

1987 Summary: National Hospital Discharge Survey

Hospital Care Statistics Branch, Division of Health Care Statistics

Introduction

The hospital discharge rate has continued a decline that began in 1983. The 1987 rate was 138 discharges per 1,000 civilian population—a 17 percent decrease in 4 years. In addition, the average length of stay in 1987 was 6.4 days, the same as in 1986, but compared with 7.6 days a decade

ago. Figures 1 and 2 present the trends in both hospital discharge rates and average length of stay by patient age for 1972–87.

During 1987, an estimated 33.4 million inpatients (excluding newborn infants) were discharged from short-stay non-Federal hospitals in the United States. These patients were hospitalized an average of 6.4 days and used 215

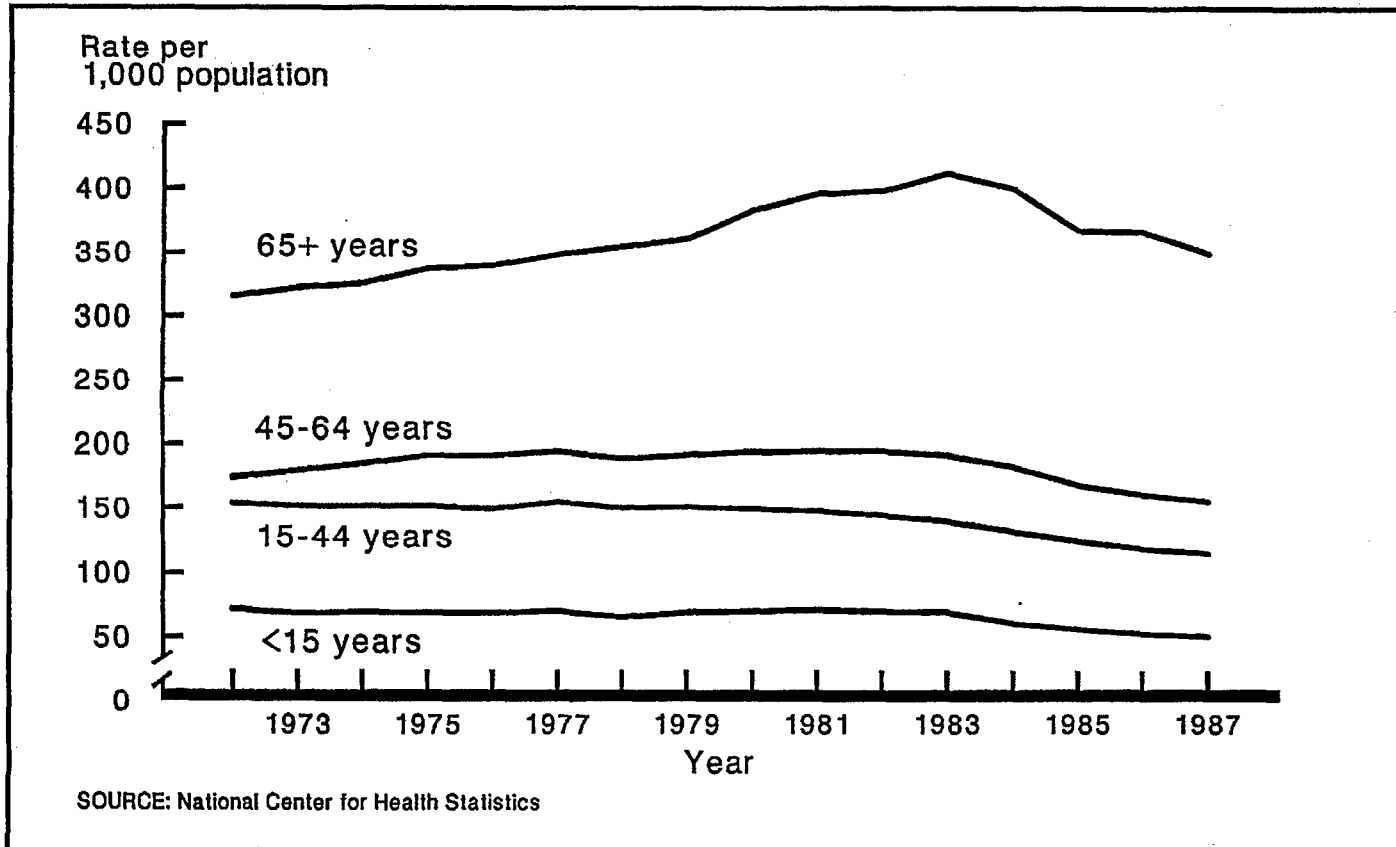


Figure 1. Rate of patients discharged from short-stay hospitals, by age: United States, 1972-87

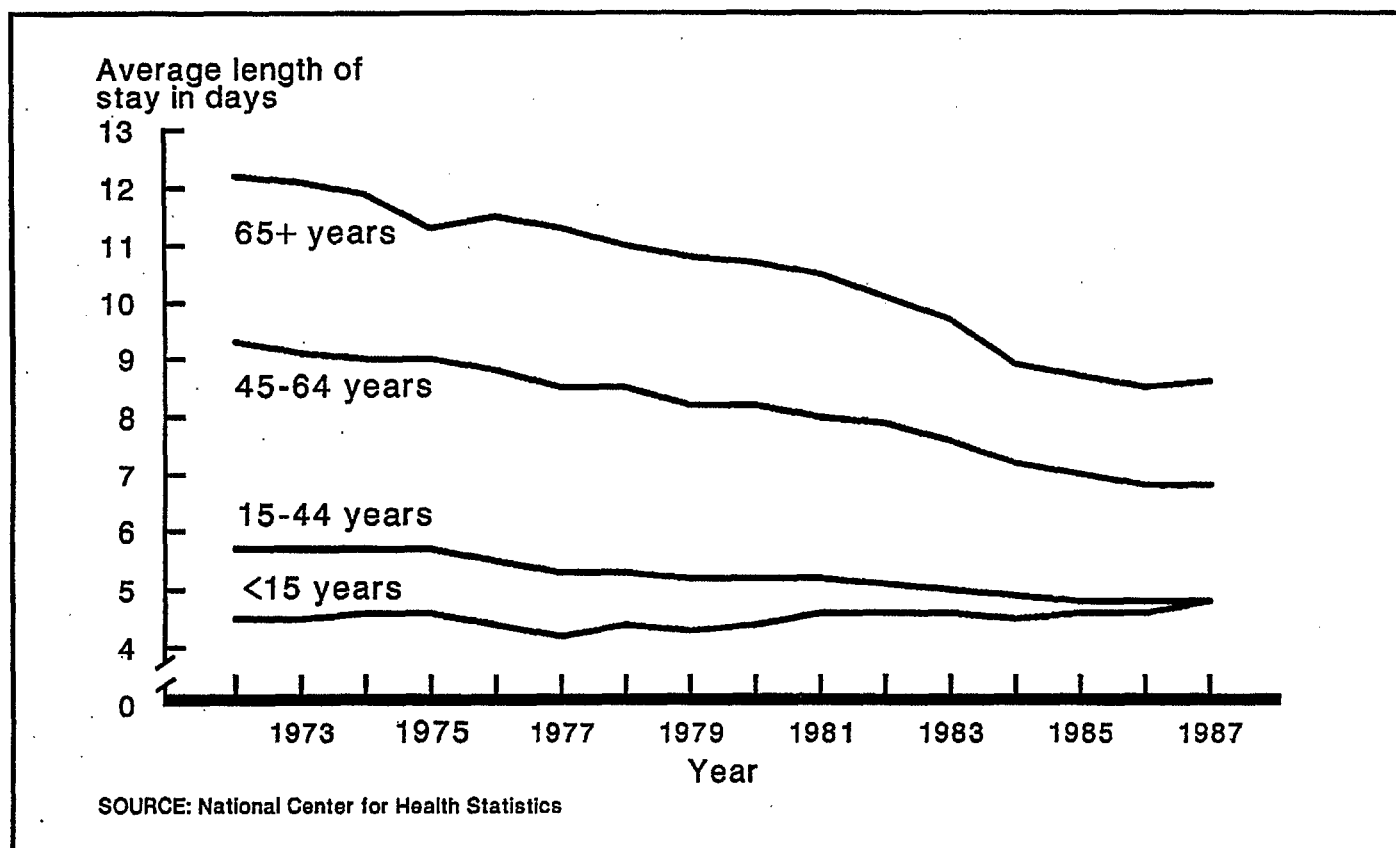


Figure 2. Average length of stay for patients discharged from short-stay hospitals, by age: United States, 1972-87

million days of inpatient hospital care. Patients hospitalized during 1987 accounted for 138 discharges per 1,000 civilian population.

These and other statistics presented in this report are based on data collected by means of the National Hospital Discharge Survey, a continuous survey that has been conducted by the National Center for Health Statistics since 1965. In 1987, data were abstracted from the medical records of approximately 181,000 patients discharged from 400 short-stay non-Federal hospitals. A brief description of the sample design, data collection procedures, and estimation process, and definition of terms used in this report can be found in the section entitled "Technical notes." Detailed discussions of these items, as well as the survey form used to collect the data, have been published (NCHS, 1970, 1987).

Coding of medical data for patients hospitalized is done according to the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (U.S. Public Health Service and Health Care Financing Administration, 1980). Up to seven diagnoses and four procedures are coded for each discharge. Although diagnoses included in the ICD-9-CM section entitled "Supplementary classification of external causes of injury and poisoning" (codes E800-E999) are used by the National Hospital Discharge Survey, these diagnoses are excluded from this report. The conditions diagnosed and procedures performed are presented here by chapter of ICD-9-CM. Within these chapters, a few diagnoses and procedures or groups thereof also are shown. These specific categories were selected prima-

rily because of large numbers of occurrences or because they are of special interest. Residual categories of the diagnostic and procedure classes, however, are not included in the tables. More detailed analyses of these data will be presented in later reports in Series 13 of Vital and Health Statistics.

In 1987, approximately 17 percent of the hospitals submitted machine-readable data tapes through commercial abstracting services. Preliminary analysis indicates that a greater number of nonsurgical procedures per patient are obtained from these hospitals than from hospitals submitting data in the traditional manual mode (see "Technical notes"). This has resulted in increases from 1984 to 1987 in the estimates for miscellaneous diagnostic and therapeutic procedures and, therefore, for total procedures.

Data highlights

Utilization by patient and hospital characteristics

The number, rate, and average length of stay of patients discharged from short-stay non-Federal hospitals are shown by selected patient and hospital characteristics in tables 1-3. The 33.4 million patients discharged from short-stay hospitals during 1987 included an estimated 13.6 million males and 19.8 million females. The rates per 1,000 population were 116 for males and 159 for females, making the rate for females about 37 percent higher than the rate

for males. The number and rate of discharges are always higher for females than for males because of the large number of women in their childbearing years (15–44 years of age) who are hospitalized for deliveries and other obstetrical conditions.

The average length of stay was 6.9 days for males and 6.1 days for females during 1987. The length of stay for females was shorter than that for males primarily because the average length of stay of the 3.9 million women who were hospitalized for deliveries was only 3.1 days.

The number of discharges from short-stay hospitals by geographic region during 1987 ranged from 11.3 million in the South Region to 6.7 million in the Northeast and West Regions, and the rates per 1,000 population ranged from 147 in the Midwest Region to 134 in the Northeast Regions. Regional differences in the number of discharges are accounted for mainly by variations in population sizes.

Average lengths of stay by geographic region were 5.5 days in the West, 6.2 days in the South, 6.7 days in the Midwest, and 7.5 days in the Northeast.

Discharges from short-stay hospitals were approximately 40 percent male and 60 percent female in every hospital bed-size group. The average length of stay increased steadily from 4.9 days in the smallest hospitals (6–99 beds) to 7.3 days in the largest hospitals (500 beds or more) for all patients.

During 1987, voluntary nonprofit hospitals provided medical care to an estimated 22.8 million patients, or 68 percent of all patients hospitalized. Hospitals operated by State and local governments cared for 6.9 million patients, or 21 percent of all discharges, and proprietary hospitals operated for profit cared for 3.7 million patients, or 11 percent of all discharges. Average lengths of stay were 6.6 days in voluntary nonprofit hospitals, 6.0 days in State and local government hospitals, and 5.9 days in proprietary hospitals.

Utilization by diagnosis

Diseases of the circulatory system ranked first in 1987 among the ICD-9-CM diagnostic chapters as a principal or first-listed diagnosis among patients discharged from non-Federal short-stay hospitals. These conditions accounted for an estimated 5.6 million discharges. Other leading ICD-9-CM diagnostic chapters were supplementary classifications (including females with deliveries) (4.3 million discharges) and diseases of the digestive system (3.7 million discharges). About 40 percent of the patients discharged from non-Federal short-stay hospitals were included in these three ICD-9-CM diagnostic chapters.

The diagnostic categories presented in this report were selected either because they appear as principal or first-listed diagnoses with great frequency or because the conditions are of special interest. Although many of these categories (such as malignant neoplasms; psychoses; and fractures, all sites) are groupings of more detailed diagnoses, they are presented as single categories without showing all of the specific diagnostic inclusions.

The number and rate of discharges and average length of stay for each ICD-9-CM diagnostic chapter and selected categories are shown by sex and age in tables 4–6. The most common diagnostic category for all patients was females with deliveries. This was followed by the diagnostic categories heart disease and malignant neoplasms. Excluding females with deliveries, these last two non-sex-specific diagnostic categories were also the most common first-listed diagnoses for each sex.

The most frequent first-listed diagnoses for 1987 varied for the different age groups. For patients under 15 years of age, the most frequent diagnoses were pneumonia, all forms; acute respiratory infections, except influenza; chronic disease of tonsils and adenoids; and asthma. Excluding females with deliveries, the most frequent diagnoses for patients 15–44 years of age were psychoses; fractures, all sites; and abortions and ectopic and molar pregnancies. Patients 45–64 years of age were hospitalized most frequently for heart disease. The most common diagnoses for patients 65 years of age and over were heart disease and malignant neoplasms.

The average length of stay for all patients ranged from a low of 1.3 days for the diagnostic category chronic disease of tonsils and adenoids, 1.8 days for the diagnostic category of cataract, and 2.2 days for abortions and ectopic and molar pregnancies to a high of 13.7 days for psychoses and 13.9 days for fracture of neck of femur. Although the overall average length of stay for females was shorter than that for males, females stayed in the hospital longer than males for many of the specific diagnostic categories shown in this report.

The average length of stay increased with increasing age for most categories of diagnoses shown. Overall, the average length of stay ranged from 4.7 days for patients under 15 years of age to 8.6 days for patients 65 years and over.

Utilization by procedures

One or more surgical or nonsurgical procedures were performed for an estimated 20.7 million of the 33.4 million inpatients discharged from short-stay hospitals during 1987. A total of 39.1 million procedures, or an average of 1.9 per patient who underwent at least one procedure, were recorded in 1987.

Procedures are grouped in the tables of this report by the ICD-9-CM procedure chapters. Selected procedures within these chapters also are presented by specific categories. Some of these categories (such as extraction of lens and hysterectomy) are presented as single categories although they may be divided into more precise subgroups.

When grouped by chapters, miscellaneous diagnostic and therapeutic procedures with 10.3 million procedures ranked first among the surgical and nonsurgical procedures performed during 1987. These were followed by operations on the digestive system with 5.8 million procedures performed. Other leading chapters were obstetrical procedures with 5.4 million procedures, operations on the

musculoskeletal system with 3.5 million procedures, and operations on the cardiovascular system with 3.1 million procedures. Approximately 72 percent of all procedures performed in 1987 were included in these five ICD-9-CM procedure chapters.

The number and rate of all-listed procedures in 1987 for each ICD-9-CM procedure chapter and selected procedure categories are shown by sex and age in tables 7 and 8. Of the 39.1 million procedures performed during 1987, 15.7 million were for males and 23.4 million were for females. The corresponding rates per 1,000 population were 162 for both sexes, 134 for males, and 188 for females. Of the procedures shown in table 7, some common ones for males were arteriography and angiocardiology and com-

puterized axial tomography; the most frequently performed procedures for females were episiotomy and cesarean section.

The rate of procedures per 1,000 population increased with advancing age from 36 for patients under 15 years to 415 for patients 65 years of age and over. The most frequently performed procedures for patients under 15 years of age were tonsillectomy with or without adenoidectomy and spinal tap; for patients 15–44 years of age, episiotomy and cesarean section; for patients 45–64 years of age, arteriography and angiocardiology, computerized axial tomography, and cardiac catheterization; and for patients 65 years of age and over, computerized axial tomography, diagnostic ultrasound and circulatory monitoring.

***Please replace previous edition with this newly revised copy. The text portion remains the same. However, the tables have been changed.**

TABLE 1. NUMBER OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS BY SELECTED CHARACTERISTICS: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS]

SELECTED CHARACTERISTIC	BOTH SEXES	MALE	FEMALE
NUMBER OF PATIENTS DISCHARGED IN THOUSANDS			
TOTAL	33,387	13,568	19,818
AGE			
UNDER 15 YEARS	2,688	1,537	1,150
15-44 YEARS	13,142	3,874	9,268
45-64 YEARS	7,099	3,528	3,571
65 YEARS AND OVER.	10,459	4,629	5,830
REGION			
NORTHEAST	6,699	2,816	3,883
MIDWEST	8,718	3,602	5,117
SOUTH	11,292	4,537	6,755
WEST	6,678	2,614	4,064
BED SIZE			
6-99 BEDS	5,079	1,988	3,091
100-199 BEDS	5,153	2,167	2,986
200-299 BEDS	7,997	3,204	4,794
300-499 BEDS	8,308	3,407	4,902
500 BEDS OR MORE	6,849	2,803	4,046
OWNERSHIP			
NONPROFIT	22,801	9,287	13,514
STATE AND LOCAL GOVERNMENT	6,860	2,781	4,079
PROPRIETARY	3,725	1,500	2,225

TABLE 3. AVERAGE LENGTH OF STAY FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS BY SELECTED CHARACTERISTICS: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS]

SELECTED CHARACTERISTIC	BOTH SEXES	MALE	FEMALE
AVERAGE LENGTH OF STAY IN DAYS			
TOTAL	6.4	6.9	6.1
AGE			
UNDER 15 YEARS	4.7	4.7	4.7
15-44 YEARS	4.8	6.4	4.2
45-64 YEARS	6.8	6.7	6.9
65 YEARS AND OVER.	8.6	8.3	8.9
REGION			
NORTHEAST	7.5	7.7	7.3
MIDWEST	6.7	7.1	6.3
SOUTH	6.2	6.7	5.8
WEST	5.5	6.2	5.0
BED SIZE			
6-99 BEDS	4.9	5.1	4.8
100-199 BEDS	6.3	6.6	6.1
200-299 BEDS	6.2	6.7	5.8
300-499 BEDS	7.0	7.4	6.7
500 BEDS OR MORE	7.3	8.1	6.8
OWNERSHIP			
NONPROFIT	6.6	7.1	6.3
STATE AND LOCAL GOVERNMENT	6.0	6.8	5.5
PROPRIETARY	5.9	6.3	5.6

TABLE 2. RATE OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY AGE, GEOGRAPHIC REGION, AND SEX: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS]

AGE AND REGION	BOTH SEXES	MALE	FEMALE
RATE OF PATIENTS DISCHARGED PER 1,000 POPULATION			
TOTAL	138.2	116.0	158.9
AGE			
UNDER 15 YEARS	51.3	57.3	45.0
15-44 YEARS	115.1	68.7	160.3
45-64 YEARS	156.9	163.1	151.2
65 YEARS AND OVER.	350.5	381.9	329.1
REGION			
NORTHEAST	133.5	117.5	148.2
MIDWEST	146.8	124.9	167.5
SOUTH	136.1	113.5	157.0
WEST	135.9	108.1	162.9

TABLE 4. NUMBER OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY CATEGORY OF FIRST-LISTED DIAGNOSIS, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. DIAGNOSTIC GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

CATEGORY OF FIRST-LISTED DIAGNOSIS AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15	15-44	45-64	65 YEARS
				YEARS	YEARS	YEARS	AND OVER
NUMBER OF PATIENTS DISCHARGED IN THOUSANDS							
ALL CONDITIONS	33,387	13,568	19,818	2,688	13,142	7,099	10,459
INFECTIOUS AND PARASITIC DISEASES001-139	684	338	346	191	228	93	172
NEOPLASMS140-239	2,331	966	1,365	56	433	802	1,040
MALIGNANT NEOPLASMS140-208,230-234	1,879	868	1,011	38	229	658	953
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM153-154,197.5	198	99	99	*	*7	62	128
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG162,197.0,197.3	305	190	115	*	12	129	164
MALIGNANT NEOPLASM OF BREAST174-175,198.81	205	*	204	*	29	90	87
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE210-229,235-239	452	98	354	18	204	143	87
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS240-279	1,086	415	671	94	263	273	456
DIABETES MELLITUS250	474	198	276	27	131	150	166
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS280-289	323	145	179	52	86	60	125
MENTAL DISORDERS290-319	1,781	935	845	65	1,093	359	263
PSYCHOSES290-299	814	377	437	12	448	179	175
ALCOHOL DEPENDENCE SYNDROME303	336	248	87	*	216	92	26
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS320-389	949	437	512	190	260	197	303
DISEASES OF THE CENTRAL NERVOUS SYSTEM.320-336,340-349	383	174	208	56	134	80	112
CATARACT366	63	24	39	*	*	11	47
DISEASES OF THE EAR AND MASTOID PROCESS380-389	196	96	100	94	40	26	36
DISEASES OF THE CIRCULATORY SYSTEM.390-459	5,572	2,868	2,704	32	450	1,743	3,347
HEART DISEASE391-392.0,393-398,402,404,410-416,420-429	3,736	2,016	1,720	19	242	1,236	2,240
ACUTE MYOCARDIAL INFARCTION.410	760	478	282	*	46	279	435
ATHEROSCLEROTIC HEART DISEASE414.0	369	241	128	-	16	178	174
OTHER ISCHEMIC HEART DISEASE411-413,414.1-414.9	1,040	549	491	*	62	415	562
CARDIAC DYSRHYTHMIAS427	521	257	265	*7	40	128	346
CONGESTIVE HEART FAILURE428.0	605	269	336	*5	14	103	483
CEREBROVASCULAR DISEASE.430-438	895	392	502	*	34	191	665
DISEASES OF THE RESPIRATORY SYSTEM.460-519	2,982	1,478	1,504	767	586	537	1,092
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA460-466	416	218	198	190	61	60	105
CHRONIC DISEASE OF TONSILS AND ADENOIDS.474	218	100	119	146	70	*	*
PNEUMONIA, ALL FORMS480-486	924	468	456	204	136	139	445
ASTHMA493	454	193	261	149	112	92	101
DISEASES OF THE DIGESTIVE SYSTEM520-579	3,663	1,714	1,949	298	1,143	953	1,270
ULCERS OF THE STOMACH AND SMALL INTESTINE531-534	292	152	140	*	64	84	142
GASTRITIS AND DUODENITIS.535	181	81	99	14	67	51	48
APPENDICITIS.540-543	275	160	114	65	165	30	14
INGUINAL HERNIA550	301	266	35	38	73	94	96
NONINFECTIOUS ENTERITIS AND COLITIS555-556,558	388	152	236	107	138	56	88
CHOLELITHIASIS.574	522	151	371	*	184	162	175
DISEASES OF THE GENITOURINARY SYSTEM580-629	2,515	941	1,574	90	1,114	578	733
CALCULUS OF KIDNEY AND URETER592	314	212	102	*	148	113	52
HYPERPLASIA OF PROSTATE.600	274	274	...	-	*	67	206
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM ¹630-676	904	...	904	*5	898	*	...
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES630-639	301	...	301	*	297	*	...
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE.680-709	478	229	249	49	172	105	152
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE.710-739	1,955	886	1,069	53	734	613	554
ARTHROPATHIES AND RELATED DISORDERS710-719	484	194	290	12	129	128	215
INTERVERTEBRAL DISC DISORDERS.722	486	280	206	*	252	180	53
CONGENITAL ANOMALIES740-759	240	120	119	136	63	28	13
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD . . .760-779	121	70	51	121	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS.780-799	450	208	242	78	162	145	65
INJURY AND POISONING800-999	3,027	1,660	1,367	360	1,377	515	775
FRACTURES, ALL SITES800-829	1,062	519	543	113	381	164	404
FRACTURE OF NECK OF FEMUR820	249	71	177	*	*9	21	217
SPRAINS AND STRAINS OF BACK (INCLUDING NECK).846-847	159	76	83	*	100	38	18
INTRACRANIAL INJURIES (EXCUDING THOSE WITH SKULL FRACTURE)850-854	238	154	84	58	127	23	30
LACERATIONS AND OPEN WOUNDS870-904	260	194	66	33	173	34	20
SUPPLEMENTARY CLASSIFICATIONSV01-V82	4,327	157	4,169	52	4,079	97	98
FEMALES WITH DELIVERIESV27	3,911	...	3,911	11	3,897	*	...

¹ FIRST-LISTED DIAGNOSIS FOR FEMALES WITH DELIVERIES IS CODED V27, SHOWN UNDER "SUPPLEMENTARY CLASSIFICATIONS."

TABLE 5. RATE OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY CATEGORY OF FIRST-LISTED DIAGNOSIS, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. DIAGNOSTIC GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

CATEGORY OF FIRST-LISTED DIAGNOSIS AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15 YEARS	15-44 YEARS	45-64 YEARS	65 YEARS AND OVER
RATE OF INPATIENTS DISCHARGED PER 10,000 POPULATION							
ALL CONDITIONS	1,381.6	1,160.1	1,589.3	512.9	1,151.0	1,568.6	3,505.5
INFECTIOUS AND PARASITIC DISEASES001-139	28.3	28.9	27.7	36.5	19.9	20.5	57.7
NEOPLASMS140-239	96.5	82.6	109.4	10.8	37.9	177.2	348.5
MALIGNANT NEOPLASMS140-208,230-234	77.8	74.2	81.0	7.3	20.1	145.5	319.5
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM153-154,197.5	8.2	8.5	7.9	*	*0.7	13.6	43.0
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG162,197.0,197.3	12.6	16.3	9.2	*	1.1	28.5	54.9
MALIGNANT NEOPLASM OF BREAST174-175,198.81	8.5	*	16.3	*	2.5	19.8	29.1
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE210-229,235-239	18.7	8.3	28.4	3.5	17.8	31.7	29.0
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS240-279	44.9	35.5	53.8	18.0	23.0	60.4	152.7
DIABETES MELLITUS250	19.6	16.9	22.1	5.2	11.4	33.2	55.6
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS280-289	13.4	12.4	14.3	9.9	7.5	13.3	41.9
MENTAL DISORDERS290-319	73.7	80.0	67.8	12.3	95.7	79.4	88.3
PSYCHOSES290-299	33.7	32.2	35.0	2.3	39.2	39.4	58.8
ALCOHOL DEPENDENCE SYNDROME303	13.9	21.2	7.0	*	18.9	20.3	8.6
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS320-389	39.3	37.4	41.1	36.3	22.8	43.5	101.5
DISEASES OF THE CENTRAL NERVOUS SYSTEM.320-336,340-349	15.8	14.9	16.7	10.7	11.7	17.7	37.7
CATARACT366	2.6	2.0	3.2	*	*	2.4	15.9
DISEASES OF THE EAR AND MASTOID PROCESS380-389	8.1	8.2	8.0	17.8	3.5	5.7	12.1
DISEASES OF THE CIRCULATORY SYSTEM.390-459	230.6	245.2	216.8	6.0	39.4	385.1	1,121.9
HEART DISEASE391-392.0,393-398,402,404,410-416,420-429	154.6	172.4	138.0	3.5	21.2	273.1	750.7
ACUTE MYOCARDIAL INFARCTION.410	31.4	40.9	22.6	*	4.0	61.5	145.8
ATHEROSCLEROTIC HEART DISEASE414.0	15.3	20.6	10.2	-	1.4	39.3	58.4
OTHER ISCHEMIC HEART DISEASE411-413,414.1-414.9	43.0	46.9	39.4	*	5.4	91.6	188.3
CARDIAC DYSRHYTHMIAS427	21.6	21.9	21.2	*1.3	3.5	28.4	116.0
CONGESTIVE HEART FAILURE428.0	25.0	23.0	26.9	*0.9	1.3	22.7	161.8
CEREBROVASCULAR DISEASE.430-438	37.0	33.5	40.3	*	3.0	42.3	223.0
DISEASES OF THE RESPIRATORY SYSTEM.460-519	123.4	126.4	120.6	146.3	51.3	118.7	366.1
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA460-466	17.2	18.7	15.9	36.3	5.4	13.2	35.2
CHRONIC DISEASE OF TONSILS AND ADENOIDS.474	9.0	8.5	9.5	27.9	6.1	*	*
PNEUMONIA, ALL FORMS480-486	38.2	40.0	36.6	38.9	11.9	30.7	149.2
ASTHMA493	18.8	16.5	20.9	28.4	9.8	20.4	33.8
DISEASES OF THE DIGESTIVE SYSTEM520-579	151.6	146.5	156.3	56.9	100.1	210.5	425.5
ULCERS OF THE STOMACH AND SMALL INTESTINE531-534	12.1	13.0	11.2	*	5.6	18.6	47.6
GASTRITIS AND DUODENITIS.535	7.5	7.0	8.0	2.7	5.9	11.3	16.1
APPENDICITIS.540-543	11.4	13.7	9.2	12.5	14.4	6.7	4.8
INGUINAL HERNIA550	12.4	22.7	2.8	7.3	6.4	20.8	32.1
NONINFECTIOUS ENTERITIS AND COLITIS555-556,558	16.1	13.0	19.0	20.4	12.1	12.3	29.5
CHOLELITHIASIS.574	21.6	12.9	29.8	*	16.1	35.8	58.6
DISEASES OF THE GENITOURINARY SYSTEM580-629	104.1	80.4	126.2	17.1	97.6	127.7	245.7
CALCULUS OF KIDNEY AND URETER592	13.0	18.1	8.2	*	12.9	25.0	17.3
HYPERPLASIA OF PROSTATE600	11.3	23.4	...	-	*	14.9	69.1
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM ¹630-676	37.4	...	72.5	*0.9	78.7	*	...
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES630-639	12.4	...	24.1	*	26.0	*	...
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE.680-709	19.8	19.6	20.0	9.4	15.0	23.1	51.0
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE.710-739	80.9	75.8	85.7	10.1	64.3	135.5	185.8
ARTHROPATHIES AND RELATED DISORDERS.710-719	20.0	16.6	23.2	2.2	11.3	28.4	72.1
INTERVERTEBRAL DISC DISORDERS.722	20.1	24.0	16.5	*	22.1	39.8	17.8
CONGENITAL ANOMALIES740-759	9.9	10.3	9.6	26.0	5.5	6.1	4.4
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD . . .760-779	5.0	6.0	4.1	23.0	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS.780-799	18.6	17.8	19.4	14.9	14.2	32.1	21.8
INJURY AND POISONING800-999	125.2	141.9	109.6	68.7	120.7	113.7	259.7
FRACTURES, ALL SITES800-829	43.9	44.3	43.6	21.6	33.4	36.2	135.4
FRACTURE OF NECK OF FEMUR820	10.3	6.1	14.2	*	*0.8	4.5	72.7
SPRAINS AND STRAINS OF BACK (INCLUDING NECK).846-847	6.6	6.5	6.6	*	8.7	8.4	6.1
INTRACRANIAL INJURIES (EXCLUDING THOSE WITH SKULL FRACTURE)850-854	9.8	13.1	6.8	11.0	11.1	5.1	10.2
LACERATIONS AND OPEN WOUNDS870-904	10.8	16.6	5.3	6.2	15.2	7.5	6.8
SUPPLEMENTARY CLASSIFICATIONSV01-V82	179.0	13.5	334.4	10.0	357.3	21.4	32.9
FEMALES WITH DELIVERIESV27	161.8	...	313.6	2.0	341.3	*	...

¹FIRST-LISTED DIAGNOSIS FOR FEMALES WITH DELIVERIES IS CODED V27, SHOWN UNDER "SUPPLEMENTARY CLASSIFICATIONS."

TABLE 6. AVERAGE LENGTH OF STAY FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY CATEGORY OF FIRST-LISTED DIAGNOSIS, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. DIAGNOSTIC GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

CATEGORY OF FIRST-LISTED DIAGNOSIS AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15	15-44	45-64	65 YEARS
				YEARS	YEARS	YEARS	AND OVER
AVERAGE LENGTH OF STAY IN DAYS							
ALL CONDITIONS	6.4	6.9	6.1	4.7	4.8	6.8	8.6
INFECTIOUS AND PARASITIC DISEASES001-139	7.6	8.3	7.0	4.0	6.9	10.0	11.2
NEOPLASMS140-239	8.0	8.7	7.5	5.1	5.9	7.8	9.3
MALIGNANT NEOPLASMS140-208,230-234	8.7	9.0	8.3	6.0	7.1	8.2	9.4
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM153-154,197.5	11.8	11.8	11.8	*	*9.7	10.8	12.4
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG162,197.0,197.3	8.9	8.7	9.2	*	7.6	8.7	9.1
MALIGNANT NEOPLASM OF BREAST174-175,198.81	6.2	*	6.1	*	5.9	5.9	6.6
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE210-229,235-239	5.4	5.8	5.3	3.1	4.5	5.5	7.7
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS240-279	7.3	7.3	7.3	5.0	5.1	7.3	9.0
DIABETES MELLITUS250	7.6	7.7	7.6	5.4	5.4	7.9	9.4
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS280-289	6.0	6.1	5.9	3.5	5.0	6.1	7.6
MENTAL DISORDERS290-319	12.3	11.9	12.8	24.0	11.7	11.3	13.0
PSYCHOSES290-299	13.7	13.0	14.2	24.2	13.2	13.5	14.5
ALCOHOL DEPENDENCE SYNDROME303	10.9	10.6	11.7	*	11.2	10.4	10.9
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS320-389	6.0	6.3	5.7	4.4	5.9	6.2	6.9
DISEASES OF THE CENTRAL NERVOUS SYSTEM320-336,340-349	9.8	10.7	9.1	8.6	7.7	10.1	12.7
CATARACT366	1.8	2.1	1.6	*	*	1.8	1.6
DISEASES OF THE EAR AND MASTOID PROCESS380-389	2.8	2.6	3.0	2.3	2.7	3.4	3.7
DISEASES OF THE CIRCULATORY SYSTEM390-459	7.6	7.2	7.9	7.0	5.8	6.7	8.2
HEART DISEASE391-392.0,393-398,402,404,410-416,420-429	6.9	6.7	7.2	8.2	5.5	6.2	7.5
ACUTE MYOCARDIAL INFARCTION410	8.5	8.0	9.4	*	6.8	8.0	9.0
ATHEROSCLEROTIC HEART DISEASE414.0	6.3	6.1	6.8	-	4.3	5.5	7.4
OTHER ISCHEMIC HEART DISEASE411-413,414.1-414.9	5.2	4.9	5.5	*	3.7	4.7	5.7
CARDIAC DYSRHYTHMIAS427	5.7	5.6	5.8	*7.4	3.6	4.9	6.2
CONGESTIVE HEART FAILURE428.0	8.4	8.2	8.6	*6.6	6.4	8.0	8.6
CEREBROVASCULAR DISEASE430-438	10.1	9.6	10.4	*	12.1	9.9	10.1
DISEASES OF THE RESPIRATORY SYSTEM460-519	6.3	6.4	6.2	3.2	4.5	7.0	9.1
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA460-466	4.6	4.4	4.9	3.1	3.7	6.1	7.1
CHRONIC DISEASE OF TONSILS AND ADENOIDS474	1.2	1.2	1.3	1.2	1.4	*	*
PNEUMONIA, ALL FORMS480-486	8.0	7.9	8.1	4.4	6.7	8.3	10.0
ASTHMA493	4.8	4.4	5.1	3.3	4.1	5.8	7.0
DISEASES OF THE DIGESTIVE SYSTEM520-579	6.2	5.7	6.6	3.3	4.9	6.2	8.0
ULCERS OF THE STOMACH AND SMALL INTESTINE531-534	6.9	6.8	7.0	*	4.5	6.1	8.5
GASTRITIS AND DUODENITIS535	4.2	4.1	4.3	2.4	4.0	4.2	5.1
APPENDICITIS540-543	4.7	4.6	4.9	4.2	4.3	6.5	8.5
INGUINAL HERNIA550	2.6	2.5	3.2	1.9	2.1	2.3	3.7
NONINFECTIOUS ENTERITIS AND COLITIS555-556,558	4.9	4.6	5.0	2.8	4.8	6.4	6.5
CHOLELITHIASIS574	7.0	7.6	6.8	*	5.6	6.4	9.1
DISEASES OF THE GENITOURINARY SYSTEM580-629	5.0	5.2	5.0	3.3	3.9	5.0	7.0
CALCULUS OF KIDNEY AND URETER592	3.5	3.2	4.2	*	3.0	3.4	5.4
HYPERPLASIA OF PROSTATE600	5.4	5.4	...	-	*	4.6	5.7
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM ¹630-676	2.7	...	2.7	*1.8	2.7	*	...
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES630-639	2.2	...	2.2	*	2.2	*	...
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE680-709	7.9	7.2	8.6	4.2	5.9	8.4	11.2
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE710-739	6.4	5.9	6.9	5.2	4.8	6.1	9.1
ARTHROPATHIES AND RELATED DISORDERS710-719	7.8	6.8	8.5	6.8	4.3	7.6	10.1
INTERVERTEBRAL DISC DISORDERS722	6.4	5.8	7.0	*	5.9	6.3	8.7
CONGENITAL ANOMALIES740-759	6.0	5.7	6.2	6.1	4.8	7.8	6.8
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD760-779	9.8	9.6	10.1	9.9	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS780-799	4.1	3.7	4.4	3.4	3.5	4.9	4.6
INJURY AND POISONING800-999	6.7	6.3	7.1	4.3	5.5	6.8	9.9
FRACTURES, ALL SITES800-829	8.9	8.3	9.4	5.4	7.2	7.8	11.8
FRACTURE OF NECK OF FEMUR820	13.9	14.3	13.8	*	*14.9	11.6	14.1
SPRAINS AND STRAINS OF BACK (INCLUDING NECK)846-847	5.4	5.1	5.7	*	5.2	5.9	6.0
INTRACRANIAL INJURIES (EXCLUDING THOSE WITH SKULL FRACTURE)850-854	5.8	6.3	4.9	2.7	6.5	6.2	8.4
LACERATIONS AND OPEN WOUNDS870-904	4.0	4.0	4.1	3.2	3.8	4.4	6.7
SUPPLEMENTARY CLASSIFICATIONSV01-V82	3.2	5.8	3.1	4.7	3.1	3.9	6.7
FEMALES WITH DELIVERIESV27	3.1	...	3.1	2.8	3.1	*	...

¹ FIRST-LISTED DIAGNOSIS FOR FEMALES WITH DELIVERIES IS CODED V27, SHOWN UNDER "SUPPLEMENTARY CLASSIFICATIONS."

TABLE 7. NUMBER OF ALL-LISTED PROCEDURES FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY PROCEDURE CATEGORY, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. PROCEDURE GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

PROCEDURE CATEGORY AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15 YEARS	15-44 YEARS	45-64 YEARS	65 YEARS AND OVER
NUMBER OF ALL-LISTED PROCEDURES IN THOUSANDS							
ALL PROCEDURES	39,118	15,716	23,402	1,866	15,632	9,252	12,369
OPERATIONS ON THE NERVOUS SYSTEM01-05	914	474	439	182	306	220	206
SPINAL TAP03.31	351	181	169	143	90	48	70
OPERATIONS ON THE ENDOCRINE SYSTEM06-07	109	30	79	*	44	37	24
OPERATIONS ON THE EYE08-16	497	225	272	39	96	116	246
EXTRACTION OF LENS13.1-13.6	83	31	52	*6	*7	14	57
INSERTION OF PROSTHETIC LENS (PSEUDOPHAKOS)13.7	69	25	44	*	*	13	54
OPERATIONS ON THE EAR18-20	176	106	71	93	42	22	20
OPERATIONS ON THE NOSE, MOUTH, AND PHARYNX21-29	937	485	452	239	432	161	105
RHINOPLASTY AND REPAIR OF NOSE.21.8	125	60	65	*6	89	23	*7
TONSILLECTOMY WITH OR WITHOUT ADENOIDECTOMY.28.2-28.3	244	115	129	159	80	*	*
OPERATIONS ON THE RESPIRATORY SYSTEM30-34	1,018	600	418	47	197	315	458
BRONCHOSCOPY33.21-33.23	196	121	75	14	29	59	93
OPERATIONS ON THE CARDIOVASCULAR SYSTEM35-39	3,116	1,838	1,279	99	331	1,274	1,412
REMOVAL OF CORONARY ARTERY OBSTRUCTION36.0	184	123	62	-	17	104	64
DIRECT HEART REVASCULARIZATION36.1	332	244	88	*	*9	170	152
CARDIAC CATHETERIZATION37.21-37.23	866	533	333	19	79	440	328
PACEMAKER INSERTION, REPLACEMENT, REMOVAL, REPAIR37.7-37.8	234	132	101	*	*8	49	174
OPERATIONS ON THE HEMIC AND LYMPHATIC SYSTEM40-41	398	202	196	20	80	113	184
OPERATIONS ON THE DIGESTIVE SYSTEM42-54	5,842	2,517	3,326	229	1,815	1,511	2,287
ESOPHAGOSCOPY AND GASTROSCOPY (NATURAL ORIFICE) . .42.23,44.13	153	74	79	*8	26	43	76
PARTIAL GASTRECTOMY AND RESECTION OF							
INTESTINE43.5-43.8,45.6-45.8	308	139	168	*6	45	84	172
ENDOSCOPY OF LARGE INTESTINE (NATURAL ORIFICE)45.24	415	185	230	*	67	102	245
APPENDECTOMY, EXCLUDING INCIDENTAL47.0	303	164	139	66	186	33	17
HEMORRHOIDECTOMY49.43-49.46	97	52	45	-	48	32	17
CHOLECYSTECTOMY51.2	536	148	388	*	199	163	172
REPAIR OF INGUINAL HERNIA.53.0-53.1	329	290	39	42	77	99	111
DIVISION OF PERITONEAL ADHESIONS54.5	339	53	286	*	194	70	74
OPERATIONS ON THE URINARY SYSTEM.55-59	1,721	1,089	631	54	380	476	811
ENDOSCOPES (NATURAL ORIFICE)55.21-55.22,56.31,57.32,58.22	637	473	164	13	91	170	363
OPERATIONS ON THE MALE GENITAL ORGANS60-64	747	747	...	70	75	160	442
PROSTATECTOMY60.2-60.6	410	410	*	90	318
OPERATIONS ON THE FEMALE GENITAL ORGANS.65-71	2,884	...	2,884	*7	2,108	538	231
OOPHORECTOMY AND SALPINGO-OOPHORECTOMY65.3-65.6	490	...	490	*	276	163	50
BILATERAL DESTRUCTION OR OCCLUSION OF FALLOPIAN							
TUBES66.2-66.3	415	...	415	-	413	*	...
HYSTERECTOMY68.3-68.7	655	...	655	*	406	188	60
DILATION AND CURETTAGE OF UTERUS.69.0	379	...	379	*	314	48	16
REPAIR OF CYSTOCELE AND RECTOCELE70.5	149	...	149	-	43	59	46
OBSTETRICAL PROCEDURES72-75	5,358	...	5,358	18	5,337	*	...
EPISIOTOMY WITH OR WITHOUT FORCEPS OR VACUUM							
EXTRACTION72.1,72.21,72.31,72.71,73.6	1,833	...	1,833	*7	1,826	*	...
CESAREAN SECTION74.0-74.2,74.4,74.99	953	...	953	*	951	*	...
REPAIR OF CURRENT OBSTETRIC LACERATION75.5-75.6	660	...	660	*5	656	-	...
OPERATIONS ON THE MUSCULOSKELETAL SYSTEM.76-84	3,466	1,718	1,748	209	1,477	839	941
OPEN REDUCTION OF FRACTURE EXCEPT JAW . .76.79,79.2-79.3,79.5-79.6	481	257	223	30	200	86	165
OTHER REDUCTION OF FRACTURE							
EXCEPT JAW76.70,76.78,79.0-79.1,79.4	205	110	95	54	72	26	53
EXCISION OR DESTRUCTION OF INTERVERTEBRAL DISC AND SPINAL							
FUSION.80.5,81.0	352	202	150	*5	176	133	38
ARTHROPLASTY AND REPLACEMENT OF KNEE81.41-81.47	210	106	104	*	79	40	88
ARTHROPLASTY AND REPLACEMENT OF HIP81.5-81.6	212	66	146	*	11	40	161
OPERATIONS ON MUSCLES, TENDONS, FASCIA, AND							
BURSA82-83.1,83.3-83.9	322	182	140	25	155	91	51
OPERATIONS ON THE INTEGUMENTARY SYSTEM.85-86	1,600	667	933	95	642	434	430
MASTECTOMY85.4	141	*	140	*	18	60	62
EXCISION OR DESTRUCTION OF LESION OR TISSUE OF SKIN OR							
SUBCUTANEOUS TISSUE.86.2-86.4	568	302	266	38	235	126	169
SKIN GRAFT (EXCEPT LIP OR MOUTH).86.6-86.7	149	88	61	16	57	35	42
MISCELLANEOUS DIAGNOSTIC AND THERAPEUTIC PROCEDURES. . .87-99	10,335	5,018	5,317	460	2,271	3,032	4,572
COMPUTERIZED AXIAL TOMOGRAPHY.87.03,87.41,87.71,88.01,88.38	1,646	814	833	86	366	396	798
PYELOGRAM87.73-87.75	334	190	144	*10	125	93	105
ARTERIOGRAPHY AND ANGIOCARDIOGRAPHY USING CONTRAST							
MATERIAL.88.4-88.5	1,448	868	580	17	155	683	593
DIAGNOSTIC ULTRASOUND88.7	1,596	616	981	69	490	360	677
CIRCULATORY MONITORING.89.6	821	430	391	53	109	184	475
RADIOISOTOPE SCAN.92.0-92.1	759	350	409	18	136	219	386

TABLE 8. RATE OF ALL-LISTED PROCEDURES FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY PROCEDURE CATEGORY, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. PROCEDURE GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

PROCEDURE CATEGORY AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15	15-44	45-64	65 YEARS
				YEARS	YEARS	YEARS	AND OVER
RATE OF ALL-LISTED PROCEDURES PER 100,000 POPULATION							
ALL PROCEDURES	16,187.3	13,437.2	18,766.7	3,560.3	13,691.7	20,443.5	41,456.9
OPERATIONS ON THE NERVOUS SYSTEM01-05	378.1	405.6	352.4	348.2	268.0	485.5	689.2
SPINAL TAP03.31	145.1	155.2	135.7	272.1	78.9	106.5	234.1
OPERATIONS ON THE ENDOCRINE SYSTEM06-07	45.0	25.3	63.6	*	38.5	82.8	79.8
OPERATIONS ON THE EYE08-16	205.7	192.7	217.9	75.1	84.0	255.8	825.1
EXTRACTION OF LENS13.1-13.6	34.4	26.7	41.5	*10.6	*5.8	31.1	190.4
INSERTION OF PROSTHETIC LENS (PSEUDOPHAKOS)13.7	28.4	21.1	35.3	*	*	29.2	180.3
OPERATIONS ON THE EAR18-20	73.0	90.5	56.7	176.7	36.5	49.2	66.8
OPERATIONS ON THE NOSE, MOUTH, AND PHARYNX21-29	387.5	414.5	362.2	455.6	378.4	356.0	350.7
RHINOPLASTY AND REPAIR OF NOSE21.8	51.5	51.1	51.9	*10.6	77.8	50.5	*24.5
TONSILLECTOMY WITH OR WITHOUT ADENOIDECTOMY28.2-28.3	101.0	98.5	103.3	303.1	70.4	*	*
OPERATIONS ON THE RESPIRATORY SYSTEM30-34	421.3	512.6	335.6	90.0	172.7	696.6	1,536.5
BRONCHOSCOPY33.21-33.23	81.1	103.8	59.8	27.4	25.5	130.9	312.9
OPERATIONS ON THE CARDIOVASCULAR SYSTEM35-39	1,289.5	1,571.2	1,025.3	189.4	289.6	2,815.7	4,732.8
REMOVAL OF CORONARY ARTERY OBSTRUCTION36.0	76.3	104.9	49.5	-	14.9	228.9	214.1
DIRECT HEART REVASCULARIZATION36.1	137.3	208.6	70.4	*	*7.6	376.7	511.0
CARDIAC CATHETERIZATION37.21-37.23	358.2	455.4	267.0	35.6	69.5	972.2	1,098.4
PACEMAKER INSERTION, REPLACEMENT, REMOVAL, REPAIR . . .37.7-37.8	96.7	113.2	81.2	*	*6.7	107.6	584.0
OPERATIONS ON THE HEMIC AND LYMPHATIC SYSTEM40-41	164.8	173.0	157.1	39.0	70.4	250.2	617.5
OPERATIONS ON THE DIGESTIVE SYSTEM42-54	2,417.6	2,151.6	2,667.0	437.5	1,589.6	3,338.5	7,666.6
ESOPHAGOSCOPY AND GASTROSCOPY (NATURAL ORIFICE) . .42.23,44.13	63.3	63.4	63.2	*14.7	22.6	95.5	255.2
PARTIAL GASTRECTOMY AND RESECTION OF							
INTESTINE43.5-43.8,45.6-45.8	127.3	118.9	135.1	*10.7	39.6	186.5	577.5
ENDOSCOPY OF LARGE INTESTINE (NATURAL ORIFICE)45.24	171.9	158.5	184.4	*	58.4	224.6	821.1
APPENDECTOMY, EXCLUDING INCIDENTAL47.0	125.3	140.3	111.2	126.5	163.3	73.9	55.8
HEMORRHOIDECTOMY49.43-49.46	40.0	44.6	35.8	-	42.0	71.3	55.6
CHOLECYSTECTOMY51.2	221.9	126.6	311.4	*	174.1	360.7	577.1
REPAIR OF INGUINAL HERNIA53.0-53.1	136.2	247.7	31.6	79.6	67.2	219.5	372.8
DIVISION OF PERITONEAL ADHESIONS54.5	140.3	45.4	229.3	*	169.7	153.7	247.0
OPERATIONS ON THE URINARY SYSTEM55-59	712.0	931.5	506.1	103.5	332.5	1,051.6	2,717.3
ENDOSCOPES (NATURAL ORIFICE)55.21-55.22,56.31,57.32,58.22	263.6	404.3	131.6	24.5	79.6	376.3	1,216.5
OPERATIONS ON THE MALE GENITAL ORGANS60-64	309.2	638.8	...	133.3	65.7	353.8	1,481.9
PROSTATECTOMY60.2-60.6	169.7	350.7	*	199.1	1,067.0
OPERATIONS ON THE FEMALE GENITAL ORGANS65-71	1,193.2	...	2,312.4	*13.3	1,846.2	1,188.4	774.1
OOPHORECTOMY AND SALPINGO-OOPHORECTOMY65.3-65.6	202.8	...	393.1	*	242.0	360.8	167.9
BILATERAL DESTRUCTION OR OCCLUSION OF FALLOPIAN							
TUBES66.2-66.3	171.8	...	333.0	-	361.9	*	...
HYSTERECTOMY68.3-68.7	270.9	...	524.9	*	355.9	415.9	200.4
DILATION AND CURETTAGE OF UTERUS69.0	157.0	...	304.2	*	275.0	106.7	55.2
REPAIR OF CYSTOCELE AND RECTOCELE70.5	61.5	...	119.3	-	38.0	131.2	153.9
OBSTETRICAL PROCEDURES72-75	2,217.3	...	4,297.0	34.5	4,674.5	*	...
EPISIOTOMY WITH OR WITHOUT FORCEPS OR VACUUM							
EXTRACTION72.1,72.21,72.31,72.71,73.6	758.7	...	1,470.2	*12.8	1,599.6	*	...
CESAREAN SECTION74.0-74.2,74.4,74.99	394.2	...	763.9	*	832.6	*	...
REPAIR OF CURRENT OBSTETRIC LACERATION75.5-75.6	273.1	...	529.3	*8.7	574.2	-	...
OPERATIONS ON THE MUSCULOSKELETAL SYSTEM76-84	1,434.2	1,469.0	1,401.5	398.0	1,293.8	1,854.4	3,153.8
OPEN REDUCTION OF FRACTURE EXCEPT JAW . .76.79,79.2-79.3,79.5-79.6	198.9	219.9	179.1	56.6	174.8	190.8	553.0
OTHER REDUCTION OF FRACTURE							
EXCEPT JAW76.70,76.78,79.0-79.1,79.4	84.8	93.9	76.3	102.8	63.3	56.7	177.9
EXCISION OR DESTRUCTION OF INTERVERTEBRAL DISC AND SPINAL							
FUSION80.5,81.0	145.7	172.6	120.5	*10.2	154.3	292.9	127.5
ARTHROPLASTY AND REPLACEMENT OF KNEE81.41-81.47	86.9	90.5	83.6	*	68.9	88.5	296.6
ARTHROPLASTY AND REPLACEMENT OF HIP81.5-81.6	87.8	56.3	117.3	*	9.4	88.2	538.7
OPERATIONS ON MUSCLES, TENDONS, FASCIA, AND							
BURSA82-83.1,83.3-83.9	133.2	155.5	112.2	48.0	135.8	200.4	170.5
OPERATIONS ON THE INTEGUMENTARY SYSTEM85-86	662.2	570.3	748.3	181.8	562.1	958.3	1,439.7
MASTECTOMY85.4	58.4	*	112.0	*	16.1	133.4	208.4
EXCISION OR DESTRUCTION OF LESION OR TISSUE OF SKIN OR							
SUBCUTANEOUS TISSUE86.2-86.4	235.1	258.5	213.2	72.4	206.2	277.4	567.3
SKIN GRAFT (EXCEPT LIP OR MOUTH)86.6-86.7	61.8	75.4	49.0	30.2	50.0	76.6	139.8
MISCELLANEOUS DIAGNOSTIC AND THERAPEUTIC PROCEDURES . . .87-99	4,276.7	4,290.6	4,263.7	877.8	1,989.1	6,699.2	15,325.3
COMPUTERIZED AXIAL TOMOGRAPHY87.03,87.41,87.71,88.01,88.38	681.3	695.7	667.7	164.7	320.7	875.8	2,673.3
PYELOGRAM87.73-87.75	138.1	162.2	115.5	*19.6	109.6	206.5	351.4
ARTERIOGRAPHY AND ANGIOCARDIOGRAPHY USING CONTRAST							
MATERIAL88.4-88.5	599.2	742.2	465.0	32.4	136.0	1,508.4	1,987.8
DIAGNOSTIC ULTRASOUND88.7	660.5	526.3	786.3	132.5	428.8	795.3	2,269.9
CIRCULATORY MONITORING89.6	339.8	367.4	313.8	100.6	95.6	406.6	1,592.8
RADIOISOTOPE SCAN92.0-92.1	314.0	299.0	328.0	33.7	119.0	483.9	1,294.4

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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 standards of reliability or precision (see Technical notes)
 - # Figure suppressed to comply with confidentiality requirements
-

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 1987. Of these hospitals, 92 refused to participate and 66 were out of scope. The 400 participating hospitals provided approximately 181,000 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 involved the purchase of data tapes from commercial abstracting services. In 1987 this automated method was used in approximately 17 percent of the sample hospitals.

In the manual procedure hospitals, 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 sheets and discharge summaries of the medical records were performed by the hospital staff or by representatives of the National Center for Health Statistics (NCHS). The completed forms were forwarded to NCHS for coding, editing, and weighting procedures.

For the automated procedure hospitals, tapes containing machine-readable medical record data are purchased from commercial abstracting services. These tapes are sub-

ject to NCHS 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 dates, 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 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 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, 1967b).

Based on consideration of the complex sample design of NHDS, the following guidelines are used for presenting NHDS estimates in this report:

- If the sample size is less than 30, the value of the estimate is not reported. Only an asterisk (*) is shown in the tables.
- 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

The standard error is a measure of the sampling variability that occurs by chance because only a sample, rather than an entire universe, is surveyed. The relative standard error of the estimate is obtained by dividing the standard error by the estimate itself and is expressed as a percent of the estimate. Relative standard errors for the first-listed diagnoses and all-listed procedures are shown in table I. The relative standard errors for region and ownership of hospital are approximately 1½ times larger. The standard errors for average lengths of stay are shown in table II.

Estimates have been rounded to the nearest thousand. For this reason, figures within tables do not always add to the totals. Rates and average lengths of stay were calculated from original, unrounded figures and will not necessarily agree precisely with rates or average lengths of stay calculated from rounded data.

Table I. Approximate relative standard errors of estimated numbers of first-listed discharges and all-listed procedures: United States, 1987.

Size of estimate	First-listed diagnosis	All-listed procedures
5,000	12.7	16.4
10,000	10.2	13.8
50,000	6.5	9.8
100,000	5.5	8.6
500,000	3.8	6.6
1,000,000	3.4	6.0
3,000,000	2.8	5.2
5,000,000	2.6	4.9
10,000,000	2.3	4.6
20,000,000	2.1	4.3
30,000,000	2.0	4.1
40,000,000	2.0	...

Table II. Approximate standard errors of average length of stay by number of discharges: United States, 1987

Number of discharges	Average length of stay in days			
	2	6	10	20
	Standard error in days			
10,000	0.7	1.2	1.7	2.2
50,000	0.3	0.7	1.0	1.4
100,000	0.3	0.6	0.9	1.2
500,000	0.2	0.5	0.8	0.9
1,000,000	0.2	0.5	0.8	0.7
5,000,000	0.2	0.5	0.8	...

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

Terms relating to hospitals and hospital characteristics

Hospitals—Short-stay special and general hospitals have six beds or more for inpatient use and an average length of stay of less than 30 days. Federal hospitals and hospital units of institutions are not included.

Bed size of hospital—Measured by the number of beds, cribs, and pediatric bassinets regularly maintained (set up and staffed for use) for patients; bassinets for newborn infants are not included. In this report, the classification of hospitals by bed size reported by the hospitals is based on the number of beds at or near midyear.

Type of ownership of hospital—Determined by the organization that controls and operates the hospital. Hospitals are grouped as follows:

- **Voluntary nonprofit**—Hospitals operated by a church or another nonprofit organization.

- **Government**—Hospitals operated by a State or local government.
- **Proprietary**—Hospitals operated for profit by individuals, partnerships, or corporations.

Terms relating to hospitalization

Patient—A person who is formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment. In this report, the number of patients refers to the number of discharges during the year including any multiple discharges of the same individual from one or more short-stay hospitals. Infants admitted on the day of birth, directly or by transfer from another medical facility, with or without mention of disease, disorder, or immaturity, are included. All newborn infants, defined as those admitted by birth to the hospitals, are excluded from this report. The terms "patient" and "inpatient" are used synonymously.

Discharge—The formal release of a patient by a hospital; that is, the termination of a period of hospitalization by death or by disposition to place of residence, nursing home, or another hospital. The terms "discharges" and "patients discharged" are used synonymously.

Discharge rate—The ratio of the number of hospital discharges during a year to the number of persons in the civilian population on July 1 of that year.

Days of care—The total number of patient days accumulated at time of discharge by patients discharged from short-stay hospitals during a year. A stay of less than 1 day (patient admission and discharge on the same day) is counted as 1 day in the summation of total days of care. For patients admitted and discharged on different days, the number of days of care is computed by counting all days from (and including) the date of admission to (but not including) the date of discharge.

Rate of days of care—The ratio of the number of patient days accumulated at time of discharge by patients discharged from short-stay hospitals during a year to the number of persons in the civilian population on July 1 of that year.

Average length of stay—The total number of patient days accumulated at time of discharge by patients discharged during the year, divided by the number of patients discharged.

Terms relating to diagnoses

Discharge diagnoses—One or more diseases or injuries (or some factor that influences health status and contact with health services that is not itself a current illness or injury) listed by the attending physician on the medical record of a patient. In the NHDS all discharge (or final) diagnoses listed on the face sheet (summary sheet) of the medical record for patients discharged from the inpatient service of short-stay hospitals are transcribed in the order listed. Each sample discharge is assigned a maximum of seven five-digit codes according to ICD-9-CM (U.S. Public Health Service and Health Care Financing Administration,

1980). The number of principal or first-listed diagnoses is equivalent to the number of discharges.

Principal diagnosis—The condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.

First-listed diagnosis—The coded diagnosis identified as the principal diagnosis or listed first on the face sheet of the medical record if the principal diagnosis cannot be identified. The number of first-listed diagnoses is equivalent to the number of discharges.

Procedures—One or more surgical or nonsurgical operations, procedures, or special treatments assigned by the physician to patients discharged from the inpatient service of short-stay hospitals. In the NHDS, all terms listed on the face sheet (summary sheet) of the medical record under the captions "operation," "operative procedures," "operations and/or special treatment," and the like are transcribed in the order listed. A maximum of four procedures is coded.

Rate of procedures—The ratio of the number of all-listed procedures during a year to the number of persons in the civilian population on July 1 of that year determines the rate of procedures.

Demographic terms

Age—Refers to the age of the patient on the birthday prior to admission to the hospital inpatient service.

Population—Civilian population is the resident population excluding members of the Armed Forces.

Geographic regions—Hospitals are classified by location in one of the four geographic regions of the United States corresponding to those used by the U.S. Bureau of the Census:

<i>Region</i>	<i>States included</i>
Northeast	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
Midwest	Michigan, Ohio, Illinois, Indiana, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas
South	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Hawaii, and Alaska

Attention Health Researchers

The National Center for Health Statistics is providing National Hospital Discharge Survey (NHDS) data.

Trends Since 1965...

A new trend data report from the NHDS contains information on discharges, days of care, and average length of stay by age and sex for the period 1965-86. Regional data as well as trends for selected diagnoses and surgeries are also included in this report to be published in early 1989.

Public Use Data Diskette

Data diskettes from the 1987 NHDS provide an easy one-step access to a wide range of statistics on hospitalization produced by the survey. The data diskettes are a complete package, including software for accessing the database files and for computing rates of selected populations. Diskettes containing 1986 data are also available.



**National Center for
Health Statistics**

☐ Please place me on the mailing list for the new NHDS trend report.

☐ Please send me additional information on the NHDS data diskettes.

(Please print)

Name: _____

Address: _____

Telephone: () _____

Please return completed order form to: Hospital Care Statistics Branch
Division of Health Care Statistics
National Center for Health Statistics
3700 East-West Highway, Room 2-43
Hyattsville, Maryland 20782

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Suggested citation

National Center for Health Statistics, Hospital Care Statistics Branch. 1988. 1987 Summary: National Hospital Discharge Survey. *Advance Data From Vital and Health Statistics*. No. 159 (Rev.). DHHS Pub. No. (PHS) 88-1250. Public Health Service. Hyattsville, Md.

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HUMAN SERVICES
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DHHS Publication No. (PHS) 88-1250