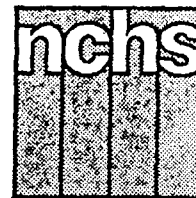


Advance Data



From Vital and Health Statistics of the National Center for Health Statistics

1988 Summary: National Hospital Discharge Survey

by Edmund J. Graves, Division of Health Care Statistics

Introduction

During 1988, an estimated 31.1 million inpatients, excluding newborn infants, were discharged from short-stay non-Federal hospitals in the United States. These patients used 203.7 million days of inpatient hospital care. The discharge rate was 128 discharges per 1,000 civilian population and the average length of stay was 6.5 days.

These and other statistics presented in this report are based on data collected by means of the National Hospital Discharge Survey (NHDS), a continuous survey that has been conducted by the National Center for Health Statistics (NCHS) since 1965. In 1988, data were abstracted from the medical records of approximately 250,000 patients discharged from 422 short-stay non-Federal hospitals. Beginning in 1988, a new three-stage stratified sample design was put in operation. A brief description of the new design, data collection procedures, and estimation process and definitions of terms used in this report can be found in the

section entitled "Technical notes." A description of the development and design of the original NHDS, which was in operation from 1965 to 1987, has been published (1). Differences may exist between data for 1988 and earlier years due to the redesign of the survey.

Medical data for hospitalized patients are coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (2). 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 in 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 primarily because of their 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 NHDS data are published in Series 13 of the NCHS *Vital and Health Statistics* reports.

Starting in 1985, some hospitals have submitted machine-readable data tapes through commercial abstracting services. In 1988, approximately 37 percent of the hospitals used this method to submit data. Analysis indicates that a greater number of nonsurgical procedures per patient are recorded from these hospitals than from hospitals submitting data in the traditional manual mode (see "Technical notes"). A portion of the increases from 1984 to 1988 in the estimates for miscellaneous diagnostic and therapeutic procedures and, therefore, for total procedures may be due to this change in data collection methods.



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
National Center for Health Statistics
Manning Feinleib, M.D., Dr. P.H., Director

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 31.1 million patients discharged from short-stay hospitals during 1988 comprised an estimated 12.6 million males and 18.5 million females. The rate per 1,000 population for females

was 147, which was 37 percent higher than the rate of 107 for males. The number and rate of discharges are 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 pregnancy-related conditions.

The average length of stay was 7.1 days for males and 6.2 days for females during 1988. The average length of stay of the 3.8 million women who were hospitalized for deliveries was 2.9 days. The average length of stay was 5.0 days for patients under 15 years of age, 4.7 days for patients 15-44 years of age, 6.8 days for patients 45-64 years of age, and 8.9 days for patients 65 years of age and over.

The number of discharges from short-stay hospitals by geographic region during 1988 ranged from 10.8 million in the South to 5.4 million in the West. Regional differences in the number of discharges are accounted for in part by variations in the population sizes. The rates per 1,000 population ranged from 140 in the Northeast region to 108 in the West. Average lengths of stay by geographic region were 5.8 days in the West, 6.2 days in the South, 6.4 days in the Midwest, and 7.7 days in the Northeast.

Utilization by diagnosis

Diseases of the circulatory system ranked first in 1988 of the ICD-9-CM diagnostic chapters as a principal or first-listed diagnosis for patients discharged from non-Federal short-stay hospitals. These conditions accounted for an estimated 5.3 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 (3.3 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

Table 1. Number of inpatients discharged from short-stay hospitals by selected characteristics: United States, 1988

[Discharges from non-Federal hospitals. Excludes newborn infants]

<i>Selected characteristic</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
Number of patients discharged in thousands			
All patients	31,146	12,642	18,504
Age			
Under 15 years	2,610	1,486	1,125
15-44 years	11,934	3,485	8,448
45-64 years	6,456	3,221	3,235
65 years and over	10,146	4,450	5,696
Region			
Northeast	7,078	2,975	4,104
Midwest	7,832	3,268	4,564
South	10,845	4,244	6,601
West	5,391	2,155	3,236

Table 2. Rate of inpatients discharged from short-stay hospitals by selected characteristics: United States, 1988

[Discharges from non-Federal hospitals. Excludes newborn infants]

<i>Selected characteristic</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
Rate of patients discharged per 1,000 population			
All patients	127.6	106.9	147.0
Age			
Under 15 years	49.2	54.6	43.4
15-44 years	104.0	61.5	145.6
45-64 years	140.5	146.4	135.1
65 years and over	334.1	360.3	316.2
Region			
Northeast	140.2	123.3	155.8
Midwest	131.1	112.6	148.6
South	129.4	105.1	152.1
West	107.6	87.3	127.3

Table 3. Average length of stay for inpatients discharged from short-stay hospitals by selected characteristics: United States, 1988

[Discharges from non-Federal hospitals. Excludes newborn infants]

<i>Selected characteristic</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
Average length of stay in days			
All patients	6.5	7.1	6.2
Age			
Under 15 years	5.0	5.0	4.9
15-44 years	4.7	6.3	4.1
45-64 years	6.8	6.8	6.8
65 years and over	8.9	8.6	9.1
Region			
Northeast	7.7	8.1	7.4
Midwest	6.4	6.7	6.2
South	6.2	6.8	5.9
West	5.8	6.8	5.2

either because they appear as principal or first-listed diagnoses with great frequency or because the conditions are of special interest. Many of these categories (such as malignant neoplasms, psychoses, and fractures) are groupings of more detailed diagnoses.

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 categories for all patients were deliveries and heart disease. Other leading diagnostic categories were malignant neoplasms and fractures. Excluding deliveries, these last three diagnostic categories were the most common first-listed diagnoses for both males and females. Some of the more common diagnoses for patients under 15 years of age were pneumonia, acute respiratory infections, asthma, and chronic diseases of tonsils and adenoids. For patients 15-44 years of age, frequent diagnoses were deliveries, psychosis, fractures, and abortions and ectopic pregnancies. For patients 45-64 years of age and 65 years of age and over, heart disease and malignant neoplasms were major causes of hospital use. The average length of stay for all patients ranged from 1.2 days for chronic disease of tonsils and adenoids to 15.1 days for psychoses.

Utilization by procedures

One or more surgical or nonsurgical procedures were performed for an estimated 19.9 million of the 31.1 million inpatients discharged from short-stay hospitals during 1988. A total of 39.2 million procedures, or an average of 2.0 per patient who underwent at least one procedure, were recorded in 1988.

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 even though they are divided into more precise subgroups in ICD-9-CM.

Three-fourths of all the surgical and nonsurgical procedures performed during 1988 are listed in just five of the 16 procedure chapters. These were diagnostic and therapeutic procedures (10.8 million), obstetrical procedures (6.0 million), operations on the digestive system (5.3 million), operations on the cardiovascular system (3.6 million), and operations on the musculoskeletal system (3.1 million).

The number and rate of all-listed procedures in 1988 for each ICD-9-CM procedure chapter and selected procedure categories are shown by sex and age in tables 7 and 8. Of the 39.2 million procedures performed during 1988, 15.7 million were for males and 23.5 million were for females. The corresponding rates per 100,000 population were 16,054.0 for both sexes, 13,309.3 for males, and 18,631.2 for females. Frequent procedures for males were arteriography and angiocardiology and computerized axial tomography. Procedures commonly performed on females were episiotomy, diagnostic ultrasound, cesarean section, and computerized axial tomography.

The rate of procedures per 100,000 population ranged from 3,860.0 for patients under 15 years of age to 41,761.8 for patients 65 years of age and over. Commonly performed procedures for patients under 15 years of age were spinal tap and tonsillectomy with or without adenoidectomy; for patients 15-44 years of age, episiotomy and cesarean section; for patients 45-64 years of age and 65 years of age and over, computerized axial tomography, arteriography and angiocardiology, diagnostic ultrasound, and circulatory monitoring.

References

1. Simmons WR. Development of the design of the NCHS Hospital Discharge Survey. National Center for Health Statistics. Vital Health Stat 2(39). 1970.
2. Public Health Service and Health Care Financing Administration. International Classification of Diseases, 9th Revision, Clinical Modification. Washington: Public Health Service. 1980.
3. SMG Marketing Group, Inc. Hospital Market Database. Chicago: Healthcare Information Specialists. 1989.
4. Shah BV. SESUDAAN: Standard Errors Program for Computing of Standardized Rates from Sample Survey Data. Research Triangle Park, North Carolina: Research Triangle Institute. 1981.

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
-

Table 4. Number of inpatients discharged from short-stay hospitals, by category of first-listed diagnosis, sex, and age: United States, 1988[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
Number of patients discharged in thousands							
All conditions	31,146	12,642	18,504	2,610	11,934	6,456	10,146
Infectious and parasitic diseases001-139	693	333	359	191	211	104	187
Neoplasms140-239	2,098	851	1,247	53	378	708	958
Malignant neoplasms140-208,230-234	1,670	772	898	37	187	566	880
Malignant neoplasm of large intestine and rectum153-154,197.5	165	77	87	*	*5	41	118
Malignant neoplasm of trachea, bronchus, and lung162,197.0,197.3	236	136	100	*	8	102	125
Malignant neoplasm of breast174-175,198.81	177	*	176	-	20	81	76
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature210-229, 235-239	428	78	350	16	191	142	79
Endocrine, nutritional and metabolic diseases, and immunity disorders240-279	1,038	414	623	102	229	250	456
Diabetes mellitus250	454	209	245	28	125	134	166
Diseases of the blood and blood-forming organs280-289	295	140	155	47	86	52	110
Mental disorders290-319	1,559	765	793	58	962	288	251
Psychoses290-299	781	341	440	21	429	157	174
Alcohol dependence syndrome303	237	179	58	*	158	63	14
Diseases of the nervous system and sense organs320-389	922	430	492	194	222	190	317
Diseases of the central nervous system320-336,340-349	348	169	179	57	119	69	103
Cataract366	92	33	59	*	*	17	72
Diseases of the ear and mastoid process380-389	200	99	102	106	37	26	32
Diseases of the circulatory system390-459	5,296	2,722	2,574	25	419	1,628	3,224
Heart disease391-392,0,393-398,402,404, 410-416,420-429	3,641	1,955	1,686	14	243	1,162	2,223
Acute myocardial infarction410	716	451	265	*	45	241	430
Atherosclerotic heart disease414.0	411	278	134	*	24	191	197
Other ischemic heart disease411-412,414.1-414.9	921	491	431	*	53	366	502
Cardiac dysrhythmias427	491	228	263	*5	36	131	320
Congestive heart failure428.0	634	277	357	*	14	107	510
Cerebrovascular disease430-438	784	336	448	*	32	171	578
Diseases of the respiratory system460-519	2,937	1,464	1,473	699	540	525	1,172
Acute respiratory infections, except influenza460-466	445	224	221	168	60	70	148
Chronic disease of tonsils and adenoids474	197	87	110	125	70	*	*
Pneumonia, all forms480-486	924	472	452	184	111	139	490
Asthma493	479	210	270	164	110	93	112
Diseases of the digestive system520-579	3,268	1,515	1,753	274	992	831	1,171
Ulcers of the stomach and small intestine531-534	256	137	118	*	52	66	136
Gastritis and duodenitis535	146	57	88	*6	45	41	54
Appendicitis540-543	242	141	101	52	145	24	20
Inguinal hernia550	257	232	25	30	65	78	84
Noninfectious enteritis and colitis555-556,558	333	122	211	96	115	52	70
Cholelithiasis574	484	132	352	*	183	146	154
Diseases of the genitourinary system580-629	2,204	828	1,376	71	922	512	700
Calculus of kidney and ureter592	287	183	104	*	137	106	41
Hyperplasia of prostate600	247	247	...	-	*	56	191
Complications of pregnancy, childbirth, and the puerperium ¹630-676	837	...	837	*3	833	*	...
Abortions and ectopic and molar pregnancies630-639	266	...	266	*	264	*	...
Diseases of the skin and subcutaneous tissue680-709	460	234	226	46	154	108	152
Diseases of the musculoskeletal system and connective tissue710-739	1,647	774	872	54	621	495	477
Arthropathies and related disorders710-719	459	191	267	18	129	116	196
Intervertebral disc disorders722	417	247	170	*	223	142	51
Congenital anomalies740-759	227	128	98	150	45	24	*8
Certain conditions originating in the perinatal period760-779	158	92	66	158	*	*	*
Symptoms, signs, and ill-defined conditions780-799	398	200	198	50	175	105	69
Injury and poisoning800-999	2,817	1,535	1,281	348	1,216	498	755
Fractures, all sites800-829	1,014	506	508	107	356	154	398
Fracture of neck of femur820	254	88	186	*	10	24	217
Sprains and strains of back (including neck)846-847	97	48	49	*	61	22	12
Intracranial injuries (excluding those with skull fracture)850-854	201	124	78	46	103	26	16
Lacerations and open wounds870-904	232	176	56	34	155	27	17
Supplementary classificationsV01-V82	4,295	217	4,078	88	3,929	138	139
Females with deliveriesV27	3,781	...	3,781	10	3,768	*	...

¹First-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, 1988

[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	1,275.8	1,069.3	1,469.7	491.5	1,040.5	1,404.9	3,341.2
Infectious and parasitic diseases001-139	28.4	28.2	28.6	35.9	18.4	22.6	61.6
Neoplasms140-239	85.9	72.0	99.1	10.0	33.0	154.1	315.6
Malignant neoplasms140-208, 230-234	68.4	65.3	71.3	6.9	16.3	123.3	289.7
Malignant neoplasm of large intestine and rectum153-154, 197.5	6.7	6.6	6.9	*	*0.5	8.9	39.0
Malignant neoplasm of trachea, bronchus, and lung162, 197.0, 197.3	9.7	11.5	7.9	*	0.7	22.2	41.2
Malignant neoplasm of breast174-175, 198.81	7.2	*	14.0	-	1.7	17.6	25.0
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature210-229, 235-239	17.5	6.6	27.8	3.0	16.7	30.8	25.9
Endocrine, nutritional and metabolic diseases, and immunity disorders240-279	42.5	35.0	49.5	19.2	20.0	54.4	150.3
Diabetes mellitus250	18.6	17.7	19.5	5.2	10.9	29.3	54.8
Diseases of the blood and blood-forming organs280-289	12.1	11.8	12.3	8.9	7.5	11.3	36.2
Mental disorders290-319	63.8	64.7	63.0	10.9	83.9	62.7	82.5
Psychoses290-299	32.0	28.8	35.0	4.0	37.4	34.1	57.5
Alcohol dependence syndrome303	9.7	15.1	4.6	*	13.8	13.8	4.8
Diseases of the nervous system and sense organs .320-389	37.8	36.4	39.1	36.5	19.3	41.3	104.3
Diseases of the central nervous system .320-336, 340-349	14.3	14.3	14.2	10.8	10.4	14.9	33.8
Cataract366	3.8	2.8	4.7	*	*	3.8	23.8
Diseases of the ear and mastoid process380-389	8.2	8.3	8.1	20.0	3.2	5.6	10.5
Diseases of the circulatory system390-459	216.9	230.2	204.5	4.7	36.5	354.4	1,061.6
Heart disease391-392.0, 393-398, 402, 404, 410-416, 420-429	149.2	165.4	133.9	2.6	21.2	252.8	731.9
Acute myocardial infarction410	29.3	38.1	21.1	*	3.9	52.4	141.6
Atherosclerotic heart disease414.0	16.9	23.5	10.6	*	2.0	41.5	64.8
Other ischemic heart disease411-413, 414.1-414.9	37.7	41.5	34.2	*	4.6	79.7	165.4
Cardiac dysrhythmias427	20.1	19.3	20.9	*1.0	3.1	28.4	105.4
Congestive heart failure428.0	26.0	23.5	28.3	*	1.3	23.2	168.1
Cerebrovascular disease430-438	32.1	28.4	35.6	*	2.8	37.2	190.4
Diseases of the respiratory system460-519	120.3	123.8	117.0	131.7	47.1	114.2	386.0
Acute respiratory infections, except influenza460-466	18.2	18.9	17.6	31.6	5.2	15.2	48.7
Chronic disease of tonsils and adenoids474	8.0	7.4	8.7	23.5	6.1	*	*
Pneumonia, all forms480-486	37.9	40.0	35.9	34.7	9.7	30.3	161.3
Asthma493	19.6	17.7	21.4	31.0	9.6	20.3	36.8
Diseases of the digestive system520-579	133.9	128.1	139.3	51.5	86.5	180.8	385.7
Ulcers of the stomach and small intestine531-534	10.5	11.6	9.4	*	4.6	14.3	44.9
Gastritis and duodenitis535	6.0	4.8	7.0	*1.1	3.9	9.0	17.7
Appendicitis540-543	9.9	11.9	8.0	9.9	12.7	5.2	6.7
Inguinal hernia550	10.5	19.6	2.0	5.6	5.7	17.0	27.6
Noninfectious enteritis and colitis555-556, 558	13.6	10.3	16.7	18.1	10.0	11.4	23.0
Cholelithiasis574	19.8	11.2	28.0	*	16.0	31.7	50.8
Diseases of the genitourinary system580-629	90.3	70.1	109.3	13.3	80.3	111.4	230.5
Calculus of kidney and ureter592	11.8	15.5	8.3	*	11.9	23.0	13.6
Hyperplasia of prostate600	10.1	20.9	...	-	*	12.1	62.8
Complications of pregnancy, childbirth, and the puerperium ¹630-676	34.3	...	66.5	*0.6	72.6	*	...
Abortions and ectopic and molar pregnancies630-639	10.9	...	21.1	*	23.0	*	...
Diseases of the skin and subcutaneous tissue680-709	18.8	19.8	17.9	8.6	13.5	23.4	50.1
Diseases of the musculoskeletal system and connective tissue710-739	67.4	65.5	69.3	10.1	54.1	107.8	156.9
Arthropathies and related disorders710-719	18.8	16.2	21.2	3.4	11.3	25.2	64.4
Intervertebral disc disorders722	17.1	20.9	13.5	*	19.5	30.9	16.7
Congenital anomalies740-759	9.3	10.9	7.8	28.2	3.9	5.2	*2.5
Certain conditions originating in the perinatal period760-779	6.5	7.8	5.3	29.8	*	*	*
Symptoms, signs, and ill-defined conditions780-799	16.3	16.9	15.7	9.3	15.2	22.8	22.7
Injury and poisoning800-999	115.4	129.9	101.8	65.6	106.0	108.3	248.6
Fractures, all sites800-829	41.5	42.8	40.4	20.1	31.0	33.4	131.1
Fracture of neck of femur820	10.4	5.7	14.8	*	0.9	5.2	71.4
Sprains and strains of back (including neck)846-847	4.0	4.1	3.9	*	5.3	4.8	3.9
Intracranial injuries (excluding those with skull fracture)850-854	8.2	10.4	6.2	8.7	9.0	5.7	8.4
Lacerations and open wounds870-904	9.5	14.9	4.5	6.3	13.5	5.9	5.7
Supplementary classificationsV01-V82	175.9	18.3	323.9	16.6	342.5	30.1	45.9
Females with deliveriesV27	154.9	...	300.3	2.0	328.6	*	...

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, 1988

[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
Average length of stay in days							
All conditions	6.5	7.1	6.2	5.0	4.7	6.8	8.9
Infectious and parasitic diseases001-139	8.1	8.2	8.0	4.1	7.5	10.9	11.3
Neoplasms140-239	8.5	9.0	8.1	6.5	5.8	8.1	9.9
Malignant neoplasms140-208, 230-234	9.4	9.4	9.4	7.9	7.3	8.9	10.2
Malignant neoplasm of large intestine and rectum153-154, 197.5	13.1	12.6	13.4	*	*12.4	11.5	13.6
Malignant neoplasm of trachea, bronchus, and lung162, 197.0, 197.3	9.5	9.1	10.0	*	11.3	9.4	9.5
Malignant neoplasm of breast174-175, 198.81	5.6	*	5.6	-	5.0	5.3	6.0
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature210-229, 235-239	4.9	5.0	4.9	3.1	4.3	5.0	6.6
Endocrine, nutritional and metabolic diseases, and immunity disorders240-279	7.5	7.5	7.5	4.6	5.4	7.2	9.4
Diabetes mellitus250	8.2	7.8	8.6	5.2	5.7	8.3	10.5
Diseases of the blood and blood-forming organs280-289	6.2	6.2	6.2	4.2	5.5	6.5	7.4
Mental disorders290-319	13.0	12.4	13.7	25.0	12.6	11.9	13.3
Psychoses290-299	15.1	14.3	15.8	28.0	14.7	14.1	15.5
Alcohol dependence syndrome303	11.2	11.1	11.4	*	11.9	8.9	8.5
Diseases of the nervous system and sense organs .320-389	5.4	6.0	4.9	3.7	5.4	5.5	6.4
Diseases of the central nervous system .320-336, 340-349	9.4	10.5	8.4	6.5	7.2	10.5	12.9
Cataract366	1.4	1.5	1.3	*	*	1.3	1.4
Diseases of the ear and mastoid process380-389	2.5	2.3	2.7	2.1	2.2	2.5	4.0
Diseases of the circulatory system390-459	7.5	7.4	7.7	6.8	5.7	6.4	8.4
Heart disease391-392.0, 393-398, 402, 404, 410-416, 420-429	7.1	6.9	7.4	6.6	5.7	6.2	7.8
Acute myocardial infarction410	9.0	8.8	9.3	*	6.8	8.1	9.7
Atherosclerotic heart disease414.0	6.1	5.7	6.9	*	5.0	5.1	7.1
Other ischemic heart disease411-413, 414.1-414.9	5.3	5.1	5.5	*	3.8	4.6	5.9
Cardiac dysrhythmias427	5.6	5.6	5.7	*4.6	3.2	4.7	6.3
Congestive heart failure428.0	8.8	8.6	8.9	*	6.8	9.3	8.7
Cerebrovascular disease430-438	9.7	9.8	9.6	*	7.9	8.7	10.1
Diseases of the respiratory system460-519	6.6	6.6	6.7	3.2	4.5	7.1	9.4
Acute respiratory infections, except influenza460-466	5.1	4.8	5.4	3.3	3.9	5.7	7.5
Chronic disease of tonsils and adenoids474	1.2	1.4	1.1	1.2	1.2	*	*
Pneumonia, all forms480-486	8.4	8.3	8.6	4.6	7.3	8.4	10.2
Asthma493	4.8	4.4	5.0	2.8	4.0	5.7	7.6
Diseases of the digestive system520-579	6.2	5.8	6.5	3.6	4.6	6.3	8.0
Ulcers of the stomach and small intestine531-534	7.2	6.8	7.7	*	5.5	6.7	8.2
Gastritis and duodenitis535	4.4	4.1	4.6	*2.8	3.6	4.5	5.3
Appendicitis540-543	5.2	5.4	4.9	4.9	3.9	7.1	12.8
Inguinal hernia550	2.5	2.5	2.3	1.6	2.0	2.3	3.3
Noninfectious enteritis and colitis555-556, 558	4.7	4.6	4.8	2.9	4.5	5.8	6.7
Cholelithiasis574	6.5	7.4	6.2	*	5.1	6.2	8.6
Diseases of the genitourinary system580-629	5.3	5.5	5.1	3.9	4.0	5.1	7.2
Calculus of kidney and ureter592	3.1	2.8	3.6	*	2.5	3.2	4.6
Hyperplasia of prostate600	6.3	6.3	...	-	*	7.2	6.0
Complications of pregnancy, childbirth, and the puerperium ¹630-676	2.7	...	2.7	*2.4	2.7	*	...
Abortions and ectopic and molar pregnancies630-639	2.3	...	2.3	*	2.3	*	...
Diseases of the skin and subcutaneous tissue680-709	8.1	7.9	8.3	4.0	5.6	8.2	11.8
Diseases of the musculoskeletal system and connective tissue710-739	6.3	5.8	6.8	4.8	4.6	5.9	9.2
Arthropathies and related disorders710-719	7.4	6.1	8.4	3.8	4.1	6.8	10.4
Intervertebral disc disorders722	5.9	5.5	6.5	*	5.4	6.0	8.3
Congenital anomalies740-759	5.9	5.8	6.2	5.9	4.5	8.6	*7.2
Certain conditions originating in the perinatal period760-779	12.4	12.1	13.0	12.4	*	*	*
Symptoms, signs, and ill-defined conditions780-799	3.3	2.8	3.8	2.7	2.9	3.5	4.7
Injury and poisoning800-999	6.8	6.4	7.3	4.1	5.3	7.1	10.2
Fractures, all sites800-829	8.4	7.2	9.7	5.0	6.0	8.2	11.6
Fracture of neck of femur820	13.4	13.0	13.6	*	14.2	12.5	13.5
Sprains and strains of back (including neck)846-847	4.8	4.6	5.0	*	4.6	4.6	6.6
Intracranial injuries (excluding those with skull fracture)850-854	5.5	6.4	4.1	2.5	5.9	6.9	8.0
Lacerations and open wounds870-904	4.1	4.3	3.7	3.0	4.0	4.5	6.8
Supplementary classificationsV01-V82	3.3	6.6	3.1	6.1	2.9	4.7	9.5
Females with deliveriesV27	2.9	...	2.9	3.0	2.9	*	...

¹First-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, 1988[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	39,192	15,735	23,457	2,050	15,520	8,939	12,682
Operations on the nervous system.01-05	896	467	429	216	279	200	201
Spinal tap03.31	353	183	171	154	79	48	72
Operations on the endocrine system06-07	111	31	79	*	43	39	26
Operations on the eye08-16	547	243	304	33	80	126	308
Extraction of lens.13.1-13.6	113	40	73	*	*	22	85
Insertion of prosthetic lens (pseudophakos).13.7	106	35	71	*	*	18	87
Operations on the ear18-20	198	109	88	107	46	25	19
Operations on the nose, mouth, and pharynx.21-29	820	436	385	220	372	135	94
Rhinoplasty and repair of nose.21.8	97	58	39	*6	68	18	*6
Tonsillectomy with or without adenoidectomy.28.2-28.3	213	94	119	135	75	*	*
Operations on the respiratory system30-34	991	561	430	69	190	291	441
Bronchoscopy33.21-33.23	145	84	61	22	28	38	57
Operations on the cardiovascular system35-39	3,626	2,220	1,406	169	422	1,358	1,676
Removal of coronary artery obstruction36.0	227	160	67	-	18	117	92
Direct heart revascularization.36.1	353	270	83	*	15	167	170
Cardiac catheterization.37.21-37.23	930	598	332	20	93	432	385
Pacemaker insertion, replacement, removal, repair.37.7-37.8	291	165	125	*	8	58	223
Operations on the hemic and lymphatic system40-41	392	192	200	24	91	106	172
Operations on the digestive system42-54	5,257	2,277	2,981	233	1,544	1,335	2,145
Esophagoscopy and gastroscopy (natural orifice)42.23,44.13	127	68	59	8	23	36	60
Partial gastrectomy and resection of intestine43.5-43.8,45.6-45.8	292	123	170	*7	36	81	169
Endoscopy of large intestine (natural orifice)45.24	202	83	119	*	26	50	124
Appendectomy, excluding incidental47.0	273	147	126	58	162	29	24
Hemorrhoidectomy49.43-49.46	74	42	32	*	28	31	15
Cholecystectomy51.2	497	132	365	*	191	150	155
Repair of inguinal hernia53.0-53.1	290	261	29	36	70	86	98
Division of peritoneal adhesions54.4	296	51	245	*4	146	66	79
Operations on the urinary system55-59	1,706	1,018	688	48	398	426	833
Endoscopies (natural orifice)55.21-55.22,56.31,57.32,58.22	588	424	164	9	98	139	343
Operations on the male genital organs60-64	633	633	...	50	54	128	400
Prostatectomy.60.2-60.6	358	358	*	67	290
Operations on the female genital organs.65-71	2,501	...	2,501	10	1,773	516	202
Oophorectomy and salpingo-oophorectomy65.3-65.6	451	...	451	*	246	165	39
Bilateral destruction or occlusion of fallopian tubes.66.2-66.3	406	...	406	*	404	*	...
Hysterectomy68.3-68.7	578	...	578	-	340	188	50
Dilation and curettage of uterus69.0	279	...	279	*	222	40	16
Repair of cystocele and rectocele70.5	136	...	136	-	34	54	49
Obstetrical procedures72-75	6,042	...	6,042	16	6,024	*	...
Episiotomy with or without forceps or vacuum extraction72.1,72.21,72.31,72.71,73.6	1,680	...	1,680	*6	1,674	*	...
Cesarean section.74.0-74.2,74.4,74.99	933	...	933	*	931	*	...
Repair of current obstetric laceration.75.5-75.6	690	...	690	*	688	*	...
Operations on the musculoskeletal system76-84	3,143	1,648	1,496	203	1,325	747	868
Open reduction of fracture except jaw76.79,79.2-79.3,79.5-79.6	456	235	221	32	185	82	157
Other reduction of fracture except jaw76.70,76.78,79.0-79.1,79.4	183	101	82	44	62	24	53
Excision or destruction of intervertebral disc and spinal fusion80.5,81.0	340	206	134	*4	178	110	48
Arthroplasty and replacement of knee81.41-81.47	204	95	109	*	78	34	90
Arthroplasty and replacement of hip.81.5-81.6	206	66	140	*	10	38	158
Operations on muscles, tendons, fascia, and bursa.82-83.1, 83.3-83.9	305	181	124	36	140	81	48
Operations on the integumentary system.85-86	1,475	639	836	105	537	393	440
Mastectomy85.4	124	*	123	*	14	51	58
Excision or destruction of lesion or tissue of skin or subcutaneous tissue86.2-86.4	531	291	241	37	194	124	177
Skin graft (except lip or mouth).86.6-86.7	148	91	56	21	51	31	44
Miscellaneous diagnostic and therapeutic procedures87-99	10,854	5,262	5,593	544	2,342	3,112	4,856
Computerized axial tomography .87.03,87.41,87.71,88.01,88.38	1,613	775	838	80	374	368	771
Pyelogram87.73-87.75	324	191	133	9	122	90	102
Arteriography and angiocardiography using contrast material88.4-88.5	1,624	995	629	20	189	734	680
Diagnostic ultrasound88.7	1,562	599	963	97	476	348	641
Circulatory monitoring89.6	846	430	415	32	127	217	469
Radioisotope scan92.0-92.1	704	315	390	17	124	215	348

Table 8. Rate of all-listed procedures for inpatients discharged from short-stay hospitals, by procedure category, sex, and age: United States, 1988

[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
Rate of all-listed procedures per 100,000 population							
All procedures	16,054.0	13,309.3	18,631.2	3,860.0	13,532.0	19,453.4	41,761.8
Operations on the nervous system01-05	367.0	395.4	340.4	407.4	243.0	435.6	661.2
Spinal tap03.31	144.8	154.6	135.6	290.8	69.2	104.0	236.8
Operations on the endocrine system06-07	45.3	26.5	63.0	*	37.4	85.9	84.2
Operations on the eye08-16	224.0	205.4	241.4	61.3	70.0	274.0	1,014.4
Extractions of lens13.1-13.6	46.4	34.0	58.0	*	*	47.4	279.3
Insertion of prosthetic lens (pseudophakos)13.7	43.5	29.7	56.6	*	*	40.0	285.9
Operations on the ear18-20	80.9	92.3	70.2	201.2	40.4	54.8	63.2
Operations on the nose, mouth, and pharynx21-29	336.0	368.4	305.7	413.5	324.5	293.5	308.4
Rhinoplasty and repair of nose21.8	39.7	49.1	30.8	*11.2	58.9	38.1	*19.0
Tonsillectomy with or without adenoidectomy28.2-28.3	87.3	79.3	94.8	254.4	65.8	*	*
Operations on the respiratory system30-34	406.0	474.5	341.6	130.3	165.5	632.5	1,453.8
Bronchoscopy33.21-33.23	59.3	70.8	48.4	41.2	24.2	81.7	189.2
Operations on the cardiovascular system35-39	1,485.2	1,877.8	1,116.6	319.0	367.9	2,956.0	5,519.6
Removal of coronary artery obstruction36.0	92.8	135.3	52.9	-	15.4	255.0	302.0
Direct heart revascularization36.1	144.6	228.1	66.2	*	13.2	362.7	558.6
Cardiac catheterization37.21-37.23	380.9	505.6	263.8	37.0	81.5	940.5	1,266.3
Pacemaker insertion, replacement, removal, repair37.7-37.8	119.2	139.9	99.6	*	7.4	127.2	733.1
Operations on the hemic and lymphatic system40-41	160.7	162.7	158.8	45.5	79.1	229.6	565.9
Operations on the digestive system42-54	2,153.5	1,925.6	2,367.5	437.8	1,346.3	2,905.5	7,065.1
Esophagoscopy and gastroscopy (natural orifice)42.23,44.13	52.2	57.7	47.1	15.8	20.3	78.1	197.1
Partial gastrectomy and resection of intestine43.5-43.8, 45.6-45.8	119.7	103.7	134.7	*12.4	31.0	176.6	555.8
Endoscopy of large intestine (natural orifice)45.24	82.7	69.9	94.7	*	23.1	109.1	409.0
Appendectomy, excluding incidental47.0	111.9	124.0	100.4	109.1	141.4	63.3	78.2
Hemorrhoidectomy49.43-49.46	30.5	35.7	25.6	*	24.4	68.2	49.7
Cholecystectomy51.2	203.6	111.4	290.1	*	166.2	326.5	509.5
Repair of inguinal hernia53.0-53.1	118.7	220.4	23.2	68.2	61.3	186.5	321.3
Division of peritoneal adhesions54.4	121.2	43.1	194.5	*7.1	127.6	144.2	261.6
Operations on the urinary system55-59	698.7	861.0	546.3	91.1	346.9	928.0	2,743.3
Endoscopes (natural orifice)55.21-55.22,56.31,57.32,58.22	240.8	358.5	130.4	16.2	85.2	301.8	1,129.4
Operations on the male genital organs60-64	259.2	535.2	...	94.9	47.4	278.5	1,316.9
Prostatectomy60.2-60.6	146.5	302.4	*	146.7	953.9
Operations on the female genital organs65-71	1,024.6	...	1,986.7	18.5	1,546.2	1,122.6	665.8
Oophorectomy and salpingo-oophorectomy65.3-65.6	184.7	...	358.1	*	214.2	359.3	128.3
Bilateral destruction or occlusion of fallopian tubes66.2-66.3	166.3	...	322.5	*	352.1	*	...
Hysterectomy68.3-68.7	236.9	...	459.4	-	296.4	410.0	164.7
Dilation and curettage of uterus69.0	114.4	...	221.8	*	193.2	87.6	53.9
Repair of cystocele and rectocele70.5	55.7	...	108.0	-	29.3	116.8	160.1
Obstetrical procedures72-75	2,474.9	...	4,798.8	29.5	5,252.3	*	...
Epistiotomy with or without forceps or vacuum extraction72.1,72.21,72.31,72.71,73.6	688.3	...	1,334.7	*10.4	1,459.5	*	...
Cesarean section74.0-74.2,74.4,74.99	382.3	...	741.4	*	811.7	*	...
Repair of current obstetric laceration75.5-75.6	282.8	-	548.3	*	599.6	*	...
Operations on the musculoskeletal system76-84	1,287.6	1,393.7	1,187.9	382.9	1,155.0	1,625.8	2,858.8
Open reduction of fracture except jaw76.79,79.2-79.3,79.5-79.6	186.7	199.0	175.2	60.0	161.0	177.9	518.6
Other reduction of fracture except jaw76.70,76.78,79.0-79.1,79.4	74.9	85.8	64.8	83.0	54.3	52.2	173.3
Excision or destruction of intervertebral disc and spinal fusion80.5, 81.0	139.1	173.8	106.5	*7.3	155.3	239.5	156.7
Arthroplasty and replacement of knee81.41-81.47	83.5	80.3	86.6	*	68.2	74.0	295.5
Arthroplasty and replacement of hip81.5-81.6	84.6	55.9	111.5	*	8.6	82.9	519.2
Operations on muscles, tendons, fascia, and bursa82-83.1, 83.3-83.9	124.9	153.1	98.3	68.5	121.8	176.2	157.3
Operations on the integumentary system85-86	604.1	540.2	664.1	197.1	468.0	854.9	1,450.2
Mastectomy85.4	50.8	*	97.3	*	12.3	112.0	192.1
Excision or destruction of lesion or tissue of skin or subcutaneous tissue86.2-86.4	217.6	245.8	191.1	69.5	168.8	269.5	582.4
Skin graft (except lip or mouth)86.6-86.7	60.5	77.3	44.8	38.8	44.8	68.1	146.4
Miscellaneous diagnostic and therapeutic procedures87-99	4,446.2	4,450.6	4,442.1	1,024.8	2,042.0	6,772.0	15,991.1
Computerized axial tomography87.03,87.41,87.71,88.01,88.38	660.6	655.5	665.3	151.4	325.7	843.8	2,538.6
Pyelogram87.73-87.75	132.7	161.6	105.5	17.5	106.8	195.8	336.6
Arteriography and angiocardiography using contrast material88.4-88.5	665.2	841.3	499.7	38.4	165.0	1,597.9	2,238.8
Diagnostic ultrasound88.7	639.8	506.5	764.9	181.8	415.0	758.3	2,110.3
Circulatory monitoring89.6	346.3	363.8	329.9	61.0	110.7	471.7	1,545.8
Radioisotope scan92.0-92.1	288.5	266.2	309.4	32.6	108.1	468.6	1,144.6

Technical Notes

Survey methodology

Source of data

The National Hospital Discharge Survey covers discharges from noninstitutional hospitals, exclusive of Federal, military, and Veterans Administrative hospitals, located in the

50 states and the District of Columbia. Only short-stay hospitals (hospitals with an average length of stay for all patients of less than 30 days) or those whose specialty is general (medical or surgical) or children's general are included in the survey. These hospitals must also have six or more beds staffed for patient use.

Beginning with 1988, the NHDS sampling frame consists of hospitals

hospitals. Within each sample hospital, a systematic random sample of discharges was selected. A report on the design and development of the original NHDS was published (1).

Beginning in 1988, the NHDS sample includes with certainty all hospitals with 1,000 or more beds or 40,000 or more discharges annually. The remaining sample of hospitals is based on a stratified three-stage design. The first stage consists of selection of 112 primary sampling units (PSU's) that comprise a probability subsample of PSU's used in the 1985-94 National Health Interview Survey. The second stage consists of selection of noncertainty hospitals from the sample PSU's. At the third stage, a sample of discharges was selected by a systematic random sampling technique.

Two data collection procedures were used for the survey. The first was a manual system of sample selection and data abstraction. The second was an automated method, used for approximately 37 percent of the respondent hospitals in 1988, that involved the purchase of data tapes from abstracting service organizations.

In the manual system, the sample selection and the transcription of information from the hospital records to abstract forms were performed at the hospitals. The completed forms, along with sample selection control sheets, were forwarded to NCHS for coding, editing, and weighting. A few of these hospitals submitted their data via computer printout or tape. Of the hospitals using the manual system in 1988, about two-thirds had the work performed by their own medical records staff. In the remaining hospitals using the manual system, personnel of the U.S. Bureau of the Census did the work on behalf of NCHS.

For the automated system, NCHS purchased tapes containing machine-readable medical record data from abstracting service organizations.

Table I. Approximate relative standard errors of estimated numbers of discharges and diagnoses: United States, 1988

Size of estimate	Under 15 years of age	All other ages
5,000	30.2	28.7
10,000	22.8	20.5
50,000	14.3	9.8
100,000	12.8	7.5
500,000	11.5	4.9
1,000,000	11.4	4.5
3,000,000	11.3	4.2
5,000,000	...	4.1
10,000,000	...	4.0
20,000,000	...	4.0
30,000,000	...	4.0
40,000,000	...	4.0

Table II. Approximate relative standard errors of estimated numbers of all listed procedures: United States, 1988

Size of estimate	Under 15 years of age	All other ages
5,000	33.0	30.4
10,000	24.7	21.8
50,000	14.9	10.9
100,000	13.2	8.6
500,000	11.7	6.2
1,000,000	11.5	5.8
3,000,000	11.3	5.6
5,000,000	...	5.5
10,000,000	...	5.5
20,000,000	...	5.5
30,000,000	...	5.5
40,000,000	...	5.5

that were listed in the April 1987 SMG Hospital Market Tape (3), met the above criteria, and began accepting patients by August 1987. For 1988, the sample consisted of 542 hospitals. Of the 542 hospitals, 11 were found to be out of scope (ineligible) because they went out of business or otherwise failed to meet the criteria for the NHDS universe. Of the 531 in-scope (eligible) hospitals, 422 responded to the survey.

Sample design and data collection

The NCHS has conducted the NHDS continuously since 1965. The original sample was selected in 1964 from a frame of short-stay hospitals listed in the National Master Facility Inventory. That sample was updated periodically with samples of hospitals that opened later. Sample hospitals were selected with probabilities ranging from certainty for the largest hospitals to 1 in 40 for the smallest

Records were systematically sampled by NCHS.

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 confidential information and are not available to the public.)

Presentation of estimates

The selection of estimates for publication is based on the relative standard error of the estimate and the number of sample records on which the estimate is based (referred to as the sample size). Based on consideration of the complex sample design of the NHDS, the following guidelines are used for presenting the NHDS estimates:

- 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 not be assumed to be reliable. The estimate is preceded by an asterisk (*) in the tables.
- If the sample size is 60 or more but the approximate relative standard error is over 30 percent, the estimate is reported but should not be assumed to be reliable. The estimate is preceded by an asterisk (*) in the tables.

Sampling errors and rounding of numbers

The standard error is primarily a measure of sampling variability that occurs by chance because only a sample rather than the 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. The resulting value is multiplied by 100, so the relative standard error is expressed as a percent of the estimate.

Estimates of sampling variability were calculated with SESUDAAN software, which computes standard errors by using a first-order Taylor approximation of the deviation of estimates from their expected values. A description of the software and approach it uses has been published (4).

Table I provides the estimate of sampling variability for discharges and first-listed diagnoses for patients under 15 years of age and all other variables. Table II provides the estimates of sampling variability by all-listed procedures for patients under 15 years of age and all other variables.

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.

Tests of significance

In this report, statistical inference is based on the two-sided test with a critical value of 1.96 (0.05 level of significance.) Terms such as “higher” and “less” indicate that 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 not to be significant.

Definition of terms

Terms relating to hospitals and hospitalization

Hospital—All hospitals with an average length of stay for all patients

of less than 30 days or hospitals whose specialty is general (medical or surgical) or children’s general are eligible for inclusion in NHDS, except Federal hospitals and hospital units of institutions. Hospitals must have six beds or more staffed for patient use.

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, 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 hospital, 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 the 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.

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

Terms relating to diagnoses and procedures

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, discharge (or final) diagnoses listed on the face sheet (summary sheet) of the medical record are transcribed in the order listed. Each sample discharge is assigned a maximum of seven five-digit codes according to ICD-9-CM (2).

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.

Procedure—One or more surgical or nonsurgical operations, procedures, or special treatments listed by the

physician on the medical record. In the NHDS, all terms listed on the face sheet (summary sheet) of the medical record under the caption "operation," "operative procedures," "operations and/or special treatment," and the like are transcribed in the order listed. A maximum of four procedures are 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 region—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, Pennsylvania
Midwest.	Michigan, Ohio, Illinois, Indiana, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas
South.	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Hawaii, Alaska

Recent Issues of *Advance Data From Vital and Health Statistics*

No. 184. Use of Family Planning Services in the United States: 1982 and 1988 (April 13, 1990)

No. 183. AIDS Knowledge and Attitudes for July–September 1989 (March 8, 1990)

No. 182. Contraceptive Use in the United States, 1973–88 (March 23, 1990)

No. 181. Adoption in the 1980's (January 5, 1990)

No. 180. Characteristics of Persons Dying From Cerebrovascular Diseases (February 8, 1990)

No. 179. AIDS Knowledge and Attitudes for April–June 1989 (November 1, 1989)

Suggested citation

Graves EJ. 1988 Summary: National Hospital Discharge Survey. Advance data from vital and health statistics; no 185. Hyattsville, Maryland: National Center for Health Statistics. 1990.

Copyright information

This report may be reprinted without further permission.

U.S. DEPARTMENT OF HEALTH AND
HUMAN SERVICES
Public Health Service
Centers for Disease Control
National Center for Health Statistics
6525 Belcrest Road
Hyattsville, Maryland 20782

BULK RATE POSTAGE & FEES PAID PHS/NCHS PERMIT No. G-281
--

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

To receive this publication regularly, contact the National Center for Health Statistics by calling 301-436-8500

DHHS Publication No. (PHS) 90-1250