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From Vital and Health Statistics of the National Center for Health Statistics Number 144 • December 7, 1987

Expected Principal Source of Payment for Hospital Discharges: United States, 1985

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Introduction

This report presents statistics on data collected through the National Hospital Discharge Survey. The National Center for Health Statistics has conducted this survey continuously since 1965. In 1985 data were abstracted from the face sheets of medical records of approximately 194,800 patients discharged from 414 non-Federal short-stay hospitals. These data were used to produce estimates of hospital utilization by an estimated 35.1 million inpatients (excluding newborn infants) in the United States.

From 1968 through 1970 information on hospital charges and sources of payment from a subsample of the National Hospital Discharge Survey (NHDS) sample was collected (NCHS, 1974). No information on charges or sources of payment was collected from 1971 through 1976. However, beginning in 1977 data on patients' principal expected sources of payment and other expected sources of payment were collected from the face sheets of all medical records in the NHDS sample. Reports on the 1977 and 1979 data have been published (NCHS, 1980 and 1982). In addition, summary data for 1982–85 have been published (NCHS, 1984, 1985, 1986, and 1987a). Statistics in these reports, as well as in this one, reflect only the patients' principal source of payment. The 1977 report presented estimates of source of payment by age and sex of patients as well as estimates for leading diagnostic and surgical categories. The 1979 report updated the basic estimates by age and sex of patient and provided analysis by discharge status and surgical status of the patient as well as by hospital location and ownership. This report updates the data from both reports; however, the data are analyzed from a different point of view. Expected sources of payment are not analyzed separately, but are analyzed for all the different sources of payment by sex and age of patient, by hospital characteristics, and by diagnostic and procedural categories. The survey form used to collect these data is reproduced in another publication of the National Center for Health Statistics (NCHS, 1987a).

According to the NHDS, approximately 7 percent of all patients discharged from short-stay hospitals had no health insurance (NCHS, 1987a). On the other hand, data from the National Health Interview Survey indicate that 13 percent of the noninstitutionalized population had no coverage (NCHS, 1987b). This would seem to indicate that a proportionally smaller number of the uninsured rather than the insured are hospitalized. This may be true. However, many individuals who claim they have no health insurance may find on being hospitalized that they are covered under such programs as medicaid, welfare, and Veterans Administration health benefits.

According to the NHDS, the percent of hospitalized individuals covered by private insurance was 44.9 percent (NCHS, 1987a). This is much lower than the estimated 66.5 percent of individuals covered by private insurance found in the 1984 NHIS (NCHS, 1987b). This is not unexpected because public health programs are often billed first for hospital charges, and individuals citing private coverage may be using it as a secondary insurance source. It should be noted that in some cases the expected source of payment recorded on the face sheet of the medical record may not have been the actual source of payment. For example, a patient admitted to a hospital following an automobile accident may have cited Blue Cross as the expected source of payment when, in fact, an automobile insurance company ultimately made restitution. Also, because of the manner in which this variable was collected, there is no way to determine the charge for the hospital stay or what proportions of the hospital stay and medical services were covered by the principal source of payment indicated.

Highlights

The percent of patients who expected private insurance to pay for their hospitalization decreased significantly from 1977 to 1985 (53 and 45 percent, respectively).

There was a significant increase in the percent of discharges expecting public insurance to pay for their stay.

The average length of stay for patients expecting private insurance to pay for their hospitalization was 5.3 days, which was 1.2 days less than the average of 6.5 days for all patients discharged from short-stay hospitals.

The average age of patients expecting private insurance to pay for their hospitalization was 35.9 years; for those expecting public insurance to pay for their hospitalization, it was 60.2 years.

Only 7 percent of white patients expected medicaid to pay for their hospitalization; about 25 percent of black patients expected medicaid to pay for their hospitalization.

Sixty percent of all females with deliveries expected private insurance to pay for their hospitalization.

About two-thirds of all patients under 65 years of age who had one procedure or more performed expected private insurance to pay for their hospitalization.

Table 1. Number of discharges, days of care, average length of stay, and average age of patients discharged from non-Federal short-stay hospitals, by principal expected source of payment: United States, 1985

[Excludes newborn infants]

Item	All expected sources of payment	Expected sources of payment		
		Private	Public	Self-pay, no charge, and other
Total number of discharges in millions	35.1	15.7	16.2	3.1
Total days of care in millions	226.2	83.0	126.9	16.3
Average length of stay in days	6.5	5.3	8.2	5.3
Average age of patients in years	46.7	35.9	60.2	30.7

Overview

There are three basic types of payment used in the payment of hospital bills. These are private insurance, public insurance, and other types of hospital bill payment including self-pay and no charge. Private insurance consists of Blue Cross and other private or commercial insurance, and public insurance consists of medicare, medicaid, workmen's compensation, and other government insurance programs.

Private insurance traditionally has been the source of payment used by most hospitalized patients as their expected source of payment. However, in recent years, the percent of patients expecting to pay their hospital bills through some form of private insurance has been on the decline. The percent of patients expecting to pay their hospital bills by private insurance declined from 52.5 percent in 1979 (NCHS, 1982) to 44.9 percent in 1985.

Expected source of payment through public insurance programs has been on the increase in recent years. In 1979 approximately 40.0 percent of all hospitalized patients expected to pay their hospital bills through some form of public insurance. In 1985 this increased to 46.3 percent.

Patient characteristics

In 1985 there were 35.1 million discharges from short-stay hospitals. Of the patients discharged, 15.7 million expected private insurance to pay for their hospital stay, 16.2 million expected a government program to pay for their hospital stay, and 3.1 million expected to pay for their hospital stay through other means (table 1).

Even though the number of patients expecting private insurance to pay for their hospital stay was similar to the number of patients expecting a public insurance program to pay for their hospital stay, the number of days of care and average length of stay for those expecting public insurance to pay for their hospital stay was much larger. This is primarily because the medicare program is designed to help older people defray the cost of their medical bills. Older people tend to have more chronic ailments and longer hospital stays. The number of days of care and average length of stay for those expecting public insurance to pay for their hospital stay was 126.9 million days of care and an average length of stay of 8.2 days; for those expecting private insurance to pay for their hospital stay the figures were 83 million days of care and an average length of stay of 5.3 days. The average age of those expecting public insurance to pay for their hospital bills was 60.2 years; for those expecting private insurance to pay for their hospital stay the average age was 35.9 years.

The number and percent distribution of patients discharged from short-stay hospitals by expected source of payment according to age and sex are provided in table 2. With the exception of workmen's compensation, the number of females was greater than the number of males in each expected source of payment.

Over 50 percent of all patients discharged from short-stay hospitals in each age group, with the exception of those 65 years of age and over, expected to pay their hospital bills through some form of private insurance. Medicare is the expected source of payment for most of those over 65 years of age.

White patients tended to utilize private insurance and medicare as an expected source of payment more often than black patients while black patients tended to use medicaid as an expected source of payment more often than white patients (table 3). About 46 percent of white patients expected private insurance to pay for their hospitalization; only 35 percent of black patients expected private insurance to pay for their hospitalization. Medicare as an expected source of payment was utilized by 35 percent of the white patients but only about 21 percent of the black patients. On the other hand, only 7 percent of white patients used medicaid as an expected source of payment and about one-quarter of black patients used medicaid. These differences are partially explained by the younger age distribution of hospitalized black persons.

Table 2. Number and percent distribution of patients discharged from non-Federal short-stay hospitals by principal expected source of payment, according to sex and age: United States, 1985

[Excludes newborn infants]

Sex and age	All expected sources of payment	Private insurance	Medicare	Medicaid	Workmen's compensation	Other government payments	Self-pay	No charge	Other payments
Both sexes				Number in thousands					
All ages	35,056	15,726	11,341	3,344	756	790	2,346	221	531
Under 15 years	2,972	1,727	35	712	---	113	316	24	46
15–44 years	13,966	8,691	332	1,985	464	446	1,569	131	349
45–64 years	7,610	5,064	1,014	551	197	196	402	65	122
65 years and over	10,508	244	9,961	96	96	36	59	*	15
Male									
All ages	14,160	5,985	5,064	967	569	332	941	79	223
Under 15 years	1,698	985	13	403	---	73	185	13	26
15–44 years	4,153	2,421	183	350	374	146	521	35	123
45–64 years	3,776	2,460	586	180	152	92	208	30	66
65 years and over	4,533	118	4,282	34	43	21	27	*	*7
Female									
All ages	20,896	9,741	6,277	2,377	187	459	1,405	142	308
Under 15 years	1,274	742	22	309	---	40	131	11	20
15–44 years	9,813	6,270	149	1,635	91	300	1,049	95	225
45–64 years	3,834	2,604	428	371	44	104	193	35	55
65 years and over	5,975	126	5,679	62	52	15	32	*	*8
Both sexes				Percent distribution					
All ages	100.0	44.9	32.4	9.5	2.2	2.3	6.7	0.6	1.5
Under 15 years	100.0	58.1	1.2	24.0	---	3.8	10.6	0.8	1.5
15–44 years	100.0	62.2	2.4	14.2	3.3	3.3	11.2	0.9	2.5
45–64 years	100.0	66.6	13.3	7.2	2.6	2.6	5.3	0.8	1.6
65 years and over	100.0	2.3	94.8	0.9	0.9	0.3	0.6	*	0.1
Male									
All ages	100.0	42.3	35.8	6.8	4.0	2.3	6.6	0.6	1.6
Under 15 years	100.0	58.0	0.8	23.7	---	4.3	10.9	0.8	1.5
15–44 years	100.0	58.3	4.4	8.4	9.0	3.5	12.5	0.8	3.0
45–64 years	100.0	65.2	15.5	4.8	4.0	2.4	5.5	0.8	1.8
65 years and over	100.0	2.6	94.5	0.8	1.0	0.3	0.6	*	*0.2
Female									
All ages	100.0	46.6	30.0	11.4	0.9	2.2	6.7	0.7	1.5
Under 15 years	100.0	58.2	1.7	24.2	---	3.2	10.3	0.8	1.5
15–44 years	100.0	63.9	1.5	16.7	0.9	3.1	10.7	1.0	2.3
45–64 years	100.0	67.9	11.2	9.7	1.2	2.7	5.0	0.9	1.4
65 years and over	100.0	2.1	95.0	1.0	0.9	0.2	0.5	*	*0.1

Hospital characteristics

The percent of patients expecting private insurance to pay for their hospitalization was lowest in the West Region (39.9 percent) but similar in all other regions. The percent of patients expecting medicare to pay for their hospitalization was higher in the Northeast Region when compared with the South Region (35.0 versus 30.2 percent) (table 3). There were no differences by region in the percent of patients expecting medicaid to pay for their hospital stay.

For patients of profit, nonprofit, and State and local government hospitals, differences occurred in distribution of patients by source of payment. About 37 percent of all patients in State and local government hospitals expected private insurance to pay for their hospitalization; about 10 percent of them expected to pay for their own hospitalization. On the other hand, close to 50 percent of patients in profit and nonprofit hospitals expected private insurance to pay for their hospitalization, but only 6 percent or less of the inpatients expected to pay for their own hospitalization. In addition, the percent of patients using medicaid in the government hospitals was twice that of the profit hospitals (12.9 and 5.6 percent, respectively).

Utilization by diagnosis

Table 4 provides the number and percent of discharges for selected diagnostic categories for patients discharged from short-

Table 3. Number and percent distribution of patients discharged from non-Federal short-stay hospitals by principal expected source of payment, according to race, geographic region, and type of hospital ownership: United States, 1985

[Excludes newborn infants]

Race, region, and type of hospital ownership	*All expected sources of payment*	*Private insurance*	*Medicare*	*Medicaid*	*Workmen's compensation*	*Other government payments*	*Self-pay*	*No charge*	*Other payments*
					Number in thousands				
All ages	35,056	15,726	11,341	3,344	756	790	2,346	221	531
Race									
White	26,379	12,219	9,315	1,751	557	520	1,546	114	357
Black	5,181	1,819	1,078	1,266	112	182	534	76	114
All other	3,497	1,688	948	328	88	88	266	31	60
Geographic region									
Northeast	7,168	3,174	2,508	784	106	87	395	*8	107
Midwest	9,111	4,234	3,003	889	225	172	471	11	108
South	12,274	5,726	3,707	1,140	270	257	966	27	181
West	6,502	2,592	2,123	532	156	275	513	175	135
Type of hospital ownership									
Nonprofit	23,984	11,152	7,921	2,154	536	390	1,411	152	267
Profit	3,296	1,671	1,085	185	102	75	142	*	33
State or local government	7,776	2,903	2,335	1,006	118	325	793	65	231
					Percent distribution				
Total	100.0	44.9	32.4	9.5	2.2	2.3	6.7	0.6	1.5
Race									
White	100.0	46.3	35.3	6.6	2.1	2.0	5.9	0.4	1.4
Black	100.0	35.1	20.8	24.4	2.2	3.5	10.3	1.5	2.2
All other	100.0	48.3	27.1	9.4	2.5	2.5	7.6	0.9	1.7
Geographic region									
Northeast	100.0	44.3	35.0	10.9	1.5	1.2	5.5	*0.1	1.5
Midwest	100.0	46.5	33.0	9.8	2.5	1.9	5.2	0.1	1.2
South	100.0	46.7	30.2	9.3	2.2	2.1	7.9	0.2	1.5
West	100.0	39.9	32.7	8.2	2.4	4.2	7.9	2.7	2.1
Type of hospital ownership									
Nonprofit	100.0	46.5	33.0	9.0	2.2	1.6	5.9	0.6	1.1
Profit	100.0	50.7	32.9	5.6	3.1	2.3	4.3	*	1.0
State or local government	100.0	37.3	30.0	12.9	1.5	4.2	10.2	0.8	3.0

stay hospitals by expected source of payment. Heart disease was the only first-listed diagnosis that was among the leading diagnoses in each of the expected sources of payment. Medicare and private insurance were the expected sources of payment for about 90 percent of all heart disease discharges with medicare accounting for about 62 percent of them. Except for workmen's compensation and medicare, females with deliveries was also among the leading first-listed diagnoses for each expected source of payment. Private insurance, medicaid, and self-pay accounted for about 90 percent of all the discharges for females with deliveries, with private insurance accounting for about 61 percent of them.

Other leading first-listed diagnoses in most of the expected sources of payment were fractures, all sites, and malignant neoplasms. Fractures, all sites, was among the leading first-listed diagnoses in each of the expected sources of payment with the exception of medicaid and other government payments; malignant neoplasms was among the leading first-listed diagnoses in each of the expected sources of payment with the exception of medicaid, workmen's compensation, and self-pay.

Workmen's compensation, as would be expected, had leading diagnoses different from the other sources. Four of the five diagnoses were injury related: intervertebral disc disorders; fractures, all sites; sprains and strains of back; and inguinal hernia. In fact, even though workmen's compensation accounted for only 2 percent of all expected sources of payment, it accounted for one-fourth of all intervertebral disc disorders and one-fifth of all sprains and strains of back (including neck).

Table 4. Number and percent of discharges for selected diagnostic categories for patients discharged from non-Federal short-stay hospitals for each principal expected source of payment: United States, 1985

[Excludes newborn infants]

Diagnostic category and ICD–9–CM code	*Number of discharges in thousands*	*Percent*[1]
Private insurance		
Females with deliveries V27	2,366	61.4
Heart disease 391–392.0, 393–398, 402, 404, 410–416, 420–429	1,025	28.6
Other ischemic heart disease 411–413, 414.1–414.9	455	35.1
Acute myocardial infarction 410	235	31.1
Malignant neoplasms 140–208, 230–234	690	36.1
Fractures, all sites 800–829	419	37.1
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210–229, 235–239	324	64.8
Medicare		
Heart disease 391–392.0, 393–398, 402, 404, 410–416, 420–429	2,220	61.9
Other ischemic heart disease 411–413, 414.1–414.9	715	55.2
Congestive heart failure 428.0	460	82.6
Acute myocardial infarction 410	450	59.6
Cardiac dysrhythmias 427	332	65.0
Malignant neoplasms 140–208, 230–234	1,020	53.4
Cerebrovascular disease 430–438	689	75.2
Fractures, all sites 800–829	423	37.4
Hyperplasia of prostate 600	177	72.1
Medicaid		
Females with deliveries V27	673	17.5
Psychoses 290–299	126	18.0
Heart disease 391–392.0, 393–398, 402, 404, 410–416, 420–429	117	3.3
Pneumonia, all forms 480–486	104	12.2
Asthma 493	98	21.2
Workmen's compensation		
Intervertebral disc disorders 722	117	23.0
Fractures, all sites 800–829	61	5.4
Sprains and strains of back (including neck) 846–847	52	21.9
Inguinal hernia 550	32	8.4
Heart disease 391–392.0, 393–398, 402, 404, 410–416, 420–429	30	0.8
Other government payments		
Females with deliveries V27	126	3.3
Heart disease 391–392.0, 393–398, 402, 404, 410–416, 420–429	47	1.3
Psychoses 290–299	40	5.8
Alcohol dependence syndrome 303	31	7.9
Malignant neoplasms 140–208, 230–234	26	1.4
Self-pay		
Females with deliveries V27	510	13.2
Fractures, all sites 800–829	120	10.6
Heart disease 391–392.0, 393–398, 402, 404, 410–416, 420–429	112	3.1
Psychoses 290–299	72	10.3
Abortions and ectopic and molar pregnancies 630–639	68	17.9
No charge		
Females with deliveries V27	52	1.3
Heart disease 391–392.0, 393–398, 402, 404, 410–416, 420–429	10	0.3
Malignant neoplasms 140–208, 230–234	*9	*0.4
Fractures, all sites 800–829	*6	*0.5
Other payments		
Females with deliveries V27	99	2.6
Heart disease 391–392.0, 393–398, 402, 404, 410–416, 420–429	23	0.6
Psychoses 290–299	19	2.8
Fractures, all sites 800–829	18	1.6
Malignant neoplasms 140–208, 230–234	17	0.9

[1]Percent of all discharges in this diagnostic category with this expected principal source of payment.

Utilization by procedures

Approximately two-thirds of all patients under 65 years of age who had one procedure or more performed expected private insurance to pay for their hospitalization. For those 65 years of age and over, medicare was the expected source of payment for 95 percent of these patients.

About 50 percent of all patients who had one procedure or more performed expected private insurance to pay for their hospitalization (table 5). Of these almost half were women between the ages of 15–44 years. For some of the other sources of payment, the percent of women in this age group with one procedure or more performed is even higher. For example, 58 percent of patients with one procedure or more performed who expected medicaid to pay for their hospitalization and 53 percent who expected to pay for their own hospital bills were females between the ages of 15–44 years.

Table 6 provides the number and percent of all-listed surgeries for patients discharged from short-stay hospitals for each expected source of payment. In each category, with the exception of medicare and workmen's compensation, the leading surgical procedures performed were female sex specific. These included procedures to assist delivery, cesarean section, hysterectomy, and oophorectomy and salpingo-oophorectomy. In addition, for patients with medicaid as a source of payment, bilateral destruction or occlusion of fallopian tubes was a leading procedure. The only two surgical procedures performed that were not sex specific were biopsy and open reduction of fracture, except face and jaw.

Table 5. Number and percent distribution of patients with procedures discharged from non-Federal short-stay hospitals by principal expected source of payment, according to sex and age: United States, 1985

[Excludes newborn infants]

Sex and age	All expected sources of payment	Private insurance	Medicare	Medicaid	Workmen's compensation	Other government payments	Self-pay	No charge	Other payments
Both sexes				Number in thousands					
All ages	20,651	10,136	6,053	1,695	533	436	1,315	148	335
Under 15 years	1,283	799	15	256	---	51	129	10	24
15–44 years	9,104	5,955	174	1,134	323	252	946	95	226
45–64 years	4,605	3,240	517	260	148	111	211	43	76
65 years and over	5,658	142	5,347	45	63	22	29	*	*9
Male									
All ages	7,900	3,484	2,831	391	413	159	450	45	128
Under 15 years	747	462	*6	149	---	33	77	*5	14
15–44 years	2,309	1,408	94	143	266	60	252	20	66
45–64 years	2,259	1,541	297	82	118	52	109	19	42
65 years and over	2,585	72	2,434	18	29	14	13	*	*5
Female									
All ages	12,751	6,652	3,221	1,304	121	277	865	104	207
Under 15 years	537	337	*9	107	---	18	52	*5	*9
15–44 years	6,795	4,547	80	991	56	192	694	75	160
45–64 years	2,346	1,698	220	178	30	59	103	24	34
65 years and over	3,073	70	2,913	28	34	*8	16	*	*
Both sexes				Percent distribution					
All ages	100.0	49.1	29.3	8.2	2.6	2.1	6.4	0.7	1.6
Under 15 years	100.0	62.3	1.2	19.9	---	4.0	10.0	0.8	1.8
15–44 years	100.0	65.4	1.9	12.5	3.5	2.8	10.4	1.0	2.5
45–64 years	100.0	70.4	11.2	5.6	3.2	2.4	4.6	0.9	1.7
65 years and over	100.0	2.5	94.5	0.8	1.1	0.4	0.5	*	*0.2
Male									
All ages	100.0	44.1	35.8	5.0	5.2	2.0	5.7	0.6	1.6
Under 15 years	100.0	61.9	*0.8	19.9	---	4.4	10.3	*0.7	1.9
15–44 years	100.0	61.0	4.1	6.2	11.5	2.6	10.9	0.9	2.9
45–64 years	100.0	68.2	13.1	3.6	5.2	2.3	4.8	0.8	1.9
65 years and over	100.0	2.8	94.2	0.7	1.1	0.5	0.5	*	*0.2
Female									
All ages	100.0	52.2	25.3	10.2	0.9	2.2	6.8	0.8	1.6
Under 15 years	100.0	62.8	*1.6	20.0	---	3.4	9.7	*0.9	*1.7
15–44 years	100.0	66.9	1.2	14.6	0.8	2.8	10.2	1.1	2.4
45–64 years	100.0	72.4	9.4	7.6	1.3	2.5	4.4	1.0	1.4
65 years and over	100.0	2.3	94.8	0.9	1.1	*0.3	0.5	*	*

Table 6. Number and percent of all-listed procedures for selected surgical categories for patients discharged from non-Federal short-stay hospitals for each principal expected source of payment: United States, 1985

[Excludes newborn infants]

Surgical procedure category and ICD–9–CM code	*Number in thousands*	*Percent*[1]
Private insurance		
Procedures to assist delivery ... 72–73	1,597	64.1
Cesarean section ... 74.0–74.2, 74.4, 74.99	583	66.5
Biopsy ...	549	38.2
Hysterectomy ... 68.3–68.7	515	76.8
Oophorectomy and salpingo-oophorectomy ... 65.3–65.6	397	75.7
Medicare		
Biopsy ...	708	49.3
Prostatectomy ... 60.2–60.6	283	77.1
Arthroplasty of joints ... 81.3–81.8	239	47.2
Pacemaker insertion, replacement, removal, and repair ... 37.7–37.8	168	75.0
Open reduction of fracture (except face and jaw) ... 79.2–79.3, 79.5–79.6	157	34.8
Medicaid		
Procedures to assist delivery ... 72–73	375	15.0
Cesarean section ... 74.0–74.2, 74.4, 74.99	135	15.4
Repair of current obstetric laceration ... 75.5–75.6	95	17.3
Bilateral destruction or occlusion of fallopian tubes ... 66.2–66.3	88	19.0
Biopsy ...	79	5.5
Workmen's compensation		
Excision or destruction of intervertebral disc and spinal fusion ... 80.5, 81.0	66	20.3
Operations on muscles, tendons, fascia, and bursa ... 82–83.1, 83.3–83.9	42	12.3
Repair of inguinal hernia ... 53.0–53.1	32	7.8
Open reduction of fracture (except face and jaw) ... 79.2–79.3, 79.5–79.6	30	6.7
Arthroplasty of joints ... 81.3–81.8	28	5.4
Other government payments		
Procedures to assist delivery ... 72–73	83	3.3
Cesarean section ... 74.0–74.2, 74.4, 74.99	24	2.7
Repair of current obstetric laceration ... 75.5–75.6	19	3.4
Biopsy ...	16	1.1
Hysterectomy ... 68.3–68.7	15	2.3
Self-pay		
Procedures to assist delivery ... 72–73	327	13.1
Cesarean section ... 74.0–74.2, 74.4, 74.99	99	11.3
Repair of current obstetric laceration ... 75.5–75.6	80	14.7
Open reduction of fracture (except face and jaw) ... 79.2–79.3, 79.5–79.6	48	10.6
Biopsy ...	50	3.5
No charge		
Procedures to assist delivery ... 72–73	34	1.4
Cesarean section ... 74.0–74.2, 74.4, 74.99	12	1.3
Repair of current obstetric laceration ... 75.5–75.6	10	1.8
Bilateral destruction or occlusion of fallopian tubes ... 66.2–66.3	*6	*1.4
Other payments		
Procedures to assist delivery ... 72–73	59	2.4
Repair of current obstetric laceration ... 75.5–75.6	20	3.6
Cesarean section ... 74.0–74.2, 74.4, 74.99	18	2.0
Biopsy ...	15	1.1
Hysterectomy ... 68.3–68.7	*10	*1.5

[1]Percent of all surgical procedures in this category with this expected principal source of payment.

Over 60 percent of all procedures to assist delivery, cesarean sections, hysterectomies, and oophorectomies and salpingo-oophorectomies were performed on patients expecting private insurance to pay for these surgeries.

The leading surgical procedure for patients with medicare as an expected source of payment was biopsy. In fact, one-half of all biopsies performed were on patients with medicare. Seventy-seven percent of all prostatectomies and 75 percent of all pacemaker insertions, replacements, removals, and repairs were performed on patients using medicare as a source of payment. All

Table 7. Number and percent of all-listed procedures for selected nonsurgical categories for patients discharged from non-Federal short-stay hospitals for each principal expected source of payment: United States, 1985

[Excludes newborn infants]

Nonsurgical procedure category and ICD–9–CM code	*Number in thousands*	*Percent*[1]
Private insurance		
Endoscopies of the digestive system ... 42.21–42.23, 44.11–44.13, 45.11–45.13, 45.21–45.24, 48.21–48.22, 51.11–51.21	658	42.7
Arteriography and angiocardiography using contrast material ... 88.4–88.5	502	44.9
Computerized axial tomography ... 87.03, 87.41, 87.71, 88.01, 88.38	440	31.9
Diagnostic ultrasound ... 88.7	431	34.9
Cardiac catheterization ... 37.21–37.23	351	51.6
Medicare		
Endoscopies of the digestive system ... 42.21–42.23, 44.11–44.13, 45.11–45.13, 45.21–45.24, 48.21–48.22, 51.11–51.21	675	43.8
Computerized axial tomography ... 87.03, 87.41, 87.71, 88.01, 88.38	672	48.8
Diagnostic ultrasound ... 88.7	536	43.4
Arteriography and angiocardiography using contrast material ... 88.4–88.5	496	44.4
Radioisotope scan ... 92.0–92.1	446	53.2
Medicaid		
Diagnostic ultrasound ... 88.7	108	8.7
Endoscopies of the digestive system ... 42.21–42.23, 44.11–44.13, 45.11–45.13, 45.21–45.24, 48.21–48.22, 51.11–51.21	90	5.9
Computerized axial tomography ... 87.03, 87.41, 87.71, 88.01, 88.38	77	5.6
Radioisotope scan ... 92.0–92.1	45	5.4
Arteriography and angiocardiography using contrast material ... 88.4–88.5	35	3.2
Workmen's compensation		
Contrast myelogram ... 87.21	113	25.9
Computerized axial tomography ... 87.03, 87.41, 87.71, 88.01, 88.38	59	4.2
Radioisotope scan ... 92.0–92.1	22	2.6
Diagnostic ultrasound ... 88.7	16	1.3
Endoscopies of the digestive system ... 42.21–42.23, 44.11–44.13, 45.11–45.13, 45.21–45.24, 48.21–48.22, 51.11–51.21	14	0.9
Other government payments		
Diagnostic ultrasound ... 88.7	27	2.2
Computerized axial tomography ... 87.03, 87.41, 87.71, 88.01, 88.38	26	1.9
Arteriography and angiocardiography using contrast material ... 88.4–88.5	22	1.9
Endoscopies of the digestive system ... 42.21–42.23, 44.11–44.13, 45.11–45.13, 45.21–45.24, 48.21–48.22, 51.11–51.21	21	1.4
Radioisotope scan ... 92.0–92.1	11	1.4
Self-pay		
Diagnostic ultrasound ... 88.7	83	6.7
Computerized axial tomography ... 87.03, 87.41, 87.71, 88.01, 88.38	73	5.3
Endoscopies of the digestive system ... 42.21–42.23, 44.11–44.13, 45.11–45.13, 45.21–45.24, 48.21–48.22, 51.11–51.21	56	3.6
Arteriography and angiocardiography using contrast material ... 88.4–88.5	39	3.5
Radioisotope scan ... 92.0–92.1	32	3.9
No charge		
Diagnostic ultrasound ... 88.7	13	1.1
Endoscopies of the digestive system ... 42.21–42.23, 44.11–44.13, 45.11–45.13, 45.21–45.24, 48.21–48.22, 51.11–51.21	*7	*0.5
Computerized axial tomography ... 87.03, 87.41, 87.71, 88.01, 88.38	*7	*0.5
Radioisotope scan ... 92.0–92.1	*6	*0.7
Other payments		
Computerized axial tomography ... 87.03, 87.41, 87.71, 88.01, 88.38	25	1.8
Diagnostic ultrasound ... 88.7	20	1.7
Endoscopies of the digestive system ... 42.21–42.23, 44.11–44.13, 45.11–45.13, 45.21–45.24, 48.21–48.22, 51.11–51.21	20	1.3
Radioisotope scan ... 92.0–92.1	14	1.7
Pyelogram ... 87.73–87.74	11	2.4

[1]Percent of all diagnostic procedures in this nonsurgical category with this expected principal source of payment.

of the leading procedures for which workmen's compensation was the expected source of payment were for work-related injuries. These included excision or destruction of intervertebral disc and spinal fusion; operations on muscles, tendons, fascia, and bursa; repair of inguinal hernia; open reduction of fracture, except face and jaw; and arthroplasty of joints.

Table 7 provides the number and percent of all-listed diagnostic procedures for each expected source of payment. Endoscopies of the digestive system, computerized axial tomography (CAT scan), and diagnostic ultrasound were among the leading diagnostic procedures in each of the source of payment categories. Approximately 87 percent of the endoscopies of the digestive system, 81 percent of the computerized axial tomographies, and 78 percent of the diagnostic ultrasound procedures were performed on patients using private insurance or medicare as the expected source of payment.

Radioisotope scan was also among the leading diagnostic procedures in each of the different expected source of payment categories with the exception of those using private insurance as the expected source of payment. Over 50 percent of the radioisotope scans were performed on patients using medicare as the expected source of payment.

References

American Hospital Association. Unpublished data from The American Hospital Association 1984 Annual Survey. Chicago.

National Center for Health Statistics, M. G. Sirken. 1967a. Utilization of short-stay hospitals, summary of nonmedical statistics: United States, 1965. *Vital and Health Statistics.* Series 13, No. 2. PHS Pub. No. 1000. Public Health Service. Washington: U.S. Government Printing Office.

National Center for Health Statistics, M. J. Witkin. 1967b. Utilization of short-stay hospitals by characteristics of discharged patients: United States, 1965. *Vital and Health Statistics.* Series 13, No. 3. PHS Pub. No. 1000. Public Health Service. Washington: U.S. Government Printing Office.

National Center for Health Statistics, M. Moien. 1974. Patient charges in short-stay hospitals: United States, 1968–70. *Vital and Health Statistics.* Series 13, No. 15. DHEW Pub. No. (HRA) 74–1766. Health Resources Administration. Washington: U.S. Government Printing Office.

National Center for Health Statistics, R. Pokras and G. Gardocki. 1980. Expected principal source of payment for hospital discharges: United States, 1977. *Advance Data From Vital and Health Statistics.* No. 62. DHHS Pub. No. (PHS) 81–1250. Public Health Service. Hyattsville, Md.

National Center for Health Statistics, E. Graves and R. Pokras. 1982. Expected principal source of payment for hospital discharges: United States, 1979. *Advance Data From Vital and Health Statistics.* No. 75. DHHS Pub. No. (PHS) 82–1250. Public Health Service. Hyattsville, Md.

National Center for Health Statistics, E. J. Graves. 1984. Utilization of short-stay hospitals, United States: 1982 annual summary. *Vital and Health Statistics.* Series 13, No. 78. DHHS Pub. No. (PHS) 84–1739. Public Health Service. Washington: U.S. Government Printing Office.

National Center for Health Statistics, E. J. Graves. 1985. Utilization of short-stay hospitals: Annual summary for the United States, 1983. *Vital and Health Statistics.* Series 13, No. 83. DHHS Pub. No. (PHS) 85–1744. Public Health Service. Washington: U.S. Government Printing Office.

National Center for Health Statistics, E. J. Graves. 1986. Utilization of short-stay hospitals: Annual summary for the United States, 1984. *Vital and Health Statistics.* Series 13, No. 84. DHHS Pub. No. (PHS) 86–1745. Public Health Service. Washington: U.S. Government Printing Office.

National Center for Health Statistics, E. J. Graves. 1987a. Utilization of short-stay hospitals: Annual summary for the United States, 1985. *Vital and Health Statistics.* Series 13, No. 91. DHHS Pub. No. (PHS) 87–1752. Public Health Service. Washington: U.S. Government Printing Office.

National Center for Health Statistics, P. Ries. 1987b. Health care coverage by sociodemographic and health characteristics: United States, 1984. *Vital and Health Statistics.* Series 10, No. 162. DHHS Pub. No. (PHS) 87–1590. Public Health Service. Washington: U.S. Government Printing Office.

Technical notes

Survey methodology

Source of data

The National Hospital Discharge Survey (NHDS) encompasses patients discharged from short-stay hospitals, exclusive of military and Veterans Administration hospitals, located in 50 States and the District of Columbia. Only hospitals with six beds or more and an average length of stay of less than 30 days for all patients are included in the survey. Discharges of newborn infants are excluded from this report.

The original universe for the survey consisted of 6,965 hospitals contained in the 1963 National Master Facility Inventory. New hospitals were sampled for inclusion in the survey in 1972, 1975, 1977, 1979, 1981, 1983, and 1985. In all, 558 hospitals were sampled in 1985. Data on the universe of short-stay non-Federal hospitals are now obtained from the American Hospital Association (unpublished).

Of the 558 hospitals in the 1985 sample, 82 refused to participate and 62 were out of scope either because the hospital had gone out of business or because it failed to meet the definition of a short-stay hospital. Thus, 414 hospitals participated in the survey during 1985 and provided approximately 194,800 abstracts of medical records.

Sample design and data collection

All hospitals with 1,000 beds or more in the universe of short-stay hospitals were selected with certainty in the sample. All hospitals with fewer than 1,000 beds were stratified, the primary strata being 24 size-by-region classes. Within each of these 24 primary strata, the allocation of the hospitals was made through a controlled selection technique so that hospitals in the sample would be properly distributed with regard to type of ownership and geographic division. Sample hospitals were drawn with probabilities ranging from certainty for the largest hospitals to 1 in 40 for the smallest hospitals. The within-hospital sampling ratio for selecting sample discharges varied inversely with the probability of selection of the hospital. In 1985, for the first time, there were two data collection procedures used for the survey. The first was the traditional manual system of sample selection and data abstraction. The second was an automated method used in approximately 17 percent of the sample hospitals; it involved the purchase of data tapes from commercial abstracting services.

In hospitals using the manual procedure, sample discharges were selected using the daily listing sheet of discharges as the sampling frame. These discharges were selected by a random technique, usually on the basis of the terminal digit or digits of the patient's medical record number. The sample selection and abstraction of data from the face sheet and discharge summary of the medical records were performed by the hospital staff or by representatives of the National Center for Health Statistics. The completed forms were forwarded to NCHS for coding, editing, and weighting procedures.

For hospitals using the automated procedure, tapes containing machine-readable medical record data are purchased from commercial abstracting services. These tapes are subject to National Center for Health Statistics sampling, editing, and weighting procedures. A detailed description of the automated process is to be published.

The medical abstract form and the abstract service data tapes contain items relating to the personal characteristics of the patient, including birth date, sex, race, and marital status but not name and address; administrative information, including admission and discharge status and medical record number; and medical information, including diagnoses and surgical and nonsurgical operations or procedures. Since 1977, patient zip code, expected source of payment, and dates of surgery have also been collected. (The medical record number and patient zip code are considered confidential information and are not available to the public.)

Presentation of estimates

Statistics produced by the NHDS are derived by a complex estimating procedure. The basic unit of estimation is the sample inpatient discharge abstract. The estimating procedure used to produce essentially unbiased national estimates in the NHDS has three principal components: inflation by reciprocals of the probabilities of sample selection, adjustment for nonresponse, and ratio adjustment to fixed totals. These components of estimation are described in appendix I of two earlier publications (NCHS, 1967a and 1967b). Based on consideration of the complex sample design of the NHDS, the following guidelines are used for presenting NHDS estimates in this report:

1. If the sample size is less than 30, the value of the estimate is not reported. Only an asterisk (*) is shown in the tables.
2. If the sample size is 30–59, the value of the estimate is reported but should be used with caution. The estimate is preceded by an asterisk (*) in the tables.

Sampling errors and rounding of numbers

Because the estimates for this report are based on a sample rather than the entire universe, they are subject to sampling variability. The relative standard errors presented in tables I and II are obtained by dividing the standard error of the estimate by the estimate itself and are expressed as a percent of the estimate.

About 3.1 percent of the discharges sampled for the 1985 NHDS did not have information concerning source of payment on the face sheet of the medical record. An expected source of payment was imputed for these discharges based on the sex and age of the patient.

There were several edits performed on the raw data. When a principal expected source of payment was not indicated, but a single source of payment was listed as a secondary source of payment, the indicated secondary source of payment was assumed to be the principal expected source of payment. When workmen's compensation was listed in conjunction with other

Table I. Approximate relative standard errors of estimated numbers of discharges: United States, 1985

Size of estimate	Number of discharges	
	Region, proprietary, or State and local government hospitals	All other characteristics
5,000	22.4	13.2
10,000	18.3	10.6
50,000	12.0	6.7
100,000	10.3	5.7
500,000	7.5	4.0
1,000,000	6.6	3.5
3,000,000	5.6	2.9
5,000,000	5.2	2.7
10,000,000	4.8	2.4
20,000,000	4.4	2.2
30,000,000	4.2	2.1
40,000,000	4.1	2.1

Table II. Approximate relative standard errors of estimated numbers of all-listed procedures: United States, 1985

Size of estimate	All-listed procedures
5,000	18.2
10,000	15.1
50,000	10.3
100,000	8.9
500,000	6.7
1,000,000	6.0
3,000,000	5.1
5,000,000	4.8
10,000,000	4.4
20,000,000	4.1
30,000,000	4.0

insurance sources, workmen's compensation was taken as the principal expected source of payment; when medicare was listed in conjunction with other insurance sources (except workmen's compensation), medicare was taken as the principal expected source of payment. Estimates have been rounded to the nearest thousand. For this reason detailed figures within tables do not always add to the totals.

Tests of significance

In this report, the determination of statistical inference is based on the two-tailed Bonferroni test for multiple comparisons. Terms relating to differences such as "higher" and "less" indicate that the differences are statistically significant. Terms such as "similar" or "no difference" mean that no statistically significant difference exists between the estimates being compared. A lack of comment on the difference between any two estimates does not mean that the difference was tested and found to be not significant.

Definition of terms

Private insurance—Private insurance is health insurance provided by nongovernment sources including consumers, insurance companies, private industry, and philanthropic organizations.

Workmen's compensation—Workmen's compensation is a program in all States under which employees injured on the job receive financial compensation without regard to fault.

Medicare (Title XVIII)—Medicare is a nationwide health program providing health insurance protection, regardless of income, to people 65 years of age and over, people eligible for Social Security disability payments for more than 2 years, and people with end-stage renal disease.

Medicaid—Medicaid is a joint Federal-State welfare program, available in virtually all States, that provides benefits for low-income persons, including the aged. To qualify for this program, a person must meet each State's definition of "low income."

Other government payments—Other government payments refers to government payments in which the expected source of payment cannot be classified in one of the other three government categories. These include payments made under the Title V Program, Champus (a program designed to provide medical coverage for dependents of military personnel), no-fault casualty coverage, vocational rehabilitation, Federal or State research grant (medical research), or legal hold (prisoner in medical detention).

Self-pay—Self-pay is a form of hospital payment in which the major share of the total cost is paid by the patient, spouse, family, or next of kin.

No charge—There is no charge to a patient when a patient is admitted to a hospital with the understanding that payment will not be expected because the medical services are provided free of charge by the hospital. This category includes hospital-sponsored welfare, donated staff services, hospital-sponsored special research, and patients in "teaching" hospitals.

Other payments—Other payments includes all other nonprofit sources of payment such as church welfare, United Way (United Appeal), or Shriner's Crippled Children Services.

Definitions of other terms are available in appendix II of another report (NCHS, 1987a).

Symbols

- - -	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

Suggested citation

National Center for Health Statistics, E. J. Graves. 1987. Expected principal source of payment for hospital discharges: United States, 1985. *Advance Data From Vital and Health Statistics.* No. 144. DHHS Pub. No. (PHS) 88–1250. Public Health Service. Hyattsville, Md.

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