	222	162	4,566	722	136	3,832	607
Wyoming	17	387	6.9	6.8	114	2,676	111	71	4,309	623	56	3,393	491
Pacific	998	276	7.3	7.2	7,303	2,019	7,188	7,176	7,187	983	4,973	4,981	681
Alaska	5	289	8.1	7.3	39	2,344	35	32	6,764	834	24	5,114	615
California	760	287	7.5	7.4	5,692	2,146	5,611	5,958	7,836	1,047	4,025	5,294	707
Hawaii	21	218	8.6	8.0	181	1,877	168	142	6,750	784	98	4,647	541
Oregon[3]	75	213	6.3	6.2	472	1,345	467	377	5,044	800	284	3,797	602
Washington	138	275	6.7	6.6	920	1,836	908	667	4,847	725	542	3,940	589
Residence unknown	(1)	15	9.9	9.7	2	149	2	2	6,978	705	1	5,308	500
Other areas	63	199	8.0	7.9	503	1,594	497	180	2,860	357	83	1,322	165
Puerto Rico	61	200	8.0	7.9	489	1,593	482	173	2,816	354	78	1,276	160
All other areas	1	(2)	9.7	9.7	14	(2)	14	7	4,656	479	5	3,218	357
Foreign	2	9	8.8	8.6	19	80	19	15	7,017	799	12	5,588	632

[1]Number higher than 0 but lower than 500.
[2]Rate less than 1 per 1,000 enrollees.
[3]It is estimated that the number of discharges reported in Oregon is about 20 percent short of the expected total, based on admission notices received and processed in the Health Care Financing Administration. This shortfall in the expected number of discharges occurred because UNIBILL records for a significant portion of Medicare admissions had not been submitted and included in central office records at the time of the creation (December 1987) of the Medicare provider analysis and review (MEDPAR) stay record file used in this study. No adjustments have been made for this shortfall.

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

Figure 3

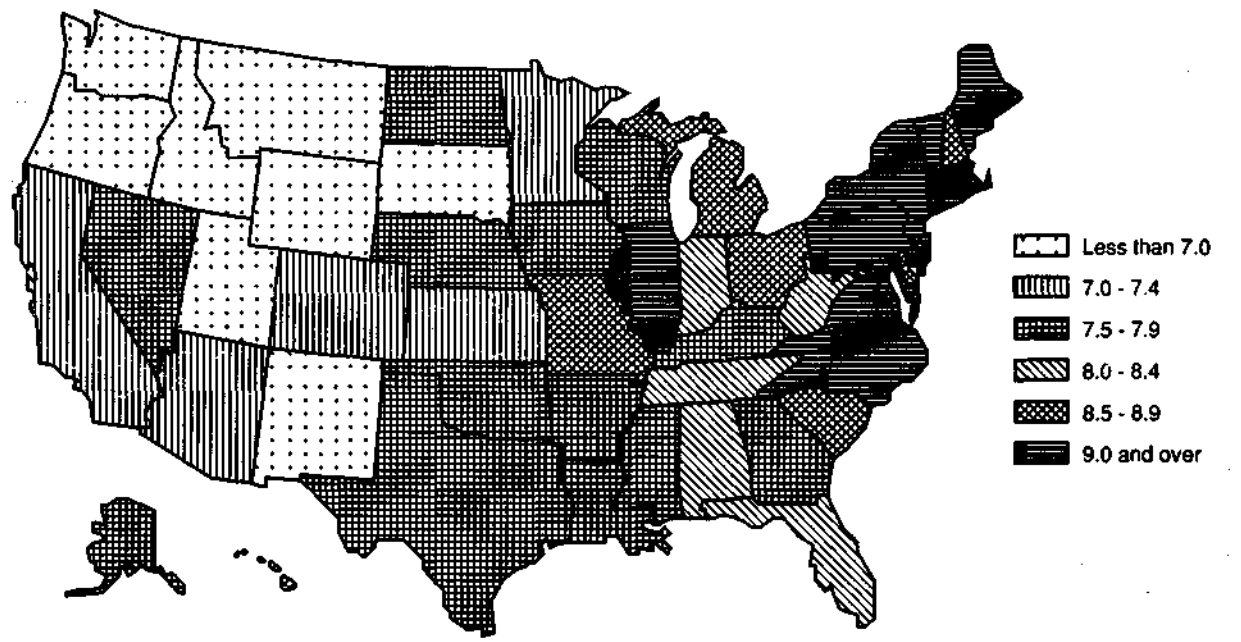
Annual total days of care rate per 1,000 aged Medicare enrollees, by State of residence: Calendar year 1986



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.

Figure 4

Average length of stay for aged Medicare beneficiaries discharged from short-stay hospitals, by State of residence: 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.

- The average program payment per day ranged from $332 in Mississippi to $707 in California, a difference of 112 percent.

In Table 4, the use and cost of short-stay hospital inpatient services are shown for disabled Medicare HI beneficiaries, including the number of discharges, days of care, total charges, and program payments by the area of residence.

- For all areas, the 1.1 million discharges of disabled beneficiaries accounted for 9.7 million days of short-stay hospital care.
- The ALOS was 8.6 days (slightly lower than the ALOS of 8.7 days for the aged).
- The TDOC rate for the disabled (3,269 per 1,000 enrollees) was about 20 percent higher than that for the aged (2,733 per 1,000 enrollees).
- The annual discharge rate for the disabled (381 per 1,000 enrollees) was about 21 percent higher than for the aged (316 per 1,000 enrollees).
- Total charges for disabled beneficiaries ($6.8 billion) amounted to nearly 11 percent of the total short-stay hospital charges ($59.4 billion).
- The average charge per discharge was $5,991 and the average charge per day was $698.
- Total program payments were $4.8 billion; the program payment per discharge was $4,216 and the average per day was $491.
- Among the four U.S. census regions, the annual TDOC rate per 1,000 disabled enrollees ranged from 2,673 in the West to 3,737 in the Northeast.
- The average total charge per discharge ranged from $5,476 in the South to $6,987 in the West, a difference of 28 percent.
- The average total charge per day ranged from $635 in the Northeast to $928 in the West, a difference of 46 percent.
- Among the States, the annual TDOC rate per 1,000 enrollees ranged from 1,667 in Oregon to 4,532 in Illinois, a difference of 172 percent.
- The average total charge per discharge ranged from $3,956 in Wyoming to $10,280 in Nevada, a difference of 160 percent.
- The average total charge per day ranged from $520 in New Jersey to $1,227 in Nevada a difference of 136 percent.
- The average program payment per discharge ranged from $2,702 in Mississippi to $6,830 in the District of Columbia, a difference of 153 percent.
- The average program payment per day ranged from $366 in Mississippi to $800 in Alaska and the District of Columbia, a difference of 119 percent.

In Table 5, the use and charges for short-stay hospital inpatient services under Medicare are displayed according to PPS status, number of discharges, average length of stay, and average charge per discharge, by the area of provider. Medicare expenditures are not shown in this table because the non-PPS reimbursement amounts, which are paid by Medicare under the old cost-based retrospective system, are incomplete. The results of the annual audits and cost-settlement amounts are not added to the data base from which the estimates for non-PPS hospitals in this article are derived. Therefore, attempting comparisons of expenditures under different payment systems could be misleading and inaccurate. Other data estimates, excluding expenditures, are comparable.

The Social Security Amendments of 1983 (Public Law 98-21) provided Medicare payment for inpatient hospital services under PPS. PPS applies to all inpatient hospitals participating in the Medicare program except for those hospitals or units excluded by law. For 1986, these exclusions applied to: hospitals participating in approved State alternative reimbursement programs located in two waiver States—Maryland and New Jersey; hospitals located outside the 50 States and the District of Columbia; psychiatric, rehabilitation, children's, and long-term care hospitals; distinct-part psychiatric, rehabilitation and alcohol and drug units of acute care hospitals; and hospitals participating in approved demonstration projects or regional demonstrations.

- During 1986, approximately 92 percent (9.3 million) of all Medicare discharges (10.0 million) were from short-stay hospitals participating in PPS.
- The ALOS for Medicare PPS discharges (8.2 days) was 4.8 days less than the ALOS for non-PPS discharges (13.0 days). This variation may reflect the different case mix seen in non-PPS hospitals (which generally have a longer ALOS) and partly accounts for their exclusion from PPS, and not necessarily a lack of incentives embedded in PPS.

Short-stay hospitals in waiver States—Maryland and New Jersey, and other outlying areas—American Samoa, Guam, Puerto Rico, and Virgin Islands, accounted for 69 percent (0.53 million) of all non-PPS discharges (0.77 million) during 1986.

For Medicare beneficiaries discharged from short-stay hospitals participating in PPS, the average charge per discharge was $5,908, about the same for discharges from non-PPS hospitals ($5,951).

The regions showed an ALOS for PPS discharges with only small variability, ranging from 7.0 days in the West to 8.5 days in the Northeast Region. Thus, it appears that PPS has had an impact in substantially reducing the regional variation in ALOS that existed prior to PPS.

In Table 6, the number of discharges, days of care, total charges, and program payments are shown by the 10 most frequently reported (leading) principal diagnoses, which are classified according to the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM).*

- The 10 leading principal diagnoses accounted for 20 percent (2.0 million) of the total discharges (10.0 million).
- These leading diagnoses accounted for an estimated 15.1 million days of care and $7.5 billion in program payments, representing about 18 percent of program payments.

The leading principal diagnosis with the most discharges (482,425) was congestive heart failure (ICD-9-CM code 428.0), representing almost 5 percent

Table 4

Discharges, mean length of stay in days, days of care, total charges, and program payments for disabled Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by area of residence: Calendar year 1986

Area of residence	Discharges		Mean length of stay in days per discharge		Days of care			Total charges			Program payments		
					Total		Covered						
	Number in thousands	Rate per 1,000 enrollees	Total	Covered	Number in thousands	Rate per 1,000 enrollees	Number in thousands	Amount in millions	Per discharge	Per day	Amount in millions	Per discharge	Per day
All areas	1,127	381	8.6	8.3	9,670	3,269	9,374	$6,752	$5,991	$698	$4,751	$4,216	$491
United States	1,116	391	8.6	8.3	9,583	3,359	9,288	6,717	6,020	701	4,734	4,243	494
Northeast	224	370	10.1	9.6	2,261	3,737	2,146	1,436	6,415	635	1,044	4,665	462
North Central	274	395	8.8	8.5	2,400	3,464	2,337	1,641	5,992	684	1,223	4,469	510
South	449	417	8.1	7.9	3,650	3,386	3,561	2,461	5,476	674	1,643	3,656	450
West	169	355	7.5	7.4	1,269	2,673	1,242	1,177	6,967	928	822	4,878	648
New England	49	345	9.4	8.9	464	3,237	442	291	5,880	626	218	4,405	470
Connecticut	10	324	9.8	9.6	99	3,172	97	65	6,417	656	50	4,947	505
Maine	6	363	8.7	8.3	52	3,144	50	29	4,873	563	21	3,545	404
Massachusetts	22	344	9.8	9.1	218	3,379	203	144	6,467	658	104	4,660	477
New Hampshire	4	357	8.1	7.9	29	2,890	29	17	4,728	584	13	3,704	448
Rhode Island	5	334	9.3	9.1	44	3,108	43	24	5,032	540	20	4,251	455
Vermont	3	410	7.8	7.5	21	3,199	20	12	4,315	553	9	3,406	429
Middle Atlantic	174	378	10.3	9.8	1,797	3,892	1,704	1,145	6,567	637	826	4,739	460
New Jersey	34	396	10.9	10.6	368	4,306	360	191	5,651	520	143	4,217	389
New York	73	333	11.4	10.3	833	3,779	755	478	6,518	574	371	5,058	445
Pennsylvania	67	431	8.9	8.8	597	3,625	589	476	7,080	798	313	4,652	524
East North Central	200	395	8.9	8.7	1,783	3,520	1,740	1,232	6,157	691	920	4,597	516
Illinois	54	462	9.8	9.5	533	4,532	518	384	7,080	721	266	4,892	499
Indiana	27	391	8.6	8.2	230	3,357	221	144	5,371	626	110	4,110	478
Michigan	42	346	9.1	8.9	384	3,134	378	303	7,145	789	207	4,888	539
Ohio	57	398	8.5	8.3	481	3,363	472	311	5,464	646	254	4,472	528
Wisconsin	20	359	7.9	7.7	155	2,827	152	90	4,557	579	82	4,181	529
West North Central	74	396	8.4	8.1	617	3,313	596	409	5,545	663	304	4,120	493
Iowa	12	409	8.5	8.1	106	3,500	100	61	4,865	569	46	3,670	434
Kansas	9	410	7.6	7.5	71	3,136	69	50	5,380	704	38	4,073	535
Minnesota	13	345	7.8	7.5	100	2,684	97	72	5,555	715	56	4,330	560
Missouri	28	408	8.9	8.7	246	3,618	242	166	5,981	674	122	4,410	496
Nebraska	6	410	8.6	8.3	51	3,534	49	34	5,770	670	23	3,859	451
North Dakota	2	385	9.1	8.3	22	3,512	20	13	5,340	585	9	3,748	409
South Dakota	3	422	6.7	6.5	20	2,846	20	14	4,523	670	10	3,358	500
South Atlantic	221	402	8.5	8.2	1,868	3,398	1,820	1,237	5,595	662	826	3,734	442
Delaware	3	386	8.8	8.6	27	3,411	26	18	6,051	684	13	4,236	481
District of Columbia	3	431	8.4	8.3	25	3,644	25	23	7,807	924	20	6,830	800
Florida	58	393	8.8	8.6	513	3,482	501	396	6,828	772	235	4,054	458
Georgia	43	490	7.6	7.4	325	3,702	319	210	4,889	647	139	3,233	428
Maryland	18	420	9.1	8.9	163	3,836	159	93	5,228	573	78	4,364	479
North Carolina	32	338	8.7	8.4	274	2,941	264	157	4,971	570	114	3,607	416
South Carolina	20	388	8.4	8.3	171	3,246	169	104	5,127	612	72	3,529	421
Virginia	29	412	8.7	8.3	254	3,578	244	157	5,364	618	105	3,582	413
West Virginia	15	373	7.7	7.4	117	2,874	113	78	5,161	669	50	3,315	427

See footnotes at end of table.

Table 4—Continued

Discharges, mean length of stay in days, days of care, total charges, and program payments for disabled Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by area of residence: Calendar year 1986

Area of residence	Discharges		Mean length of stay in days per discharge		Days of care			Total charges			Program payments		
					Total		Covered						
	Number in thousands	Rate per 1,000 enrollees	Total	Covered	Number in thousands	Rate per 1,000 enrollees	Number in thousands	Amount in millions	Per discharge	Per day	Amount in millions	Per discharge	Per day
East South Central	118	461	7.8	7.6	915	3,590	895	$605	$5,141	$661	$374	$3,181	$409
Alabama	30	457	7.8	7.6	235	3,550	231	176	5,810	748	104	3,425	443
Kentucky	27	410	7.7	7.6	208	3,157	204	132	4,904	638	85	3,164	409
Mississippi	24	497	7.4	7.3	175	3,700	171	98	4,146	557	64	2,702	366
Tennessee	37	487	8.1	7.9	297	3,933	289	199	5,401	669	121	3,300	407
West South Central	111	405	7.8	7.6	866	3,172	846	619	5,594	715	443	4,004	512
Arkansas	17	397	7.4	7.3	127	2,954	124	79	4,618	620	53	3,126	417
Louisiana	26	421	7.5	7.4	194	3,155	191	144	5,570	744	109	4,206	562
Oklahoma	14	390	7.7	7.5	105	2,996	102	72	5,301	690	51	3,745	486
Texas	54	405	8.1	7.9	440	3,296	429	324	5,987	736	230	4,249	523
Mountain	42	350	7.6	7.5	322	2,675	314	259	6,147	804	183	4,335	568
Arizona	14	380	7.8	7.5	108	2,950	105	90	6,442	829	64	4,621	593
Colorado	8	322	8.1	7.9	68	2,597	67	53	6,270	777	40	4,772	588
Idaho	3	316	6.9	6.7	20	2,172	19	13	4,615	672	10	3,417	500
Montana	4	374	6.9	6.8	24	2,575	24	16	4,504	654	12	3,462	500
Nevada	3	301	8.4	8.2	25	2,523	25	31	10,280	1,227	15	5,081	600
New Mexico	5	345	7.3	7.2	40	2,509	39	32	5,754	791	21	3,862	525
Utah	4	362	7.8	7.7	28	2,836	27	19	5,464	697	15	4,204	536
Wyoming	1	411	6.6	6.5	9	2,716	9	5	3,956	598	4	3,451	444
Pacific	126	357	7.5	7.3	947	2,673	928	919	7,266	970	640	5,059	676
Alaska	1	267	8.9	8.5	5	2,374	5	5	8,828	992	4	6,218	800
California	100	373	7.6	7.4	760	2,828	746	777	7,743	1,022	528	5,259	695
Hawaii	3	373	8.9	8.0	27	3,324	25	20	6,539	733	14	4,689	519
Oregon[3]	8	259	6.4	6.2	51	1,667	49	43	5,438	844	34	4,316	667
Washington	15	326	7.1	7.0	104	2,322	103	74	5,067	710	60	4,120	577
Residence unknown	(1)	124	8.7	8.6	3	1,085	3	2	7,021	804	2	4,969	667
Other areas	11	119	7.8	7.6	85	925	83	34	3,116	401	16	1,454	188
Puerto Rico	11	117	7.7	7.6	82	904	80	33	3,098	402	15	1,413	183
All other areas	(1)	(2)	10.1	10.1	3	(2)	3	1	3,774	374	1	2,910	333
Foreign	(1)	20	8.5	8.5	2	170	2	1	5,443	640	1	4,188	500

[1]Number higher than 0 but lower than 500.
[2]Rate less than 1 per 1,000 enrollees.
[3]It is estimated that the number of discharges reported in Oregon is about 22 percent short of the expected total, based on admission notices received and processed in the Health Care Financing Administration. This shortfall in the expected number of discharges occurred because UNIBILL records for a significant portion of Medicare admissions had not been submitted and included in central office records at the time of the creation (December 1987) of the Medicare provider analysis and review (MEDPAR) stay record file used in this study. No adjustments have been made for this shortfall.

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

Table 5

Prospective payment system (PPS) discharges, average length of stay, and average charge per discharge for Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by area of provider: Calendar year 1986

Area of provider	Discharges				Average length of stay in days			Average charge per discharge		
	Total	PPS	Non-PPS[1]	Percent of PPS	Total	PPS	Non-PPS[1]	Total	PPS	Non-PPS[1]
All areas	10,044,310	9,271,025	773,285	92.3	8.6	8.2	13.0	$5,911	$5,908	$5,951
United States	9,972,850	9,271,025	701,825	93.0	8.6	8.2	13.6	5,934	5,908	6,290
Northeast	2,207,095	1,816,525	390,570	82.3	9.4	8.5	13.1	6,366	6,419	6,118
North Central	2,586,265	2,522,005	64,260	97.5	8.5	8.1	19.6	5,691	5,638	7,764
South	3,623,740	3,416,285	207,455	94.3	8.2	8.0	11.9	5,474	5,463	5,637
West	1,555,750	1,516,210	39,540	97.5	7.3	7.0	16.5	6,803	6,745	9,017
New England	542,020	529,655	12,365	97.7	5.1	4.8	18.3	6,025	5,985	7,705
Connecticut	111,240	108,870	2,370	97.9	9.6	9.3	20.5	6,452	6,398	8,910
Maine	54,315	53,455	860	98.4	9.2	9.0	19.3	4,794	4,761	6,881
Massachusetts	268,210	260,555	7,655	97.1	10.4	10.2	17.3	6,495	6,465	7,518
New Hampshire	39,390	38,760	630	98.4	8.5	8.3	18.3	4,871	4,836	7,045
Rhode Island	46,660	46,250	410	99.1	10.5	10.4	21.1	5,328	5,292	9,340
Vermont	22,205	21,765	440	98.0	9.0	8.9	17.6	4,722	4,706	5,504
Middle Atlantic	1,665,075	1,286,870	378,205	77.3	10.8	10.0	13.0	6,477	6,597	6,066
New Jersey[2]	303,705	0	303,705	0.0	11.5	0.0	11.5	5,330	0	5,330
New York	707,855	651,745	56,110	92.1	11.9	11.3	18.9	6,499	6,278	9,065
Pennsylvania	653,515	635,125	18,390	97.2	9.1	8.8	18.4	6,986	6,925	9,077
East North Central	1,743,665	1,700,740	42,925	97.5	8.7	8.4	19.9	6,009	5,948	8,407
Illinois	481,590	467,110	14,480	97.0	9.3	8.9	20.6	6,848	6,768	9,409
Indiana	230,835	227,440	3,395	98.5	8.3	8.1	21.9	5,038	4,986	8,538
Michigan	334,425	326,305	8,120	97.6	8.7	8.4	20.4	6,941	6,876	9,555
Ohio	490,480	478,140	12,340	97.5	8.6	8.3	18.5	5,642	5,607	6,983
Wisconsin	206,335	201,745	4,590	97.8	7.9	7.6	19.1	4,496	4,441	6,948
West North Central	842,600	821,265	21,335	97.5	7.8	7.5	18.9	5,033	4,995	6,471
Iowa	134,965	131,070	3,895	97.1	7.7	7.3	20.9	4,392	4,334	6,332
Kansas	117,630	115,905	1,725	98.5	7.3	7.1	17.9	4,622	4,591	6,696
Minnesota	156,290	151,680	4,610	97.1	7.0	6.8	16.3	4,658	4,626	5,708
Missouri	277,025	268,925	8,100	97.1	8.7	8.4	19.2	6,007	5,987	6,673
Nebraska	75,210	73,950	1,260	98.3	7.6	7.3	23.2	4,831	4,766	8,632
North Dakota	39,535	38,325	1,210	96.9	7.6	7.3	18.0	4,806	4,769	5,964
South Dakota	41,945	41,410	535	98.7	6.8	6.7	19.3	3,773	3,739	6,338
South Atlantic	1,765,150	1,583,925	181,225	89.7	8.6	8.3	10.9	5,748	5,790	5,372
Delaware	24,980	24,520	460	98.2	8.8	8.6	16.9	5,600	5,579	6,670
District of Columbia	30,740	29,940	800	97.4	9.3	9.0	21.1	8,143	8,071	10,820
Florida	632,435	621,610	10,825	98.3	8.3	8.1	19.2	6,894	6,880	7,712
Georgia	263,765	259,695	4,070	98.5	7.6	7.5	16.1	4,900	4,871	6,770
Maryland[2]	155,290	0	155,290	0.0	9.7	0.0	9.7	5,096	0	5,096
North Carolina	211,500	208,355	3,145	98.5	9.0	8.8	21.0	4,852	4,831	6,236
South Carolina	125,125	123,775	1,350	98.9	8.5	8.4	17.8	4,843	4,837	5,376
Virginia	212,720	208,325	4,395	97.9	9.1	9.0	17.6	5,352	5,328	6,487
West Virginia	108,595	107,705	890	99.2	8.0	8.0	14.5	4,970	4,973	4,653

See footnotes at end of table.

Table 5—Continued

Prospective payment system (PPS) discharges, average length of stay, and average charge per discharge for Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by area of provider: Calendar year 1986

Area of provider	Discharges				Average length of stay in days			Average charge per discharge		
	Total	PPS	Non-PPS[1]	Percent of PPS	Total	PPS	Non-PPS[1]	Total	PPS	Non-PPS[1]
East South Central	829,990	818,735	11,255	98.6	8.1	7.9	18.6	$5,062	$5,030	$7,362
Alabama	206,430	202,475	3,955	98.1	8.0	7.9	14.9	5,847	5,826	6,926
Kentucky	194,825	193,220	1,605	99.2	7.9	7.8	18.1	4,606	4,592	6,283
Mississippi	146,495	145,415	1,080	99.3	7.5	7.5	18.0	3,780	3,761	6,273
Tennessee	282,240	277,625	4,615	98.4	8.4	8.2	22.1	5,466	5,418	8,367
West South Central	1,028,600	1,013,625	14,975	98.5	7.8	7.6	18.8	5,336	5,303	7,542
Arkansas	138,195	137,945	250	99.8	7.5	7.5	14.8	4,187	4,181	7,584
Louisiana	201,120	198,580	2,540	98.7	7.5	7.4	20.8	5,449	5,401	9,219
Oklahoma	143,120	141,625	1,495	99.0	7.6	7.5	22.3	5,069	5,031	8,623
Texas	546,165	535,475	10,690	98.0	7.9	7.7	17.9	5,654	5,627	6,992
Mountain	426,225	417,395	8,830	97.9	7.1	6.8	16.6	5,682	5,643	7,488
Arizona	133,020	129,550	3,470	97.4	7.4	7.2	16.0	6,170	6,141	7,270
Colorado	88,560	85,860	2,700	97.0	7.4	7.1	15.9	5,862	5,807	7,604
Idaho	31,575	31,440	135	99.6	6.1	6.1	15.2	4,002	3,997	5,306
Montana	39,165	38,505	660	98.3	6.5	6.3	20.9	4,181	4,076	10,349
Nevada	30,495	30,155	340	98.9	7.5	7.3	17.3	9,798	9,809	8,833
New Mexico	46,875	46,340	535	98.9	6.8	6.6	17.2	5,152	5,141	6,089
Utah	41,060	40,175	885	97.8	6.4	6.2	17.4	4,702	4,656	6,794
Wyoming	15,475	15,370	105	99.3	6.6	6.5	14.4	3,758	3,749	5,105
Pacific	1,129,525	1,098,815	30,710	97.3	7.3	7.0	16.5	7,226	7,163	9,457
Alaska	4,705	4,685	20	99.6	7.8	7.8	15.0	6,761	6,746	10,413
California	864,645	840,890	23,755	97.3	7.4	7.2	16.2	7,870	7,812	9,917
Hawaii	24,985	24,890	95	99.6	8.5	8.6	4.0	6,719	6,739	1,541
Oregon[3]	83,725	82,265	1,460	98.3	6.3	6.1	17.0	5,063	4,999	8,643
Washington	151,465	146,085	5,380	96.4	6.7	6.3	17.5	4,842	4,734	7,779
Residence unknown	0	0	0	0.0	0.0	0.0	0.0	0	0	0
Other areas[4]	71,425	0	71,425	0.0	7.9	0.0	7.8	2,621	0	2,620
Puerto Rico	70,060	0	70,060	0.0	7.8	0.0	7.8	2,613	0	2,613
All other areas	1,365	0	1,365	0.0	9.0	0.0	9.0	2,987	0	2,987
Foreign	35	0	35	0.0	14.1	0.0	14.1	5,033	0	5,033

[1]This represents discharges from short-stay hospitals that are exempt from participating in the Medicare PPS. These include short-stay hospitals and separate cost entities in the two waiver States (Maryland and New Jersey) and outlying areas (American Somoa, Guam, Puerto Rico, and Virgin Islands), and short-stay hospitals receiving special consideration under or excluded from PPS (rural referral centers, cancer treatment centers, Mayo clinics, sole community hospitals, and demonstration hospitals).
[2]All short-stay hospitals and separate cost entities in the two waiver States (Maryland and New Jersey) were exempt from participating in the Medicare PPS for calendar year 1986.
[3]It is estimated that the number of discharges reported in Oregon is about 20 percent short of the expected total, based on admission notices received and processed in the Health Care Financing Administration. This shortfall in the expected number of discharges occurred because UNIBILL records for a significant portion of Medicare admissions had not been submitted and included in central office records at the time of the creation (December 1987) of the Medicare provider analysis and review (MEDPAR) stay record file used in this study. No adjustments have been made for this shortfall.
[4]All short-stay hospitals and separate cost entities in outlying areas are exempt from the Medicare PPS.

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

Table 6

Discharges, days of care, total charges, and program payments for Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by the 10 leading principal diagnoses: Calendar year 1986

Principal ICD-9-CM diagnosis	Principal ICD-9-CM codes	Discharges		Days of care		Total charges			Program payments		
		Number	Percent	Total	Per discharge	Amount in thousands	Per discharge	Per day	Amount in thousands	Per discharge	Per day
Total	—	10,044,315	100.0	86,910,015	8.7	$59,375,569	$5,911	$683	$41,780,863	$4,160	$481
The 10 leading diagnoses	—	1,997,840	19.9	15,077,055	7.5	10,610,802	5,311	704	7,538,887	3,774	500
Volume depletion	276.5	137,180	1.4	1,145,250	8.3	576,917	4,206	504	411,927	3,003	360
Intermediate coronary syndrome	411.1	270,485	2.7	1,674,580	6.2	1,489,751	5,508	890	1,093,168	4,042	653
Other and unspecified angina pectoris	413.9	159,415	1.6	757,810	4.8	577,817	3,625	762	465,376	2,919	614
Coronary atherosclerosis	414.0	129,755	1.3	1,038,165	8.0	1,514,684	11,673	1,459	1,287,715	9,924	1,240
Congestive heart failure	428.0	482,425	4.8	4,157,000	8.6	2,650,288	5,494	638	1,815,335	3,763	437
Unspecified transient cerebral ischemia	435.9	123,265	1.2	717,345	5.8	374,048	3,035	521	246,777	2,002	344
Acute bronchitis	466.0	123,775	1.2	915,750	7.4	558,684	4,514	610	314,900	2,544	344
Pneumonia, organism unspecified	486	260,560	2.6	2,363,830	9.1	1,489,071	5,715	630	950,415	3,648	402
Urinary tract infection, site not specified	599.0	132,270	1.3	1,184,655	9.0	663,770	5,018	560	406,839	3,076	343
Hyperplasia of prostrate	600	178,710	1.8	1,122,670	6.3	715,772	4,005	638	546,435	3,058	487
All other diagnoses	—	8,046,475	80.1	71,832,960	8.9	48,764,767	6,060	679	34,241,976	4,256	477

NOTE: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*.

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

of total discharges (10.0 million). The principal diagnoses with the second and third highest number of discharges were intermediate coronary syndrome—ICD-9-CM code 411.1 (270,485) and pneumonia, organism unspecified—ICD-9-CM code 486 (260,560).

Five of the 10 leading diagnoses represented diseases of the circulatory system (ICD-9-CM codes 390 through 459), accounting for about 12 percent (1.17 million) of all discharges, 10 percent (8.3 million) of all days of care, and 12 percent ($4.9 billion) of all program payments.

In Table 7, the number of discharges with surgery are analyzed by days of care, total charges, and program payments for the leading principal surgical procedures.

- Discharges with surgery (5.9 million) accounted for nearly 59 percent of all discharges, 66 percent of all days of care, and 72 percent of all short-stay hospital inpatient expenditures.
- For all discharges with surgical procedures, the average program payment per discharge was $5,085 and $521 per day.

Among Medicare beneficiaries, the 10 leading surgical procedures accounted for 20 percent (1.2 million discharges) of all short-stay hospital discharges with surgery (5.9 million), and for $6.4 billion (almost 21 percent) of all program payments for surgical procedures ($30.0 billion).

The surgical procedure with the highest number of discharges (220,930) was transurethral prostatectomy (ICD-9-CM code 60.2), accounting for 1.6 million total days of care (7.2 days per discharge) and $750 million in expenditures ($3,396 per discharge).

The surgical procedure with the second highest number of discharges (192,705) was diagnostic procedures on heart and pericardium (ICD-9-CM code 37.2), accounting for 1.1 million total days of care (5.5 days per discharge) and $873 million in expenditures ($4,530 per discharge).

Program payment per discharge for the 10 leading procedures ranged from a low of $2,056 for unilateral repair of inguinal hernia (ICD-9-CM code 53.0) to a high of $19,232 for bypass anastomosis for heart revascularization (ICD-9-CM code 36.1). The latter procedure alone accounted for $1.6 billion in Medicare program payments, almost 26 percent of the program payments for the leading procedures, or about 5.5 percent of all program outlays for surgical stays.

Average length of stay per discharge ranged from a low of 4.1 days per discharge for unilateral repair of inguinal hernia (ICD-9-CM code 53.0) to a high of 15.3 days for bypass anastomosis for heart revascularization (ICD-CM code 36.1).

Definition of terms

Annual rates per 1,000 enrollees—A ratio of the total number of discharges or days of care (multiplied by 1,000) to the number of persons entitled to benefits as of July 1 of that year.

Covered day of care—A day of inpatient hospital care during which services furnished to a person eligible for hospital insurance (HI) benefits are deemed to be covered by the Medicare program.

Day of care—A day during which inpatient hospital services were furnished to a person eligible for HI benefits under Medicare. The day of discharge is not counted as a day of care.

Discharge—The formal release of an inpatient from a hospital. All discharges including those persons who died during their hospitalization.

Hospitals and units excluded from the prospective payment system (PPS)—Applies to all inpatient hospitals participating in the Medicare program except for those hospitals or units excluded by law. For 1986, these exclusions applied to: hospitals participating in approved State alternative reimbursement programs located in two waiver States—Maryland and New Jersey; hospitals located outside the 50 States and the District of Columbia; psychiatric, rehabilitation, children's, and long-term care hospitals; distinct-part psychiatric, rehabilitation, and alcohol and drug units of acute care hospitals; and, hospitals participating in approved demonstration projects or regional demonstrations.

Hospital charges—The hospital's charges for room, board, and ancillary services as recorded on the billing form (HCFA-1450).

Program payments—Represent, for the most part, payments made by the Medicare program for inpatient services rendered by short-stay hospitals participating in the Medicare PPS under the HI program. Under PPS, Medicare payments to most hospitals for Part A inpatient operating costs are made on the basis of a predetermined, fixed rate for each diagnosis-related group. This rate constitutes payment in full, and hospitals are prohibited from charging beneficiaries for other than the statutory deductible and coinsurance amounts. Pass-through costs (capital, direct medical education, and kidney acquisition) continue, for the time being, to be paid on a retrospective basis.

Non-PPS hospitals and units are still being reimbursed for Part A short-stay hospital inpatient services based on the retrospective cost-based reimbursement system previously in effect. These payments reflect interim reimbursement rates established to reflect costs as closely as possible, usually as a per diem amount or as a percentage of total charges. These payments exclude beneficiary cost-sharing amounts and retroactive audit adjustments based on the provider's audited reasonable costs of operation.

Prospective payment system—Established by the Social Security Amendments of 1983 (Public Law 98-21) for most participating short-stay hospitals certified to render inpatient hospital services to 30 million Americans eligible for Medicare. The new prospective payment system (PPS) legislation, which went into effect on October 1, 1983, contained sweeping revisions which radically restructured the payment system in which hospitals are reimbursed for

Table 7

Discharges with surgery, days of care, total charges, and program payments for Medicare hospital insurance beneficiaries receiving short-stay hospital inpatient services, by the 10 leading principal surgical procedures: Calendar year 1986

Principal ICD-9-CM procedures	Principal ICD-9-CM codes	Discharges with surgery		Days of care		Total charges			Program payments		
		Number	Percent	Total	Per discharge	Amount in thousands	Per discharge	Per day	Amount in thousands	Per discharge	Per day
Total	—	5,897,085	100.0	57,529,960	9.8	$43,916,068	$7,447	$763	$29,988,982	$5,085	$521
The 10 leading procedures	—	1,177,745	20.0	10,833,985	9.2	8,993,077	7,636	830	6,391,209	5,427	590
Bypass anastomosis for heart revascularization	36.1	85,060	1.4	1,297,940	15.3	2,226,765	26,202	1,717	1,635,849	19,232	1,260
Diagnostic procedures on heart and pericardium	37.2	192,705	3.3	1,060,795	5.5	1,041,767	5,406	982	872,975	4,530	823
Other endoscopy of small intestine	45.13	148,585	2.5	1,284,775	8.6	820,677	5,523	639	470,457	3,166	366
Other endoscopy of large intestine	45.24	75,285	1.3	637,575	8.5	360,848	4,793	566	216,615	2,877	340
Total cholecystectomy	51.22	129,090	2.2	1,418,890	11.0	1,064,603	8,247	750	733,626	5,683	517
Unilateral repair of inguinal hernia	53.0	79,800	1.4	323,910	4.1	222,072	2,783	686	164,051	2,056	506
Other cystoscopy	57.32	74,145	1.3	681,345	9.2	386,267	5,237	570	236,824	3,194	348
Transurethral prostatectomy	60.2	220,930	3.7	1,599,005	7.2	1,017,160	4,604	636	750,332	3,396	469
Open reduction of fracture of femur with internal fixation	79.35	104,815	1.8	1,587,845	15.1	1,001,111	9,551	630	743,004	7,089	468
Total hip replacement	81.5	67,330	1.1	941,905	14.0	847,807	12,592	900	567,476	8,428	602
All other procedures	—	4,719,340	80.0	46,695,975	9.9	34,922,991	7,400	748	23,597,773	5,000	505

NOTE: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*.

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

inpatient services furnished to Medicare beneficiaries.

Short-stay hospital—General and special hospitals certified as participating facilities under Medicare and reporting average stays of less than 25 days.

Sources and limitations of data

The data in this article were derived from the Health Care Financing Administration (HCFA) short-stay hospital inpatient stay record file. This file is generated by linking information from three HCFA master program files for Medicare beneficiaries. Thus, the statistical stay record provides information on the patient, the hospital, and the hospitalization.

The data are based on a 20-percent sample of inpatient stay records. Therefore, the data are subject to sampling variability. Sample counts were multiplied by a factor of 5 to estimate population totals.

The data were extracted from short-stay hospital inpatient records received and processed in HCFA as of December 1987. Therefore, 1986 discharges recorded after that date were not included.

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