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National Hospital Discharge Survey: Annual Summary, 1990

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This report presents statistics on the utilization of non-Federal short-stay hospitals based on data collected through the National Hospital Discharge Survey from a national sample of the hospital records of discharged inpatients. Estimates are provided by the demographic characteristics of patients discharged, geographic region of hospitals, conditions diagnosed, and surgical and nonsurgical procedures performed. Measurements of hospital use include frequency, rate and percent of discharges and days of care, and average length of stay.

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Cooperation of the U.S. Bureau of the Census

Under the legislation establishing the National Health Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies.

In accordance with specifications established by the National Center for Health Statistics, the U.S. Bureau of the Census, under a contractual arrangement, participated in planning the survey and collecting the data.

Contents

Introduction.....	1
Highlights.....	2
Trends.....	3
Diagnoses.....	5
Procedures.....	8
Patients with HIV diagnoses.....	12
Hospital deaths.....	14
Newborn infants.....	16
References.....	17
List of detailed tables.....	18

Appendixes

I. Technical notes on methods.....	52
II. Definitions of certain terms used in this report.....	60

List of text tables

A. Selected measures of short-stay hospital utilization: United States, selected years 1965–90.....	3
B. Number and rate of patients discharged from short-stay hospitals and of days of care, and average length of stay, by age: United States, 1988, 1989, and 1990.....	4
C. Number and rate of patients discharged from short-stay hospitals and of days of care, and average length of stay, by selected first-listed diagnostic categories: United States, 1990.....	6
D. Number and rate of patients 65 years of age and over discharged from short-stay hospitals, and average length of stay, by age and selected first-listed diagnoses: United States, 1990.....	7
E. Number of patients discharged from short-stay hospitals with and without procedures and percent with procedures, by selected characteristics: United States, 1990.....	8
F. Number and rate of all-listed surgical procedures for patients discharged from short-stay hospitals, by selected surgical categories: United States, 1990.....	9
G. Number and rate of all-listed nonsurgical procedures for patients discharged from short-stay hospitals, by selected nonsurgical categories: United States, 1990.....	9
H. Number and rate of all-listed surgical procedures for patients 65 years of age and over discharged from short-stay hospitals, by age and selected procedure categories: United States, 1990.....	10
J. Number and rate of all-listed nonsurgical procedures for patients 65 years of age and over discharged from short-stay hospitals, by age and selected procedure categories: United States, 1990.....	10
K. Selected measures of hospital utilization for patients discharged from short-stay hospitals with human immunodeficiency virus (HIV) diagnoses: United States, 1984–90.....	12
L. Number and percent distribution of patients with human immunodeficiency virus (HIV) diagnoses discharged from short-stay hospitals, by sex and selected age groups, according to discharges, days of care, and average length of stay: United States, 1984–90.....	12

M. Number of deaths and fatality rate of patients discharged from short-stay hospitals, by sex and age of patient: United States, 1990.	14
N. Number of deaths and fatality rate of patients discharged from short-stay hospitals, by age and selected categories of first-listed diagnosis: United States, 1990.	14
O. Average length of stay of patients discharged from short-stay hospitals, by discharge status, sex, and age: United States, 1990.	15
P. Number, percent distribution, and average length of stay for newborn infants discharged from short-stay hospitals, by sex and geographic region: United States, 1990.	16
Q. Number and average length of stay of newborn infants discharged from short-stay hospitals, by sex and health status: United States, 1990.	16
R. Number of all-listed diagnoses for sick newborn infants discharged from short-stay hospitals, by sex and selected diagnostic categories: United States, 1990.	16

Symbols

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

by Edmund J. Graves,
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Introduction

This report provides national estimates of the use of non-Federal short-stay hospitals during 1990. Detailed tables present data for selected demographic characteristics of discharged patients, the geographic region of the hospital where patients were treated, conditions diagnosed, and surgical and nonsurgical procedures performed. Text tables show information on special topics including trends, the elderly, patients with human immunodeficiency virus (HIV) diagnoses, hospital deaths, and newborn infants.

The statistics 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. The data for the survey come from a sample of inpatient records that are obtained from a national sample of non-Federal general and short-stay specialty hospitals located in the United States. Approximately 266,000 medical records from 474 participating hospitals were included in the 1990 survey.

The original universe for the survey consisted of 6,965 short-stay hospitals contained in the 1963 National Master Facility Inventory of Hospitals. The universe was updated periodically from lists of hospitals provided by the American Hospital Association. A description of the development and design of the original NHDS, which was in operation from 1965 through 1987, has been published (1).

Beginning in 1988, the NHDS was redesigned in order to link it with other surveys conducted by NCHS and to improve efficiency through the use of information and technologies that were not available when the survey was first designed in 1964. Differences between NHDS statistics based on the 1965–87 sample and statistics based on the new sample may be due to sample design rather than to real changes in hospital use patterns.

The redesigned survey is based on a new three-stage stratified sample that comes from hospitals contained in the April 1987 SMG Hospital Market Data Tape (2). Only hospitals accepting inpatients by August 1987 were included. The definition of hospitals in the NHDS was modified slightly in the redesign. Prior to 1988, hospitals with an average length of stay of 30 days or more were excluded. Beginning in 1988, general medical and surgical and children's general hospitals were included regardless

of the overall average length of stay of the inpatient population. However, the term "short-stay" will continue to be used because 98 percent of hospitals in the NHDS universe fall into this category. A description of the new design, data collection procedures, and estimation process can be found in appendix I.

Types of measurements shown are frequencies, rates, and percent distributions of discharges and days of care, and average lengths of stay. The estimates are presented by age, sex, race, and expected source of payment of the patients discharged, and by geographic region of the hospitals (tables 1–4). Statistics on women with deliveries (table 5), conditions diagnosed (tables 6–21), and procedures performed (tables 22–29) are also shown by patient and hospital characteristics. Data for newborn infants are included only in the section titled "Newborn infants." Because these data are based on a sample, they may not agree with data on births published in *Vital Statistics of the United States*.

Medical data for hospitalized patients are coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification*, or ICD–9–CM (3). A maximum of seven diagnoses and four procedures were coded for each medical record in the sample. Although diagnoses included in the ICD–9–CM section titled "Supplementary classification of external causes of injury and poisoning" (coded E800–E999) are collected in the NHDS, these diagnoses are excluded from the report. The conditions diagnosed and procedures performed are presented by major diagnostic and procedure groups of the ICD–9–CM. Within these groups, some specific categories were selected for presentation because of large frequencies or because they are of special interest. More detailed data are presented in other reports in Series 13 of the *Vital and Health Statistics* reports.

Familiarity with the definitions used in NHDS is important for interpreting the data and for making comparisons with statistical data on short-stay hospital utilization that are available from other sources. Definitions of the terms used in this report are presented in appendix II.

Information on short-stay hospital utilization is also collected through the National Health Interview Survey (NHIS), conducted by NCHS. Estimates from this survey generally differ from those from NHDS because of differences in data collection procedures, populations sampled, and definitions. Data from the NHIS are published in Series 10 of the *Vital and Health Statistics* reports.

Highlights

- During 1990, an estimated 30.8 million patients, excluding newborn infants, were discharged from non-Federal short-stay hospitals. These patients used an estimated 197.4 million days of care.
- The number of discharges has decreased by 21 percent since 1983 and the number of days of care has decreased by 29 percent since 1981.
- The average length of stay has gradually declined from 7.8 days in 1965 to 6.4 days in 1990.
- Of all patients discharged from short-stay hospitals, 18 percent were 75 years of age and over.
- Private insurance was the expected principal source of payment for 39 percent of patients discharged during 1990.
- Deliveries and heart disease were leading causes of hospitalization during 1990. These two diagnoses accounted for 4.0 and 3.6 million discharges, respectively, and together made up 25 percent of all first-listed diagnoses.
- Approximately 21 percent of patients 65 years of age and over discharged from short-stay hospitals had been admitted for heart disease.
- At least one procedure was performed on 66 percent of patients discharged from short-stay hospitals in 1990.
- Four obstetrical procedures (episiotomy, cesarean section, repair of current obstetric laceration, and artificial rupture of membranes) accounted for 18 percent of the surgical procedures performed on hospital inpatients.
- Five nonsurgical procedures were performed more than 1 million times: arteriography and angiocardiology using contrast material (1.7 million), diagnostic ultrasound (1.6 million), computerized axial tomography (1.5 million), fetal EKG and fetal monitoring (1.4 million), and respiratory therapy (1.2 million).
- Approximately 13 percent of all surgical procedures and 20 percent of all nonsurgical procedures were performed on patients 75 years of age and over.
- In 1984, 10,000 patients with HIV diagnoses were discharged from short-stay hospitals. By 1990, this number had increased to 146,000.
- The number and rate per 10,000 population of patients discharged from short-stay hospitals with HIV diagnoses showed little change from 1989 to 1990.
- From 1984–90, 84.4 percent of patients with HIV diagnoses were male and 76.9 percent were 25–44 years of age.
- In 1990, 2.8 percent of patients discharged from short-stay hospitals were discharged dead.
- Approximately 17 percent of hospitalized patients had first-listed diagnoses of heart disease or malignant neoplasm, but 39 percent of the deaths that occurred in short-stay hospitals were the result of either of these two diseases.

Trends

In 1990 an estimated 30,788,000 inpatients were discharged from short-stay hospitals (table A). These patients used a total of 197,422,000 days of care and had an average length of stay of 6.4 days. The number and rate of discharges and days of care for short-stay hospitals generally increased from 1965 through the 1970's, but declined during the 1980's. From 1983 to 1990, the number of discharges decreased by 21 percent. The number of days of care decreased 29 percent from 1981 to 1990. The average length of stay has gradually declined since 1965.

The 1990 average stay was 1.4 days (18 percent) shorter than the average stay in 1965.

Hospital use measures are shown by age for 1988, 1989, and 1990 in table B. During these three years, 38 percent of patients discharged from short-stay hospitals were 15–44 years of age and 33–34 percent were 65 years of age. Patients 75 years of age and over made up 18 percent of total discharges, and they used 25–26 percent of total days of care. All patients 65 years of age and over accounted for 44–45 percent of total days of care.

Table A. Selected measures of short-stay hospital utilization: United States, selected years 1965–90

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

<i>Measure of utilization</i>	1965	1970	1975	1980	1985	1990
Number of discharges in thousands	28,792	29,127	34,043	37,832	35,056	30,788
Rate of discharges per 1,000 population	150.3	144.3	159.2	167.7	147.9	123.5
Number of days of care in thousands	225,011	226,445	262,389	274,508	226,217	197,422
Rate of days of care per 1,000 population	1,174.3	1,121.6	1,227.3	1,217.0	954.4	791.7
Average length of stay in days	7.8	7.8	7.7	7.3	6.5	6.4

Table B. Number and rate of patients discharged from short-stay hospitals and of days of care, and average length of stay, by age: United States, 1988, 1989, and 1990

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

<i>Age</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>
		Number of discharges in thousands	
All ages	31,146	30,947	30,788
Under 15 years	2,610	2,597	2,412
15-44 years	11,934	11,848	11,799
45-64 years	6,456	6,271	6,244
65 years and over	10,146	10,230	10,333
65-74 years	4,703	4,678	4,689
75 years and over	5,443	5,552	5,644
		Rate of discharges per 1,000 population	
All ages	127.6	125.5	123.5
Under 15 years	49.2	48.2	43.9
15-44 years	104.0	102.8	101.7
45-64 years	140.5	135.0	133.1
65 years and over	334.1	330.2	327.1
65-74 years	262.8	257.3	253.9
75 years and over	436.5	433.6	430.0
		Number of days of care in thousands	
All ages	203,678	200,827	197,422
Under 15 years	13,028	12,632	11,655
15-44 years	56,558	55,420	54,062
45-64 years	43,901	41,979	42,153
65 years and over	90,191	90,795	89,552
65-74 years	39,638	38,464	37,422
75 years and over	50,553	52,331	52,131
		Rate of days of care per 1,000 population	
All ages	834.3	814.5	791.7
Under 15 years	245.3	234.3	212.4
15-44 years	493.1	481.1	466.2
45-64 years	955.3	903.7	898.2
65 years and over	2,970.0	2,930.4	2,834.6
65-74 years	2,214.8	2,115.5	2,026.3
75 years and over	4,054.3	4,087.4	3,972.2
		Average length of stay in days	
All ages	6.5	6.5	6.4
Under 15 years	5.0	4.9	4.8
15-44 years	4.7	4.7	4.6
45-64 years	6.8	6.7	6.8
65 years and over	8.9	8.9	8.7
65-74 years	8.4	8.2	8.0
75 years and over	9.3	9.4	9.2

Diagnoses

Hospital use measures are presented for selected first-listed diagnostic categories in table C. The categories shown accounted for more than half of the discharges and days of care in short-stay hospitals in 1990. An estimated 4,025,000 patients discharged were females hospitalized for deliveries. Females with deliveries made up 13.1 percent of all discharges in 1990, but because of their short average length of stay (2.8 days), they used only 5.7 percent of inpatient days of care.

Patients with first-listed diagnoses of heart disease accounted for 3,556,000 discharges, which was 11.5 percent of total discharges. These patients had an average length of stay of 6.9 days and used 12.4 percent of total days of care. Acute myocardial infarction, coronary atherosclerosis, and other ischemic heart disease were the first-listed diagnoses for 55 percent of the heart disease discharges. Other major heart disease diagnoses were congestive heart failure and cardiac dysrhythmia.

Malignant neoplasms were the first-listed diagnoses for 1,571,000 patients discharged or 5.1 percent of total discharges. The average length of stay for patients discharged with malignant neoplasms was 9.4 days in 1990; they used 7.4 percent of the total days of care. Specific malignant neoplasms that frequently led to hospitalization included malignant neoplasm of trachea, bronchus, and lung; malignant neoplasm of large intestine and rectum; and malignant neoplasm of breast.

Two additional diagnostic categories, pneumonia and fractures, each accounted for more than 1 million discharges; two other categories, cerebrovascular disease and psychosis, each made up more than half a million discharges. These four diagnostic categories each accounted for more than 7 million days of care in 1990. Patients with first-listed diagnoses of psychosis had a particularly long average length of stay (14.6 days) and they used 6.0 percent of total days of care.

Selected diagnoses for patients 65 years of age and over are shown in table D. Heart disease was the first-listed diagnosis for an estimated 2,200,000 patients 65 years of age and over, which was 21 percent of the

discharges of this age group. Acute myocardial infarction, coronary atherosclerosis, and other ischemic heart disease accounted for 58 percent of the heart disease discharges for patients 65–74 years of age, 42 percent for patients 75 years of age and over. Congestive heart failure was the diagnosis for 31 percent of heart disease discharges for patients 75 years of age and over, and for 18 percent of those 65–74 years of age.

Patients 65 years of age and over with first-listed diagnoses of malignant neoplasm made up 8 percent of discharges for patients 65 years of age and over in 1990. Malignant neoplasm of trachea, bronchus, and lung and malignant neoplasm of large intestine and rectum were important causes of hospitalization for this age group. Cerebrovascular disease was the first-listed diagnosis for 6 percent of patients 65 years of age and over, pneumonia for 5 percent, and fractures for 4 percent. The other diagnostic categories shown in table D accounted for a combined total of 8 percent of the discharges of patients 65 years of age and over.

The discharge rate for patients 75 years of age and over was 4,300.3 per 10,000 population. This was 69 percent higher than the rate of 2,539.2 per 10,000 population for patients 65–74 years of age. However, patients 75 years of age and over did not have higher discharge rates for all the diagnostic categories. The discharge rate per 10,000 population for coronary atherosclerosis was 71.3 for patients 65–74 years of age compared with 46.5 for those 75 years of age and over. Patients 65–74 years of age had a discharge rate of 41.6 per 10,000 population for malignant neoplasm of trachea, bronchus, and lung; but the rate was 32.1 for patients 75 years of age and over.

The average length of stay for patients 65 years of age and over was 8.7 days in 1990. Among the conditions shown in table D, average stays ranged from 5.2 days for hyperplasia of prostate to 14.2 days for malignant neoplasm of large intestine and rectum. Patients 65 years of age and over also had average lengths of stay of 10 days or more for fractures, pneumonia, all malignant neoplasms, and urinary tract infections, site unspecified.

Table C. Number and rate of patients discharged from short-stay hospitals and of days of care, and average length of stay, by selected first-listed diagnostic categories: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM).*]

Diagnostic category and ICD-9-CM code	Discharges		Days of care		Average length of stay in days
	Number in thousands	Rate per 10,000 population	Number in thousands	Rate per 10,000 population	
All conditions ¹	30,788	1,234.6	197,422	7,916.7	6.4
Females with deliveries V27	4,025	161.4	11,225	450.1	2.8
Heart disease 391-392.0,393-398,402,404,410-416,420-429	3,556	142.6	24,557	984.8	6.9
Acute myocardial infarction 410	675	27.1	5,674	227.5	8.4
Coronary atherosclerosis 414.0	410	16.4	2,393	96.0	5.8
Other ischemic heart disease 411-413,414.1-414.9	870	34.9	4,503	180.6	5.2
Cardiac dysrhythmias 427	483	19.4	2,795	112.1	5.8
Congestive heart failure 428.0	701	28.1	5,604	224.7	8.0
Malignant neoplasms 140-208, 230-234	1,571	63.0	14,693	589.2	9.4
Malignant neoplasm of large intestine and rectum 153-154,197.5	175	7.0	2,402	96.3	13.7
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	231	9.3	1,961	78.7	8.5
Malignant neoplasm of breast 174-175,198.81	164	6.6	751	30.1	4.6
Pneumonia 480-486	1,052	42.2	8,744	350.6	8.3
Fractures 800-829	1,017	40.8	8,435	338.3	8.3
Cerebrovascular disease 430-438	812	32.6	7,727	309.8	9.5
Psychosis 290-299	812	32.5	11,861	475.6	14.6
Cholelithiasis 574	506	20.3	2,925	117.3	5.8
Acute respiratory infections 460-466	487	19.5	2,494	100.0	5.1
Arthropathies and related disorders 710-719	479	19.2	3,752	150.5	7.8
Asthma 493	476	19.1	2,222	89.1	4.7
Intervertebral disc disorders 722	425	17.0	2,167	86.9	5.1
Diabetes mellitus 250	420	16.8	3,295	132.1	7.8
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229, 235-239	393	15.8	2,078	83.3	5.3
Noninfectious enteritis and colitis 555-556, 558	347	13.9	1,524	61.1	4.4
Diseases of the central nervous system 320-336, 340-349	342	13.7	2,955	118.5	8.6

¹Includes data for diagnostic conditions not shown in table.

Table D. Number and rate of patients 65 years of age and over discharged from short-stay hospitals, and average length of stay, by age and selected first-listed diagnoses: United States, 1990

[Discharges from non-Federal hospitals. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM).*]

Diagnostic category and ICD-9-CM code	65 years and over	65-74 years	75 years and over
	Discharges in thousands		
All conditions ¹	10,333	4,689	5,644
Heart disease 391-392.0,393-398,402,404,410-416,420-429	2,200	1,000	1,199
Acute myocardial infarction 410	401	185	216
Coronary atherosclerosis 414.0	193	132	61
Other ischemic heart disease. 411-413,414.1-414.9	492	259	232
Cardiac dysrhythmias 427	308	124	184
Congestive heart failure 428.0	560	182	378
Malignant neoplasms 140-208, 230-234	812	436	377
Malignant neoplasm of large intestine and rectum 153-154, 197.5	112	48	64
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	119	77	42
Cerebrovascular disease 430-438	609	222	388
Pneumonia 480-486	546	173	373
Fractures. 800-829	448	120	328
Arthropathies and related disorders 710-719	237	137	100
Urinary tract infection, site unspecified 599.0	205	54	151
Hyperplasia of prostate 600	195	113	82
Volume depletion 276.5	171	47	124
	Discharge rate per 10,000 population		
All conditions ¹	3,270.8	2,539.2	4,300.3
Heart disease 391-392.0,393-398,402,404,410-416,420-429	696.3	541.7	914.0
Acute myocardial infarction 410	127.0	100.2	164.6
Coronary atherosclerosis 414.0	61.0	71.3	46.5
Other ischemic heart disease. 411-413,414.1-414.9	155.6	140.3	177.1
Cardiac dysrhythmias 427	97.4	67.1	139.9
Congestive heart failure 428.0	177.2	98.6	287.8
Malignant neoplasms 140-208, 230-234	257.1	235.9	286.9
Malignant neoplasm of large intestine and rectum 153-154, 197.5	35.3	25.9	48.5
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	37.7	41.6	32.1
Cerebrovascular disease 430-438	193.0	120.2	295.3
Pneumonia 480-486	172.9	93.9	284.1
Fractures. 800-829	142.0	65.2	250.0
Arthropathies and related disorders 710-719	75.1	74.3	76.3
Urinary tract infection, site unspecified 599.0	65.0	29.3	115.3
Hyperplasia of prostate 600	61.9	61.3	62.7
Volume depletion 276.5	54.0	25.5	94.1
	Average length of stay in days		
All conditions ¹	8.7	8.0	9.2
Heart disease 391-392.0,393-398,402,404,410-416,420-429	7.6	7.0	8.0
Acute myocardial infarction 410	9.1	8.4	9.7
Coronary atherosclerosis 414.0	7.0	6.6	7.9
Other ischemic heart disease. 411-413,414.1-414.9	5.6	5.3	5.9
Cardiac dysrhythmias 427	6.5	5.7	7.1
Congestive heart failure 428.0	8.3	8.4	8.2
Malignant neoplasms 140-208,230-234	10.1	9.4	10.8
Malignant neoplasm of large intestine and rectum 153-154,197.5	14.2	13.0	15.0
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	9.5	9.2	9.9
Cerebrovascular disease 430-438	9.5	8.4	10.1
Pneumonia 480-486	10.2	9.5	10.6
Fractures. 800-829	11.1	11.1	11.1
Arthropathies and related disorders 710-719	9.8	9.3	10.3
Urinary tract infection, site unspecified 599.0	10.0	8.0	10.7
Hyperplasia of prostate 600	5.2	4.5	6.1
Volume depletion 276.5	8.5	7.1	9.0

¹Includes diagnostic conditions not shown in table.

Procedures

One or more surgical, diagnostic, or therapeutic procedures were performed on an estimated 20,226,000 inpatients discharged from short-stay hospitals in 1990, which was 65.7 percent of all discharges (table E). At least one surgical procedure was reported for 14,563,000 patients discharged, or 47.3 percent of all discharges. See appendix II for the definition of surgical and nonsurgical procedures.

The proportion of patients with surgical procedures ranged from 27.5 percent of children under 15 years of age to 57.8 percent of patients 15–44 years of age, who have many procedures related to childbirth. At least one surgical procedure was performed on 50.3 percent of females and 42.9 percent of males. The proportion of white patients with a surgical procedure was 47.1 percent, compared with 40.9 percent of black patients.

An estimated total of 23,051,000 surgical procedures were performed for inpatients who had surgery (table F). When multiple procedures were performed on an individual patient, the procedures were usually classified in different procedure categories. However, coronary artery bypass graft (CABG, ICD–9–CM code 36.1) can be an exception. A physician may perform more than one CABG procedure during a single operation. In 1990, a total of 392,000 CABG procedures were performed on 262,000 patients discharged. Data users should not equate the number of CABG procedures with the number of patients having the procedure.

Four obstetrical procedures accounted for 18 percent of all surgical procedures performed in 1990: episiotomy,

Table E. Number of patients discharged from short-stay hospitals with and without procedures and percent with procedures, by selected characteristics: United States, 1990

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

Characteristics	All discharged patients	Patients without procedures	Patients with procedures			
			All patients with procedures	Patients with surgical procedures	All patients with procedures	Patients with surgical procedures
All patients.	30,788	10,562	20,226	14,563	65.7	47.3
Age						
Under 15 years.	2,412	1,263	1,149	664	47.6	27.5
15–44 years.	11,799	3,263	8,536	6,817	72.3	57.8
45–64 years.	6,244	1,984	4,261	3,026	68.2	48.5
65 years and over.	10,333	4,052	6,281	4,056	60.8	39.3
Sex						
Male.	12,280	4,513	7,766	5,262	63.2	42.9
Female.	18,508	6,049	12,459	9,301	67.3	50.3
Race						
White.	21,376	7,531	13,845	10,072	64.8	47.1
Black.	3,611	1,320	2,291	1,478	63.5	40.9
All other.	958	213	745	527	77.8	55.0
Not stated.	4,843	1,499	3,344	2,486	69.1	51.3
Region						
Northeast.	6,895	1,967	4,928	3,397	71.5	49.3
Midwest.	7,620	3,046	4,574	3,396	60.0	44.6
South.	11,173	4,221	6,952	5,183	62.2	46.4
West.	5,100	1,328	3,772	2,587	74.0	50.7

Note: See appendix II for definition of surgical procedures.

Table F. Number and rate of all-listed surgical procedures for patients discharged from short-stay hospitals, by selected surgical categories: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Procedure groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.]

Procedure category and ICD-9-CM code	Number in thousands	Rate per 100,000 population
Surgical procedures ¹	23,051	9,243.4
Episiotomy with or without forceps or vacuum extraction 72.1, 72.21, 72.31, 72.71, 73.6	1,717	688.6
Cardiac catheterization 37.21-37.23	995	399.2
Cesarean section 74.0-74.2, 74.4, 74.99	945	379.1
Repair of current obstetric laceration 75.5-75.6	795	318.7
Artificial rupture of membranes 73.0	691	277.1
Hysterectomy 68.3-68.7	591	237.0
Cholecystectomy 51.2	522	209.3
Oophorectomy and salpingo oophorectomy 65.3-65.6	476	190.9
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	419	167.9
Coronary artery bypass graft 36.1	392	157.2
Open reduction of fracture with internal fixation 79.3	391	156.8
Prostatectomy 60.2-60.6	364	145.9
Debridement of wound, infection, or burn 86.22, 86.28	332	133.2
Lysis of peritoneal adhesions 54.5	323	129.6
Excision or destruction of intervertebral disc 80.5	305	122.2
Removal of coronary artery obstruction 36.0	285	114.4
Appendectomy, excluding incidental 47.0	274	109.8
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	259	103.8

¹Includes data for surgical conditions not shown in table. See appendix II for ICD-9-CM codes included.

Table G. Number and rate of all-listed nonsurgical procedures for patients discharged from short-stay hospitals, by selected nonsurgical categories: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Procedure groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.]

Procedure category and ICD-9-CM code	Number in thousands	Rate per 100,000 population
Nonsurgical procedures ¹	17,455	6,999.6
Arteriography and angiocardiology using contrast material 88.4-88.5	1,735	695.8
Diagnostic ultrasound 88.7	1,608	645.0
Computerized axial tomography 87.03, 87.41, 87.71, 88.01, 88.38	1,506	603.8
Fetal EKG and fetal monitoring not otherwise specified 75.32, 75.34	1,377	552.1
Respiratory therapy 93.9	1,164	466.8
Endoscopy of small intestine (excludes that with biopsy) 45.11-45.13	785	314.7
Manual assisted delivery 73.5	754	302.2
Circulatory monitoring 89.6	724	290.5
Radioisotope scan 92.0-92.1	603	241.8
Cystoscopy (excludes that with biopsy) 57.31-57.32	527	211.4
Spinal tap 03.31	396	158.8
Colonoscopy and sigmoidoscopy (excludes that with biopsy) 45.23-45.24	393	157.7

¹Includes data for procedures not shown in table. See appendix II for codes included.

cesarean section, repair of current obstetric laceration, and artificial rupture of membranes. The rate per 100 deliveries was 23.5 for cesarean section and 17.2 for artificial rupture of membranes. There were 55.8 episiotomies and 25.8 repairs of current obstetric lacerations per 100 vaginal deliveries.

The cardiovascular procedures of cardiac catheterization; coronary artery bypass graft; removal of coronary artery obstruction; and insertion, replacement, removal, and revision of pacemaker leads or device together accounted for 8 percent of all surgical procedures on hospital inpatients. Three operations on the female genital

organs made up 6 percent of all surgical procedures. These procedures were hysterectomy, oophorectomy and salpingo-oophorectomy, and bilateral destruction or occlusion of fallopian tubes. The operations on the digestive system of cholecystectomy, lysis of peritoneal adhesions, and appendectomy combined were 5 percent of all surgical procedures.

Inpatients discharged from short-stay hospitals had an estimated 17,455,000 nonsurgical procedures in 1990 (table G). Arteriography and angiocardiology using contrast material accounted for almost 10 percent of nonsurgical procedures. Diagnostic ultrasound and com-

Table H. Number and rate of all-listed surgical procedures for patients 65 years of age and over discharged from short-stay hospitals, by age and selected procedure categories: United States, 1990

[Discharges from non-Federal hospitals. Procedure groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.]

Procedure category and ICD-9-CM code	65 years and over	65-74 years	75 years and over
Surgical procedures ¹	6,569	3,528	3,041
Cardiac catheterization 37.21-37.23	421	296	125
Prostatectomy. 60.2-60.6	284	159	125
Coronary artery bypass graft 36.1	204	140	64
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	199	70	129
Open reduction of fracture with internal fixation 79.3	163	50	113
Cholecystectomy. 51.2	146	81	66
Debridement of wound, infection, or burn 86.22, 86.28	129	51	77
Partial excision of large intestine 45.7	125	60	65
	Rate per 100,000 population		
Surgical procedures ¹	20,793.6	19,103.8	23,171.4
Cardiac catheterization 37.21-37.23	1,332.9	1,604.2	951.1
Prostatectomy. 60.2-60.6	899.1	860.8	952.9
Coronary artery bypass graft 36.1	645.9	757.8	488.3
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	629.0	377.2	983.3
Open reduction of fracture with internal fixation 79.3	515.4	271.1	859.2
Cholecystectomy. 51.2	463.3	436.6	500.9
Debridement of wound, infection, or burn 86.22, 86.28	407.2	278.3	588.6
Partial excision of large intestine 45.7	394.9	324.4	494.1

¹Includes procedures not shown in table. See appendix II for ICD-9-CM codes included.

Table J. Number and rate of all-listed nonsurgical procedures for patients 65 years of age and over discharged from short-stay hospitals, by age and selected procedure categories: United States, 1990

[Discharges from non-Federal hospitals. Procedure groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.]

Procedure category and ICD-9-CM code	65 years and over	65-74 years	75 years and over
Nonsurgical procedures ¹	6,739	3,249	3,490
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	745	309	435
Arteriography and angiocardiology using contrast material 88.4-88.5	742	514	228
Diagnostic ultrasound. 88.7	734	319	416
Respiratory therapy 93.9	565	248	317
Circulatory monitoring. 89.6	409	180	230
Radioisotope scan 92.0-92.1	318	153	166
Endoscopy of small intestine (excludes that with biopsy) 45.11-45.13	291	116	175
Cystoscopy (excludes that with biopsy) 57.31-57.32	288	139	149
Colonoscopy and sigmoidoscopy (excludes that with biopsy) 45.21-45.24	240	93	148
	Rate per 100,000 population		
Nonsurgical procedures ¹	20,793.6	17,592.5	26,593.4
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	2,356.8	1,675.1	3,316.1
Arteriography and angiocardiology using contrast material 88.4-88.5	2,348.8	2,782.1	1,739.2
Diagnostic ultrasound. 88.7	2,324.3	1,725.8	3,166.5
Respiratory therapy 93.9	1,787.0	1,341.5	2,413.9
Circulatory monitoring. 89.6	1,295.5	972.1	1,750.6
Radioisotope scan 92.0-92.1	1,008.0	827.6	1,261.8
Endoscopy of small intestine (excludes that with biopsy) 45.11-45.13	921.1	625.5	1,337.2
Cystoscopy (excludes that with biopsy) 57.31-57.32	910.8	751.7	1,134.6
Colonoscopy and sigmoidoscopy (excludes that with biopsy) 45.21-45.24	761.2	503.0	1,124.6

¹Includes procedures not shown in table. See appendix II for ICD-9-CM codes included.

puterized axial tomography (CAT scan) each made up 9 percent of nonsurgical procedures. Fetal EKG and fetal monitoring accounted for 8 percent of nonsurgical procedures and was performed at the rate of 34.2 per 100 deliveries.

An estimated 6,569,000 surgical procedures were performed on hospital inpatients 65 years of age and over in 1990 (table H). Three cardiovascular procedures accounted for 13 percent of the surgical procedures on the elderly. These three procedures were cardiac catheteriza-

tion; coronary artery bypass graft; and insertion, replacement, removal, and revision of pacemaker leads or device. Prostatectomy made up an additional 4 percent of the surgical procedures for persons 65 years of age and over.

The rate of surgical procedures per 100,000 population was generally higher for persons 75 years of age and over than for those 65–74 years of age. However, the rate per 100,000 population for cardiac catheterization was 1,604.2 for persons 65–74 years of age, compared with 951.1 for those 75 years of age and over. Coronary artery bypass graft was performed at the rate of 757.8 per 100,000 population for the 65–74 year age group but at the rate of 488.3 per 100,000 population for persons 75 years of age and over.

The estimated number of nonsurgical procedures for patients 65 years of age and over was 6,739,000 in 1990

(table J). Computerized axial tomography, arteriography, and angiocardiology using contrast material, and diagnostic ultrasound each accounted for 11 percent of the nonsurgical procedures performed on the elderly. Respiratory therapy and circulatory monitoring made up 8 and 6 percent respectively while radioisotope scan was another 5 percent.

Like the rates of surgical procedures, rates of nonsurgical procedures per 100,000 population were generally higher for patients 75 years of age and over than for those 65–74 years of age. One exception was arteriography and angiocardiology using contrast material, for which the rate per 100,000 population was 2,782.1 for persons 65–74 years of age and 1,739.2 for those 75 years of age and over.

Patients with HIV diagnoses

The estimated number of patients discharged with human immunodeficiency virus (HIV) diagnoses increased from 10,000 in 1984 to 146,000 in 1990 (table K). The discharge rate for patients with HIV diagnoses rose from 0.4 to 5.9 per 10,000 population during this period. However, the number and rate of discharges did not change significantly from 1989 to 1990. These data include patients with acquired immunodeficiency syndrome (AIDS), those with HIV and associated conditions, and those with positive serological or viral culture findings for HIV. The ICD-9-CM code of 279.19 was used for HIV diagnoses from 1984 until 1986. During 1986, new ICD-9-CM codes, 042-044 and 795.8, were added to provide more detail.

The number and rate of days of care for patients with HIV diagnoses also greatly increased from 1984 to 1990. The number of days of care in 1990 (2,188,000) was 18 times the number in 1984 (123,000). The rate of days of care grew from 5.3 to 87.7 per 10,000 population during this period. The average length of stay for patients with HIV diagnoses ranged from 12.1 days to 17.1 days during the 1984-90 period. In 1990 HIV patients had an average stay of 14.9 days.

All patients with HIV diagnoses discharged from 1984 to 1990 have been combined in table L to examine their characteristics. Of the estimated 524,000 HIV patients discharged during this period, 84.4 percent were males

Table K. Selected measures of hospital utilization for patients discharged from short-stay hospitals with human immunodeficiency virus (HIV) diagnoses: United States, 1984-90

[Discharges from non-Federal hospitals. Excludes newborn infants. Data are for discharges with at least one of the following *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM) codes: 279.19, 042-044, 795.8.]

Measure of utilization	1984	1985	1986	1987	1988	1989	1990
Number of patients discharged in thousands	10	23	44	67	95	140	146
Rate of patient discharges per 10,000 population	0.4	1.0	1.8	2.8	3.9	5.7	5.9
Number of days of care in thousands	123	387	714	936	1,277	1,731	2,188
Rate of days of care per 10,000 population	5.3	16.3	29.8	38.7	52.3	70.2	87.7
Average length of stay in days	12.1	17.1	16.4	14.1	13.4	12.4	14.9

Table L. Number and percent distribution of patients with human immunodeficiency virus (HIV) diagnoses discharged from short-stay hospitals, by sex and selected age groups, according to discharges, days of care, and average length of stay: United States, 1984-90

[Discharges from non-Federal hospitals. Excludes newborn infants. Data are for discharges with at least one of the following *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM) codes: 279.19, 042-044, 795.8.]

Sex and age	Discharges		Days of care		Average length of stay in days
	Number in thousands	Percent distribution	Number in thousands	Percent distribution	
Total	524	100.0	7,357	100.0	14.0
Sex					
Male	442	84.4	6,278	85.3	14.2
Female	82	15.6	1,079	14.7	13.1
Age					
Under 25 years	39	7.4	548	7.4	14.1
25-29 years	85	16.2	1,035	14.1	12.2
30-34 years	120	22.9	1,581	21.5	13.2
35-39 years	119	22.7	1,942	26.4	16.3
40-44 years	79	15.1	983	13.4	12.5
45 years and over	83	15.8	1,266	17.2	15.4

and 15.6 percent were females. Most HIV patients discharged (76.9 percent) were 25–44 years of age and 45.6 percent were 30–39 years of age. Patients under 25 years of age made up only 7.4 percent, and those 45 years of age and over accounted for 15.8 percent of HIV patients discharged.

Distributions of days of care by sex and age groups were similar to the patterns seen for discharges. Males accounted for 85.3 percent of the 7,357,000 days of care used by patients with HIV diagnoses from 1984 to 1990.

Patients 25–44 years of age used 75.4 percent of HIV hospital days; those 30–39 years of age were responsible for 47.9 percent.

The combined average length of stay for patients with HIV diagnoses during the 7-year period was 14.0 days. Stays averaged 14.2 days for males and 13.1 days for females. Among age groups, average lengths of stay ranged from 12.2 days for patients 25–29 years of age to 16.3 days for those 35–39 years of age.

Hospital deaths

In 1990, 95.5 percent of patients (excluding newborn infants) were discharged from short-stay hospitals alive, 2.8 percent were discharged dead, and for 1.6 percent a discharge status was not reported. Of the estimated 877,000 patients who died, 430,000 (49.0 percent) were male and 447,000 (51.0 percent) were female (table M). As expected, patients 65 years of age and over accounted for the majority of hospital deaths, 651,000 (74.2 percent). Persons who died while hospitalized represented approximately 41 percent of all deaths during 1990 (4).

A hospital fatality rate is the number of deaths for a category divided by the total number of discharges for that category multiplied by 100. This rate is conservative because the formula is based on the assumption that all patients whose discharge status was not stated were discharged alive. An overall fatality rate of 2.8 was computed for patients in 1990. The rate was 3.5 for males compared with 2.4 for females. Patients under 65 years of age had a fatality rate of 1.1; for those 65 years of age and over the rate was 6.3.

Table M. Number of deaths and fatality rate of patients discharged from short-stay hospitals, by sex and age of patient: United States, 1990

[Deaths in non-Federal hospitals. Excludes newborn infants.]

Age	Both sexes			Both sexes		
	Male	Female	Male	Female	Female	
	Number in thousands			Rate per 100 discharges		
All ages	877	430	447	2.8	3.5	2.4
Under 65 years	226	122	104	1.1	1.6	0.8
Under 15 years	21	11	*9	0.9	0.8	*0.9
15-44 years	58	38	21	0.5	1.1	0.2
45-64 years	147	73	74	2.4	2.4	2.4
65 years and over	651	308	343	6.3	6.9	5.9

Table N. Number of deaths and fatality rate of patients discharged from short-stay hospitals, by age and selected categories of first-listed diagnosis: United States, 1990

[Deaths in non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers 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	All ages	Under 65 years	65 years and over	All ages	Under 65 years	65 years and over
	Number in thousands			Rate per 100 discharges		
All deaths ¹	877	226	651	2.8	1.1	6.3
Heart disease 391-392.0, 393-398, 402, 404, 410-416, 420-429	190	34	156	5.3	2.5	7.1
Acute myocardial infarction 410	84	14	70	12.5	5.0	17.6
Congestive heart failure 428.0	53	*6	47	7.5	*4.0	8.4
Cardiac dysrhythmias 427	18	*7	10	3.6	*4.0	3.4
Chronic ischemic heart disease 411-414	14	*	12	1.1	*	1.8
Malignant neoplasms 140-208, 230-234	150	56	95	9.6	7.3	11.7
Malignant neoplasms of trachea, bronchus, and lung 162, 197.0, 197.3	28	11	16	11.9	10.1	13.7
Pneumonia 480-486	82	13	69	7.8	2.6	12.6
Cerebrovascular disease 430-438	67	12	54	8.2	6.0	8.9
Injury and poisoning 800-999	43	16	27	1.6	0.8	3.2
Septicemia 038	37	*8	29	17.2	*11.0	20.4
Nephritis, nephrotic syndrome, and nephrosis 580-589	14	*	10	12.2	*	18.3

¹Includes data for deaths not shown in table.

Table O. Average length of stay of patients discharged from short-stay hospitals, by discharge status, sex, and age: United States, 1990
 [Deaths in non-Federal hospitals. Excludes newborn infants.]

Age	Discharge status					
	Alive			Dead		
	Both sexes	Male	Female	Both sexes	Male	Female
	Average length of stay in days					
All ages	6.2	6.7	5.9	12.4	12.0	12.8
Under 65 years	5.2	6.0	4.7	13.5	13.0	14.0
Under 15 years	4.8	4.7	4.8	14.9	13.9	*16.2
15-44 years	4.5	6.0	4.0	15.0	16.9	11.5
45-64 years	6.6	6.6	6.6	12.7	11.0	14.4
65 years and over	8.4	8.1	8.7	12.0	11.6	12.4

Table N shows estimated numbers of hospital deaths and hospital fatality rates for selected conditions for the age groups under 65 years of age and 65 years of age and over. These estimates are not the same as the data for underlying cause of death reported in *Vital Statistics of the United States*. The diagnostic groupings in table N accounted for 66 percent of the deaths in short-stay hospitals in 1990. Heart disease and malignant neoplasms were responsible for 340,000 (39 percent) of all hospital deaths. Fatality rates of more than 10 per 100 discharges were found for septicemia (17.2); acute myocardial infarction (12.5); nephritis, nephrotic syndrome, and nephrosis (12.2); and malignant neoplasm of trachea, bronchus, and lung (11.9).

Average lengths of stay for patients discharged from short-stay hospitals are shown by discharge status, age, and sex in table O. The average stay for all discharged patients was 6.4 days. Patients discharged alive had an average stay of 6.2 days, but those discharged dead had an average length of stay of 12.4 days. For patients under 65 years of age, the average length of stay was 5.2 days for those discharged alive; however, it was 13.5 days for those who died in the hospital. Average lengths of stay were more similar for patients 65 years of age and over—8.4 days for those discharged alive compared with 12.0 days for those who died in hospitals.

Newborn infants

Newborn infants, defined as patients admitted to the hospital by birth, were estimated at 3,869,000 in 1990 (table P). Males made up 1,982,000 (51.2 percent) and females 1,887,000 (48.8 percent) of newborn infants. Because these estimates were based on a sample, they may not agree with the data on births published in *Vital Statistics of the United States*.

The South Region accounted for 34.2 percent of newborn infants, the West for 23.5 percent, the Midwest for 23.4 percent, and the Northeast for 18.9 percent. The average length of stay for all newborn infants was 3.3 days; average stays ranged from 3.9 days in the Northeast Region to 2.5 days in the West Region.

As shown in table Q, 2,327,000 newborn infants were defined as well, which meant they did not have any illnesses or risk-related diagnoses. The 1,542,000 sick newborn infants had at least one diagnosis in addition to the newborn infant diagnosis. Sick newborn infants made up 42 percent of all male newborn infants and 38 percent of female newborn infants.

The average length of stay for sick newborn infants was 4.7 days, compared with an average stay of 2.3 days for well newborn infants. As a result, sick newborn infants accounted for 58 percent of all hospital days for newborn infants, although they constituted only 40 percent of newborn infant discharges.

Table P. Number, percent distribution, and average length of stay for newborn infants discharged from short-stay hospitals, by sex and geographic region: United States, 1990

[Discharges from non-Federal hospitals.]

Sex and region	Number of discharges	Percent distribution	Average length of stay in days
All newborn infants	3,869	100.0	3.3
Sex			
Male	1,982	51.2	3.4
Female	1,887	48.8	3.2
Region			
Northeast	733	18.9	3.9
Midwest	905	23.4	3.2
South	1,324	34.2	3.6
West	907	23.5	2.5

The diagnosis of hemolytic disease of fetus or newborn, due to isoimmunization and other perinatal jaundice was reported an estimated 574,000 times for sick newborn infants, and by itself accounted for 21 percent of sick newborn diagnoses (table R). Other leading sick newborn infant diagnoses included respiratory distress syndrome and other respiratory conditions of fetus and newborn, congenital anomalies, and disorders relating to short gestation and unspecified low birthweight (prematurity). Together, these three diagnostic categories made up 27 percent of sick newborn infant diagnoses.

Table Q. Number and average length of stay of newborn infants discharged from short-stay hospitals, by sex and health status: United States, 1990

[Discharges from non-Federal hospitals.]

Health status	Both sexes	Male	Female
Number in thousands			
Total	3,869	1,982	1,887
Well	2,327	1,151	1,176
Sick	1,542	831	711
Average length of stay in days			
Total	3.3	3.4	3.2
Well	2.3	2.3	2.2
Sick	4.8	4.9	4.7

Table R. Number of all-listed diagnoses for sick newborn infants discharged from short-stay hospitals, by sex and selected diagnostic categories: United States, 1990

[Discharges from non-Federal hospitals. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.]

Diagnostic category and ICD-9-CM code	Both sexes	Male	Female
Number in thousands			
Sick newborn infant diagnoses ¹	2,686	1,497	1,189
Congenital anomalies 740-759	228	123	105
Disorders relating to short gestation and unspecified low birthweight (prematurity) . . . 765	209	103	106
Respiratory distress syndrome and other respiratory conditions of fetus and newborn 769-770	294	175	119
Hemolytic disease of fetus or newborn, due to isoimmunization and other perinatal jaundice 773-774	574	313	261

¹Include data for diagnoses not shown.

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List of detailed tables

1. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex and age: United States, 1990	19	15. Number of patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1990	37
2. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, race, and age: United States, 1990	21	16. Rate of patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1990	38
3. Number of patients discharged from short-stay hospitals, days of care, and average lengths of stay, by principal expected source of payment, geographic region, and age: United States, 1990	23	17. Average length of stay for patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1990	39
4. Number and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, age, and geographic region: United States, 1990	25	18. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by age and diagnosis: United States, 1990	40
5. Number, percent distribution, and rate of women with deliveries discharged from short-stay hospitals and of days of care, with average lengths of stay, by age, race, and geographic region: United States, 1990	27	19. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by sex and diagnosis: United States, 1990	41
6. Number of patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1990	28	20. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by race and diagnosis: United States, 1990	42
7. Rate of patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1990	29	21. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by geographic region and diagnosis: United States, 1990	43
8. Average length of stay for patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1990	30	22. Number of all-listed procedures for patients discharged from short-stay hospitals, by age and procedure category: United States, 1990	44
9. Number of patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1990	31	23. Rate of all-listed procedures for patients discharged from short-stay hospitals, by age and procedure category: United States, 1990	45
10. Rate of patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1990	32	24. Number of all-listed procedures for patients discharged from short-stay hospitals, by sex and procedure category: United States, 1990	46
11. Average length of stay for patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1990	33	25. Rate of all-listed procedures for patients discharged from short-stay hospitals, by sex and procedure category: United States, 1990	47
12. Number of patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1990	34	26. Number of all-listed procedures for patients discharged from short-stay hospitals, by race and procedure category: United States, 1990	48
13. Rate of patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1990	35	27. Rate of all-listed procedures for patients discharged from short-stay hospitals, by race and procedure category: United States, 1990	49
14. Average length of stay for patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1990	36	28. Number of all-listed procedures for patients discharged from short-stay hospitals, by geographic region and procedure category: United States, 1990	50
		29. Rate of all-listed procedures for patients discharged from short-stay hospitals, by geographic region and procedure category: United States, 1990	51

Table 1. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex and age: United States, 1990

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

Sex and age	Discharged patients			Days of care			Average length of stay in days
	Number in thousands	Percent distribution	Rate per 1,000 population	Number in thousands	Percent distribution	Rate per 1,000 population	
Both sexes							
All ages	30,788	100.0	123.5	197,422	100.0	791.7	6.4
Under 15 years	2,412	7.8	43.9	11,655	5.9	212.4	4.8
Under 1 year	791	2.6	191.3	4,725	2.4	1,142.1	6.0
1-4 years	719	2.3	47.9	2,617	1.3	174.3	3.6
5-14 years	901	2.9	25.2	4,313	2.2	120.7	4.8
15-44 years	11,799	38.3	101.7	54,062	27.4	466.2	4.6
15-19 years	1,398	4.5	80.8	6,053	3.1	350.1	4.3
20-24 years	2,138	6.9	119.0	8,108	4.1	451.2	3.8
25-34 years	4,965	16.1	115.1	21,506	10.9	498.7	4.3
35-44 years	3,299	10.7	87.8	18,396	9.3	489.5	5.6
45-64 years	6,244	20.3	133.1	42,153	21.4	898.2	6.8
45-54 years	2,832	9.2	111.1	17,652	8.9	692.5	6.2
55-64 years	3,412	11.1	159.1	24,500	12.4	1,142.7	7.2
65 years and over	10,333	33.6	327.1	89,552	45.4	2,834.6	8.7
65-74 years	4,689	15.2	253.9	37,422	19.0	2,026.2	8.0
75-84 years	3,949	12.8	395.2	35,926	18.2	3,595.1	9.1
85 years and over	1,694	5.5	541.3	16,204	8.2	5,177.1	9.6
Under 17 years	2,806	9.1	45.6	13,652	6.9	221.9	4.9
17-69 Years	19,985	64.9	120.0	112,054	56.8	672.7	5.6
70 years and over	7,997	26.0	375.7	71,717	36.3	3,368.9	9.0
Male							
All ages	12,280	100.0	101.5	85,067	100.0	703.5	6.9
Under 15 years	1,362	11.1	48.5	6,484	7.6	230.7	4.8
Under 1 year	458	3.7	216.2	2,644	3.1	1,248.5	5.8
1-4 years	403	3.3	52.5	1,431	1.7	186.1	3.5
5-14 years	501	4.1	27.4	2,408	2.8	131.6	4.8
15-44 years	3,330	27.1	58.0	20,388	24.0	355.4	6.1
15-19 years	377	3.1	43.0	2,237	2.6	254.9	5.9
20-24 years	439	3.6	49.8	2,488	2.9	282.5	5.7
25-34 years	1,204	9.8	56.4	7,397	8.7	346.7	6.1
35-44 years	1,310	10.7	71.0	8,266	9.7	448.0	6.3
45-64 years	3,115	25.4	138.3	20,961	24.6	930.3	6.7
45-54 years	1,361	11.1	109.9	8,558	10.1	691.2	6.3
55-64 years	1,754	14.3	172.8	12,403	14.6	1,222.0	7.1
65 years and over	4,472	36.4	346.2	37,234	43.8	2,882.8	8.3
65-74 years	2,268	18.5	275.1	17,750	20.9	2,152.8	7.8
75-84 years	1,660	13.5	436.9	14,379	16.9	3,783.9	8.7
85 years and over	543	4.4	623.7	5,105	6.0	5,861.5	9.4
Under 17 years	1,498	12.2	47.5	7,372	8.7	233.9	4.9
17-69 years	7,461	60.8	91.9	49,062	57.7	604.3	6.6
70 years and over	3,321	27.0	403.9	28,634	33.7	3,482.6	8.6
Female							
All ages	18,508	100.0	144.1	112,355	100.0	874.7	6.1
Under 15 years	1,049	5.7	39.2	5,171	4.6	193.1	4.9
Under 1 year	334	1.8	165.3	2,081	1.9	1,030.5	6.2
1-4 years	315	1.7	43.0	1,186	1.1	161.8	3.8
5-14 years	400	2.2	23.0	1,905	1.7	109.3	4.8
15-44 years	8,469	45.8	144.5	33,674	30.0	574.7	4.0
15-19 years	1,020	5.5	119.9	3,815	3.4	448.3	3.7
20-24 years	1,699	9.2	185.4	5,620	5.0	613.2	3.3
25-34 years	3,761	20.3	172.6	14,109	12.6	647.5	3.8
35-44 years	1,988	10.7	103.9	10,130	9.0	529.5	5.1

Table 1. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex and age: United States, 1990—Con.

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

<i>Sex and age</i>	<i>Discharged patients</i>			<i>Days of care</i>			<i>Average length of stay in days</i>
	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	
Female—Con.							
45–64 years	3,129	16.9	128.2	21,191	18.9	868.5	6.8
45–54 years	1,471	7.9	112.2	9,094	8.1	693.7	6.2
55–64 years	1,658	9.0	146.8	12,097	10.8	1,071.4	7.3
65 years and over	5,861	31.7	313.8	52,318	46.6	2,801.4	8.9
65–74 years	2,421	13.1	236.8	19,672	17.5	1,924.1	8.1
75–84 years	2,289	12.4	369.6	21,547	19.2	3,479.3	9.4
85 years and over	1,151	6.2	509.4	11,099	9.9	4,911.1	9.6
Under 17 years	1,308	7.1	43.6	6,279	5.6	209.3	4.8
17–69 years	12,524	67.7	146.7	62,992	56.1	737.8	5.0
70 years and over	4,676	25.3	357.9	43,083	38.3	3,297.1	9.2

Table 2. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, race, and age: United States, 1990

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

Sex, race, and age	Discharged patients			Days of care			Average length of stay in days
	Number in thousands	Percent distribution	Rate per 1,000 population	Number in thousands	Percent distribution	Rate per 1,000 population	
Both sexes							
All races, all ages	30,788	100.0	123.5	197,422	100.0	791.7	6.4
Under 15 years	2,412	7.8	43.9	11,655	5.9	212.4	4.8
15-44 years	11,799	38.3	101.7	54,062	27.4	466.2	4.6
45-64 years	6,244	20.3	133.1	42,153	21.4	898.2	6.8
65 years and over	10,333	33.6	327.1	89,552	45.4	2,834.6	8.7
White, all ages	21,376	69.4	102.0	138,184	70.0	659.6	6.5
Under 15 years	1,444	4.7	32.9	6,585	3.3	150.1	4.6
15-44 years	7,521	24.4	77.8	33,857	17.1	350.2	4.5
45-64 years	4,443	14.4	109.4	29,249	14.8	720.0	6.6
65 years and over	7,969	25.9	281.3	68,493	34.7	2,417.9	8.6
Black, all ages	3,611	11.7	116.9	24,579	12.5	795.6	6.8
Under 15 years	408	1.3	47.4	2,179	1.1	253.3	5.3
15-44 years	1,814	5.9	122.3	9,756	4.9	657.5	5.4
45-64 years	675	2.2	139.4	5,468	2.8	1,129.3	8.1
65 years and over	714	2.3	273.7	7,176	3.6	2,749.4	10.0
All other, all ages	958	3.1	106.8	5,423	2.7	604.5	5.7
Under 15 years	110	0.4	45.9	582	0.3	241.8	5.3
15-44 years	498	1.6	112.0	1,944	1.0	437.6	3.9
45-64 years	166	0.5	113.6	1,154	0.6	787.0	6.9
65 years and over	184	0.6	280.6	1,743	0.9	2,661.6	9.5
Race not stated, all ages	4,843	15.7	...	29,236	14.8	...	6.0
Under 15 years	450	1.5	...	2,308	1.2	...	5.1
15-44 years	1,967	6.4	...	8,505	4.3	...	4.3
45-64 years	961	3.1	...	6,282	3.2	...	6.5
65 years and over	1,466	4.8	...	12,140	6.1	...	8.3
Male							
All races, all ages	12,280	100.0	101.5	85,067	100.0	703.5	6.9
Under 15 years	1,362	11.1	48.5	6,484	7.6	230.7	4.8
15-44 years	3,330	27.1	58.0	20,388	24.0	355.4	6.1
45-64 years	3,115	25.4	138.3	20,961	24.6	930.3	6.7
65 years and over	4,472	36.4	346.2	37,234	43.8	2,882.8	8.3
White, all ages	8,668	70.6	85.0	59,010	69.4	578.4	6.8
Under 15 years	805	6.6	35.8	3,719	4.4	165.2	4.6
15-44 years	2,180	17.8	45.2	12,352	14.5	256.0	5.7
45-64 years	2,241	18.3	113.9	14,513	17.1	737.5	6.5
65 years and over	3,441	28.0	297.1	28,426	33.4	2,453.9	8.3
Black, all ages	1,364	11.1	93.7	10,771	12.7	740.2	7.9
Under 15 years	239	1.9	54.6	1,191	1.4	272.3	5.0
15-44 years	533	4.3	76.7	4,086	4.8	587.8	7.7
45-64 years	312	2.5	143.2	2,716	3.2	1,248.2	8.7
65 years and over	280	2.3	266.7	2,778	3.3	2,648.6	9.9
All other, all ages	344	2.8	79.2	2,483	2.9	570.6	7.2
Under 15 years	61	0.5	49.8	310	0.4	253.3	5.1
15-44 years	103	0.8	47.5	664	0.8	306.1	6.4
45-64 years	86	0.7	127.7	588	0.7	870.1	6.8
65 years and over	94	0.8	332.3	921	1.1	3,253.8	9.8
Race not stated, all ages	1,904	15.5	...	12,803	15.1	...	6.7
Under 15 years	257	2.1	...	1,263	1.5	...	4.9
15-44 years	513	4.2	...	3,286	3.9	...	6.4
45-64 years	476	3.9	...	3,144	3.7	...	6.6
65 years and over	657	5.4	...	5,109	6.0	...	7.8

Table 2. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, race, and age: United States, 1990 – Con.

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

<i>Sex, race, and age</i>	<i>Discharged patients</i>			<i>Days of care</i>			<i>Average length of stay in days</i>
	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	
Female							
All races, all ages	18,508	100.0	144.1	112,355	100.0	874.7	6.1
Under 15 years	1,049	5.7	39.2	5,171	4.6	193.1	4.9
15–44 years	8,469	45.8	144.5	33,674	30.0	574.7	4.0
45–64 years	3,129	16.9	128.2	21,191	18.9	868.5	6.8
65 years and over	5,861	31.7	313.8	52,318	46.6	2,801.4	8.9
White, all ages	12,708	68.7	118.2	79,173	70.5	736.6	6.2
Under 15 years	638	3.4	29.9	2,866	2.6	134.2	4.5
15–44 years	5,341	28.9	110.3	21,505	19.1	444.0	4.0
45–64 years	2,201	11.9	105.1	14,736	13.1	703.5	6.7
65 years and over	4,528	24.5	270.4	40,067	35.7	2,393.0	8.8
Black, all ages	2,248	12.1	137.5	13,808	12.3	845.0	6.1
Under 15 years	169	0.9	40.0	988	0.9	233.6	5.8
15–44 years	1,281	6.9	162.4	5,670	5.0	719.0	4.4
45–64 years	363	2.0	136.4	2,752	2.4	1,033.1	7.6
65 years and over	435	2.3	278.4	4,398	3.9	2,817.2	10.1
All other, all ages	614	3.3	132.9	2,940	2.6	636.6	4.8
Under 15 years	49	0.3	41.8	272	0.2	229.9	5.5
15–44 years	394	2.1	173.5	1,280	1.1	563.2	3.2
45–64 years	80	0.4	101.3	565	0.5	714.9	7.1
65 years and over	90	0.5	241.2	823	0.7	2,211.1	9.2
Race not stated, all ages	2,939	15.9	...	16,433	14.6	...	5.6
Under 15 years	192	1.0	...	1,045	0.9	...	5.4
15–44 years	1,453	7.9	...	5,219	4.6	...	3.6
45–64 years	484	2.6	...	3,138	2.8	...	6.5
65 years and over	809	4.4	...	7,032	6.3	...	8.7

Table 3. Number of patients discharged from short-stay hospitals, days of care, and average lengths of stay, by principal expected source of payment, geographic region, and age: United States, 1990

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

<i>Region and age</i>	<i>All principal expected sources of payment¹</i>	<i>Private insurance</i>	<i>Medicare</i>	<i>Medicaid</i>	<i>Worker's compensation</i>	<i>Other government payments</i>	<i>Self-pay</i>	<i>Other payments and no charge</i>
United States		Number of patients discharged in thousands						
All ages	30,788	11,926	10,625	3,582	399	607	1,788	869
Under 15 years	2,412	1,240	41	684	—	91	194	92
15–44 years	11,799	6,410	407	2,269	261	344	1,129	481
45–64 years	6,244	3,801	838	497	117	147	382	215
65 years and over	10,333	475	9,339	133	22	24	83	81
Northeast								
All ages	6,895	2,481	2,367	853	93	63	402	253
Under 15 years	550	275	*	160	—	*	46	40
15–44 years	2,566	1,298	88	532	56	37	259	134
45–64 years	1,425	827	168	133	32	20	82	57
65 years and over	2,354	81	2,108	28	*6	*	16	23
Midwest								
All ages	7,620	3,104	2,756	779	81	128	390	207
Under 15 years	575	335	*	143	—	18	43	26
15–44 years	2,760	1,635	101	476	52	82	219	120
45–64 years	1,583	1,038	195	128	24	26	85	48
65 years and over	2,703	97	2,458	32	*	*	42	13
South								
All ages	11,173	4,222	3,972	1,286	166	235	744	224
Under 15 years	770	382	*7	228	—	31	74	18
15–44 years	4,342	2,344	135	829	116	128	483	116
45–64 years	2,318	1,359	358	177	41	65	169	67
65 years and over	3,743	137	3,472	52	9	10	18	23
West								
All ages	5,100	2,119	1,530	665	60	181	252	184
Under 15 years	516	248	29	153	—	37	32	*7
15–44 years	2,131	1,133	84	432	37	97	168	112
45–64 years	919	578	116	59	20	36	47	43
65 years and over	1,533	160	1,301	21	*	12	*	22
United States		Number of days of care in thousands						
All ages	197,422	58,531	92,353	20,860	2,143	3,207	9,743	4,933
Under 15 years	11,655	5,399	236	3,930	—	407	911	430
15–44 years	54,062	26,703	3,632	11,086	1,336	1,570	5,167	2,382
45–64 years	42,153	22,823	7,514	4,575	639	1,072	2,569	1,331
65 years and over	89,552	3,607	80,971	1,270	168	159	1,095	789
Northeast								
All ages	52,823	13,365	25,249	6,707	438	388	2,827	1,399
Under 15 years	2,669	1,194	*	906	—	*	243	162
15–44 years	13,931	5,803	977	3,789	236	198	1,560	657
45–64 years	11,177	5,550	1,838	1,624	142	143	711	395
65 years and over	25,045	818	22,417	389	*60	*	314	186
Midwest								
All ages	48,698	15,456	23,089	4,681	416	695	2,270	1,160
Under 15 years	2,674	1,406	*	808	—	94	181	143
15–44 years	12,971	6,905	1,082	2,469	256	397	994	569
45–64 years	10,613	6,378	1,750	1,125	126	190	530	310
65 years and over	22,441	767	20,246	279	*	*	565	138
South								
All ages	67,810	19,669	32,797	6,395	958	1,210	3,717	1,304
Under 15 years	3,438	1,503	*57	1,187	—	119	310	93
15–44 years	18,642	9,354	1,110	3,300	670	573	2,118	665
45–64 years	14,962	7,777	2,940	1,465	231	441	1,116	437
65 years and over	30,769	1,035	28,690	444	57	76	173	109

Table 3. Number of patients discharged from short-stay hospitals, days of care, and average lengths of stay, by principal expected source of payment, geographic region, and age: United States, 1990—Con.

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

<i>Region and age</i>	<i>All principal expected sources of payment¹</i>	<i>Private insurance</i>	<i>Medicare</i>	<i>Medicaid</i>	<i>Worker's compensation</i>	<i>Other government payments</i>	<i>Self-pay</i>	<i>Other payments and no charge</i>
West		Number of days of care in thousands						
All ages	28,091	10,041	11,218	3,077	329	914	929	1,069
Under 15 years	2,874	1,296	150	1,030	—	157	178	*32
15–44 years	8,519	4,640	463	1,528	174	402	495	491
45–64 years	5,401	3,117	987	361	140	298	213	189
65 years and over	11,297	987	9,618	157	*	57	*43	357
United States		Average length of stay in days						
All ages	6.4	4.9	8.7	5.8	5.4	5.3	5.4	5.7
Under 15 years	4.8	4.4	5.8	5.7	—	4.5	4.7	4.7
15–44 years	4.6	4.2	8.9	4.9	5.1	4.6	4.6	5.0
45–64 years	6.8	6.0	9.0	9.2	5.5	7.3	6.7	6.2
65 years and over	8.7	7.6	8.7	9.6	7.8	6.5	13.2	9.7
Northeast								
All ages	7.7	5.4	10.7	7.9	4.7	6.2	7.0	5.5
Under 15 years	4.8	4.3	*	5.7	—	*	5.3	4.1
15–44 years	5.4	4.5	11.1	7.1	4.2	5.3	6.0	4.9
45–64 years	7.8	6.7	10.9	12.2	4.5	7.1	8.7	7.0
65 years and over	10.6	10.1	10.6	13.9	*10.0	*	19.0	7.9
Midwest								
All ages	6.4	5.0	8.4	6.0	5.2	5.4	5.8	5.6
Under 15 years	4.6	4.2	*	5.6	—	5.1	4.2	5.4
15–44 years	4.7	4.2	10.8	5.2	4.9	4.8	4.5	4.7
45–64 years	6.7	6.1	9.0	8.8	5.2	7.3	6.2	6.5
65 years and over	8.3	7.9	8.2	8.8	*	*	13.4	10.8
South								
All ages	6.1	4.7	8.3	5.0	5.8	5.2	5.0	5.8
Under 15 years	4.5	3.9	*8.7	5.2	—	3.8	4.2	5.0
15–44 years	4.3	4.0	8.2	4.0	5.8	4.5	4.4	5.8
45–64 years	6.5	5.7	8.2	8.3	5.6	6.7	6.6	6.5
65 years and over	8.2	7.5	8.3	8.6	6.5	7.7	9.6	4.7
West								
All ages	5.5	4.7	7.3	4.6	5.5	5.0	3.7	5.8
Under 15 years	5.6	5.2	5.2	6.7	—	4.2	5.6	*4.4
15–44 years	4.0	4.1	5.5	3.5	4.7	4.2	3.0	4.4
45–64 years	5.9	5.4	8.5	6.2	7.0	8.3	4.6	4.4
65 years and over	7.4	6.2	7.4	7.4	*	4.8	*6.7	16.3

¹Includes discharges for whom no expected source of payment was provided.

Table 4. Number and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, age, and geographic region: United States, 1990

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

Sex, age, and region	Discharged patients		Days of care		Average length of stay in days
	Number in thousands	Rate per 1,000 population	Number in thousands	Rate per 1,000 population	
Both sexes					
All ages:					
United States	30,788	123.5	197,422	791.7	6.4
Northeast	6,895	135.9	52,823	1,041.3	7.7
Midwest	7,620	126.2	48,698	806.5	6.4
South	11,173	130.2	67,810	790.4	6.1
West	5,100	97.2	28,091	535.3	5.5
Under 15 years:					
United States	2,412	43.9	11,655	212.4	4.8
Northeast	550	53.8	2,669	261.2	4.8
Midwest	575	43.7	2,674	203.1	4.6
South	770	40.2	3,438	179.5	4.5
West	516	41.8	2,874	232.8	5.6
15-44 years:					
United States	11,799	101.7	54,062	466.1	4.6
Northeast	2,566	110.7	13,931	601.1	5.4
Midwest	2,760	98.4	12,971	462.5	4.7
South	4,342	109.4	18,642	469.8	4.3
West	2,131	85.0	8,519	339.8	4.0
45-64 years:					
United States	6,244	133.1	42,153	898.2	6.8
Northeast	1,425	138.3	11,177	1,085.0	7.8
Midwest	1,583	139.8	10,613	937.6	6.7
South	2,318	144.4	14,962	931.8	6.5
West	919	99.3	5,401	583.6	5.9
65 years and over:					
United States	10,333	327.1	89,552	2,834.6	8.7
Northeast	2,354	335.1	25,045	3,564.2	10.6
Midwest	2,703	344.2	22,441	2,858.0	8.3
South	3,743	343.2	30,769	2,821.3	8.2
West	1,533	264.0	11,297	1,945.1	7.4
Male					
All ages:					
United States	12,280	101.5	85,067	703.5	6.9
Northeast	2,876	118.4	23,296	959.2	8.1
Midwest	3,039	103.5	20,680	704.1	6.8
South	4,351	105.1	28,470	688.0	6.5
West	2,013	77.8	12,622	487.5	6.3
Under 15 years:					
United States	1,362	48.5	6,484	230.7	4.8
Northeast	309	59.1	1,514	289.3	4.9
Midwest	326	48.4	1,480	219.3	4.5
South	420	42.9	1,832	186.9	4.4
West	306	48.4	1,658	262.2	5.4
15-44 years:					
United States	3,330	58.0	20,388	355.4	6.1
Northeast	817	71.9	5,766	507.3	7.1
Midwest	783	56.1	4,855	347.6	6.2
South	1,185	60.8	6,555	336.5	5.5
West	544	43.3	3,212	255.8	5.9

Table 4. Number and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, age, and geographic region: United States, 1990—Con.

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

<i>Sex, age, and region</i>	<i>Discharged patients</i>		<i>Days of care</i>		<i>Average length of stay in days</i>
	<i>Number in thousands</i>	<i>Rate per 1,000 population</i>	<i>Number in thousands</i>	<i>Rate per 1,000 population</i>	
Male—Con.					
45–64 years:					
United States	3,115	138.3	20,961	930.3	6.7
Northeast	721	147.3	5,612	1,146.3	7.8
Midwest	758	138.4	5,075	926.6	6.7
South	1,169	153.2	7,483	980.6	6.4
West	467	103.1	2,792	616.2	6.0
65 years and over:					
United States	4,472	346.2	37,234	2,882.8	8.3
Northeast	1,028	368.7	10,403	3,730.1	10.1
Midwest	1,171	368.4	9,270	2,915.1	7.9
South	1,576	352.9	12,600	2,821.9	8.0
West	696	280.5	4,961	1,998.7	7.1
Female					
All ages:					
United States	18,508	144.1	112,355	874.7	6.1
Northeast	4,019	152.0	29,527	1,116.7	7.3
Midwest	4,581	147.7	28,018	903.6	6.1
South	6,822	153.6	39,341	885.9	5.8
West	3,086	116.1	15,468	581.8	5.0
Under 15 years:					
United States	1,049	39.2	5,171	193.1	4.9
Northeast	241	48.3	1,154	231.6	4.8
Midwest	249	38.8	1,194	186.2	4.8
South	349	37.4	1,606	171.8	4.6
West	210	34.9	1,216	201.9	5.8
15–44 years:					
United States	8,469	144.5	33,674	574.7	4.0
Northeast	1,748	148.0	8,165	691.3	4.7
Midwest	1,976	140.4	8,116	576.4	4.1
South	3,157	156.3	12,087	598.6	3.8
West	1,587	126.9	5,306	424.1	3.3
45–64 years:					
United States	3,129	128.2	21,191	868.5	6.8
Northeast	704	130.1	5,565	1,029.2	7.9
Midwest	824	141.1	5,538	947.9	6.7
South	1,149	136.4	7,479	887.6	6.5
West	452	95.5	2,609	552.1	5.8
65 years and over:					
United States	5,861	313.8	52,318	2,801.4	8.9
Northeast	1,326	313.0	14,642	3,455.8	11.0
Midwest	1,531	327.7	13,171	2,818.5	8.6
South	2,167	336.4	18,169	2,820.8	8.4
West	837	251.7	6,336	1,905.1	7.6

Table 5. Number, percent distribution, and rate of women with deliveries discharged from short-stay hospitals and of days of care, with average lengths of stay, by age, race, and geographic region: United States, 1990

[Discharges from non-Federal hospitals.]

<i>Age, race, and region</i>	<i>Discharged patients</i>			<i>Days of care</i>			<i>Average length of stay in days</i>
	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	
10-54 Years	4,025	100.0	50.2	11,225	100.0	140.0	2.8
<i>Age</i>							
10-14 years	13	0.3	1.6	34	0.3	4.0	2.6
15-44 years	4,008	99.6	68.4	11,179	99.6	190.8	2.8
15-19 years	523	13.0	61.5	1,422	12.7	167.1	2.7
20-24 years	1,041	25.9	113.5	2,784	24.8	303.8	2.7
25-29 years	1,232	30.6	115.7	3,327	29.6	312.6	2.7
30-34 years	857	21.3	76.9	2,541	22.6	228.0	3.0
35-44 years	355	8.8	18.5	1,104	9.8	57.7	3.1
45-54 years	*	*	*	*	*	*	*
10-17 years	206	5.1	15.5	561	5.0	42.2	2.7
18-54 years	3,820	94.9	57.1	10,664	95.0	159.5	2.8
<i>Race</i>							
White	2,431	60.4	36.7	6,774	60.3	102.1	2.8
Black	584	14.5	54.4	1,834	16.3	171.0	3.1
All other	262	6.5	84.8	659	5.9	213.3	2.5
Race not stated	748	18.6	...	1,959	17.4	...	2.6
<i>Region</i>							
Northeast	755	18.7	46.5	2,434	21.7	150.0	3.2
Midwest	916	22.7	47.4	2,489	22.2	128.9	2.7
South	1,437	35.7	51.9	4,226	37.6	152.7	2.9
West	918	22.8	54.2	2,077	18.5	122.6	2.3

Table 6. Number of patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1990

[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).*]

First-listed diagnosis and ICD-9-CM code	All ages	Number of patients discharged in thousands			
		Under 15 years	15-44 years	45-64 years	65 years and over
All conditions	30,788	2,412	11,799	6,244	10,333
Infectious and parasitic diseases001-139	737	191	226	91	229
Septicemia038	216	22	17	33	144
Neoplasms140-239	1,965	41	361	681	882
Malignant neoplasms140-208,230-234	1,571	29	185	545	812
Malignant neoplasm of large intestine and rectum153-154,197.5	175	*	*5	58	112
Malignant neoplasm of trachea, bronchus, and lung162,197.0,197.3	231	*	12	101	119
Malignant neoplasm of breast174-175,198.81	164	*	24	67	72
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature210-229,235-239	393	12	176	135	70
Endocrine, nutritional and metabolic diseases, and immunity disorders240-279	1,089	105	232	261	492
Diabetes mellitus250	420	21	112	134	153
Volume depletion276.5	319	59	41	49	171
Diseases of the blood and blood-forming organs280-289	324	61	93	54	115
Mental disorders290-319	1,538	50	938	317	234
Psychoses290-299	812	19	449	179	165
Alcohol dependence syndrome303	239	*	153	66	18
Diseases of the nervous system and sense organs320-389	770	154	214	159	243
Diseases of the central nervous system320-336,340-349	342	52	128	67	96
Diseases of the ear and mastoid process380-389	157	78	25	25	30
Diseases of the circulatory system390-459	5,161	25	406	1,515	3,215
Heart disease391-392.0,393-398,402,404,410-416,420-429	3,556	16	240	1,100	2,200
Acute myocardial infarction410	675	*	39	233	401
Coronary atherosclerosis414.0	410	-	28	189	193
Other ischemic heart disease411-413,414.1-414.9	870	*	62	316	492
Cardiac dysrhythmias427	483	*7	37	131	308
Congestive heart failure428.0	701	*	20	117	560
Cerebrovascular disease430-438	812	*	38	162	610
Diseases of the respiratory system460-519	2,966	701	498	520	1,247
Acute respiratory infections460-466	487	186	63	74	164
Chronic disease of tonsils and adenoids474	102	67	33	*	*
Pneumonia480-486	1,052	211	141	153	546
Asthma493	476	169	119	86	102
Diseases of the digestive system520-579	3,239	252	980	842	1,165
Ulcers of the stomach and small intestine531-534	244	*	48	74	120
Appendicitis540-543	238	62	135	26	16
Inguinal hernia550	168	19	39	46	63
Noninfectious enteritis and colitis555-558	373	97	123	63	90
Cholelithiasis574	506	*	198	160	145
Diseases of the genitourinary system580-629	2,175	70	866	500	739
Calculus of kidney and ureter592	272	*	136	89	46
Hyperplasia of prostate600	259	*	*	63	195
Complications of pregnancy, childbirth, and the puerperium ¹630-676	734	*5	729	*	...
Abortions and ectopic and molar pregnancies630-639	208	*	205	*	...
Diseases of the skin and subcutaneous tissue680-709	462	45	150	105	161
Cellulitis and abscess681-682	288	27	94	76	92
Diseases of the musculoskeletal system and connective tissue710-739	1,592	38	568	458	529
Arthropathies and related disorders710-719	479	10	119	113	237
Intervertebral disc disorders722	425	*	222	145	57
Congenital anomalies740-759	182	120	34	20	*8
Certain conditions originating in the perinatal period760-779	163	159	*	*	*
Symptoms, signs, and ill-defined conditions780-799	410	59	180	110	60
Injury and poisoning800-999	2,774	266	1,174	482	851
Fractures, all sites800-829	1,017	87	332	149	448
Fracture of neck of femur820	281	*	*8	24	245
Intracranial injuries (excluding those with skull fracture)850-854	184	31	100	21	32
Lacerations and open wounds870-904	240	28	165	24	23
Supplementary classificationsV01-V82	4,507	68	4,150	128	160
Females with deliveriesV27	4,025	13	4,008	*	...

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 7. Rate of patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1990

[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).*]

First-listed diagnosis and ICD-9-CM code	All ages	Rate of patients discharged per 10,000 population			
		Under 15 years	15-44 years	45-64 years	65 years and over
All conditions	1,234.6	439.4	1,017.4	1,330.5	3,270.8
Infectious and parasitic diseases 001-139	29.5	34.8	19.5	19.5	72.3
Septicemia 038	8.6	4.0	1.5	7.0	45.5
Neoplasms 140-239	78.8	7.4	31.1	145.0	279.2
Malignant neoplasms 140-208,230-234	63.0	5.2	15.9	116.2	257.1
Malignant neoplasm of large intestine and rectum 153-154,197.5	7.0	*	*0.4	12.4	35.3
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	9.3	*	1.0	21.4	37.7
Malignant neoplasm of breast 174-175,198.81	6.6	*	2.0	14.3	22.9
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	15.8	2.2	15.2	28.8	22.1
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	43.7	19.1	20.0	55.6	155.8
Diabetes mellitus 250	16.8	3.8	9.6	28.6	48.5
Volume depletion 276.5	12.8	10.8	3.5	10.4	54.0
Diseases of the blood and blood-forming organs 280-289	13.0	11.2	8.0	11.5	36.5
Mental disorders 290-319	61.7	9.1	80.8	67.5	73.9
Psychoses 290-299	32.5	3.4	38.7	38.1	52.3
Alcohol dependence syndrome 303	9.6	*	13.2	14.1	5.7
Diseases of the nervous system and sense organs 320-389	30.9	28.0	18.5	33.9	77.0
Diseases of the central nervous system 320-336,340-349	13.7	9.4	11.0	14.2	30.4
Diseases of the ear and mastoid process 380-389	6.3	14.1	2.1	5.4	9.4
Diseases of the circulatory system 390-459	206.9	4.6	35.0	322.8	1,017.6
Heart disease 391-392.0,393-398,402,404,410-416,420-429	142.6	3.0	20.7	234.4	696.3
Acute myocardial infarction 410	27.1	*	3.4	49.7	127.0
Coronary atherosclerosis 414.0	16.4	-	2.4	40.3	61.0
Other ischemic heart disease 411-413,414.1-414.9	34.9	*	5.4	67.4	155.6
Cardiac dysrhythmias 427	19.4	*1.3	3.2	28.0	97.4
Congestive heart failure 428.0	28.1	*	1.7	24.9	177.2
Cerebrovascular disease 430-438	32.6	*	3.3	34.6	193.0
Diseases of the respiratory system 460-519	118.9	127.6	43.0	110.7	394.7
Acute respiratory infections 460-466	19.5	33.8	5.5	15.8	52.0
Chronic disease of tonsils and adenoids 474	4.1	12.2	2.9	*	*
Pneumonia 480-486	42.2	38.5	12.1	32.7	172.9
Asthma 493	19.1	30.8	10.3	18.2	32.4
Diseases of the digestive system 520-579	129.9	46.0	84.5	179.3	368.6
Ulcers of the stomach and small intestine 531-534	9.8	*	4.2	15.8	37.9
Appendicitis 540-543	9.6	11.2	11.7	5.5	5.0
Inguinal hernia 550	6.7	3.5	3.4	9.8	19.8
Noninfectious enteritis and colitis 555-558	15.0	17.7	10.6	13.4	28.6
Cholelithiasis 574	20.3	*	17.1	34.2	45.9
Diseases of the genitourinary system 580-629	87.2	12.8	74.7	106.6	233.8
Calculus of kidney and ureter 592	10.9	*	11.8	18.9	14.5
Hyperplasia of prostate 600	10.4	*	*	13.5	61.9
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	29.5	*0.9	62.8	*	...
Abortions and ectopic and molar pregnancies 630-639	8.3	*	17.7	*	...
Diseases of the skin and subcutaneous tissue 680-709	18.5	8.2	13.0	22.4	51.1
Cellulitis and abscess 681-682	11.5	4.9	8.1	16.2	29.0
Diseases of the musculoskeletal system and connective tissue 710-739	63.8	6.8	49.0	97.5	167.4
Arthropathies and related disorders 710-719	19.2	1.9	10.3	24.0	75.1
Intervertebral disc disorders 722	17.0	*	19.2	30.9	18.0
Congenital anomalies 740-759	7.3	21.9	2.9	4.3	*2.5
Certain conditions originating in the perinatal period 760-779	6.5	29.1	*	*	*
Symptoms, signs, and ill-defined conditions 780-799	16.4	10.8	15.6	23.5	19.1
Injury and poisoning 800-999	111.2	48.5	101.3	102.7	269.3
Fractures, all sites 800-829	40.8	15.9	28.6	31.9	142.0
Fracture of neck of femur 820	11.3	*	*0.7	5.0	77.6
Intracranial injuries (excluding those with skull fracture) 850-854	7.4	5.6	8.6	4.5	10.1
Lacerations and open wounds 870-904	9.6	5.1	14.3	5.1	7.2
Supplementary classifications V01-V82	180.7	12.5	357.8	27.4	50.8
Females with deliveries V27	161.4	2.4	345.6	*0.9	...

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 8. Average length of stay for patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1990

[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)*.]

First-listed diagnosis and ICD-9-CM code	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
		Average length of stay in days			
All conditions	6.4	4.8	4.6	6.8	8.7
Infectious and parasitic diseases 001-139	9.1	4.6	9.7	10.9	11.6
Septicemia 038	13.3	7.5	14.7	15.1	13.5
Neoplasms 140-239	8.5	7.9	6.0	8.2	9.9
Malignant neoplasms 140-208,230-234	9.4	9.7	7.8	8.8	10.1
Malignant neoplasm of large intestine and rectum 153-154,197.5	13.7	*	*9.8	13.3	14.2
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	8.5	*	4.6	7.7	9.5
Malignant neoplasm of breast 174-175,198.81	4.6	*	4.0	4.3	5.0
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	5.3	3.6	4.0	5.5	8.2
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	7.0	4.3	5.0	7.0	8.5
Diabetes mellitus 250	7.8	4.3	5.7	8.1	9.7
Volume depletion 276.5	6.5	2.9	3.5	6.7	8.5
Diseases of the blood and blood-forming organs 280-289	5.8	4.0	5.8	6.8	6.3
Mental disorders 290-319	12.2	21.1	11.7	11.3	13.6
Psychoses 290-299	14.6	26.3	14.1	13.7	15.6
Alcohol dependence syndrome 303	9.9	*	10.0	9.3	10.4
Diseases of the nervous system and sense organs 320-389	5.5	4.5	5.2	5.4	6.5
Diseases of the central nervous system 320-336,340-349	8.6	7.3	6.6	9.0	11.8
Diseases of the ear and mastoid process 380-389	2.8	2.6	2.8	2.3	3.8
Diseases of the circulatory system 390-459	7.3	7.6	5.5	6.4	8.0
Heart disease 391-392.0,393-398,402,404,410-416,420-429	6.9	8.3	5.4	5.9	7.6
Acute myocardial infarction 410	8.4	*	6.7	7.5	9.1
Coronary atherosclerosis 414	5.8	-	3.9	4.9	7.0
Other ischemic heart disease 411-413,414.1-414.9	5.2	*	3.6	4.9	5.6
Cardiac dysrhythmias 427	5.8	*5.1	4.1	4.6	6.5
Congestive heart failure 428.0	8.0	*	5.8	7.0	8.3
Cerebrovascular disease 430-438	9.5	*	7.0	10.3	9.5
Diseases of the respiratory system 460-519	6.9	3.5	4.9	7.0	9.5
Acute respiratory infections 460-466	5.1	3.3	3.7	6.1	7.3
Chronic disease of tonsils and adenoids 474	1.3	1.3	1.2	*	*
Pneumonia 480-486	8.3	4.5	6.9	8.0	10.2
Asthma 493	4.7	2.9	4.2	5.2	7.6
Diseases of the digestive system 520-579	5.9	3.5	4.4	6.1	7.6
Ulcers of the stomach and small intestine 531-534	6.5	*	4.9	6.0	7.6
Appendicitis 540-543	4.4	4.0	3.8	5.8	8.4
Inguinal hernia 550	2.3	1.4	1.5	2.3	3.1
Noninfectious enteritis and colitis 555-558	4.9	3.0	4.3	5.5	7.2
Cholelithiasis 574	5.8	*	4.3	5.9	7.7
Diseases of the genitourinary system 580-629	5.1	3.5	3.7	4.5	7.1
Calculus of kidney and ureter 592	3.1	*	2.6	2.9	4.9
Hyperplasia of prostate 600	4.9	*	*	4.2	5.2
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	2.6	*2.7	2.6	*	...
Abortions and ectopic and molar pregnancies 630-639	2.1	*	2.1	*	...
Diseases of the skin and subcutaneous tissue 680-709	7.9	4.0	6.0	8.4	10.5
Cellulitis and abscess 681-682	7.2	3.9	5.7	8.3	8.6
Diseases of the musculoskeletal system and connective tissue 710-739	6.4	5.1	4.5	5.9	9.0
Arthropathies and related disorders 710-719	7.8	5.3	4.6	7.4	9.8
Intervertebral disc disorders 722	5.1	*	4.4	5.2	7.6
Congenital anomalies 740-759	6.0	5.7	4.6	9.9	*7.8
Certain conditions originating in the perinatal period 760-779	10.2	10.2	*	*	*
Symptoms, signs, and ill-defined conditions 780-799	2.8	2.6	2.6	2.9	3.7
Injury and poisoning 800-999	6.8	4.2	5.1	6.9	9.9
Fractures, all sites 800-829	8.3	4.3	5.9	7.6	11.1
Fracture of neck of femur 820	12.8	*	*10.3	12.8	13.0
Intracranial injuries (excluding those with skull fracture) 850-854	5.5	4.9	5.0	6.0	7.5
Lacerations and open wounds 870-904	4.3	3.4	4.0	4.8	7.1
Supplementary classifications V01-V82	3.2	3.5	2.8	5.7	9.6
Females with deliveries V27	2.8	2.6	2.8	*	...

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 9. Number of patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1990

[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).*]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
Number of patients discharged in thousands			
All conditions	30,788	12,280	18,508
Infectious and parasitic diseases 001-139	737	356	380
Septicemia 038	216	99	116
Neoplasms 140-239	1,965	804	1,161
Malignant neoplasms. 140-208,230-234	1,571	730	841
Malignant neoplasm of large intestine and rectum 153-154,197.5	175	85	90
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	231	141	90
Malignant neoplasm of breast 174-175,198.81	164	*	163
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature. 210-229,235-239	393	74	319
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	1,089	436	653
Diabetes mellitus 250	420	190	230
Volume depletion 276.5	319	127	192
Diseases of the blood and blood-forming organs 280-289	324	158	166
Mental disorders 290-319	1,538	777	761
Psychoses 290-299	812	360	452
Alcohol dependence syndrome 303	239	184	55
Diseases of the nervous system and sense organs 320-389	770	356	414
Diseases of the central nervous system 320-336,340-349	342	155	187
Diseases of the ear and mastoid process 380-389	157	77	81
Diseases of the circulatory system 390-459	5,161	2,668	2,493
Heart disease 391-392.0,393-398,402,404,410-416,420-429	3,556	1,913	1,643
Acute myocardial infarction. 410	675	413	261
Coronary atherosclerosis 414.0	410	277	133
Other ischemic heart disease 411-413,414.1-414.9	870	465	406
Cardiac dysrhythmias 427	483	244	239
Congestive heart failure 428.0	701	315	386
Cerebrovascular disease 430-438	812	359	452
Diseases of the respiratory system. 460-519	2,966	1,430	1,536
Acute respiratory infections 460-466	487	235	252
Chronic disease of tonsils and adenoids. 474	102	41	61
Pneumonia 480-486	1,052	530	522
Asthma 493	476	191	285
Diseases of the digestive system. 520-579	3,239	1,449	1,790
Ulcers of the stomach and small intestine 531-534	244	131	113
Appendicitis 540-543	238	138	101
Inguinal hernia. 550	168	149	18
Noninfectious enteritis and colitis 555-558	373	151	223
Cholelithiasis 574	506	132	374
Diseases of the genitourinary system 580-629	2,175	803	1,373
Calculus of kidney and ureter 592	272	177	95
Hyperplasia of prostate 600	259	259	...
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	734	...	734
Abortions and ectopic and molar pregnancies 630-639	208	...	208
Diseases of the skin and subcutaneous tissue 680-709	462	234	228
Cellulitis and abscess 681-682	288	151	137
Diseases of the musculoskeletal system and connective tissue 710-739	1,592	735	857
Arthropathies and related disorders 710-719	479	197	283
Intervertebral disc disorders 722	425	241	183
Congenital anomalies 740-759	182	105	77
Certain conditions originating in the perinatal period. 760-779	163	93	70
Symptoms, signs, and ill-defined conditions 780-799	410	201	209
Injury and poisoning. 800-999	2,774	1,476	1,298
Fractures, all sites. 800-829	1,017	466	551
Fracture of neck of femur 820	281	72	209
Intracranial injuries (excluding those with skull fracture) 850-854	184	112	72
Lacerations and open wounds 870-904	240	179	61
Supplementary classifications V01-V82	4,507	198	4,309
Females with deliveries V27	4,025	...	4,025

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 10. Rate of patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1990

[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).*]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
	Rate of patients discharged per 10,000 population		
All conditions	1,234.6	1,015.5	1,440.9
Infectious and parasitic diseases 001-139	29.5	29.5	29.6
Septicemia 038	8.6	8.2	9.1
Neoplasms 140-239	78.8	66.5	90.4
Malignant neoplasms 140-208,230-234	63.0	60.4	65.5
Malignant neoplasm of large intestine and rectum 153-154,197.5	7.0	7.0	7.0
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	9.3	11.7	7.0
Malignant neoplasm of breast 174-175,198.81	6.6	*	12.7
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	15.8	6.1	24.9
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	43.7	36.0	50.9
Diabetes mellitus 250	16.8	15.7	17.9
Volume depletion 276.5	12.8	10.5	14.9
Diseases of the blood and blood-forming organs 280-289	13.0	13.1	12.9
Mental disorders 290-319	61.7	64.3	59.2
Psychoses 290-299	32.5	29.8	35.2
Alcohol dependence syndrome 303	9.6	15.2	4.3
Diseases of the nervous system and sense organs 320-389	30.9	29.4	32.3
Diseases of the central nervous system 320-336,340-349	13.7	12.8	14.6
Diseases of the ear and mastoid process 380-389	6.3	6.3	6.3
Diseases of the circulatory system 390-459	206.9	220.6	194.1
Heart disease 391-392.0,393-398,402,404,410-416,420-429	142.6	158.2	127.9
Acute myocardial infarction 410	27.1	34.2	20.3
Coronary atherosclerosis 414.0	16.4	22.9	10.4
Other ischemic heart disease 411-413,414.1-414.9	34.9	38.4	31.6
Cardiac dysrhythmias 427	19.4	20.2	18.6
Congestive heart failure 428.0	28.1	26.0	30.0
Cerebrovascular disease 430-438	32.6	29.7	35.2
Diseases of the respiratory system 460-519	118.9	118.2	119.6
Acute respiratory infections 460-466	19.5	19.4	19.6
Chronic disease of tonsils and adenoids 474	4.1	3.4	4.7
Pneumonia 480-486	42.2	43.8	40.6
Asthma 493	19.1	15.8	22.2
Diseases of the digestive system 520-579	129.9	119.8	139.3
Ulcers of the stomach and small intestine 531-534	9.8	10.8	8.8
Appendicitis 540-543	9.6	11.4	7.8
Inguinal hernia 550	6.7	12.3	1.4
Noninfectious enteritis and colitis 555-558	15.0	12.5	17.3
Cholelithiasis 574	20.3	10.9	29.1
Diseases of the genitourinary system 580-629	87.2	66.4	106.9
Calculus of kidney and ureter 592	10.9	14.6	7.4
Hyperplasia of prostate 600	10.4	21.4	...
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	29.5	...	57.2
Abortions and ectopic and molar pregnancies 630-639	8.3	...	16.2
Diseases of the skin and subcutaneous tissue 680-709	18.5	19.4	17.7
Cellulitis and abscess 681-682	11.5	12.5	10.7
Diseases of the musculoskeletal system and connective tissue 710-739	63.8	60.8	66.7
Arthropathies and related disorders 710-719	19.2	16.3	22.0
Intervertebral disc disorders 722	17.0	20.0	14.3
Congenital anomalies 740-759	7.3	8.7	6.0
Certain conditions originating in the perinatal period 760-779	6.5	7.7	5.5
Symptoms, signs, and ill-defined conditions 780-799	16.4	16.6	16.3
Injury and poisoning 800-999	111.2	122.1	101.0
Fractures, all sites 800-829	40.8	38.5	42.9
Fracture of neck of femur 820	11.3	5.9	16.3
Intracranial injuries (excluding those with skull fracture) 850-854	7.4	9.3	5.6
Lacerations and open wounds 870-904	9.6	14.8	4.7
Supplementary classifications V01-V82	180.7	16.4	335.5
Females with deliveries V27	161.4	...	313.4

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 11. Average length of stay for patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1990

[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).*]

First-listed diagnosis and ICD-9-CM code	Both sexes	Male	Female
Average length of stay in days			
All conditions	6.4	6.9	6.1
Infectious and parasitic diseases 001-139	9.1	10.2	8.2
Septicemia 038	13.3	14.0	12.6
Neoplasms 140-239	8.5	9.2	8.1
Malignant neoplasms 140-208,230-234	9.4	9.5	9.2
Malignant neoplasm of large intestine and rectum 153-154,197.5	13.7	13.0	14.4
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	8.5	8.0	9.1
Malignant neoplasm of breast 174-175,198.81	4.6	*	4.6
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	5.3	6.1	5.1
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	7.0	6.8	7.1
Diabetes mellitus 250	7.8	7.6	8.1
Volume depletion 276.5	6.5	6.1	6.9
Diseases of the blood and blood-forming organs 280-289	5.8	6.0	5.6
Mental disorders 290-319	12.2	11.5	13.0
Psychoses 290-299	14.6	13.9	15.2
Alcohol dependence syndrome 303	9.9	9.9	10.1
Diseases of the nervous system and sense organs 320-389	5.5	5.8	5.3
Diseases of the central nervous system 320-336,340-349	8.6	9.4	8.0
Diseases of the ear and mastoid process 380-389	2.8	2.8	2.8
Diseases of the circulatory system 390-459	7.3	7.1	7.6
Heart disease 391-392.0,393-398,402,404,410-416,420-429	6.9	6.7	7.1
Acute myocardial infarction 410	8.4	8.4	8.4
Coronary atherosclerosis 414.0	5.8	5.7	6.2
Other ischemic heart disease 411-413,414.1-414.9	5.2	5.0	5.3
Cardiac dysrhythmias 427	5.8	5.5	6.0
Congestive heart failure 428.0	8.0	7.5	8.4
Cerebrovascular disease 430-438	9.5	9.2	9.7
Diseases of the respiratory system 460-519	6.9	6.7	7.0
Acute respiratory infections 460-466	5.1	4.7	5.5
Chronic disease of tonsils and adenoids 474	1.3	1.3	1.3
Pneumonia 480-486	8.3	8.2	8.4
Asthma 493	4.7	3.9	5.2
Diseases of the digestive system 520-579	5.9	5.6	6.2
Ulcers of the stomach and small intestine 531-534	6.5	6.1	7.0
Appendicitis 540-543	4.4	4.3	4.5
Inguinal hernia 550	2.3	2.2	3.0
Noninfectious enteritis and colitis 555-558	4.9	4.7	5.0
Cholelithiasis 574	5.8	6.6	5.5
Diseases of the genitourinary system 580-629	5.1	5.0	5.1
Calculus of kidney and ureter 592	3.1	2.7	3.8
Hyperplasia of prostate 600	4.9	4.9	. . .
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	2.6	. . .	2.6
Abortions and ectopic and molar pregnancies 630-639	2.1	. . .	2.1
Diseases of the skin and subcutaneous tissue 680-709	7.9	7.7	8.2
Cellulitis and abscess 681-682	7.2	6.4	8.0
Diseases of the musculoskeletal system and connective tissue 710-739	6.4	5.7	7.1
Arthropathies and related disorders 710-719	7.8	7.0	8.4
Intervertebral disc disorders 722	5.1	4.8	5.5
Congenital anomalies 740-759	6.0	5.8	6.3
Certain conditions originating in the perinatal period 760-779	10.2	9.0	11.8
Symptoms, signs, and ill-defined conditions 780-799	2.8	2.6	3.1
Injury and poisoning 800-999	6.8	6.1	7.6
Fractures, all sites 800-829	8.3	6.7	9.7
Fracture of neck of femur 820	12.8	11.7	13.3
Intracranial injuries (excluding those with skull fracture) 850-854	5.5	5.6	5.4
Lacerations and open wounds 870-904	4.3	4.3	4.2
Supplementary classifications V01-V82	3.2	6.5	3.0
Females with deliveries V27	2.8	. . .	2.8

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 12. Number of patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1990

[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)*.]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>All races</i>	<i>White</i>	<i>Black</i>	<i>All other</i>	<i>Not stated</i>
	Number of patients discharged in thousands				
All conditions	30,788	21,376	3,611	958	4,843
Infectious and parasitic diseases 001-139	737	483	101	29	124
Septicemia 038	216	152	25	*8	31
Neoplasms 140-239	1,965	1,432	192	49	292
Malignant neoplasms 140-208,230-234	1,571	1,178	131	36	226
Malignant neoplasm of large intestine and rectum 153-154,197.5	175	136	12	*	23
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	231	183	19	*	26
Malignant neoplasm of breast 174-175,198.81	164	124	11	*	26
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	393	255	61	12	65
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	1,089	750	158	27	153
Diabetes mellitus 250	420	271	79	13	58
Volume depletion 276.5	319	235	33	*6	45
Diseases of the blood and blood-forming organs 280-289	324	186	91	*8	38
Mental disorders 290-319	1,538	1,089	206	32	210
Psychoses 290-299	812	586	101	20	105
Alcohol dependence syndrome 303	239	162	39	*	34
Diseases of the nervous system and sense organs 320-389	770	537	86	18	129
Diseases of the central nervous system 320-336,340-349	342	232	47	*6	57
Diseases of the ear and mastoid process 380-389	157	114	15	*6	23
Diseases of the circulatory system 390-459	5,161	3,833	486	103	738
Heart disease 391-392.0,393-398,402,404,410-416,420-429	3,556	2,685	297	71	503
Acute myocardial infarction 410	675	511	43	15	106
Coronary atherosclerosis 414.0	410	320	14	10	66
Other ischemic heart disease 411-413,414.1-414.9	870	671	63	19	117
Cardiac dysrhythmias 427	483	372	45	*9	58
Congestive heart failure 428.0	701	524	79	10	88
Cerebrovascular disease 430-438	812	599	84	16	112
Diseases of the respiratory system 460-519	2,966	2,080	382	73	430
Acute respiratory infections 460-466	487	353	52	10	72
Chronic disease of tonsils and adenoids 474	102	77	*9	*	14
Pneumonia 480-486	1,052	748	124	26	154
Asthma 493	476	263	116	19	78
Diseases of the digestive system 520-579	3,239	2,359	300	90	490
Ulcers of the stomach and small intestine 531-534	244	175	26	11	32
Appendicitis 540-543	238	170	15	*9	45
Inguinal hernia 550	168	123	13	*	27
Noninfectious enteritis and colitis 555-558	373	269	41	11	53
Cholelithiasis 574	506	372	32	17	86
Diseases of the genitourinary system 580-629	2,175	1,603	205	58	309
Calculus of kidney and ureter 592	272	217	12	*8	35
Hyperplasia of prostate 600	259	199	15	*9	36
Complications of pregnancy, childbirth, and the puerperum ¹ 630-676	734	402	164	33	136
Abortions and ectopic and molar pregnancies 630-639	208	111	54	*7	37
Diseases of the skin and subcutaneous tissue 680-709	462	316	68	13	65
Cellulitis and abscess 681-682	288	193	44	*8	42
Diseases of the musculoskeletal system and connective tissue 710-739	1,592	1,174	118	30	269
Arthropathies and related disorders 710-719	479	350	36	12	82
Intervertebral disc disorders 722	425	325	22	*7	72
Congenital anomalies 740-759	182	120	15	11	37
Certain conditions originating in the perinatal period 760-779	163	93	21	10	39
Symptoms, signs, and ill-defined conditions 780-799	410	272	52	*9	78
Injury and poisoning 800-999	2,774	1,893	335	82	464
Fractures, all sites 800-829	1,017	737	92	22	166
Fracture of neck of femur 820	281	231	*9	*	39
Intracranial injuries (excluding those with skull fracture) 850-854	184	116	21	*7	40
Lacerations and open wounds 870-904	240	128	61	10	40
Supplementary classifications V01-V82	4,507	2,753	631	284	839
Females with deliveries V27	4,025	2,431	584	262	748

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 13. Rate of patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1990

[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).*]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>All races</i>	<i>White</i>	<i>Black</i>	<i>All other</i>	<i>Not stated</i>
	Rate of patients discharged per 10,000 population				
All conditions	1,234.6	1,020.3	1,168.9	1,068.2	...
Infectious and parasitic diseases 001-139	29.5	23.1	32.8	31.8	...
Septicemia 038	8.6	7.2	8.0	*9.4	...
Neoplasms 140-239	78.8	68.4	62.1	54.1	...
Malignant neoplasms 140-208,230-234	63.0	56.2	42.4	40.5	...
Malignant neoplasm of large intestine and rectum 153-154,197.5	7.0	6.5	4.0	*	...
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	9.3	8.7	6.3	*	...
Malignant neoplasm of breast 174-175,198.81	6.6	5.9	3.6	*	...
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	15.8	12.2	19.7	13.7	...
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	43.7	35.8	51.1	30.5	...
Diabetes mellitus 250	16.8	12.9	25.6	13.9	...
Vitamin depletion 276.5	12.8	11.2	10.8	*6.3	...
Diseases of the blood and blood-forming organs 280-289	13.0	8.9	29.4	*9.1	...
Mental disorders 290-319	61.7	52.0	66.8	36.1	...
Psychoses 290-299	32.5	28.0	32.6	22.4	...
Alcohol dependence syndrome 303	9.6	7.7	12.6	*	...
Diseases of the nervous system and sense organs 320-389	30.9	25.6	27.8	20.1	...
Diseases of the central nervous system 320-336,340-349	13.7	11.1	15.1	*7.1	...
Diseases of the ear and mastoid process 380-389	6.3	5.4	4.8	*6.2	...
Diseases of the circulatory system 390-459	206.9	183.0	157.4	114.8	...
Heart disease 391-392.0,393-398,402,404,410-416,420-429	142.6	128.2	96.2	79.4	...
Acute myocardial infarction 410	27.1	24.4	13.9	16.2	...
Coronary atherosclerosis 414.0	16.4	15.3	4.4	10.8	...
Other ischemic heart disease 411-413,414.1-414.9	34.9	32.0	20.5	20.9	...
Cardiac dysrhythmias 427	19.4	17.7	14.6	*9.6	...
Congestive heart failure 428.0	28.1	25.0	25.5	11.4	...
Cerebrovascular disease 430-438	32.6	28.6	27.3	17.7	...
Diseases of the respiratory system 460-519	118.9	99.3	123.7	81.3	...
Acute respiratory infections 460-466	19.5	16.9	16.8	11.4	...
Chronic disease of tonsils and adenoids 474	4.1	3.7	*3.0	*	...
Pneumonia 480-486	42.2	35.7	40.3	29.0	...
Asthma 493	19.1	12.5	37.7	21.3	...
Diseases of the digestive system 520-579	129.9	112.6	97.1	100.5	...
Ulcers of the stomach and small intestine 531-534	9.8	8.3	8.5	12.2	...
Appendicitis 540-543	*9.6	8.1	4.9	*9.6	...
Inguinal hernia 550	6.7	5.9	4.4	*	...
Noninfectious enteritis and colitis 555-558	15.0	12.8	13.2	12.2	...
Cholelithiasis 574	20.3	17.7	10.3	18.4	...
Diseases of the genitourinary system 580-629	87.2	76.5	66.3	64.8	...
Calculus of kidney and ureter 592	10.9	10.4	3.7	*8.9	...
Hyperplasia of prostate 600	10.4	9.5	4.9	*10.0	...
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	29.5	19.2	52.9	36.5	...
Abortions and ectopic and molar pregnancies 630-639	8.3	5.3	17.3	*8.1	...
Diseases of the skin and subcutaneous tissue 680-709	18.5	15.1	21.9	14.7	...
Cellulitis and abscess 681-682	11.5	*9.2	14.4	*9.2	...
Diseases of the musculoskeletal system and connective tissue 710-739	63.8	56.0	38.2	34.0	...
Arthropathies and related disorders 710-719	19.2	16.7	11.7	13.0	...
Intervertebral disc disorders 722	17.0	15.5	7.0	*7.4	...
Congenital anomalies 740-759	7.3	5.7	4.8	11.8	...
Certain conditions originating in the perinatal period 760-779	6.5	4.4	6.8	10.9	...
Symptoms, signs, and ill-defined conditions 780-799	16.4	13.0	16.8	*10.0	...
Injury and poisoning 800-999	111.2	90.4	108.6	91.0	...
Fractures, all sites 800-829	40.8	35.2	29.8	24.4	...
Fracture of neck of femur 820	11.3	11.0	*2.8	*	...
Intracranial injuries (excluding those with skull fracture) 850-854	7.4	5.6	6.8	*7.5	...
Lacerations and open wounds 870-904	9.6	6.1	19.8	11.6	...
Supplementary classifications V01-V82	180.7	131.4	204.2	316.2	...
Females with deliveries V27	161.4	116.1	188.9	292.0	...

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey. Rates for race categories may be underestimated because race was not reported for all discharged patients.

Table 14. Average length of stay for patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1990

[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).*]

First-listed diagnosis and ICD-9-CM code	All races	White	Black	All other	Not stated
	Average length of stay in days				
All conditions	6.4	6.5	6.8	5.7	6.0
Infectious and parasitic diseases 001-139	9.1	8.9	10.3	10.0	8.8
Septicemia 038	13.3	13.8	11.9	*14.4	11.2
Neoplasms 140-239	8.5	8.4	9.5	8.4	8.8
Malignant neoplasms 140-208,230-234	9.4	9.2	10.9	9.5	9.3
Malignant neoplasm of large intestine and rectum 153-154,197.5	13.7	13.5	16.2	*	14.1
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	8.5	7.8	14.0	*	8.7
Malignant neoplasm of breast 174-175,198.81	4.6	4.6	5.2	*	4.3
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	5.3	4.5	6.4	5.3	7.2
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	7.0	7.0	7.2	6.8	6.9
Diabetes mellitus 250	7.8	7.9	7.9	8.4	7.5
Volume depletion 276.5	6.5	6.5	7.6	*6.4	6.0
Diseases of the blood and blood-forming organs 280-289	5.8	5.7	5.7	*6.4	6.1
Mental disorders 290-319	12.2	12.5	12.1	14.4	10.8
Psychoses 290-299	14.6	14.8	15.8	16.4	12.1
Alcohol dependence syndrome 303	9.9	9.7	9.4	*	12.0
Diseases of the nervous system and sense organs 320-389	5.5	5.3	7.3	6.7	5.2
Diseases of the central nervous system 320-336,340-349	8.6	8.4	9.9	*10.8	8.3
Diseases of the ear and mastoid process 380-389	2.8	2.6	3.8	*3.1	2.8
Diseases of the circulatory system 390-459	7.3	7.3	8.4	7.4	7.1
Heart disease 391-392.0,393-398,402,404,410-416,420-429	6.9	6.9	7.8	6.3	6.6
Acute myocardial infarction 410	8.4	8.5	9.9	7.6	7.3
Coronary atherosclerosis 414.0	5.8	5.9	4.9	5.3	5.7
Other ischemic heart disease 411-413,414.1-414.9	5.2	5.1	5.7	5.1	5.1
Cardiac dysrhythmias 427	5.8	5.7	6.7	*4.5	5.9
Congestive heart failure 428.0	8.0	7.9	8.3	7.6	8.4
Cerebrovascular disease 430-438	9.5	9.4	10.6	13.1	9.0
Diseases of the respiratory system 460-519	6.9	7.1	6.3	5.8	6.5
Acute respiratory infections 460-466	5.1	5.3	4.7	4.0	4.8
Chronic disease of tonsils and adenoids 474	1.3	1.2	*1.6	*	1.2
Pneumonia 480-486	8.3	8.5	8.2	6.5	8.0
Asthma 493	4.7	5.0	3.9	4.8	4.7
Diseases of the digestive system 520-579	5.9	5.9	6.7	5.5	5.8
Ulcers of the stomach and small intestine 531-534	6.5	6.6	5.7	6.1	6.8
Appendicitis 540-543	4.4	4.2	5.6	*4.1	4.5
Inguinal hernia 550	2.3	2.3	2.8	*	1.9
Noninfectious enteritis and colitis 555-558	4.9	4.9	4.7	4.0	5.0
Cholelithiasis 574	5.8	5.8	5.9	5.6	5.8
Diseases of the genitourinary system 580-629	5.1	4.9	6.0	4.8	5.0
Calculus of kidney and ureter 592	3.1	3.0	3.8	*	3.3
Hyperplasia of prostate 600	4.9	5.0	6.3	*	4.1
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	2.6	2.5	2.8	2.4	2.6
Abortions and ectopic and molar pregnancies 630-639	2.1	2.0	2.3	*	2.2
Diseases of the skin and subcutaneous tissue 680-709	7.9	7.9	8.6	9.1	7.2
Cellulitis and abscess 681-682	7.2	7.1	7.5	*8.0	6.7
Diseases of the musculoskeletal system and connective tissue 710-739	6.4	6.3	8.1	5.5	6.2
Arthropathies and related disorders 710-719	7.8	7.6	11.1	5.6	7.8
Intervertebral disc disorders 722	5.1	5.0	5.4	*5.3	5.4
Congenital anomalies 740-759	6.0	5.7	7.2	5.9	6.7
Certain conditions originating in the perinatal period 760-779	10.2	9.6	14.0	8.0	9.9
Symptoms, signs, and ill-defined conditions 780-799	2.8	2.5	4.1	*2.6	3.2
Injury and poisoning 800-999	6.8	6.8	7.3	7.3	6.5
Fractures, all sites 800-829	8.3	8.5	7.8	9.1	7.4
Fracture of neck of femur 820	12.8	12.9	*14.9	*	12.0
Intracranial injuries (excluding those with skull fracture) 850-854	5.5	4.6	8.5	*6.6	6.4
Lacerations and open wounds 870-904	4.3	4.0	5.5	3.5	3.7
Supplementary classifications V01-V82	3.2	3.2	3.4	2.9	3.0
Females with deliveries V27	2.8	2.8	3.1	2.5	2.6

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 15. Number of patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1990

[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).*]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>United States</i>	<i>North-east</i>	<i>Mid-west</i>	<i>South</i>	<i>West</i>
	Number of patients discharged in thousands				
All conditions	30,788	6,895	7,620	11,173	5,100
Infectious and parasitic diseases 001-139	737	166	175	256	139
Septicemia 038	216	51	50	74	41
Neoplasms 140-239	1,965	480	442	734	308
Malignant neoplasms. 140-208,230-234	1,571	375	356	598	242
Malignant neoplasm of large intestine and rectum 153-154,197.5	175	41	42	66	26
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	231	50	53	97	31
Malignant neoplasm of breast 174-175,198.81	164	41	38	56	29
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature. 210-229,235-239	393	105	86	136	66
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	1,089	230	298	408	153
Diabetes mellitus 250	420	82	115	162	61
Volume depletion 276.5	319	76	89	115	39
Diseases of the blood and blood-forming organs 280-289	324	82	78	118	46
Mental disorders 290-319	1,538	404	439	412	283
Psychoses 290-299	812	222	220	201	169
Alcohol dependence syndrome 303	239	58	76	74	31
Diseases of the nervous system and sense organs 320-389	770	208	167	273	122
Diseases of the central nervous system 320-336,340-349	342	79	90	114	59
Diseases of the ear and mastoid process 380-389	157	41	37	60	19
Diseases of the circulatory system 390-459	5,161	1,225	1,352	1,859	725
Heart disease 391-392.0,393-398,402,404,410-416,420-429	3,556	865	930	1,251	511
Acute myocardial infarction. 410	675	172	169	221	112
Coronary atherosclerosis 414.0	410	93	126	135	57
Other ischemic heart disease 411-413,414.1-414.9	870	216	214	318	122
Cardiac dysrhythmias 427	483	114	115	181	73
Congestive heart failure 428.0	701	160	202	261	77
Cerebrovascular disease 430-438	812	174	214	309	114
Diseases of the respiratory system 460-519	2,966	632	774	1,136	423
Acute respiratory infections 460-466	487	84	137	203	63
Chronic disease of tonsils and adenoids. 474	102	45	16	31	*9
Pneumonia 480-486	1,052	204	288	412	148
Asthma 493	476	115	134	144	83
Diseases of the digestive system. 520-579	3,239	700	829	1,209	501
Ulcers of the stomach and small intestine 531-534	244	46	60	98	41
Appendicitis 540-543	238	43	61	77	58
Inguinal hernia. 550	168	56	44	53	15
Noninfectious enteritis and colitis 555-558	373	67	104	158	44
Cholelithiasis 574	506	102	130	183	91
Diseases of the genitourinary system 580-629	2,175	446	523	903	303
Calculus of kidney and ureter 592	272	55	80	112	25
Hyperplasia of prostate 600	259	57	65	96	42
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	734	173	155	284	123
Abortions and ectopic and molar pregnancies 630-639	208	70	35	77	27
Diseases of the skin and subcutaneous tissue 680-709	462	107	111	167	77
Cellulitis and abscess 681-682	288	65	71	99	53
Diseases of the musculoskeletal system and connective tissue 710-739	1,592	346	391	582	273
Arthropathies and related disorders 710-719	479	105	120	150	104
Intervertebral disc disorders 722	425	81	108	178	58
Congenital anomalies 740-759	182	61	38	43	41
Certain conditions originating in the perinatal period. 760-779	163	26	36	46	55
Symptoms, signs, and ill-defined conditions 780-799	410	73	89	179	70
Injury and poisoning. 800-999	2,774	625	648	1,031	469
Fractures, all sites. 800-829	1,017	221	240	377	179
Fracture of neck of femur. 820	281	55	67	107	53
Intracranial injuries (excluding those with skull fracture) 850-854	184	42	54	57	30
Lacerations and open wounds 870-904	240	52	47	100	41
Supplementary classifications V01-V82	4,507	910	1,074	1,532	991
Females with deliveries V27	4,025	755	916	1,437	918

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 16. Rate of patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1990

[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).*]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>United States</i>	<i>North-east</i>	<i>Mid-west</i>	<i>South</i>	<i>West</i>
	Rate of patients discharged per 10,000 population				
All conditions	1,234.6	1,359.2	1,262.0	1,302.4	971.8
Infectious and parasitic diseases 001-139	29.5	32.8	29.0	29.9	26.4
Septicemia 038	8.6	10.0	8.3	8.6	7.8
Neoplasms 140-239	78.8	94.7	73.3	85.6	58.6
Malignant neoplasms 140-208,230-234	63.0	73.9	59.0	69.7	46.1
Malignant neoplasm of large intestine and rectum 153-154,197.5	7.0	8.0	7.0	7.6	5.0
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	9.3	9.8	8.9	11.3	6.0
Malignant neoplasm of breast 174-175,198.81	6.6	8.1	6.3	6.5	5.6
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	15.8	20.7	14.3	15.8	12.5
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	43.7	45.4	49.3	47.6	29.1
Diabetes mellitus 250	16.8	16.2	19.0	18.9	11.6
Volume depletion 276.5	12.8	15.0	14.8	13.4	7.4
Diseases of the blood and blood-forming organs 280-289	13.0	16.2	12.9	13.8	8.7
Mental disorders 290-319	61.7	79.6	72.7	48.0	54.0
Psychoses 290-299	32.5	43.7	36.5	23.4	32.2
Alcohol dependence syndrome 303	9.6	11.5	12.6	8.6	5.9
Diseases of the nervous system and sense organs 320-389	30.9	41.1	27.7	31.8	23.2
Diseases of the central nervous system 320-336,340-349	13.7	15.6	15.0	13.3	11.2
Diseases of the ear and mastoid process 380-389	6.3	8.1	6.1	7.0	3.7
Diseases of the circulatory system 390-459	206.9	241.5	223.9	216.7	138.1
Heart disease 391-392.0,393-398,402,404,410-416,420-429	142.6	170.6	154.0	145.8	97.3
Acute myocardial infarction 410	27.1	34.0	28.0	25.8	21.4
Coronary atherosclerosis 414.0	16.4	18.3	20.9	15.7	10.8
Other ischemic heart disease 411-413,414.1-414.9	34.9	42.5	35.5	37.1	23.3
Cardiac dysrhythmias 427	19.4	22.5	19.0	21.1	14.0
Congestive heart failure 428.0	28.1	31.5	33.5	30.4	14.8
Cerebrovascular disease 430-438	32.6	34.4	35.4	36.1	21.7
Diseases of the respiratory system 460-519	118.9	124.6	128.3	132.4	80.6
Acute respiratory infections 460-466	19.5	16.5	22.8	23.7	12.0
Chronic disease of tonsils and adenoids 474	4.1	9.0	2.7	3.6	*1.8
Pneumonia 480-486	42.2	40.1	47.8	48.0	28.1
Asthma 493	19.1	22.6	22.2	16.8	15.8
Diseases of the digestive system 520-579	129.9	138.0	137.3	140.9	95.5
Ulcers of the stomach and small intestine 531-534	9.8	9.1	9.9	11.4	7.7
Appendicitis 540-543	9.6	8.5	10.0	8.9	11.1
Inguinal hernia 550	6.7	10.9	7.3	6.1	2.8
Noninfectious enteritis and colitis 555-558	15.0	13.2	17.2	18.5	8.5
Cholelithiasis 574	20.3	20.0	21.6	21.3	17.3
Diseases of the genitourinary system 580-629	87.2	88.0	86.6	105.3	57.8
Calculus of kidney and ureter 592	10.9	10.8	13.2	13.1	4.8
Hyperplasia of prostate 600	10.4	11.1	10.7	11.2	8.0
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	29.5	34.2	25.6	33.1	23.4
Abortions and ectopic and molar pregnancies 630-639	8.3	13.7	5.8	9.0	5.1
Diseases of the skin and subcutaneous tissue 680-709	18.5	21.0	18.4	19.5	14.7
Cellulitis and abscess 681-682	11.5	12.7	11.7	11.6	10.2
Diseases of the musculoskeletal system and connective tissue 710-739	63.8	68.2	64.7	67.9	52.0
Arthropathies and related disorders 710-719	19.2	20.8	19.9	17.5	19.8
Intervertebral disc disorders 722	17.0	15.9	17.9	20.8	11.0
Congenital anomalies 740-759	7.3	11.9	6.3	5.0	7.8
Certain conditions originating in the perinatal period 760-779	6.5	5.1	6.0	5.4	10.5
Symptoms, signs, and ill-defined conditions 780-799	16.4	14.4	14.7	20.8	13.3
Injury and poisoning 800-999	111.2	123.3	107.4	120.2	89.3
Fractures, all sites 800-829	40.8	43.6	39.8	44.0	34.1
Fracture of neck of femur 820	11.3	10.7	11.1	12.5	10.0
Intracranial injuries (excluding those with skull fracture) 850-854	7.4	8.3	9.0	6.6	5.7
Lacerations and open wounds 870-904	9.6	10.3	7.8	11.7	7.7
Supplementary classifications V01-V82	180.7	179.4	177.9	178.5	188.8
Females with deliveries V27	161.4	148.8	151.7	167.5	175.0

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 17. Average length of stay for patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1990

[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).*]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>United States</i>	<i>North-east</i>	<i>Mid-west</i>	<i>South</i>	<i>West</i>
	Average length of stay in days				
All conditions	6.4	7.7	6.4	6.1	5.5
Infectious and parasitic diseases 001-139	9.1	13.1	7.1	7.5	10.0
Septicemia 038	13.3	17.6	10.8	10.9	15.0
Neoplasms 140-239	8.5	10.1	8.6	7.9	7.6
Malignant neoplasms 140-208,230-234	9.4	11.5	9.2	8.6	8.1
Malignant neoplasm of large intestine and rectum 153-154,197.5	13.7	18.6	11.5	12.9	11.8
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	8.5	9.8	9.7	7.4	7.6
Malignant neoplasm of breast 174-175,198.81	4.6	5.2	4.5	4.8	3.3
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	5.3	5.0	6.2	4.7	5.7
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	7.0	9.9	6.3	6.4	5.5
Diabetes mellitus 250	7.8	11.6	6.9	7.3	6.0
Volume depletion 276.5	6.5	9.2	6.1	5.7	4.6
Diseases of the blood and blood-forming organs 280-289	5.8	6.8	6.3	5.3	4.6
Mental disorders 290-319	12.2	13.0	12.7	11.4	11.8
Psychoses 290-299	14.6	16.4	14.3	13.5	14.0
Alcohol dependence syndrome 303	9.9	6.8	11.7	9.9	11.6
Diseases of the nervous system and sense organs 320-389	5.5	5.9	5.5	5.8	4.6
Diseases of the central nervous system 320-336,340-349	8.6	10.3	7.4	9.6	6.5
Diseases of the ear and mastoid process 380-389	2.8	2.9	2.7	2.9	2.4
Diseases of the circulatory system 390-459	7.3	8.7	7.1	7.1	6.0
Heart disease 391-392.0,393-398,402,404,410-416,420-429	6.9	8.1	6.7	6.8	5.6
Acute myocardial infarction 410	8.4	9.9	7.9	8.4	6.7
Coronary atherosclerosis 414.0	5.8	5.9	5.9	6.2	4.7
Other ischemic heart disease 411-413,414.1-414.9	5.2	5.8	4.9	5.2	4.5
Cardiac dysrhythmias 427	5.8	7.6	5.1	5.5	4.6
Congestive heart failure 428.0	8.0	9.4	7.8	7.8	6.3
Cerebrovascular disease 430-438	9.5	12.5	9.0	8.7	8.1
Diseases of the respiratory system 460-519	6.9	8.2	6.6	6.7	6.2
Acute respiratory infections 460-466	5.1	6.1	4.9	4.7	5.6
Chronic disease of tonsils and adenoids 474	1.3	1.1	1.7	1.3	*1.1
Pneumonia 480-486	8.3	11.1	7.5	8.0	6.9
Asthma 493	4.7	5.6	4.3	4.9	3.6
Diseases of the digestive system 520-579	5.9	7.2	5.8	5.4	5.5
Ulcers of the stomach and small intestine 531-534	6.5	8.1	6.8	5.5	6.8
Appendicitis 540-543	4.4	5.2	4.5	4.0	4.2
Inguinal hernia 550	2.3	2.2	2.3	2.4	2.0
Noninfectious enteritis and colitis 555-558	4.9	6.7	4.7	4.2	4.9
Cholelithiasis 574	5.8	7.5	5.6	5.5	4.7
Diseases of the genitourinary system 580-629	5.1	5.5	4.9	5.3	4.1
Calculus of kidney and ureter 592	3.1	4.0	3.2	2.7	2.4
Hyperplasia of prostate 600	4.9	6.1	4.7	4.9	3.8
Complications of pregnancy, childbirth, and the puerperium ¹ 630-676	2.6	2.7	2.6	2.6	2.4
Abortions and ectopic and molar pregnancies 630-639	2.1	1.9	2.3	2.1	2.5
Diseases of the skin and subcutaneous tissue 680-709	7.9	9.7	7.3	7.4	7.5
Cellulitis and abscess 681-682	7.2	8.8	6.6	6.5	7.3
Diseases of the musculoskeletal system and connective tissue 710-739	6.4	7.0	6.9	6.2	5.4
Arthropathies and related disorders 710-719	7.8	8.2	8.6	8.1	6.1
Intervertebral disc disorders 722	5.1	5.8	5.3	5.0	4.1
Congenital anomalies 740-759	6.0	6.3	5.6	6.3	5.8
Certain conditions originating in the perinatal period 760-779	10.2	10.0	9.9	9.4	11.0
Symptoms, signs, and ill-defined conditions 780-799	2.8	2.8	2.5	3.2	2.4
Injury and poisoning 800-999	6.8	8.4	6.4	6.7	5.5
Fractures, all sites 800-829	8.3	11.1	7.6	7.6	7.2
Fracture of neck of femur 820	12.8	20.0	11.7	11.4	9.8
Intracranial injuries (excluding those with skull fracture) 850-854	5.5	5.4	5.1	5.6	6.2
Lacerations and open wounds 870-904	4.3	4.4	4.7	4.6	3.0
Supplementary classifications V01-V82	3.2	3.5	3.6	3.0	2.5
Females with deliveries V27	2.8	3.2	2.7	2.9	2.3

¹First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary Classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 18. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by age and diagnosis: United States, 1990

[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).*]

<i>All-listed diagnoses and ICD-9-CM code</i>	<i>All ages</i>	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</i>
Number of all-listed diagnoses in thousands					
All conditions	102,834	5,560	31,180	21,089	45,005
Infectious and parasitic diseases 001-139	2,905	455	859	448	1,143
Septicemia 038	480	46	58	89	287
Neoplasms 140-239	4,336	98	681	1,413	2,144
Malignant neoplasms 140-208,230-234	3,457	79	349	1,136	1,894
Malignant neoplasm of large intestine and rectum 153-154,197.5	258	*	*9	82	167
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	514	*	26	196	289
Malignant neoplasm of breast 174-175,198.81	220	*	31	88	100
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	879	20	332	278	250
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	8,924	376	1,284	2,300	4,964
Diabetes mellitus 250	3,008	28	356	907	1,717
Volume depletion 276.5	1,376	214	216	198	748
Diseases of the blood and blood-forming organs 280-289	2,918	172	716	567	1,463
Mental disorders 290-319	4,902	128	2,427	1,020	1,327
Psychoses 290-299	1,636	26	627	314	668
Alcohol dependence syndrome 303	667	*	384	206	74
Diseases of the nervous system and sense organs 320-389	3,243	511	647	629	1,456
Diseases of the central nervous system 320-336,340-349	1,643	126	368	303	846
Diseases of the ear and mastoid process 380-389	554	318	68	61	106
Diseases of the circulatory system 390-459	20,167	107	1,260	5,009	13,792
Heart disease 391-392.0,393-398,402,404,410-416,420-429	12,932	72	664	3,094	9,102
Acute myocardial infarction 410	786	*	44	257	484
Coronary atherosclerosis 414.0	2,159	*	79	637	1,442
Other ischemic heart disease 411-413,414.1-414.9	2,582	*	135	810	1,637
Cardiac dysrhythmias 427	2,660	27	146	493	1,994
Congestive heart failure 428.0	1,943	12	48	295	1,588
Cerebrovascular disease 430-438	1,648	*7	57	298	1,286
Diseases of the respiratory system 460-519	8,028	1,136	1,134	1,613	4,145
Acute respiratory infections 460-466	925	304	155	154	311
Chronic disease of tonsils and adenoids 474	137	93	41	*	*
Pneumonia 480-486	1,603	282	204	253	864
Asthma 493	861	236	227	170	229
Diseases of the digestive system 520-579	7,761	426	1,865	1,982	3,489
Ulcers of the stomach and small intestine 531-534	507	*	88	153	263
Appendicitis 540-543	284	67	159	35	24
Inguinal hernia 550	237	26	45	59	107
Noninfectious enteritis and colitis 555-558	728	161	198	132	237
Cholelithiasis 574	811	*	260	232	316
Diseases of the genitourinary system 580-629	7,037	146	2,326	1,575	2,990
Calculus of kidney and ureter 592	359	*	163	112	82
Hyperplasia of prostate 600	423	*	*	92	329
Complications of pregnancy, childbirth, and the puerperium 630-676	7,631	23	7,598	10	...
Abortions and ectopic and molar pregnancies 630-639	227	*	224	*	...
Diseases of the skin and subcutaneous tissue 680-709	1,256	97	320	272	566
Cellulitis and abscess 681-682	486	37	139	119	191
Diseases of the musculoskeletal system and connective tissue 710-739	4,052	67	997	1,036	1,952
Arthropathies and related disorders 710-719	1,574	22	234	328	989
Intervertebral disc disorders 722	552	*	260	188	103
Congenital anomalies 740-759	559	302	125	73	59
Certain conditions originating in the perinatal period 760-779	412	392	*	*9	*8
Symptoms, signs, and ill-defined conditions 780-799	5,090	463	1,271	1,220	2,137
Injury and poisoning 800-999	6,039	468	2,551	1,110	1,911
Fractures, all sites 800-829	1,527	114	568	232	614
Fracture of neck of femur 820	308	*	10	26	268
Intracranial injuries (excluding those with skull fracture) 850-854	264	40	143	31	49
Lacerations and open wounds 870-904	668	55	453	78	82
Supplementary classifications V01-V82	7,573	195	5,115	802	1,462
Females with deliveries V27	4,026	13	4,009	*	...

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 19. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by sex and diagnosis: United States, 1990

[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).*]

<i>All-listed diagnoses and ICD-9-CM code</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
	Number of all-listed diagnoses in thousands		
All conditions	102,834	41,281	61,553
Infectious and parasitic diseases001-139	2,905	1,273	1,632
Septicemia038	480	229	250
Neoplasms140-239	4,336	1,862	2,474
Malignant neoplasms140-208,230-234	3,457	1,652	1,805
Malignant neoplasm of large intestine and rectum153-154,197.5	258	124	134
Malignant neoplasm of trachea, bronchus, and lung162,197.0,197.3	514	301	214
Malignant neoplasm of breast174-175,198.81	220	*	219
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature210-229,235-239	879	210	669
Endocrine, nutritional and metabolic diseases, and immunity disorders240-279	8,924	3,519	5,405
Diabetes mellitus250	3,008	1,294	1,714
Volume depletion276.5	1,376	555	822
Diseases of the blood and blood-forming organs280-289	2,918	1,199	1,719
Mental disorders290-319	4,902	2,393	2,509
Psychoses290-299	1,636	722	914
Alcohol dependence syndrome303	667	496	171
Diseases of the nervous system and sense organs320-389	3,243	1,534	1,709
Diseases of the central nervous system320-336,340-349	1,643	764	880
Diseases of the ear and mastoid process380-389	554	287	266
Diseases of the circulatory system390-459	20,167	9,932	10,235
Heart disease391-392.0,393-398,402,404,410-416,420-429	12,932	6,654	6,278
Acute myocardial infarction410	786	472	313
Coronary atherosclerosis414.0	2,159	1,242	917
Other ischemic heart disease411-413,414.1-414.9	2,582	1,406	1,177
Cardiac dysrhythmias427	2,660	1,382	1,277
Congestive heart failure428.0	1,943	843	1,100
Cerebrovascular disease430-438	1,648	731	917
Diseases of the respiratory system460-519	8,028	4,039	3,990
Acute respiratory infections460-466	925	441	485
Chronic disease of tonsils and adenoids474	137	60	77
Pneumonia480-486	1,603	820	783
Asthma493	861	343	518
Diseases of the digestive system520-579	7,761	3,418	4,343
Ulcers of the stomach and small intestine531-534	507	256	251
Appendicitis540-543	284	156	128
Inguinal hernia550	237	209	27
Noninfectious enteritis and colitis555-558	728	293	435
Cholelithiasis574	811	248	564
Diseases of the genitourinary system580-629	7,037	2,405	4,632
Calculus of kidney and ureter592	359	221	138
Hyperplasia of prostate600	423	423	...
Complications of pregnancy, childbirth, and the puerperium630-676	7,631	...	7,631
Abortions and ectopic and molar pregnancies630-639	227	...	227
Diseases of the skin and subcutaneous tissue680-709	1,256	597	659
Cellulitis and abscess681-682	486	252	234
Diseases of the musculoskeletal system and connective tissue710-739	4,052	1,611	2,441
Arthropathies and related disorders710-719	1,574	559	1,015
Intervertebral disc disorders722	552	299	252
Congenital anomalies740-759	559	287	272
Certain conditions originating in the perinatal period760-779	412	236	176
Symptoms, signs, and ill-defined conditions780-799	5,090	2,334	2,757
Injury and poisoning800-999	6,039	3,272	2,767
Fractures, all sites800-829	1,527	742	785
Fracture of neck of femur820	308	82	226
Intracranial injuries (excluding those with skull fracture)850-854	264	159	105
Lacerations and open wounds870-904	668	470	198
Supplementary classificationsV01-V82	7,573	1,369	6,204
Females with deliveriesV27	4,026	...	4,026

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 20. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by race and diagnosis: United States, 1990

[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)*.]

<i>All-listed diagnoses and ICD-9-CM code</i>	<i>All races</i>	<i>White</i>	<i>Black</i>	<i>All other</i>	<i>Not stated</i>
	Number of all-listed diagnoses in thousands				
All conditions	102,834	73,273	11,935	2,920	14,706
Infectious and parasitic diseases 001-139	2,905	1,958	437	90	420
Septicemia 038	480	322	73	16	69
Neoplasms 140-239	4,336	3,212	393	97	635
Malignant neoplasms 140-208,230-234	3,457	2,600	275	76	507
Malignant neoplasm of large intestine and rectum 153-154,197.5	258	197	20	*6	36
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	514	401	42	*9	62
Malignant neoplasm of breast 174-175,198.81	220	165	17	*	35
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	879	612	118	22	128
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	8,924	6,415	1,123	224	1,162
Diabetes mellitus 250	3,008	2,097	433	86	392
Volume depletion 276.5	1,376	1,009	152	32	184
Diseases of the blood and blood-forming organs 280-289	2,918	1,942	508	86	382
Mental disorders 290-319	4,902	3,507	695	101	599
Psychoses 290-299	1,636	1,199	202	38	197
Alcohol dependence syndrome 303	667	427	142	17	80
Diseases of the nervous system and sense organs 320-389	3,243	2,339	354	75	475
Diseases of the central nervous system 320-336,340-349	1,643	1,202	171	33	237
Diseases of the ear and mastoid process 380-389	554	384	67	19	83
Diseases of the circulatory system 390-459	20,167	15,292	1,910	399	2,567
Heart disease 391-392.0,393-398,402,404,410-416,420-429	12,932	9,990	1,042	250	1,650
Acute myocardial infarction 410	786	594	52	17	123
Coronary atherosclerosis 414.0	2,159	1,737	109	41	272
Other ischemic heart disease 411-413,414.1-414.9	2,582	2,025	171	50	337
Cardiac dysrhythmias 427	2,660	2,080	213	46	321
Congestive heart failure 428.0	1,943	1,472	194	34	243
Cerebrovascular disease 430-438	1,648	1,225	166	35	223
Diseases of the respiratory system 460-519	8,028	5,908	881	171	1,067
Acute respiratory infections 460-466	925	672	110	18	124
Chronic disease of tonsils and adenoids 474	137	103	13	*	18
Pneumonia 480-486	1,603	1,148	192	41	221
Asthma 493	861	516	180	33	131
Diseases of the digestive system 520-579	7,761	5,721	766	200	1,074
Ulcers of the stomach and small intestine 531-534	507	372	54	18	63
Appendicitis 540-543	284	204	18	11	51
Inguinal hernia 550	237	177	17	*	38
Noninfectious enteritis and colitis 555-558	728	525	80	17	107
Cholelithiasis 574	811	595	56	29	131
Diseases of the genitourinary system 580-629	7,037	5,142	777	179	939
Calculus of kidney and ureter 592	359	284	16	13	46
Hyperplasia of prostate 600	423	328	27	12	55
Complications of pregnancy, childbirth, and the puerperium 630-676	7,631	4,529	1,236	470	1,396
Abortions and ectopic and molar pregnancies 630-639	227	122	57	*8	39
Diseases of the skin and subcutaneous tissue 680-709	1,256	881	175	30	171
Cellulitis and abscess 681-682	486	336	66	13	71
Diseases of the musculoskeletal system and connective tissue 710-739	4,052	3,094	312	67	580
Arthropathies and related disorders 710-719	1,574	1,191	137	27	218
Intervertebral disc disorders 722	552	421	29	*9	93
Congenital anomalies 740-759	559	382	57	21	99
Certain conditions originating in the perinatal period 760-779	412	216	65	26	105
Symptoms, signs, and ill-defined conditions 780-799	5,090	3,606	589	132	764
Injury and poisoning 800-999	6,039	4,141	708	170	1,020
Fractures, all sites 800-829	1,527	1,106	137	33	250
Fracture of neck of femur 820	308	251	10	*	44
Intracranial injuries (excluding those with skull fracture) 850-854	264	169	33	*9	53
Lacerations and open wounds 870-904	668	393	135	29	111
Supplementary classifications V01-V82	7,573	4,989	950	382	1,252
Females with deliveries V27	4,026	2,432	584	262	748

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 21. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by geographic region and diagnosis: United States, 1990

[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).*]

<i>All-listed diagnoses and ICD-9-CM code</i>	<i>United States</i>	<i>North-east</i>	<i>Mid-west</i>	<i>South</i>	<i>West</i>
	Number of all-listed diagnoses in thousands				
All conditions	102,834	23,918	26,951	35,905	16,060
Infectious and parasitic diseases 001-139	2,905	684	759	999	463
Septicemia 038	480	124	113	164	78
Neoplasms 140-239	4,336	1,127	1,110	1,481	619
Malignant neoplasms 140-208,230-234	3,457	900	900	1,172	484
Malignant neoplasm of large intestine and rectum 153-154,197.5	258	65	64	92	37
Malignant neoplasm of trachea, bronchus, and lung 162,197.0,197.3	514	130	139	185	59
Malignant neoplasm of breast 174-175,198.81	220	54	58	74	34
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature 210-229,235-239	879	226	210	309	134
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	8,924	2,023	2,531	3,144	1,227
Diabetes mellitus 250	3,008	721	825	1,065	396
Volume depletion 276.5	1,376	301	386	494	195
Diseases of the blood and blood-forming organs 280-289	2,918	735	719	1,033	431
Mental disorders 290-319	4,902	1,236	1,364	1,483	819
Psychoses 290-299	1,636	422	459	461	293
Alcohol dependence syndrome 303	667	171	186	200	109
Diseases of the nervous system and sense organs 320-389	3,243	820	864	1,062	498
Diseases of the central nervous system 320-336,340-349	1,643	397	471	518	256
Diseases of the ear and mastoid process 380-389	554	141	143	185	85
Diseases of the circulatory system 390-459	20,167	5,017	5,394	7,017	2,740
Heart disease 391-392.0,393-398,402,404,410-416,420-429	12,932	3,295	3,445	4,408	1,784
Acute myocardial infarction 410	786	205	198	255	127
Coronary atherosclerosis 414.0	2,159	572	597	691	300
Other ischemic heart disease 411-413,414.1-414.9	2,582	697	689	872	324
Cardiac dysrhythmias 427	2,660	638	712	908	402
Congestive heart failure 428.0	1,943	459	553	689	242
Cerebrovascular disease 430-438	1,648	357	457	615	220
Diseases of the respiratory system 460-519	8,028	1,821	2,154	2,924	1,129
Acute respiratory infections 460-466	925	175	279	353	119
Chronic disease of tonsils and adenoids 474	137	56	24	43	14
Pneumonia 480-486	1,603	331	447	605	219
Asthma 493	861	216	240	263	142
Diseases of the digestive system 520-579	7,761	1,796	2,000	2,824	1,141
Ulcers of the stomach and small intestine 531-534	507	112	123	195	76
Appendicitis 540-543	284	48	75	92	68
Inguinal hernia 550	237	72	62	73	30
Noninfectious enteritis and colitis 555-558	728	152	206	274	96
Cholelithiasis 574	811	178	204	291	139
Diseases of the genitourinary system 580-629	7,037	1,555	1,775	2,746	961
Calculus of kidney and ureter 592	359	77	99	149	33
Hyperplasia of prostate 600	423	100	111	150	62
Complications of pregnancy, childbirth, and the puerperium 630-676	7,631	1,543	1,757	2,691	1,640
Abortions and ectopic and molar pregnancies 630-639	227	74	37	85	30
Diseases of the skin and subcutaneous tissue 680-709	1,256	335	326	410	185
Cellulitis and abscess 681-682	486	122	129	154	81
Diseases of the musculoskeletal system and connective tissue 710-739	4,052	884	1,131	1,396	641
Arthropathies and related disorders 710-719	1,574	340	449	509	275
Intervertebral disc disorders 722	552	101	144	230	77
Congenital anomalies 740-759	559	175	136	135	112
Certain conditions originating in the perinatal period 760-779	412	72	104	108	127
Symptoms, signs, and ill-defined conditions 780-799	5,090	1,101	1,398	1,822	769
Injury and poisoning 800-999	6,039	1,404	1,500	2,104	1,031
Fractures, all sites 800-829	1,527	328	374	556	268
Fracture of neck of femur 820	308	60	77	115	56
Intracranial injuries (excluding those with skull fracture) 850-854	264	63	76	84	41
Lacerations and open wounds 870-904	668	141	149	265	113
Supplementary classifications V01-V82	7,573	1,591	1,930	2,525	1,527
Females with deliveries V27	4,026	755	916	1,437	918

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 22. Number of all-listed procedures for patients discharged from short-stay hospitals, by age and procedure category: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems 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	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
	Number of all-listed procedures in thousands				
All procedures	40,506	1,960	16,186	9,052	13,308
Operations on the nervous system 01-05	952	210	314	214	214
Spinal tap 03.31	396	166	100	54	77
Operations on the endocrine system 06-07	96	*	40	31	23
Operations on the eye 08-16	350	16	74	76	184
Operations on the ear 18-20	137	81	27	18	11
Operations on the nose, mouth, and pharynx 21-29	585	140	254	112	79
Tonsillectomy with or without adenoidectomy 28.2-28.3	117	74	40	*	*
Operations on the respiratory system 30-34	975	66	177	296	436
Bronchoscopy with or without biopsy 33.21-33.24,33.27	298	20	46	88	144
Operations on the cardiovascular system 35-39	3,881	154	429	1,438	1,860
Removal of coronary artery obstruction 36.0	285	*	22	148	115
Coronary artery bypass graft ¹ 36.1	392	*	19	169	204
Cardiac catheterization 37.21-37.23	995	17	100	457	421
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	259	*	*5	52	199
Shunt or vascular bypass 39.0-39.2	162	*	16	58	83
Hemodialysis 39.95	216	*	44	77	95
Operations on the hemic and lymphatic system 40-41	361	20	80	109	151
Operations on the digestive system 42-54	5,271	212	1,487	1,386	2,185
Endoscopy of small intestine with or without biopsy 45.11-45.14,45.16	785	10	148	213	414
Endoscopy of large intestine with or without biopsy 45.21-45.25	548	*	79	136	329
Partial excision of large intestine 45.7	204	*	20	58	125
Appendectomy, excluding incidental 47.0	274	66	158	32	18
Cholecystectomy 51.2	522	*	206	168	146
Repair of inguinal hernia 53.0-53.1	205	22	43	54	86
Lysis of peritoneal adhesions 54.5	323	*5	155	79	84
Operations on the urinary system 55-59	1,664	41	390	426	807
Cystoscopy with or without biopsy 57.31-57.33	527	*7	76	127	317
Operations on the male genital organs 60-64	594	46	40	127	380
Prostatectomy 60.2-60.6	364	...	*	80	284
Operations on the female genital organs 65-71	2,440	10	1,711	495	223
Oophorectomy and salpingo-oophorectomy 65.3-65.6	476	*	260	160	56
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	419	-	418	*	-
Hysterectomy 68.3-68.7	591	-	349	184	58
Dilation and curettage of uterus 69.0	220	*	177	31	10
Repair of cystocele and rectocele 70.5	137	-	42	52	43
Obstetrical procedures 72-75	6,792	19	6,763	10	...
Episiotomy with or without forceps or vacuum extraction 72.1,72.21,72.31,72.71,73.6	1,717	*7	1,709	*	...
Artificial rupture of membranes 73.0	691	*	688	*	...
Cesarean section 74.0-74.2,74.4,74.99	945	*	940	*	...
Fetal EKG (scalp) and fetal monitoring, not otherwise specified 75.32,75.34	1,377	*	1,370	*	...
Repair of current obstetric laceration 75.5-75.6	795	*	793	*	...
Operations on the musculoskeletal system 76-84	3,132	161	1,273	733	965
Partial excision of bone 76.2-76.3,77.6-77.8	193	10	89	56	39
Open reduction of fracture with Internal fixation 79.3	391	17	140	71	163
Excision or destruction of intervertebral disc 80.5	305	*	164	106	34
Total hip replacement 81.51	119	-	*8	28	82
Total knee replacement 81.54	129	-	*	32	95
Operations on the integumentary system 85-86	1,387	85	527	355	419
Mastectomy 85.4	122	*	14	52	56
Debridement of wound, infection, or burn 86.22,86.28	332	21	119	63	129
Skin graft 86.6-86.7	110	*9	42	25	34
Miscellaneous diagnostic and therapeutic procedures 87-99	11,890	694	2,600	3,225	5,371
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	1,506	69	359	333	745
Pyelogram 87.73-87.75	291	*5	116	75	96
Arteriography and angiocardigraphy using contrast material 88.4-88.5	1,735	19	208	766	742
Diagnostic ultrasound 88.7	1,608	90	427	357	734
Circulatory monitoring 89.6	724	30	118	167	409
Radioisotope scan 92.0-92.1	603	19	105	160	318
Respiratory therapy 93.9	1,164	190	183	226	565

¹The number of discharged patients with a coronary artery bypass graft was 262,000.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 23. Rate of all-listed procedures for patients discharged from short-stay hospitals, by age and procedure category: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems 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	All ages	Under 15 years	15-44 years	45-64 year	65 years and over
	Rate of all-listed procedures per 100,000 population				
All procedures	16,243.0	3,571.2	13,956.8	19,287.0	42,125.2
Operations on the nervous system 01-05	381.6	382.7	270.3	455.5	678.2
Spinal tap 03.31	158.8	301.9	85.8	114.2	244.0
Operations on the endocrine system 06-07	38.3	*	34.3	65.4	72.4
Operations on the eye 08-16	140.2	29.0	63.6	161.4	582.9
Operations on the ear 18-20	54.7	147.3	23.5	38.2	33.4
Operations on the nose, mouth, and pharynx 21-29	234.7	255.3	219.0	239.6	249.1
Tonsillectomy with or without adenoidectomy 28.2-28.3	47.1	135.1	34.2	*	*
Operations on the respiratory system 30-34	391.0	121.0	152.8	629.9	1,379.4
Bronchoscopy with or without biopsy 33.21-33.24,33.27	119.5	36.9	39.5	188.0	454.4
Operations on the cardiovascular system 35-39	1,556.2	280.2	369.7	3,064.2	5,888.5
Removal of coronary artery obstruction 36.0	114.4	*	19.1	315.7	364.0
Coronary artery bypass graft ¹ 36.1	157.2	*	16.2	360.7	645.9
Cardiac catheterization 37.21-37.23	399.2	31.5	86.2	973.9	1,332.9
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	103.8	*	*4.7	111.4	629.0
Shunt or vascular bypass 39.0-39.2	64.8	*	13.8	124.6	262.3
Hemodialysis 39.95	86.8	*	37.9	163.1	299.1
Operations on the hemic and lymphatic system 40-41	144.7	37.2	69.0	232.2	479.5
Operations on the digestive system 42-54	2,113.6	386.4	1,282.6	2,953.1	6,917.4
Endoscopy of small intestine with or without biopsy 45.11-45.14,45.16	314.7	18.1	127.3	453.9	1,311.2
Endoscopy of large intestine with or without biopsy 45.21-45.25	219.7	*	67.8	289.8	1,042.8
Partial excision of large intestine 45.7	82.0	*	16.8	122.7	394.9
Appendectomy, excluding incidental 47.0	109.8	121.0	136.2	67.2	56.4
Cholecystectomy 51.2	209.3	*	177.3	357.7	463.3
Repair of inguinal hernia 53.0-53.1	82.1	39.9	36.8	115.5	272.5
Lysis of peritoneal adhesions 54.5	129.6	*8.4	133.9	168.2	267.2
Operations on the urinary system 55-59	667.3	74.7	336.3	908.7	2,553.4
Cystoscopy with or without biopsy 57.31-57.33	211.4	*12.7	65.8	270.3	1,003.7
Operations on the male genital organs 60-64	238.2	84.4	34.8	270.7	1,203.9
Prostatectomy 60.2-60.6	145.9	...	*	169.4	899.1
Operations on the female genital organs 65-71	978.3	18.9	1,475.6	1,054.8	706.0
Oophorectomy and salpingo-oophorectomy 65.3-65.6	190.9	*	223.9	340.1	177.3
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	167.9	-	360.6	*	-
Hysterectomy 68.3-68.7	237.0	-	301.0	392.5	182.9
Dilation and curettage of uterus 69.0	88.4	*	152.5	66.7	33.0
Repair of cystocele and rectocele 70.5	54.9	-	36.4	111.0	134.8
Obstetrical procedures 72-75	2,723.8	34.9	5,831.7	21.7	...
Episiotomy with or without forceps or vacuum extraction 72.1,72.21,72.31,72.71,73.6	688.6	*12.2	1,473.8	*	...
Artificial rupture of membranes 73.0	277.1	*	593.1	*	...
Cesarean section 74.0-74.2,74.4,74.99	379.1	*	810.5	*	...
Fetal EKG (scalp) and fetal monitoring, not otherwise specified 75.32,75.34	552.1	*	1,181.4	*	...
Repair of current obstetric laceration 75.5-75.6	318.7	*	683.7	*	...
Operations on the musculoskeletal system 76-84	1,256.1	294.1	1,097.4	1,562.7	3,053.9
Partial excision of bone 76.2-76.3,77.6-77.8	77.4	18.5	76.4	118.3	122.3
Open reduction of fracture with internal fixation 79.3	156.8	30.5	121.1	151.1	515.4
Excision or destruction of intervertebral disc 80.5	122.2	*	141.4	225.7	107.9
Total hip replacement 81.51	47.7	-	*7.1	60.5	260.5
Total knee replacement 81.54	51.7	-	*	67.3	301.5
Operations on the integumentary system 85-86	556.2	155.5	454.7	757.1	1,326.6
Mastectomy 85.4	48.9	*	11.8	111.2	176.0
Debridement of wound, infection, or burn 86.22,86.28	133.2	39.0	102.3	135.2	407.2
Skin graft 86.6-86.7	44.1	*16.2	35.8	53.5	109.0
Miscellaneous diagnostic and therapeutic procedures 87-99	4,767.9	1,265.3	2,241.6	6,871.8	17,000.5
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	603.8	125.3	310.0	709.5	2,356.8
Pyelogram 87.73-87.75	116.8	*8.5	100.1	158.9	303.3
Arteriography and angiocardiography using contrast material 88.4-88.5	695.8	35.2	179.5	1,631.4	2,348.8
Diagnostic ultrasound 88.7	645.0	164.6	368.0	760.8	2,324.3
Circulatory monitoring 89.6	290.5	55.5	101.7	355.1	1,295.5
Radioisotope scan 92.0-92.1	241.8	35.4	90.8	340.7	1,008.0
Respiratory therapy 93.9	466.8	346.5	158.2	481.3	1,787.0

¹The rate per 100,000 population of discharged patients with a coronary artery bypass graft was 105.2.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 24. Number of all-listed procedures for patients discharged from short-stay hospitals, by sex and procedure category: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.]

<i>Procedure category and ICD-9-CM code</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
	Number of all-listed procedures in thousands		
All procedures	40,506	15,916	24,590
Operations on the nervous system 01-05	952	479	472
Spinal tap 03.31	396	204	192
Operations on the endocrine system 06-07	96	26	70
Operations on the eye 08-16	350	174	176
Operations on the ear 18-20	137	73	64
Operations on the nose, mouth, and pharynx 21-29	585	327	258
Tonsillectomy with or without adenoidectomy 28.2-28.3	117	49	68
Operations on the respiratory system 30-34	975	555	420
Bronchoscopy with or without biopsy 33.21-33.24,33.27	298	175	123
Operations on the cardiovascular system 35-39	3,881	2,317	1,564
Removal of coronary artery obstruction 36.0	285	200	85
Coronary artery bypass graft ¹ 36.1	392	286	106
Cardiac catheterization 37.21-37.23	995	620	376
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	259	138	121
Shunt or vascular bypass 39.0-39.2	162	95	67
Hemodialysis 39.95	216	105	111
Operations on the hemic and lymphatic system 40-41	361	187	174
Operations on the digestive system 42-54	5,271	2,194	3,077
Endoscopy of small intestine with or without biopsy 45.11-45.14,45.16	785	357	428
Endoscopy of large intestine with or without biopsy 45.21-45.25	548	212	336
Partial excision of large intestine 45.7	204	89	116
Appendectomy, excluding incidental 47.0	274	147	127
Cholecystectomy 51.2	522	147	375
Repair of inguinal hernia 53.0-53.1	205	181	24
Lysis of peritoneal adhesions 54.5	323	62	261
Operations on the urinary system 55-59	1,664	946	718
Cystoscopy with or without biopsy 57.31-57.33	527	377	150
Operations on the male genital organs 60-64	594	594	. . .
Prostatectomy 60.2-60.6	364	364	. . .
Operations on the female genital organs 65-71	2,440	. . .	2,440
Oophorectomy and salpingo-oophorectomy 65.3-65.6	476	. . .	476
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	419	. . .	419
Hysterectomy 68.3-68.7	591	. . .	591
Dilation and curettage of uterus 69.0	220	. . .	220
Repair of cystocele and rectocele 70.5	137	. . .	137
Obstetrical procedures 72-75	6,792	. . .	6,792
Episiotomy with or without forceps or vacuum extraction 72.1,72.21,72.31,72.71,73.6	1,717	. . .	1,717
Artificial rupture of membranes 73.0	691	. . .	691
Cesarean section 74.0-74.2,74.4,74.99	945	. . .	945
Fetal EKG (scalp) and fetal monitoring, not otherwise specified 75.32,75.34	1,377	. . .	1,377
Repair of current obstetric laceration 75.5-75.6	795	. . .	795
Operations on the musculoskeletal system 76-84	3,132	1,624	1,508
Partial excision of bone 76.2-76.3,77.6-77.8	193	112	81
Open reduction of fracture with internal fixation 79.3	391	177	214
Excision or destruction of intervertebral disc 80.5	305	175	130
Total hip replacement 81.51	119	48	71
Total knee replacement 81.54	129	46	83
Operations on the integumentary system 85-86	1,387	580	807
Mastectomy 85.4	122	*	121
Debridement of wound, infection, or burn 86.22,86.28	332	184	148
Skin graft 86.6-86.7	110	66	44
Miscellaneous diagnostic and therapeutic procedures 87-99	11,890	5,842	6,048
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	1,506	736	770
Pyelogram 87.73-87.75	291	149	142
Arteriography and angiocardiology using contrast material 88.4-88.5	1,735	1,051	685
Diagnostic ultrasound 88.7	1,608	667	941
Circulatory monitoring 89.6	724	344	380
Radioisotope scan 92.0-92.1	603	268	335
Respiratory therapy 93.9	1,164	586	578

¹The number of discharged patients with a coronary artery bypass graft was 262,000.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 25. Rate of all-listed procedures for patients discharged from short-stay hospitals, by sex and procedure category: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.]

<i>Procedure category and ICD-9-CM code</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
	Rate of all-listed procedures per 100,000 population		
All procedures	16,243.0	13,161.7	19,143.8
Operations on the nervous system 01-05	381.6	396.5	367.6
Spinal tap 03.31	158.8	168.8	149.3
Operations on the endocrine system 06-07	38.3	21.2	54.5
Operations on the eye 08-16	140.2	143.6	136.9
Operations on the ear 18-20	54.7	60.1	49.7
Operations on the nose, mouth, and pharynx 21-29	234.7	270.3	201.2
Tonsillectomy with or without adenoidectomy 28.2-28.3	47.1	40.9	52.9
Operations on the respiratory system 30-34	391.0	458.7	327.3
Bronchoscopy with or without biopsy 33.21-33.24,33.27	119.5	144.9	95.6
Operations on the cardiovascular system 35-39	1,556.2	1,915.7	1,217.8
Removal of coronary artery obstruction 36.0	114.4	165.7	66.2
Coronary artery bypass graft ¹ 36.1	157.2	236.7	82.4
Cardiac catheterization 37.21-37.23	399.2	512.4	292.6
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	103.8	114.0	94.2
Shunt or vascular bypass 39.0-39.2	64.8	78.4	52.0
Hemodialysis 39.95	86.8	87.0	86.5
Operations on the hemic and lymphatic system 40-41	144.7	154.2	135.8
Operations on the digestive system 42-54	2,113.6	1,814.4	2,395.3
Endoscopy of small intestine with or without biopsy 45.11-45.14,45.16	314.7	295.2	333.0
Endoscopy of large intestine with or without biopsy 45.21-45.25	219.7	175.2	261.7
Partial excision of large intestine 45.7	82.0	73.4	90.0
Appendectomy, excluding incidental 47.0	109.8	121.7	98.6
Cholecystectomy 51.2	209.3	121.9	291.6
Repair of inguinal hernia 53.0-53.1	82.1	149.6	18.7
Lysis of peritoneal adhesions 54.5	129.6	51.2	203.4
Operations on the urinary system 55-59	667.3	782.3	559.1
Cystoscopy with or without biopsy 57.31-57.33	211.4	312.0	116.8
Operations on the male genital organs 60-64	238.2	491.3	...
Prostatectomy 60.2-60.6	145.9	300.8	...
Operations on the female genital organs 65-71	978.3	...	1,899.4
Oophorectomy and salpingo-oophorectomy 65.3-65.6	190.9	...	370.6
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	167.9	...	326.0
Hysterectomy 68.3-68.7	237.0	...	460.2
Dilation and curettage of uterus 69.0	88.4	...	171.5
Repair of cystocele and rectocele 70.5	54.9	...	106.5
Obstetrical procedures 72-75	2,723.8	...	5,288.1
Episiotomy with or without forceps or vacuum extraction 72.1,72.21,72.31,72.71,73.6	688.6	...	1,336.9
Artificial rupture of membranes 73.0	277.1	...	538.0
Cesarean section 74.0-74.2,74.4,74.99	379.1	...	736.0
Fetal EKG (scalp) and fetal monitoring, not otherwise specified 75.32,75.34	552.1	...	1,071.9
Repair of current obstetric laceration 75.5-75.6	318.7	...	618.7
Operations on the musculoskeletal system 76-84	1,256.1	1,342.9	1,174.3
Partial excision of bone 76.2-76.3,77.6-77.8	77.4	92.7	62.9
Open reduction of fracture with internal fixation 79.3	156.8	146.1	166.8
Excision or destruction of intervertebral disc 80.5	122.2	144.8	100.9
Total hip replacement 81.51	47.7	39.8	55.1
Total knee replacement 81.54	51.7	37.6	65.0
Operations on the integumentary system 85-86	556.2	479.4	628.5
Mastectomy 85.4	48.9	*	94.1
Debridement of wound, infection, or burn 86.22,86.28	133.2	152.0	115.5
Skin graft 86.6-86.7	44.1	54.6	34.3
Miscellaneous diagnostic and therapeutic procedures 87-99	4,767.9	4,831.2	4,708.2
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	603.8	608.2	599.7
Pyelogram 87.73-87.75	116.8	123.1	110.8
Arteriography and angiocardiology using contrast material 88.4-88.5	695.8	868.8	532.9
Diagnostic ultrasound 88.7	645.0	551.6	732.9
Circulatory monitoring 89.6	290.5	284.8	295.8
Radioisotope scan 92.0-92.1	241.8	221.6	260.8
Respiratory therapy 93.9	466.8	484.4	450.2

¹The rate per 100,000 population of discharged patients with a coronary artery bypass graft was 105.2.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 26. Number of all-listed procedures for patients discharged from short-stay hospitals, by race and procedure category: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems 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	All races	White	Black	All other	Not stated	Number of all-listed procedures in thousands				
						All races	White	Black	All other	Not stated
All procedures	40,506	27,982	4,477	1,553	6,494					
Operations on the nervous system 01-05	962	609	125	32	186					
Spinal tap 03.31	396	219	76	18	83					
Operations on the endocrine system 06-07	96	66	12	*	14					
Operations on the eye 08-16	350	241	37	*9	63					
Operations on the ear 18-20	137	100	11	*	22					
Operations on the nose, mouth, and pharynx 21-29	585	424	56	16	89					
Tonsillectomy with or without adenoidectomy 28.2-28.3	117	86	12	*	17					
Operations on the respiratory system 30-34	975	689	121	23	141					
Bronchoscopy with or without biopsy 33.21-33.24,33.27	298	212	39	*5	42					
Operations on the cardiovascular system 35-39	3,881	2,740	350	118	674					
Removal of coronary artery obstruction 36.0	285	209	*5	10	60					
Coronary artery bypass graft ¹ 36.1	392	314	*8	12	59					
Cardiac catheterization 37.21-37.23	995	733	65	22	175					
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	259	198	16	*5	40					
Shunt or vascular bypass 39.0-39.2	162	108	21	*5	28					
Hemodialysis 39.95	216	98	68	13	37					
Operations on the hemic and lymphatic system 40-41	361	262	36	12	52					
Operations on the digestive system 42-54	5,271	3,772	502	148	849					
Endoscopy of small intestine with or without biopsy 45.11-45.14,45.16	785	564	93	22	106					
Endoscopy of large intestine with or without biopsy 45.21-45.25	548	397	56	12	83					
Partial excision of large intestine 45.7	204	153	14	*	34					
Appendectomy, excluding incidental 47.0	274	195	18	10	50					
Cholecystectomy 51.2	522	383	33	17	90					
Repair of inguinal hernia 53.0-53.1	205	151	15	*	35					
Lysis of peritoneal adhesions 54.5	323	233	36	*9	46					
Operations on the urinary system 55-59	1,664	1,220	141	60	244					
Cystoscopy with or without biopsy 57.31-57.33	527	388	50	12	76					
Operations on the male genital organs 60-64	594	435	45	16	99					
Prostatectomy 60.2-60.6	364	276	21	10	56					
Operations on the female genital organs 65-71	2,440	1,661	321	80	377					
Oophorectomy and salpingo-oophorectomy 65.3-65.6	476	350	48	11	68					
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	419	244	78	28	69					
Hysterectomy 68.3-68.7	591	429	62	11	89					
Dilation and curettage of uterus 69.0	220	130	48	*8	34					
Repair of cystocele and rectocele 70.5	137	110	*	*	21					
Obstetrical procedures 72-75	6,792	4,167	883	494	1,248					
Episiotomy with or without forceps or vacuum extraction 72.1,72.21,72.31,72.71,73.6	1,717	1,105	174	101	337					
Artificial rupture of membranes 73.0	691	429	70	65	126					
Cesarean section 74.0-74.2,74.4,74.99	945	598	124	63	160					
Fetal EKG (scalp) and fetal monitoring, not otherwise specified 75.32,75.34	1,377	828	175	136	238					
Repair of current obstetric laceration 75.5-75.6	795	484	96	54	161					
Operations on the musculoskeletal system 76-84	3,132	2,271	251	80	530					
Partial excision of bone 76.2-76.3,77.6-77.8	193	142	17	*5	29					
Open reduction of fracture with internal fixation 79.3	391	284	29	*9	69					
Excision or destruction of intervertebral disc 80.5	305	228	16	*	57					
Total hip replacement 81.51	119	94	*5	*	19					
Total knee replacement 81.54	129	98	*5	*	24					
Operations on the integumentary system 85-86	1,387	961	172	34	221					
Mastectomy 85.4	122	91	*7	*	22					
Debridement of wound, infection, or burn 86.22,86.28	332	220	49	11	53					
Skin graft 86.6-86.7	110	65	19	*	21					
Miscellaneous diagnostic and therapeutic procedures 87-99	11,890	8,365	1,415	424	1,687					
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	1,506	1,057	195	55	199					
Pyelogram 87.73-87.75	291	217	26	12	36					
Arteriography and angiocardiology using contrast material 88.4-88.5	1,735	1,309	136	39	251					
Diagnostic ultrasound 88.7	1,608	1,059	269	65	215					
Circulatory monitoring 89.6	724	515	91	41	78					
Radioisotope scan 92.0-92.1	603	424	79	22	78					
Respiratory therapy 93.9	1,164	758	156	50	200					

¹The number of discharged patients with a coronary artery bypass graft was 262,000.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 27. Rate of all-listed procedures for patients discharged from short-stay hospitals, by race and procedure category: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems 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	All races	White	Black	All other	Not stated
	Rate of all-listed procedures per 100,000 population				
All procedures	16,243.0	13,355.8	14,492.5	17,307.1	...
Operations on the nervous system 01-05	381.6	290.5	404.8	351.3	...
Spinal tap 03.31	158.8	104.7	245.3	196.9	...
Operations on the endocrine system 06-07	38.3	31.7	39.4	*	...
Operations on the eye 08-16	140.2	115.2	118.5	*97.1	...
Operations on the ear 18-20	54.7	47.5	35.6	*	...
Operations on the nose, mouth, and pharynx. 21-29	234.7	202.4	182.0	180.0	...
Tonsillectomy with or without adenoidectomy. 28.2-28.3	47.1	40.9	39.8	*	...
Operations on the respiratory system 30-34	391.0	329.0	393.0	261.3	...
Bronchoscopy with or without biopsy 33.21-33.24,33.27	119.5	101.0	127.3	*55.3	...
Operations on the cardiovascular system 35-39	1,556.2	1,307.6	1,132.4	1,312.9	...
Removal of coronary artery obstruction 36.0	114.4	99.9	*17.6	112.2	...
Coronary artery bypass graft ¹ 36.1	157.2	149.9	*24.7	133.1	...
Cardiac catheterization. 37.21-37.23	399.2	350.1	209.7	250.3	...
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	103.8	94.4	52.4	*54.0	...
Shunt or vascular bypass 39.0-39.2	64.8	51.3	68.9	*58.8	...
Hemodialysis 39.95	86.8	46.9	220.2	149.2	...
Operations on the hemic and lymphatic system 40-41	144.7	124.9	116.7	128.6	...
Operations on the digestive system 42-54	2,113.6	1,800.4	1,623.8	1,648.5	...
Endoscopy of small intestine with or without biopsy. 45.11-45.14,45.16	314.7	269.0	300.6	243.9	...
Endoscopy of large intestine with or without biopsy. 45.21-45.25	219.7	189.5	180.4	137.8	...
Partial excision of large intestine 45.7	82.0	73.1	44.3	*	...
Appendectomy, excluding incidental 47.0	109.8	93.2	59.7	112.5	...
Cholecystectomy 51.2	209.3	182.7	105.3	185.6	...
Repair of inguinal hernia. 53.0-53.1	82.1	72.0	47.6	*	...
Lysis of peritoneal adhesions 54.5	129.6	111.1	115.8	*100.2	...
Operations on the urinary system. 55-59	667.3	582.4	455.0	666.4	...
Cystoscopy with or without biopsy. 57.31-57.33	211.4	185.4	162.6	137.8	...
Operations on the male genital organs. 60-64	238.2	207.6	144.7	175.8	...
Prostatectomy. 60.2-60.6	145.9	131.7	69.0	116.7	...
Operations on the female genital organs 65-71	978.3	792.9	1,038.9	893.7	...
Oophorectomy and salpingo-oophorectomy 65.3-65.6	190.9	166.8	156.0	120.2	...
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	167.9	116.3	253.9	307.4	...
Hysterectomy 68.3-68.7	237.0	204.6	202.0	119.1	...
Dilation and curettage of uterus 69.0	88.4	62.2	154.5	*92.3	...
Repair of cystocele and rectocele 70.5	54.9	52.6	*	*	...
Obstetrical procedures 72-75	2,723.8	1,988.7	2,858.8	5,511.8	...
Episiotomy with or without forceps or vacuum extraction 72.1,72.2,72.31,72.71,73.6	688.6	527.5	563.1	1,129.6	...
Artificial rupture of membranes 73.0	277.1	204.9	227.7	727.9	...
Cesarean section 74.0-74.2,74.4,74.99	379.1	285.3	401.9	706.1	...
Fetal EKG (scalp) and fetal monitoring, not otherwise specified 75.32,75.34	552.1	395.4	566.0	1,514.1	...
Repair of current obstetric laceration. 75.5-75.6	318.7	231.1	311.6	599.2	...
Operations on the musculoskeletal system 76-84	1,256.1	1,083.8	813.3	894.8	...
Partial excision of bone 76.2-76.3,77.6-77.8	77.4	67.7	55.0	*55.2	...
Open reduction of fracture with internal fixation 79.3	156.8	135.5	94.2	*101.9	...
Excision or destruction of intervertebral disc 80.5	122.2	108.6	51.0	*	...
Total hip replacement 81.51	47.7	44.8	*16.8	*	...
Total knee replacement 81.54	51.7	46.8	*15.2	*	...
Operations on the integumentary system 85-86	556.2	458.5	556.7	376.5	...
Mastectomy 85.4	48.9	43.4	*22.1	*	...
Debridement of wound, infection, or burn. 86.22,86.28	133.2	105.0	158.2	118.5	...
Skin graft. 86.6-86.7	44.1	31.2	62.4	*	...
Miscellaneous diagnostic and therapeutic procedures. 87-99	4,767.9	3,992.5	4,578.9	4,725.7	...
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	603.8	504.5	632.2	609.3	...
Pyelogram. 87.73-87.75	116.8	103.7	83.8	128.7	...
Arteriography and angiocardiology using contrast material 88.4-88.5	695.8	625.0	440.1	434.7	...
Diagnostic ultrasound 88.7	645.0	505.3	871.1	729.1	...
Circulatory monitoring 89.6	290.5	245.7	294.1	453.3	...
Radioisotope scan 92.0-92.1	241.8	202.3	255.1	243.5	...
Respiratory therapy. 93.9	466.8	361.8	505.4	556.3	...

¹The rate per 100,000 population of discharged patients with a coronary artery bypass graft was 105.2.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey. Rates for race categories may be underestimated because race was not reported for all discharged patients.

Table 28. Number of all-listed procedures for patients discharged from short-stay hospitals, by geographic region and procedure category: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems 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	United States	North-east	Mid-west	South	West
	Number of all-listed procedures in thousands				
All procedures	40,506	10,118	9,381	13,279	7,727
Operations on the nervous system 01-05	952	233	207	330	181
Spinal tap 03.31	396	99	81	129	86
Operations on the endocrine system 06-07	96	22	24	34	17
Operations on the eye 08-16	350	115	50	134	52
Operations on the ear 18-20	137	51	21	45	20
Operations on the nose, mouth, and pharynx 21-29	585	195	108	201	81
Tonsillectomy with or without adenoidectomy 28.2-28.3	117	45	20	38	14
Operations on the respiratory system 30-34	975	262	232	333	148
Bronchoscopy with or without biopsy 33.21-33.24,33.27	298	79	71	103	45
Operations on the cardiovascular system 35-39	3,881	937	1,033	1,264	647
Removal of coronary artery obstruction 36.0	285	51	82	78	74
Coronary artery bypass graft ¹ 36.1	392	90	114	126	62
Cardiac catheterization 37.21-37.23	995	218	278	347	152
insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	259	67	63	82	47
Shunt or vascular bypass 39.0-39.2	162	41	38	59	24
Hemodialysis 39.95	216	52	46	81	38
Operations on the hemic and lymphatic system 40-41	361	102	78	121	60
Operations on the digestive system 42-54	5,271	1,204	1,321	1,937	809
Endoscopy of small intestine with or without biopsy 45.11-45.14,45.16	785	170	177	328	110
Endoscopy of large intestine with or without biopsy 45.21-45.25	548	147	122	213	66
Partial excision of large intestine 45.7	204	52	51	69	32
Appendectomy, excluding incidental 47.0	274	49	73	91	62
Cholecystectomy 51.2	522	102	133	193	95
Repair of inguinal hernia 53.0-53.1	205	65	55	61	23
Lysis of peritoneal adhesions 54.5	323	64	86	127	46
Operations on the urinary system 55-59	1,664	479	380	563	241
Cystoscopy with or without biopsy 57.31-57.33	527	152	143	188	45
Operations on the male genital organs 60-64	594	144	141	212	97
Prostatectomy 60.2-60.6	364	75	90	137	62
Operations on the female genital organs 65-71	2,440	504	533	991	413
Oophorectomy and salpingo-oophorectomy 65.3-65.6	476	75	120	204	78
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	419	70	77	185	86
Hysterectomy 68.3-68.7	591	85	148	259	99
Dilation and curettage of uterus 69.0	220	85	36	80	20
Repair of cystocele and rectocele 70.5	137	21	34	57	25
Obstetrical procedures 72-75	6,792	1,354	1,691	2,070	1,677
Episiotomy with or without forceps or vacuum extraction 72.1,72.21,72.31,72.71,73.6	1,717	338	448	605	327
Artificial rupture of membranes 73.0	691	125	183	162	221
Cesarean section 74.0-74.2,74.4,74.99	945	173	205	373	195
Fetal EKG (scalp) and fetal monitoring, not otherwise specified 75.32,75.34	1,377	313	384	232	447
Repair of current obstetric laceration 75.5-75.6	795	170	186	229	210
Operations on the musculoskeletal system 76-84	3,132	752	714	1,103	563
Partial excision of bone 76.2-76.3,77.6-77.8	193	49	43	72	30
Open reduction of fracture with internal fixation 79.3	391	84	84	150	74
Excision or destruction of intervertebral disc 80.5	305	53	81	123	48
Total hip replacement 81.51	119	26	39	32	22
Total knee replacement 81.54	129	21	44	38	27
Operations on the integumentary system 85-86	1,387	393	286	510	197
Mastectomy 85.4	122	26	32	39	25
Debridement of wound, infection, or burn 86.22,86.28	332	93	69	128	42
Skin graft 86.6-86.7	110	29	18	51	12
Miscellaneous diagnostic and therapeutic procedures 87-99	11,890	3,372	2,562	3,432	2,524
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	1,506	475	285	458	288
Pyelogram 87.73-87.75	291	79	65	104	43
Arteriography and angiocardigraphy using contrast material 88.4-88.5	1,735	408	508	577	242
Diagnostic ultrasound 88.7	1,608	468	324	444	373
Circulatory monitoring 89.6	724	215	113	168	229
Radioisotope scan 92.0-92.1	603	195	121	171	116
Respiratory therapy 93.9	1,164	365	222	245	332

¹The number of discharged patients with a coronary artery bypass graft was 262,000.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 29. Rate of all-listed procedures for patients discharged from short-stay hospitals, by geographic region and procedure category: United States, 1990

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems 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	United States	North-east	Mid-west	South	West	Rate of all-listed procedures per 100,000 population					
All procedures	16,243.0	19,946.3	15,537.3	15,478.9	14,724.3						
Operations on the nervous system 01-05	381.6	460.3	343.6	384.6	344.3						
Spinal tap 03.31	158.8	195.8	134.8	150.9	163.4						
Operations on the endocrine system 06-07	38.3	42.8	39.1	39.2	31.7						
Operations on the eye 08-16	140.2	225.8	82.5	155.7	98.3						
Operations on the ear 18-20	54.7	99.9	35.0	52.5	37.5						
Operations on the nose, mouth, and pharynx 21-29	234.7	383.9	179.2	234.4	154.9						
Tonsillectomy with or without adenoidectomy 28.2-28.3	47.1	89.7	33.6	44.0	26.3						
Operations on the respiratory system 30-34	391.0	517.2	383.7	388.3	281.9						
Bronchoscopy with or without biopsy 33.21-33.24,33.27	119.5	155.6	117.3	120.6	85.3						
Operations on the cardiovascular system 35-39	1,556.2	1,847.0	1,711.1	1,473.2	1,232.7						
Removal of coronary artery obstruction 36.0	114.4	99.7	136.1	91.1	141.9						
Coronary artery bypass graft ¹ 36.1	157.2	177.4	189.0	147.4	117.2						
Cardiac catheterization 37.21-37.23	399.2	430.2	460.4	404.5	290.1						
Insertion, replacement, removal, and revision of pacemaker leads or device 37.7-37.8	103.8	132.6	104.3	95.1	89.6						
Shunt or vascular bypass 39.0-39.2	64.8	80.3	63.6	68.6	45.1						
Hemodialysis 39.95	86.8	101.6	76.4	94.4	71.9						
Operations on the hemic and lymphatic system 40-41	144.7	201.0	129.6	140.9	114.1						
Operations on the digestive system 42-54	2,113.6	2,373.5	2,187.3	2,257.5	1,542.4						
Endoscopy of small intestine with or without biopsy 45.11-45.14,45.16	314.7	335.4	292.7	382.8	208.7						
Endoscopy of large intestine with or without biopsy 45.21-45.25	219.7	289.0	202.5	248.2	126.0						
Partial excision of large intestine 45.7	82.0	101.9	84.7	80.5	61.9						
Appendectomy, excluding incidental 47.0	109.8	96.2	120.5	105.6	117.4						
Cholecystectomy 51.2	209.3	200.7	219.8	224.7	180.4						
Repair of inguinal hernia 53.0-53.1	82.1	128.6	90.4	71.7	44.7						
Lysis of peritoneal adhesions 54.5	129.6	126.2	142.3	148.2	87.9						
Operations on the urinary system 55-59	667.3	945.0	629.3	656.6	480.1						
Cystoscopy with or without biopsy 57.31-57.33	211.4	298.8	236.1	218.8	86.6						
Operations on the male genital organs 60-64	238.2	284.5	232.8	247.0	185.4						
Prostatectomy 60.2-60.6	145.9	147.5	148.4	160.2	118.1						
Operations on the female genital organs 65-71	978.3	992.7	882.0	1,154.7	787.0						
Oophorectomy and salpingo-oophorectomy 65.3-65.6	190.9	147.1	198.7	237.4	148.2						
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	167.9	138.4	128.2	215.8	163.8						
Hysterectomy 68.3-68.7	237.0	167.6	244.4	302.0	189.4						
Dilation and curettage of uterus 69.0	88.4	167.3	59.4	93.2	37.4						
Repair of cystocele and rectocele 70.5	54.9	40.9	56.8	66.2	47.6						
Obstetrical procedures 72-75	2,723.8	2,669.1	2,801.3	2,412.4	3,196.5						
Episiotomy with or without forceps or vacuum extraction 72.1,72.21,72.31,72.71,73.6	688.6	665.8	741.6	705.3	622.6						
Artificial rupture of membranes 73.0	277.1	247.0	303.5	188.5	420.7						
Cesarean section 74.0-74.2,74.4,74.99	379.1	342.0	339.0	434.2	370.9						
Fetal EKG (scalp) and fetal monitoring, not otherwise specified 75.32,75.34	552.1	617.5	636.4	270.4	852.3						
Repair of current obstetric laceration 75.5-75.6	318.7	335.4	307.2	266.5	401.0						
Operations on the musculoskeletal system 76-84	1,256.1	1,482.3	1,183.2	1,285.9	1,072.5						
Partial excision of bone 76.2-76.3,77.6-77.8	77.4	95.6	71.0	83.8	56.4						
Open reduction of fracture with internal fixation 79.3	156.8	165.8	138.3	174.5	140.2						
Excision or destruction of intervertebral disc 80.5	122.2	104.1	133.9	143.2	91.7						
Total hip replacement 81.51	47.7	51.5	64.3	37.4	41.7						
Total knee replacement 81.54	51.7	41.8	72.1	43.9	50.6						
Operations on the integumentary system 85-86	556.2	774.8	474.2	594.8	376.2						
Mastectomy 85.4	48.9	50.8	52.4	46.0	47.9						
Debridement of wound, infection, or burn 86.22,86.28	133.2	184.3	114.3	149.4	79.2						
Skin graft 86.6-86.7	44.1	57.2	30.2	59.5	22.4						
Miscellaneous diagnostic and therapeutic procedures 87-99	4,767.9	6,646.5	4,243.4	4,001.1	4,808.8						
Computerized axial tomography 87.03,87.41,87.71,88.01,88.38	603.8	936.1	471.4	534.4	548.6						
Pyelogram 87.73-87.75	116.8	154.8	107.4	121.6	82.8						
Arteriography and angiocardiology using contrast material 88.4-88.5	695.8	803.4	842.2	672.6	461.4						
Diagnostic ultrasound 88.7	645.0	922.0	536.5	517.8	710.1						
Circulatory monitoring 89.6	290.5	423.7	186.7	196.0	435.5						
Radioisotope scan 92.0-92.1	241.8	383.9	200.3	199.6	221.3						
Respiratory therapy 93.9	466.8	719.4	367.7	286.0	632.2						

¹The rate per 100,000 population of discharged patients with a coronary artery bypass graft was 105.2.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Appendixes

Contents

I.	Technical notes on methods.....	53
	Statistical design of the National Hospital Discharge Survey	53
	Data collection and processing	54
	Presentation of estimates	55
	Estimation procedures	57
	Reliability of estimates	58
II.	Definitions of certain terms used in this report	61
	Terms relating to hospitalization	61
	Terms relating to diagnoses	61
	Terms relating to procedures	61
	Demographic terms	62

Appendix figure

I.	Medical abstract for the National Hospital Discharge Survey, 1990	56
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List of appendix tables

I.	Definition of noncertainty hospital specialty-size groups used as secondary strata in the National Hospital Discharge Survey 1989 sample design	54
II.	Number of hospitals in the National Hospital Discharge Survey universe and sample, number of in-scope and responding sample hospitals, and response rates, by geographic region: United States, 1990.....	54
III.	Civilian population, by selected characteristics: United States, 1990	58
IV.	Estimated parameters for relative standard error equations for National Hospital Discharge Survey statistics, by selected characteristics: United States, 1990	59

Appendix I

Technical notes on methods

Statistical design of the National Hospital Discharge Survey

Scope of the survey—The National Hospital Discharge Survey (NHDS) covers discharges from noninstitutional hospitals, exclusive of Federal, military, and Veterans Administration 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 beds or more staffed for patient use.

NHDS history—The National Center for Health Statistics (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 hospitals. Within each sample hospital, a systematic random sample of discharges was selected. The development and design of the original NHDS has been published (1).

Until 1985, all data were collected by a system in which sample selection and transcription of information were done manually. Starting in 1985 some data were also collected using a system in which NCHS purchased data tapes containing discharge medical abstracts from commercial abstracting services and selected the samples from those tapes.

In 1988, the NCHS redesigned the NHDS to link it with other surveys conducted by NCHS and to improve efficiency through use of information and technologies that were not available when the survey was first designed in 1964. Details of the new design are outlined below.

The changes in the survey may affect trend data. That is, some of the differences between NHDS estimates based on the 1965–87 sample and estimates based on the new sample may be due to survey redesign rather than to real changes in hospital utilization.

New sampling design—The NHDS sampling frame consists of hospitals that were listed in the April 1987 SMG Hospital Market Data Tape (2) and that began to accept inpatients by August 1987. The NHDS sample includes with certainty all hospitals with 1,000 beds or

more or 40,000 discharges or more annually. The remaining sample of hospitals is based on a stratified three-stage design.

The first stage consists of 112 primary sampling units (PSU's) that comprise a probability subsample of PSU's used in the 1985–94 National Health Interview Survey (NHIS). The PSU's are counties, groups of counties, county equivalents (such as parishes or independent cities), or towns and townships (for some PSU's in New England). The NHDS sample includes with certainty the 26 PSU's with the largest populations. In addition, the sample includes half of the next 26 largest PSU's, and one PSU from each of 73 PSU strata formed from the remaining PSU's for the NHIS sample design. Those 73 PSU strata were defined within four geographical regions and were assigned metropolitan statistical area (MSA) or non-MSA status by using 1980 Census of Population data and a computer program that minimized the between-PSU variances for NHIS stratification variables. (MSA is a metropolitan statistical area defined by the U.S. Office of Management and Budget on the basis of the 1980 Census.) From the 73 strata thus formed, the PSU's were selected with probability proportional to the projected 1985 population. A more detailed analysis of the NHIS PSU sample design is presented in a Series 2 *Vital and Health Statistics* report (5).

The second stage consists of noncertainty hospitals selected from the sample PSU's. To assure distribution of the sample across PSU's and to maximize the potential for automated data collection, the noncertainty hospitals in those PSU's were stratified. The strata were defined by region, PSU, and in the 12 largest PSU's, by abstracting status (whether or not the hospital subscribes to a commercial abstracting service). Within the strata, the hospitals were ordered by PSU, abstracting service status, and the hospital specialty-size groups defined in table I. Within each specialty-size group, hospitals were arrayed by their annual numbers of discharges recorded in the April 1987 SMG Hospital Market Data Tape. Hospitals were then selected from each stratum's ordered array by systematic random sampling with probability proportional to their SMG recorded 1987 annual numbers of discharges. The sampling rates were such that at least three hospitals were selected from every PSU containing three eligible hospitals or more. In PSU's with fewer than three hospitals, all hospitals in the PSU were selected. For 1990, the sample

Table I. Definition of noncertainty hospital specialty-size groups used as secondary strata in the National Hospital Discharge Survey 1989 sample design

<i>Hospital group</i>	<i>Bed size</i>	<i>Type of service</i>
Group 1	6-999 beds	Selected specialties ¹
Group 2	6-174 beds	General (medical and surgical) and other specialties ²
Group 3	175-349 beds	General (medical and surgical) and other specialties ²
Group 4	350-999 beds	General (medical and surgical) and other specialties ²

¹Includes psychiatry; tuberculosis and other respiratory disease; rehabilitation; chronic disease; mental retardation; alcoholism and other chemical dependency; and children's psychiatry.
²"Other specialties" include: obstetrics and gynecology; eye, ear, nose, and throat; orthopedics; other specialty; children's general; children's tuberculosis and other respiratory disease; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedics; children's chronic disease; and children's other specialty.

Table II. Number of hospitals in the National Hospital Discharge Survey universe and sample, number of in-scope and responding sample hospitals, and response rates, by geographic region: United States, 1990

<i>Geographic region</i>	<i>Universe</i>	<i>Total sample</i>	<i>Sample in-scope</i> ¹	<i>Respondents</i> ²	<i>Response rate</i>
					Number
All regions	6,400	542	519	474	91
Northeast	931	117	114	107	94
Midwest	1,797	120	114	108	95
South	2,458	219	212	194	92
West	1,214	86	79	65	82

¹Excludes hospitals that for the whole year either were out of business or failed to meet the definition of a general, a children's general, or a short-stay hospital.
²Hospitals for which data were collected by the National Center for Health Statistics for at least half the number of sample discharges expected in half or more of the months the hospitals were in scope.

consisted of 542 hospitals. Of the 542 hospitals, 23 were found to be out of scope (ineligible) because prior to 1990 they went out of business or otherwise failed to meet the criteria for the NHDS universe. Of the 519 in-scope (eligible) hospitals, 474 hospitals responded (NCHS collected data for at least half of the number of sample discharges expected in half or more of the months these hospitals were in scope). The number of hospitals in the universe, the sample, and the responding sample are shown by region in table II.

At the third stage, a sample of discharges from each hospital was selected by a systematic random sampling technique. For hospitals using the manual system of data collection, the discharges were selected at the hospital from daily listing sheets, computer files, or other lists in which discharges were listed in some chronological order. For most of these hospitals, the sample discharges were selected on the basis of the terminal digit(s) of the patient's medical record number. In some cases, an admission number, billing number, or other number was used. If no patient numbers useful for sampling purposes were available in a hospital's list of discharges, the sample was selected by starting with a randomly selected discharge and taking every *k*th discharge thereafter.

For hospitals whose data were collected via the automated system, the discharges were selected by NCHS from discharge medical abstract files after sorting by the first two digits of the ICD-9-CM code of the first-listed diagnosis, patient age group at time of admission (under 1 year, 1-14 years, 15-44 years, 45-64 years, 65-74 years, 75-84 years, 85 years and over, and age unknown), sex,

and date of discharge. These samples were selected by starting with a randomly selected discharge and taking every *k*th discharge thereafter.

The third-stage sampling rate was determined by the hospital's sampling stratum and the system (manual or automated) used to collect data from the hospital. One percent and 5 percent of discharges in the certainty hospitals were selected under the manual and automated systems, respectively. Except for certainty hospitals, the target sample size was 250 discharges each from all manual system hospitals and from the automated system hospitals that had fewer than 4,000 discharges annually according to the 1987 sampling frame data. Samples of 2,000 were targeted for each of the remaining noncertainty automated system hospitals. The final sample for 1990 included about 266,000 discharge medical record abstracts.

Data collection and processing

Data collection—Two data collection procedures were used for the survey. One was a manual system of sample selection and data abstraction. The other was an automated method, used with approximately 34 percent of the respondent hospitals in 1990, that involved the purchase of data tapes from abstracting service organizations and selected state systems.

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 then 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 1990, 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 this work on behalf of NCHS. For the automated system, NCHS purchased tapes containing machine-readable medical record data and selected sample discharges from these tapes.

Figure I shows the information collection form used in 1990. This form and the records on abstract service data tapes contain items relating to personal characteristics of the patient, including birth date, sex, race, ethnicity, marital status, ZIP Code (but not name and address), and expected sources of payment; administrative information, including admission and discharge dates, discharge status, and medical record number; and medical information, including diagnoses, surgical and nonsurgical operations or procedures, and dates of surgery. These data items conform with the Uniform Hospital Discharge Data Set (UHDDS) (6). The PSU, hospital name, medical record number, and patient ZIP Code are confidential information and are not available to the public.

Medical coding and edit—The medical information recorded on the sample patient abstracts that was collected by the manual system was coded by NCHS staff. A maximum of seven diagnostic codes were assigned for each sample abstract; in addition, if the medical information included surgical or nonsurgical procedures, a maximum of four codes for these procedures were assigned. The system currently used for coding the diagnoses and procedures on the medical abstract forms, as well as the data that appear on the commercial abstracting services data tapes, is the *International Classification of Diseases, 9th Revision, Clinical Modification*, or ICD-9-CM (3). All of the diagnostic codes and most of the procedure codes in the ICD-9-CM are used with the exception of selected procedure codes in Chapter 16 (see appendix II).

Although the ICD-9-CM has been used for coding NHDS data since 1979, it should be noted that this coding system is not static, but undergoes periodic updating. The volumes used to code the 1990 data are the third edition of the ICD-9-CM. Beginning October 1, 1986, annual addenda to the ICD-9-CM have been published. These addenda, which go into effect on October 1 of affected years, add, delete, or change codes. The actual dates when these coding changes go into effect vary by source of data. Thus for a given data year different codes may refer to the same diagnosis or procedure. Because data are generally presented in this report by aggregated groups of codes, the coding changes have had limited impact.

With two exceptions, the order of diagnoses and procedures for sampled discharges is preserved to reflect the order on the medical record face sheet or in the abstracting service file. One exception is for women admitted for delivery. In this case, a code of V27 from the supplemental classification must be assigned and it must

be listed first. In the other exception, a decision was made to reorder some acute myocardial infarction diagnoses based on accepted medical coding practice. Whenever an acute myocardial infarction is encountered with other circulatory diagnoses and is other than the first entry, it must be reordered to first position.

An ongoing quality control program is undertaken on the coding and entering of data from abstracts to machine readable form. Approximately 5 percent of the abstracts are independently recoded by an NHDS coder, with discrepancies resolved by the chief coder. The overall error rate for records manually coded by NCHS for the 1990 data year was 1.6 percent for medical (ICD-9-CM) coding and entering and 0.5 percent for demographic coding and entering.

Following conversion of the data on the medical abstract to computer tape and combining the data with the automated data tapes, a final medical edit was performed by computer inspection and by a manual review of rejected abstracts. If the sex or age of the patient was incompatible with the recorded medical information, priority was given to the medical information in the editing decision.

Presentation of estimates

Grouping of diagnoses and procedures—In this report, the broadest groupings of disease and injuries shown correspond to ICD-9-CM chapters 1-17 and the supplementary classification of factors influencing health status and contact with health services. The diagnostic categories, the most detailed groupings of diseases and injuries shown, are subsets of the major groups or chapters. The titles and the ordering of the categories in the tabular list developed for NHDS follow the format of the ICD-9-CM tabular list as closely as possible.

The procedure groupings used in this report are the groups numbered 1-16 in the ICD-9-CM section entitled "Procedure Classification." Specific categories of operations or procedures, the most detailed of these groupings shown, are subsets of the major groups and are based on the four-digit codes provided by the ICD-9-CM.

In developing tables of diagnoses and of procedures, an effort was made to present data for the most frequently occurring conditions or procedures, as well as those of significant public health interest.

Patient characteristics not stated—Age or sex of the patient were not stated for about 1.5 percent of the sample discharges for 1990. These data were imputed by assigning the patient an age or sex consistent with the age or sex of other sampled patients with the same diagnostic code. Data on race were not available for 19.4 percent of the discharges, and missing values were not imputed. During 1990, 0.16 percent of the sampled records lacked an admission or discharge date. For these cases a length of stay was imputed based on age unless the discharge was a newborn or a female with delivery, in which case a length of stay was assigned similar to the length of stay of sampled cases in these categories.

CONFIDENTIAL — All information which would permit identification of an individual or of an establishment will be held confidential, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to other persons or used for any other purpose.

FORM **HDS-1**
(10-29-90)

DEPARTMENT OF HEALTH AND HUMAN SERVICES
U.S. PUBLIC HEALTH SERVICE
CENTERS FOR DISEASE CONTROL
NATIONAL CENTER FOR HEALTH STATISTICS

MEDICAL ABSTRACT — NATIONAL HOSPITAL DISCHARGE SURVEY

A. PATIENT IDENTIFICATION

1. Hospital number

2. HDS number

3. Medical record number..... _____

Month Day Year

4. Date of admission ... - -

5. Date of discharge ... - -

6. Residence ZIP code ..

B. PATIENT CHARACTERISTICS

Month Day Year

7. Date of birth - -

Units

8. Age (Complete only if date of birth not given)

1 Years
2 Months
3 Days

9. Sex (Mark (X) one) 1 Male 2 Female 3 Not stated

10. Race 1 White 3 American Indian/Eskimo/Aleut 5 Other (Specify) _____
2 Black 4 Asian/Pacific Islander 6 Not stated

11. Ethnicity (Mark (X) one) 1 Hispanic origin 2 Non-Hispanic 3 Not stated

12. Marital status (Mark (X) one) 1 Married 3 Widowed 5 Separated
2 Single 4 Divorced 6 Not stated

13. Expected source(s) of payment

	Principal (Mark one only)	Other additional sources (Mark accordingly)
Government sources	1. Worker's compensation	<input type="checkbox"/>
	2. Medicare	<input type="checkbox"/>
	3. Medicaid	<input type="checkbox"/>
	4. Title V	<input type="checkbox"/>
	5. Other government payments	<input type="checkbox"/>
Private sources	6. Blue Cross	<input type="checkbox"/>
	7. Other private or commercial insurance	<input type="checkbox"/>
Other sources	8. Self pay	<input type="checkbox"/>
	9. No charge	<input type="checkbox"/>
	10. Other (Specify) _____	<input type="checkbox"/>

No source of payment indicated

14. Status/Disposition of patient (Mark (X) appropriate box(es))

Status	Disposition
1 <input type="checkbox"/> Alive →	a. <input type="checkbox"/> Routine discharge/ discharged home
	b. <input type="checkbox"/> Left against medical advice
	c. <input type="checkbox"/> Discharged, transferred to another short-term hospital
	d. <input type="checkbox"/> Discharged, transferred to long-term care institution
	e. <input type="checkbox"/> Other disposition/not stated
2 <input type="checkbox"/> Died	
3 <input type="checkbox"/> Status not stated	

C. FINAL DIAGNOSES (including E- code diagnoses)

Principal: _____

Other/additional: _____

See reverse side for additional diagnoses

Optional — ICD-9-CM Nos.			
ICD-9-CM	ICD-9-CM	ICD-9-CM	ICD-9-CM

D. SURGICAL AND DIAGNOSTIC PROCEDURES

Principal: 1. _____

Other/additional: 2. _____

3. _____

4. _____

NONE See reverse side for additional procedures

Date		
Month	Day	Year

Completed by _____ Date _____

Figure I. Medical abstract for the National Hospital Discharge Survey, 1990

In addition to the edits performed by NCHS, data obtained through the automated system may have been edited by an abstract service and had data imputed. The extent of this imputation, if any, is unknown.

Rounded numbers—Estimates in this report have been rounded. Therefore, detailed figures may not add to totals. Rates and percents were calculated using unrounded figures and may not agree with computations made from the rounded data.

Population estimates—The population estimates used in computing rates are for the U.S. civilian population, including institutionalized persons, on July 1 of the data year. The data are from unpublished tabulations provided by the U.S. Bureau of the Census that do not include the results of the 1990 census. The estimates by sex, age, and geographic region are presented in table III. Rates computed using these population estimates will be overestimates to the extent that military personnel and non-U.S. citizens use NHDS-eligible hospitals and will be underestimates to the extent that civilians (for example, military dependents or retirees) use hospitals that are not in the NHDS universe, that is, hospitals that are institutional, Federal, military, veteran, or long-stay hospitals that are not general, maternal, or children's general hospitals.

Published and flagged estimates—Estimates are not presented unless a reasonable assumption regarding the probability distribution of the sampling error is possible on the basis of the Central Limit Theorem. The Central Limit Theorem states that, given a sufficiently large sample size, the sample estimate approximates the population estimate, and upon repeated sampling, its distribution would be approximately normal.

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

- If the relative standard error of an estimate is larger than 30 percent or the sample size is less than 30, the estimate is not shown. Only an asterisk (*) appears in the tables.
- If the sample size is less than 60, the value of the estimate should not be assumed to be reliable. The estimate is preceded by an asterisk (*) in the tables.

Estimation procedures

Statistics from NHDS are derived by a multistage estimation procedure that produces essentially unbiased national estimates and has three basic components: (1) inflation by reciprocals of the probabilities of sample selection, (2) adjustment for nonresponse, and (3) population weighting ratio adjustments. The second and third components were made separately by admission types—that is, for discharges of newborn infants (whose hospital stay began with their own births) and for discharges to other than newborn infants.

Inflation by reciprocals of probabilities of selection—There is one probability for each stage of sampling: (a) the probability of selecting the PSU, (b) the probability of selecting the hospital, and (c) the probability of selecting the discharge within the hospital. The last probability varies monthly and is calculated to be the sample size from the hospital for the month divided by the total number of discharges occurring at the hospital that month. The overall probability of selection is the product of the probabilities at each stage. The inverse of the overall selection probability is the basic inflation weight.

Adjustment for nonresponse—NHDS data were adjusted to account for two types of nonresponse. The first type of nonresponse occurred when an in-scope (NHDS-eligible) sample hospital did not respond for more than half of the months during which it was in scope, thus making it a nonrespondent hospital. In this case, the weights of discharges from hospitals similar to the nonrespondent hospitals were inflated to account for discharges represented by the nonrespondent hospitals. For this purpose, hospitals were judged to be similar if they were in the same region, hospital specialty-size group, and if possible, the same sampling stratum (that is, the same abstracting status group if the nonrespondent hospital was in the 12 largest PSU's and in the same PSU, otherwise). The adjustments for this nonresponse were made separately for admission types—that is, for discharges of newborn infants and for all other discharges. The adjustment consisted of a ratio for which the numerator was the weighted number of discharges of the admission type in all similar sample hospitals (regardless of response status) and the denominator was the weighted total of discharges of that admission type from the hospitals similar to the nonrespondent hospitals. Data on the number of discharges for each admission type for each hospital came from either the hospitals or the April 1991 SMG Hospital Market Data Tape (7).

The second type of nonresponse occurred when NCHS failed to collect all the discharge abstracts expected (the number expected is the product of the hospital's total discharges each month and the discharge sampling rate assigned to the hospital). In each month when the hospital was respondent (at least half the expected abstracts were collected), the weights of abstracts collected for the month were inflated to account for the missing abstracts. For a hospital's month(s) of nonresponse, the weights of discharges in the hospital's respondent months were inflated by ratios that varied with discharge groups defined by the ICD-9-CM diagnostic classes of those discharges' first-listed diagnoses. The adjustment ratio for each partially respondent hospital and each discharge group was calculated using only data from sample hospitals that were both NHDS eligible and respondent for all 12 months of the data year. The ratio had as its numerator the weighted sum of discharges in that discharge group for all months in which the partially respondent hospital was in scope and had as its denominator the weighted sum of discharges in that discharge group

Table III. Civilian population by selected characteristics: United States, 1990

[Population estimates from unpublished tabulations provided by the U.S. Bureau of the Census that do not include the results of the 1990 Census]

Age, geographic region, and race	Both sexes	Male	Female	Age, geographic region, and race	Both sexes	Male	Female
All ages				All ages			
Population in thousands				Population in thousands			
Total	249,373	120,927	128,447	15-44 years—Con.			
Region:				Race:			
Northeast	50,728	24,286	26,442	White	96,690	48,252	48,438
Midwest	60,379	29,371	31,008	Black	14,837	6,951	7,886
South	85,788	41,379	44,409	All other	4,443	2,170	2,273
West	52,478	25,891	26,587	45-64 years			
Race:				Total	46,932	22,532	24,401
White	209,509	102,022	107,487	45-54 years	25,492	12,382	13,110
Black	30,893	14,552	16,341	55-64 years	21,440	10,150	11,291
All other	8,971	4,352	4,618	Region:			
Under 15 years				Northeast	10,302	4,896	5,407
Total	54,879	28,107	26,773	Midwest	11,319	5,477	5,842
Under 1 year	4,137	2,118	2,019	South	16,057	7,631	8,426
1-4 years	15,018	7,689	7,330	West	9,255	4,530	4,726
5-14 years	35,724	18,300	17,424	Race:			
Region:				White	40,624	19,678	20,945
Northeast	10,218	5,234	4,984	Black	4,842	2,176	2,664
Midwest	13,162	6,749	6,413	All other	1,466	676	791
South	19,151	9,802	9,350	65 years and over			
West	12,348	6,322	6,024	Total	31,592	12,916	18,676
Race:				65-74 years	18,469	8,245	10,224
White	43,868	22,507	21,360	75-84 years	9,993	3,800	6,193
Black	8,605	4,374	4,229	85 years and over	3,131	871	2,260
All other	2,406	1,224	1,182	Region:			
15-44 years				Northeast	7,027	2,789	4,237
Total	115,970	57,373	58,597	Midwest	7,852	3,180	4,673
15-24 years	35,260	17,584	17,676	South	10,906	4,465	6,441
25-34 years	43,128	21,337	21,790	West	5,808	2,482	3,326
35-44 years	37,583	18,451	19,131	Race:			
Region:				White	28,327	11,584	16,743
Northeast	23,178	11,365	11,812	Black	2,610	1,049	1,561
Midwest	28,046	13,966	14,081	All other	655	283	372
South	39,676	19,482	20,192				
West	25,070	12,557	12,512				

that occurred in the months when the partially respondent hospital did respond to the NHDS.

Population weighting ratio adjustment—Adjustments were made within each of 16 noncertainty hospital groups defined by region and hospital specialty-size classes to adjust for oversampling or undersampling of discharges reported in the sampling frame for the data year. For discharges other than newborn infants, the adjustment is a multiplicative factor that had as its numerator the number of admissions reported for the year at sampling frame hospitals within each region-specialty-size group and as its denominator the estimated number of those admissions for that same hospital group. The adjustment for discharges of newborn infants was similar, but numbers of births were used in place of admissions. The ratio numerators were based on the figures obtained from the SMG Hospital Market Data Tape (7) and the ratio denominators were obtained through a simple inflation of the SMG figures for the NHDS sample hospitals.

Reliability of estimates

Nonsampling errors—As from any survey, results are subject to nonsampling errors, which include errors that are due to sampling frame errors, hospital nonresponse, missing abstracts, and recording processing errors. The magnitude of the nonsampling errors cannot be determined. However, errors resulting from the exclusion of in-scope hospitals from the sampling frame are believed to be small because the hospitals excluded are hospitals that opened after the frame was constructed and, hence, they tend to have few discharges relative to hospitals that are in the frame. Other nonsampling errors are kept to a minimum by methods built into the survey procedures, such as training the data collectors in sampling and data abstraction, quality checks of sampling and abstracting, manual and computer editing, and verification of keypunching and coding. Some nonsampling errors are discussed under "Presentation of estimates."

Table IV. Estimated parameters for relative standard error equations for National Hospital Discharge Survey statistics by characteristics: United States, 1990

Characteristic	Number of discharges or first-listed diagnoses		Number of all-listed diagnoses		Number of days of care		Number of procedures	
	a	b	a	b	a	b	a	b
Total	0.00213	228.834	0.00293	106.402	0.00358	452.582	0.00547	92.597
Sex								
Male	0.00152	313.079	0.00212	107.992	0.00293	292.127	0.00410	89.724
Female	0.00125	311.632	0.00168	212.163	0.00213	701.564	0.00337	83.021
Age								
Under 15 years	0.01597	47.116	0.01842	41.574	0.00224	140.764	0.03171	44.124
15-44 years	0.00142	299.762	0.00232	53.785	0.00301	460.089	0.00302	139.070
45-64 years	0.00157	234.543	0.00234	102.906	0.00920	432.971	0.00491	68.024
65 years and over	0.00161	263.223	0.00195	98.262	0.00251	762.854	0.00436	47.886
Region								
Northeast	0.00274	56.268	0.00332	69.794	0.00368	146.195	0.00588	108.765
Midwest	0.00487	183.531	0.00594	144.956	0.00605	970.001	0.00886	107.681
South	0.00375	343.892	0.00633	294.163	0.00540	929.232	0.00781	50.919
West	0.00564	318.914	0.00779	170.698	0.01036	830.740	0.01235	144.582
Source of payment								
Worker's compensation	0.00881	52.626	0.02049	54.599	0.02194	159.965	0.02224	27.461
Medicare	0.00233	147.208	0.00248	72.975	0.00335	105.814	0.00502	93.208
Medicaid	0.00542	225.144	0.00831	105.960	0.00918	269.323	0.01281	125.784
Not stated	0.04000	171.864	0.04782	149.109	0.05907	363.932	0.06397	134.637
Other Government	0.04049	72.916	0.04104	109.418	0.04643	240.704	0.05825	61.826
Private	0.00141	356.276	0.00242	204.301	0.00258	1,253.398	0.00370	152.998
Self	0.00571	255.679	0.00868	176.780	0.01277	677.732	0.01598	75.975
No charge/other	0.02316	146.212	0.02799	77.095	0.03494	244.069	0.03750	88.504
Race								
White	0.00212	298.564	0.00258	146.804	0.00329	599.597	0.00426	80.500
Black	0.00537	264.999	0.00833	44.297	0.00838	291.219	0.01044	52.381
All other	0.02899	119.661	0.04188	79.704	0.04485	150.121	0.04866	59.007
Not stated	0.02252	226.201	0.02719	46.810	0.02914	634.529	0.00357	44.250

NOTE: The relative standard error (RSE) for an estimate (X) can be determined from the equation $RSE(X) = \sqrt{a+b/X}$.

Sampling errors—Because the statistics presented in this report are based on a sample, they may differ from the figures that would be obtained if a complete census had been taken using the same forms, definitions, instructions, and procedures. However, the probability design of NHDS permits the calculation of sampling errors. The standard error is primarily a measure of sampling variability that occurs by chance because only a sample rather than the entire population is surveyed. The standard error, as calculated for the NHDS, also reflects part of the variation that arises in the measurement process, but does not include estimates of any systematic bias. The chances are about 68 in 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 in 100 that the difference would be less than twice the standard error, and about 99 in 100 that it would be less than 2.5 times as large.

The relative standard error of an estimate is obtained by dividing the standard error by the estimate. The result-

ing value is multiplied by 100, which expresses the relative standard error 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 the approach it uses was published (8).

Relative standard errors for aggregate estimates—The constants for relative standard error curves for the National Hospital Discharge Survey aggregate statistics by statistic type are presented in table IV. The relative standard error [RSE (X)] of an estimate X may be estimated from the formula:

$$RSE(X) = \sqrt{a + b/X}$$

where X , a , and b are as defined in table IV.

Relative standard errors for estimates of percents—The relative standard errors for a percent $100p$ ($0 < p < 1$) may be calculated directly using the formula:

$$\text{RSE}(p) = \sqrt{b(1-p)/(pX)}$$

where $100p$ is the percent of interest, X is the base of the percent, and b is the parameter b in the formula for approximating the $\text{RSE}(X)$. The values for b are given in table IV.

The approximation is valid if the relative standard error of the denominator is less than 0.05 or the relative standard errors of the numerator and denominator are both less than 0.10 (9,10).

RSE for average length of stay and other averages, ratios, or rates where the numerator is not a subclass of the denominator—If the denominator of the rate is a number produced by the U.S. Bureau of the Census for the total U.S. population or one or more of the age-sex-race groups of the total population, then the approximate relative standard error of the rate is equivalent to the relative standard error of the numerator that can be obtained from table IV.

If the numerator X and denominator Y are both estimated from the NHDS, then the relative standard error of the ratio X/Y is approximated by

$$\text{RSE}(X/Y) = \sqrt{[\text{RSE}(X)]^2 + [\text{RSE}(Y)]^2}$$

This approximation is valid if the relative standard error of the denominator is less than 0.05 or the relative standard errors of the numerator and denominator are both less than 0.10 (9,10).

Estimates of differences between two statistics—The relative standard errors shown in this appendix are not directly applicable to differences between two sample estimates. The standard error of a difference is approximately the square root of the sum of squares of each standard error considered separately. This formula represents the standard error quite accurately for the difference between separate and uncorrelated characteristics, although it is only a rough approximation in most other cases.

Tests of significance—In this report, the determination of statistical inference is based on the two-sided t -test with a critical value of 1.96 (0.05 level of significance). Terms such as “higher” and “less” that relate to 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 significant.

Appendix II

Definitions of certain terms used in this report

Terms relating to hospitalization

Hospitals—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 the National Hospital Discharge Survey except Federal hospitals and hospital units of institutions, and hospitals with less than six beds staffed for patients' use.

Patient—A person who is formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment. The terms "patient" and "inpatient" are used synonymously.

Newborn infant—A patient admitted by birth to a hospital.

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 number of patient days accumulated at time of discharge by a patient. 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 days of care accumulated during a year to the number of persons in the civilian population on July 1 of that year.

Average length of stay—The number of days of care accumulated by patients discharged during the year divided by the number of these patients.

Terms relating to diagnoses

Diagnosis—A disease or injury (or factor that influences health status and contact with health services that is not itself a current illness or injury) listed on the medical record of a patient. (See "Medical coding and edit" in the "Data collection and processing" section of appendix I for further detail.)

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 or discharge summary of the medical record if the principal diagnosis cannot be identified. The number of first-listed diagnoses is equivalent to the number of discharges.

All-listed diagnoses—The number of diagnoses on the face sheet of the medical record. In the NHDS a maximum of seven diagnoses are coded.

Normal delivery—A normal delivery is a delivery without abnormality or complication of pregnancy, childbirth, or the puerperium and with spontaneous cephalic delivery (that is, presentation of the child head first and delivery of the child without external aid). If no mention of fetal manipulation or instrumentation is made, ICD-9-CM code 650 is assigned.

Complicated delivery—All deliveries not considered normal, including deliveries of multiple gestation, are included; ICD-9-CM code numbers 640-648 and 651-676 are assigned.

Terms relating to procedures

Discharges with procedures—The estimated number of patients discharged from non-Federal short-stay hospitals during the year who underwent at least one procedure during their hospitalization are termed "discharges with procedures."

Procedure—A surgical or nonsurgical operation, diagnostic procedure, or special treatment reported on the medical record of a patient. (See "Medical coding and edit" in the "Data collection and processing" section of appendix I for further details.) The following ICD-9-CM procedure codes are not used in the NHDS:

87.09, 87.11-87.12, 87.16-87.17, 87.22-87.29, 87.39, 87.43-87.49, 87.85, 87.89, 87.92, 87.95, 87.99, 88.09, 88.16, 88.19, 88.21-88.29, 88.31, 88.33, 88.35, 88.37, 88.39, 89.01-89.09, 89.11-89.13, 89.15-89.16, 89.26, 89.29, 89.31, 89.33-89.39, 89.7, 89.8, 90.01-90.99, 91.01-91.99, 93.01-93.09, 93.11-93.19, 93.21-93.25, 93.27, 93.28, 93.31-93.39, 93.61-93.67, 93.71-93.78, 93.81-93.89, 94.01-94.19, 94.21-94.23, 94.29, 94.31-94.39, 94.41-94.49, 94.51-94.59, 95.01-95.03, 95.05-95.09, 95.14-95.15,

95.31–95.36, 95.41–95.48, 96.11–96.19, 96.26–96.28, 96.34–96.39, 96.41–96.48, 96.51–96.59, 96.6, 97.01–97.04, 97.14–97.16, 97.21–97.29, 97.31–97.39, 97.41–97.49, 97.51–97.59, 97.61–97.69, 97.72–97.79, 97.81–97.87, 97.89, 99.12–99.13, 99.14, 99.16–99.18, 99.26–99.29, 99.31–99.39, 99.41–99.48, 99.51–99.59.

All-listed procedures—The number of procedures on the face sheet of the medical record. In the NHDS a maximum of four procedures are coded.

Surgical operations—All procedures except those listed under “nonsurgical procedures” are listed as surgical operations.

Nonsurgical procedures—Procedures generally not considered to be surgery are listed as nonsurgical procedures. These include diagnostic endoscopy and radiography, radiotherapy and related therapies, physical medicine and rehabilitation, and other nonsurgical procedures. The following ICD–9–CM are for diagnostic and nonsurgical procedures:

01.18–01.19, 03.31, 03.39, 04.19, 05.19, 06.19, 07.19, 08.19, 09.19, 09.41–09.49, 10.29, 11.29, 12.29, 14.19, 15.09, 16.21, 16.29, 18.01, 18.11, 18.19, 20.31, 20.39, 21.00–21.02, 21.21, 21.29, 22.19, 24.19, 25.09, 26.19, 27.29, 28.19, 29.11, 29.19, 31.41–31.42, 31.48–31.49, 33.21–33.23, 33.29, 34.21–34.22, 34.28–34.29, 37.26–37.27, 37.29, 38.29, 39.95, 40.19, 41.38–41.39, 42.22–42.23, 42.29, 44.11–44.13, 44.19, 45.11–45.13, 45.19, 45.21–45.24, 45.28–45.29, 48.21–48.23, 48.29, 49.21, 49.29, 50.19, 51.10–51.11, 51.19, 52.19, 54.21, 54.29, 55.21–55.22, 55.29, 56.31, 56.35, 56.39, 57.31–57.32, 57.39, 57.94–57.95, 58.21–58.22, 58.29, 59.29, 60.18–60.19, 61.19, 62.19, 63.09, 64.19, 64.94, 65.19, 66.19, 67.19, 68.11, 68.19, 69.92, 70.21–70.22, 70.29, 71.19, 73.4, 73.51–73.59, 73.91–73.92, 75.31–75.32, 75.34–75.35, 75.94, 76.19, 78.80–78.89, 80.20–80.29, 81.98, 83.29, 84.41–84.43, 84.45–84.47, 85.19, 86.19, 86.92, 87–99.

Rate of procedures—The ratio of the number of 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

Population—The United States resident population excluding members of the Armed Forces.

Age—Patient’s age at birthday prior to admission to the hospital.

Race—Patients are classified into two or three groups. The two groups are “white” and “all other,” with all other including all categories other than white. Three groups are shown in table E, “white,” “black,” and “all other,” with all other including all categories other than white or black. In addition, 19.4 percent of the patients had no race stated on the face sheet of the medical record.

Geographic region—Hospitals are classified by location in one of the four geographic regions of the United States that correspond 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

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