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Surgical and Nonsurgical Procedures in Short-Stay Hospitals United States, 1983

Statistics are presented on the number and rate of procedures performed for inpatients in non-Federal short-stay hospitals by patient and hospital characteristics. These estimates are based on data abstracted from a national sample of hospital records of discharged patients. This report also presents estimates of average length of stay for single-listed procedures.

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Cooperation of the U.S. Bureau of the Census

Under the legislation establishing the National Health Interview 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 Division of Health Interview Statistics, the U.S. Bureau of the Census, under a contractual arrangement, participated in planning the survey and collecting the data.

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Symbols

- - -** Data not available
 - ...** Category not applicable
 - Quantity zero
 - 0.0** Quantity more than zero but less than 0.05
 - Z** Quantity more than zero but less than 500 where numbers are rounded to thousands
 - *** Figure does not meet standards of reliability or precision
 - #** Figure suppressed to comply with confidentiality requirements
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Surgical and nonsurgical procedures in short-stay hospitals

by Sheldon Starr and Robert Pokras, Office of Vital and Health Care Statistics

Introduction

This report provides national estimates on procedures performed in the utilization of non-Federal short-stay hospitals during 1983. Data are summarized for selected demographic characteristics of the patients discharged, characteristics of the hospitals where the patients were treated, and surgical and nonsurgical procedures performed.

The statistics in this report are based on data collected by the National Center for Health Statistics by means of the National Hospital Discharge Survey, which is a continuous voluntary survey in existence since 1965. The data for the survey are obtained from the face sheets of a sample of inpatient medical records that are obtained from a national sample of short-stay general and specialty hospitals located in the United States. Approximately 206,000 medical records from 418 hospitals were included in the survey. A brief description of the sample design and the sources of data can be found in appendix I. A detailed report on the design of the National Hospital Discharge Survey was published in 1970.¹

Data are collected in the survey about characteristics of the patients; length of stay; diagnoses; surgical procedures; and the size, location, and ownership of the hospitals from which they are discharged. Estimates in this report are presented for number and rate of all-listed procedures for each procedure category by age for each sex and geographic region (tables 1-4). In addition, text tables present estimates on patients with and without procedures, number of procedures performed, detailed information on biopsies, and average length of stay for single-listed procedures (tables A-H).

Procedures are coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification, Volume 3 (ICD-9-CM)*.² Earlier data for 1970-78 were coded according to the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*³ (ICDA). Differences between these two systems are discussed in appendix I under the section entitled "Medical coding and edit." No more than four procedures are coded for each medical record in the sample. The procedures performed are presented by the major procedure groups of the ICD-9-CM. In this report, some categories were selected for discussion primarily because of large frequencies or because they are of special interest.

Familiarity with the definitions used in the National Hospital Discharge Survey 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 also is collected by another program of the National Center for Health Statistics, the National Health Interview Survey. Estimates from this survey generally are different from those of the National Hospital Discharge Survey because of differences in collection procedures, population sampled, and definitions. Data from the National Health Interview Survey are published in Series 10 of the Vital and Health Statistics reports.

Background

The estimates of procedures presented in this report are grouped in the detailed tables by the 16 major groups of the ICD-9-CM, Volume 3, Procedures. Each major group represents an anatomical site or organ system except for "Miscellaneous diagnostic and therapeutic procedures." Data are not coded for most Class 4 procedures (see appendix I). Estimates of procedures within the major ICD-9-CM groups are divided into 140 categories for presentation in the detailed tables. These categories are single procedures that occurred in large frequencies or groups of associated procedures. The titles and order of the categories in the detailed tables follow the ICD-9-CM sequence as closely as possible.

Rates for appropriate tables in this report were computed using the civilian resident population. The reader can compute rates for operations in other tables of this report using appropriate age or sex subpopulations shown in appendix I, table III.

Tables 1-4 present frequencies and rates for all-listed procedures for all ages and both sexes, each sex for all ages, and for geographic region.

Table A presents the number of patients with and without procedures and percent distribution with procedures by age, sex, race, region, and hospital bed size. Table B has estimates of average length of stay by age and sex for patients with and

Table A. Number of patients discharged from non-Federal short-stay hospitals with and without procedures and percent with procedures, by selected characteristics: United States, 1983

Characteristic	All discharged patients	Patients with procedures				Percent	
		Patients without procedures	All patients	Patients with surgical procedures	All patients	Patients with surgical procedures	
	Number in thousands				Percent		
All patients	38,783	17,567	21,216	17,488	54.7	45.1	
Age							
Under 15 years	3,654	2,109	1,545	1,296	42.3	35.5	
15-44 years	15,269	5,631	9,638	8,575	63.4	56.2	
45-64 years	8,558	3,828	4,731	3,652	55.3	35.1	
65 years and over	11,302	6,000	5,302	3,965	46.9	35.1	
Sex							
Male	15,573	7,569	8,004	6,266	51.4	40.2	
Female	23,210	9,998	13,211	11,222	56.9	48.4	
Race							
White	30,106	13,628	16,478	13,527	54.7	44.9	
All other	5,235	2,468	2,767	2,251	52.9	43.0	
Not stated	3,441	1,471	1,970	1,710	57.2	49.7	
Geographic region							
Northeast	7,793	3,305	4,488	3,557	57.6	45.7	
North Central	10,492	4,679	5,813	4,776	55.4	45.5	
South	13,884	6,919	6,964	5,874	50.2	42.3	
West	6,614	2,663	3,950	3,281	59.7	49.6	
Bed size of hospital							
6-99 beds	6,336	4,110	2,225	1,920	35.1	30.3	
100-199 beds	7,481	3,628	3,854	3,195	51.5	42.7	
200-299 beds	5,990	2,583	3,407	2,735	56.9	45.7	
300-499 beds	10,041	4,161	5,880	4,870	58.6	48.5	
500 beds or more	8,934	3,085	5,850	4,767	65.5	53.4	

Table B. Number of patients discharged from, days of care in, and average length of stay in non-Federal short-stay hospitals for all patients and for patients with and without procedures, by age and sex: United States, 1983

Sex and age	Discharges			Days of care			Average length of stay		
	Total	Patients without procedures	Patients with procedures	Total	Patients without procedures	Patients with procedures	Total	Patients without procedures	Patients with procedures
	Number in thousands						Number of days		
All ages.....	38,783	17,567	21,216	268,337	117,770	150,567	6.9	6.7	7.1
Under 15 years.....	3,654	2,109	1,545	16,682	9,105	7,577	4.6	4.3	4.9
15-44 years.....	15,269	5,631	9,638	76,971	30,504	46,467	5.0	5.4	4.8
45-64 years.....	8,558	3,828	4,731	65,029	26,768	38,262	7.6	7.0	8.1
65 and over.....	11,302	6,000	5,302	109,655	51,393	58,262	9.7	8.6	11.0
Male.....	15,573	7,569	8,004	114,827	51,214	63,613	7.4	6.8	7.9
Under 15 years.....	2,084	1,176	908	9,420	4,959	4,462	4.5	4.2	4.9
15-44 years.....	4,523	2,105	2,418	27,839	13,461	14,378	6.2	6.4	5.9
45-64 years.....	4,159	1,886	2,273	31,542	12,832	18,710	7.6	6.8	8.2
65 and over.....	4,806	2,402	2,404	46,025	19,961	26,064	9.6	8.3	10.8
Female.....	23,210	9,998	13,211	153,510	66,556	86,954	6.6	6.7	6.6
Under 15 years.....	1,570	933	637	7,262	4,147	3,115	4.6	4.4	4.9
15-44 years.....	10,745	3,525	7,220	49,132	17,043	32,089	4.6	4.8	4.4
45-64 years.....	4,399	1,942	2,457	33,487	13,935	19,552	7.6	7.2	8.0
65 years and over.....	6,495	3,598	2,897	63,630	31,432	32,198	9.8	8.7	11.1

without procedures. Table C presents number and rate of discharges with and without procedures by geographic division. Table D includes estimates of patients by their number of procedures according to sex and age. Data on biopsies performed during 1980 and 1983 for each sex are shown in table E. Table F presents the number and average length of stay for selected single-listed procedures for 1980 and 1983. Tables G and H present average length of stay for patients with single-listed procedures by sex and age for selected procedures.

As mentioned in the "Introduction," only data for patients admitted to and discharged from a hospital are sampled to produce National Hospital Discharge Survey estimates. Therefore, the reader must be aware that National Hospital Discharge

Survey estimates of procedures that are also performed in other settings are underestimates of all such procedures for the civilian population of the United States. According to estimates of the American Hospital Association,⁴ there were some 78 million emergency room visits and 196 million other outpatient visits to hospitals in 1981. However, estimates are not available on how many of these patients required a procedure. Procedures performed in surgical centers, on a hospital outpatient basis, or in the emergency room are not included in surveys conducted by the National Center for Health Statistics. Estimates of totals for procedures that can be performed for patients other than hospital inpatients are not available from the National Center for Health Statistics.

Table C. Number of patients discharged and discharge rate from non-Federal short-stay hospitals for all patients and for patients with and without procedures, and percent of patients with procedures discharged, by geographic region and division: United States, 1983

Geographic region and division	Discharges				Discharge rate per 1,000 population		
	Total	Patients without procedures		Patients with procedures	Total	Patients without procedures	
		Number in thousands	Percent			Patients without procedures	Patients with procedures
All patients	38,783	17,567	21,216	54.7	167.0	75.6	91.3
Northeast	7,793	3,305	4,488	57.6	157.7	66.9	90.8
New England	2,041	1,063	978	47.9	164.0	85.4	78.6
Middle Atlantic	5,752	2,242	3,510	61.0	155.6	60.7	94.9
North Central	10,492	4,679	5,813	55.4	178.4	79.6	98.8
East North Central	6,253	2,830	3,423	54.7	150.8	68.2	82.6
West North Central	4,239	1,849	2,390	56.4	244.4	106.6	137.8
South	13,884	6,919	6,964	50.2	176.5	88.0	88.5
South Atlantic	6,235	2,957	3,278	52.6	163.0	77.3	85.7
East South Central	3,018	1,650	1,367	45.3	203.3	111.2	92.1
West South Central	4,631	2,312	2,319	50.1	181.1	90.4	90.7
West	6,614	2,664	3,950	59.7	145.6	58.6	87.0
Mountain	1,987	860	1,127	56.7	162.7	70.4	92.3
Pacific	4,627	1,804	2,823	61.0	139.3	54.3	85.0

Table D. Number and percent distribution of patients with procedures discharged from non-Federal short-stay hospitals by number of procedures, according to sex and age: United States, 1983

Sex and age	Discharged patients with procedures									
	Total	1 procedure	2 procedures	3 procedures	4 procedures or more	Total	1 procedure	2 procedures	3 procedures	4 procedures or more
Both sexes		Number				Percent distribution				
All ages	21,216	11,671	5,863	2,185	1,496	100.0	55.0	27.6	10.3	7.1
Under 15 years	1,545	997	403	89	56	100.0	64.6	26.1	5.7	3.6
15-44 years	9,638	5,869	2,443	844	481	100.0	60.9	25.4	8.8	5.0
45-64 years	4,731	2,320	1,368	610	432	100.0	49.0	28.9	12.9	9.1
65 years and over	5,302	2,484	1,648	642	527	100.0	46.9	31.1	12.1	10.0
Male		Number				Percent distribution				
All ages	8,004	4,214	2,248	887	655	100.0	52.6	28.1	11.1	8.2
Under 15 years	908	584	243	50	32	100.0	64.3	26.8	5.5	3.5
15-44 years	2,418	1,383	637	237	161	100.0	57.2	26.3	9.8	6.7
45-64 years	2,273	1,153	634	288	198	100.0	50.7	27.9	12.7	8.7
65 years and over	2,404	1,094	734	312	264	100.0	45.5	30.5	13.0	11.0
Female		Number				Percent distribution				
All ages	13,211	7,457	3,615	1,298	841	100.0	56.4	27.4	9.8	6.4
Under 15 years	637	414	160	39	24	100.0	65.0	25.2	6.1	3.8
15-44 years	7,220	4,486	1,806	607	320	100.0	62.1	25.0	8.4	4.4
45-64 years	2,457	1,167	735	323	233	100.0	47.5	29.9	13.1	9.5
65 years and over	2,897	1,390	914	329	264	100.0	48.0	31.5	11.4	9.1

Table E. Number and rate of biopsies performed for patients discharged from non-Federal short-stay hospitals, by sex and category of biopsy: United States, 1980 and 1983

Biopsy and ICDA code	1980			1983			1980			1983		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number of biopsies in thousands						Rate of biopsies per 1,000 population					
All biopsies	1,351	548	803	1,495	627	868	6.0	5.0	6.9	6.4	5.6	7.2
Biopsy of nervous system	8	5	*3	10	*4	6	0.0	0.0	0.0	0.0	0.0	0.0
Biopsy of endocrine system	6	2	4	8	*2	6	0.0	0.0	0.0	0.0	0.0	0.0
Biopsy of eye	*4	*1	*3	*3	*1	*2	0.0	0.0	0.0	0.0	0.0	0.0
Biopsy of ear	*1	*	*	*2	*2	*	*	*	*	*	*	*
Biopsy of nose, mouth, and pharynx	30	16	14	29	14	15	0.1	0.1	0.1	0.1	0.1	0.1
Biopsy of respiratory system	151	99	52	177	107	70	0.7	0.9	0.4	0.8	1.0	0.6
Biopsy of cardiovascular system	13	4	9	18	8	10	0.1	0.0	0.1	0.1	0.1	0.1
Biopsy of hemic and lymphatic system	205	98	107	255	124	131	0.9	0.9	0.9	1.1	1.1	1.1
Biopsy of digestive system	347	161	186	425	176	249	1.5	1.5	1.6	1.8	1.6	2.1
Biopsy of urinary system	70	40	30	75	43	32	0.3	0.4	0.3	0.3	0.4	0.3
Biopsy of male genital organs	73	73	...	93	93	...	0.3	0.7	...	0.4	0.8	...
Biopsy of female genital organs	181	...	181	135	...	135	0.8	...	1.6	0.6	...	1.1
Biopsy of musculoskeletal system	44	21	23	52	24	28	0.2	0.2	0.2	0.2	0.2	0.2
Biopsy of integumentary system	218	28	191	211	29	182	1.0	0.3	1.6	0.9	0.3	1.5

Overview

During 1983 an estimated 38.8 million inpatients excluding newborn infants were discharged from non-Federal short-stay hospitals and used an estimated 268.3 million days of care. Of these 38.8 million inpatients, white patients accounted for 30.1 million, patients other than white accounted for 5.2 million, and there were an estimated 3.4 million patients for whom race was not stated (table A). The average length of stay for patients discharged from non-Federal short-stay hospitals was 6.9 days in 1983. Slightly more than half of all patients discharged had one or more procedures performed. For patients discharged with a procedure the average length of stay was 7.1 days in 1983. Males, on the average, stayed 1.3 days longer than females when a procedure was performed (table B).

Tables 1 and 2 show the number and rate per 100,000 population of the most common procedures by sex and age within sex. Tables 3 and 4 show the number and rate of all-listed procedures by region of the country. For all patients the number of surgical procedures was highest for episiotomy, cesarean section, hysterectomy, diagnostic dilation and curettage of uterus and extraction of lens. Each of these procedures was performed at least 600,000 times during 1983. Of all patients with procedures, 55 percent had one procedure performed, 28 percent had two procedures, 10 percent had three procedures, and 7 percent had four or more procedures (table D). The percent distributions for males and females were similar for number of procedures performed.

By age

Of the 38.8 million discharges in 1983, 21.2 million (54.7 percent) had at least one procedure and 17.6 million (45.3 percent) did not have a procedure (table A). For the age groups under 15 years, 45–64 years, and 65 years and over, about 35 percent had a surgical procedure, whereas for patients aged 15–44 years, about 56 percent had a surgery. This group has a higher rate of surgery because of the relatively large volume of female-specific surgery and procedures related to childbirth: Two of three female patients within this age group had a surgical procedure.

Of all patients with a procedure, 7 percent were patients under 15 years of age, 45 percent were patients 15–44 years of age, 22 percent were patients 45–64 years of age, and 25 percent were patients 65 years of age and over.

For patients under 15 years of age, the leading surgical category was operations on the nose, mouth, and pharynx (table 1). Some other common procedure groupings for these

patients were miscellaneous diagnostic and therapeutic procedures and operations on the digestive system. Operations on the female genital organs and obstetrical procedures were most common for women aged 15–44 years, as well as biopsies and other endoscopies of the digestive system.

For patients 45–64 years of age, procedures on the digestive system was the most frequent category, followed by operations on the musculoskeletal system and cardiovascular system. Among patients 65 years of age and over, operations on the digestive system and operations on the eye, specifically extraction of lens, rank among the most common procedures performed. In all age groups miscellaneous diagnostic and therapeutic procedures were performed relatively frequently.

Procedure rates increased for each older age group from 44.5 procedures per 1,000 persons under 15 years of age to 358.5 per 1,000 persons aged 65 years and over, or more than eight times higher (table 2). Rates of procedures were higher for older age groups in 12 of the 16 major categories. Of the four remaining categories, operations on the ear and operations on the nose, mouth, and pharynx were the only categories for which the trend in the rate was generally lower as patients increased in age. The rates for operations on the female genital organs and for obstetrical procedures peaked in the middle years.

By sex

During 1983 an estimated 15.6 million males and 23.2 million females were discharged (table B), 40 and 60 percent, respectively. The rates of discharges per 1,000 population were 139 for males and 193 for females, making the rate for females about 39 percent higher than that for males. The number and rate of discharges always are higher for females than for males, because of the large number of women in their child-bearing years (15–44 years of age) who are hospitalized for deliveries and other obstetrical conditions. Excluding deliveries, the rate for female discharges was 160 per 1,000, or about 15 percent higher than the rate for males.

One or more surgical or nonsurgical procedures were performed for an estimated 21.2 million of the 38.8 million inpatients discharged from short-stay hospitals during 1983. A total of 35.9 million procedures was recorded in 1983; of these, men underwent 14.0 million procedures and women 21.9 million procedures (table 1). Even though females had procedures at a higher rate than males, there were differences within age groups between the sexes. Males under 15 years of age had a

greater rate of procedures than their female counterparts: 51.0 per 1,000 discharges with a procedure versus 37.6 per 1,000. This difference was relatively small compared with the higher rate of discharges with procedures for females aged 15–44 years (203.1 per 1,000), compared with males of this age (74.8 per 1,000), because of the larger number of sex-specific procedures performed for women in this age group. This difference disappeared as the rate of procedures increased to 192.7 per 1,000 for men aged 45–64 years but decreased to 194.2 per 1,000 for women aged 45–64 years. The rate of procedures was again greater for men than for women 65 years and over—414.5 and 320.9 procedures per 1,000 population, respectively.

Table 2 shows that men had a higher rate of procedures on the respiratory system than women. The difference was greatest for the 65 years and over age group, in which the rate for men was 19.9 per 1,000 population and for women was 9.8 per 1,000. There was also a higher rate of operations on the cardiovascular system for older men than for older women. The rate for this type of surgery was 24.3 and 39.8 per 1,000 population for men aged 45–64 years and 65 years and over, respectively, while the rates were 11.6 and 20.7 per 1,000 for women in these age groups, respectively. Operations on the urinary system show a similar pattern with men in the oldest age group having 54.0 such procedures per 1,000 population and women having 14.8 per 1,000 population.

Although sex-specific procedures are not comparable in themselves, there are differences by age in the likelihood of males and females having an operation on the genital organs. Males under 15 years had a higher rate of procedures on the genital organs than males aged 15–44 years, 4.8 per 1,000 versus 2.4 per 1,000. The rates then increase to 8.5 per 1,000 for men aged 45–64 years and again to 37.4 per 1,000 for men aged 65 years and over. On the other hand, women under 15 years had the lowest rate of operations on the genital organs (0.4 per 1,000). The highest rate was for women aged 15–44 years (53.2 per 1,000); the rate then decreases to 29.5 per 1,000 for women aged 45–64 years and again to 14.6 per 1,000 for women aged 65 years and over. Women were about four times as likely as men to undergo an operation on the genital organs.

For men the predominant sex-specific procedure was prostatectomy, with 357,000 performed in 1983, which accounted for 42 percent of all procedures on the male genital organs. For men 65 years or over, prostatectomies accounted for two of every three procedures on the male genital organs. For women, diagnostic dilation and curettage of uterus, hysterectomy, bilateral destruction or occlusion of fallopian tubes, dilation and curettage after delivery or abortion, and bilateral oophorectomy and salpingo-oophorectomy were each performed over 250,000 times in 1983.

Average length of stay for single-listed procedures

The average length of stay (ALOS) of all patients in 1983 was 6.9 days. In 1979 the ALOS was 7.2 days.⁵ Length of hospital stays has been declining in recent years. Health experts attribute the drop to many factors, including Federal cost-containment policies, expanded outpatient and home care, new competitive pressures within medicine, and a growing emphasis on preventive health.⁶

Average length of stay is presented for single-listed procedures in tables F–H. The number and average length of stay for single-listed procedures are shown for 1980 and 1983 in table F, and statistics for 1983 are provided by sex in table G and by age in table H. Earlier published reports from the National Hospital Discharge Survey computed ALOS data for patients with surgery using lengths of stay of all patients according to first-listed surgery, regardless of type or number of other surgeries performed. This report attempts to relate more carefully length of stay statistics with particular surgeries by calculating length of stay data from patients with a single surgery.

Table F shows that the number of single-listed procedures were similar from 1980 (11,999,000) to 1983 (11,670,000). The most frequent single-listed procedure both in 1980 and 1983 was episiotomy, followed by cesarean section. The long-

est ALOS during both periods was for open reduction of fracture.

There were an estimated 35.9 million procedures performed in 1983, of which 11.7 million, or 33 percent, were single-listed procedures. However, the percents that single-listed procedures represented of all-listed procedures varied by surgical specialty and operation. The percents were computed from the data for single-listed procedures in table F compared with the data for all-listed procedures in table 1. Single-listed procedures for the surgical classes as percents of all-listed procedures varied from 14 percent for endoscopies of the urinary system to 84 percent for appendectomy.

The ALOS for males was 6.3 days and for females was 5.4 days (table G). ALOS rates for males were shortest for tonsillectomy with or without adenoidectomy; extraction of lens; and operations on muscles, tendons, fascia, and bursa. They were longest for men with procedures for cholecystectomy and open reduction of fractures. Females experienced short ALOS for tonsillectomy with or without adenoidectomy and diagnostic dilation and curettage of uterus; females had long ALOS rates for open reduction of fracture and cholecystectomy.

Table F. Number of patients with single-listed procedures discharged from non-Federal short-stay hospitals and average length of stay, by selected procedure categories: United States, 1980 and 1983

Procedure category	1980		1983	
	Single-listed procedures	Average length of stay	Single-listed procedures	Average length of stay
	Number in thousands	Number of days	Number in thousands	Number of days
All operations	11,999	5.5	11,670	5.7
Total of selected categories	4,809	4.2	4,350	4.1
Episiotomy 73.6	1,168	3.1	1,132	2.8
Diagnostic dilation and curettage of uterus 69.09	353	2.3	220	2.0
Endoscopies of the urinary system through natural orifice 55.21–55.22, 56.31, 57.32, 58.22	177	6.1	114	6.2
Procedure to assist delivery 72.0–72.9, 73.0–73.5, 73.8–73.9	416	3.4	341	3.1
Hysterectomy 68.3–68.7	88	6.8	107	6.0
Bilateral destruction or occlusion of fallopian tubes 66.2–66.3	235	2.6	171	2.6
Cesarean section 74.0–74.2, 74.4–74.99	460	6.4	586	5.7
Tonsillectomy with or without adenoidectomy 28.2–28.3	370	2.0	323	1.9
Repair of inguinal hernia 53.0–53.1	390	4.4	364	3.9
Cholecystectomy 51.2	157	9.2	134	8.6
Extraction of lens 13.1–13.6	232	3.5	102	2.9
Operations on muscles, tendons, fascia, and bursa 82–83.1, 83.3–83.9	158	3.3	116	3.3
Open reduction of fracture 76.79, 79.2–79.3, 79.5–79.6	236	11.9	233	11.1
Repair of current obstetric laceration 75.5–75.6	123	2.8	169	2.5
Appendectomy, excluding incidental 47.0	246	5.2	238	4.9

Table G. Average length of stay for patients discharged from non-Federal short-stay hospitals by sex and selected procedure categories for single-listed procedures: United States, 1983

<i>Procedure category</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>
	Average length of stay in days		
All operations	5.7	6.3	5.4
Episiotomy 73.6	2.8	-	2.8
Diagnostic dilation and curettage of uterus 69.09	2.0	-	2.0
Endoscopies of the urinary system through natural orifice 55.21-55.22, 56.31, 57.32, 58.22	6.2	6.0	6.5
Procedure to assist delivery 72.0-72.9, 73.0-73.5, 73.8-73.9	3.1	-	3.1
Hysterectomy 68.3-68.7	6.0	-	6.0
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	2.6	-	2.6
Cesarean section 74.0-74.2, 74.4-74.99	5.7	-	5.7
Tonsillectomy with or without adenoidectomy 28.2-28.3	1.9	2.0	1.9
Repair of inguinal hernia 53.0-53.1	3.9	3.9	4.3
Cholecystectomy 51.2	8.6	9.9	8.2
Extraction of lens 13.1-13.6	2.9	2.9	2.9
Operations on muscles, tendons, fascia, and bursa 82-83.1, 83.3-83.9	3.3	2.9	3.8
Open reduction of fracture 76.79, 79.2-79.3, 79.5-79.6	11.1	8.5	12.8
Repair of current obstetric laceration 75.5-75.6	2.5	-	2.5
Appendectomy, excluding incidental 47.0	4.9	4.6	5.2

Table H. Average length of stay for patients discharged from non-Federal short-stay hospitals by age and selected procedure categories for single-listed procedures: United States, 1983

<i>Procedure category</i>	<i>Total</i>	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</i>
	Average length of stay in days				
All operations	5.7	4.0	4.0	6.6	9.7
Episiotomy 73.6	2.8	3.1	2.8	3.7	-
Diagnostic dilation and curettage of uterus 69.09	2.0	1.9	1.9	1.9	3.1
Endoscopies of the urinary system through natural orifice 55.21-55.22, 56.31, 57.32, 58.22	6.2	3.2	4.8	5.5	7.6
Procedure to assist delivery 72.0-72.9, 73.0-73.5, 73.8-73.9	3.1	-	3.1	-	-
Hysterectomy 68.3-68.7	6.0	-	6.0	6.1	-
Bilateral destruction or occlusion of fallopian tubes 66.2-66.3	2.6	-	2.6	*	-
Cesarean section 74.0-74.2, 74.4-74.99	5.7	6.7	5.7	5.9	-
Tonsillectomy with or without adenoidectomy 28.2-28.3	1.9	1.8	2.1	2.3	-
Repair of inguinal hernia 53.0-53.1	3.9	1.6	3.8	3.9	5.0
Cholecystectomy 51.2	8.6	7.0	7.6	8.4	10.7
Extraction of lens 13.1-13.6	2.9	2.0	2.5	2.7	3.1
Operations on muscles, tendons, fascia, and bursa 82-83.1, 83.3-83.9	3.3	2.1	2.8	3.8	5.4
Open reduction of fracture 76.79, 79.2-79.3, 79.5-79.6	11.1	4.9	5.8	10.1	16.7
Repair of current obstetric laceration 75.5-75.6	2.5	1.8	2.5	-	-
Appendectomy, excluding incidental 47.0	4.9	4.3	4.5	6.8	10.5

For patients undergoing surgery (table B), patients under 15 years of age had an ALOS of 4.9 days, while patients 65 years of age and over had an ALOS of 11.0 days, a difference of 6.1 days. For single-listed procedures (table H), length of stay also tended to increase with age in most surgical categories.

The longest length of stay was for patients 65 years of age and over with an open reduction of fracture (16.7 days). This category averaged 6 days longer than any of the other 14 categories in this table for patients 65 years of age and over.

Utilization by region

Table C shows discharges from short-stay hospitals by geographic region for 1983. The number of discharges ranged from 6.6 million in the West to 13.9 million in the South. Regional differences in the number of discharges are accounted for mainly by variations in population size (see appendix I, table III) and, to a lesser extent, by variations in the discharge rates.

Slightly more than half of all patients discharged from short-stay hospitals underwent one or more procedures during 1983. The South experienced the lowest percent of patients discharged with procedures, with the West showing the highest percent—almost 10 percentage points higher than the South. The regional rates of discharges with procedures per 1,000 population in 1983 were 87 in the West, 89 in the South, 91 in

the Northeast, and 99 in the North Central Region. Among the nine geographic divisions (table C), the West North Central had the highest discharge rate with a procedure—138 per 1,000 population—while each of the other divisions had estimated rates between 79 and 99 per 1,000.

The number and rate per 100,000 population of all-listed procedures for patients discharged by procedure category and geographic region are shown in tables 3 and 4. The rate of all-listed procedures per 1,000 population was lowest in the West (144) and South (148) Regions and highest in the North Central Region (173). Rates were highest in all regions for operations on the digestive system, operations on the female genital organs, obstetrical procedures, operations on the musculoskeletal system, and miscellaneous diagnostic and therapeutic procedures.

Biopsies

A biopsy is defined as the removal and examination, usually microscopic, of tissue from the living body, performed to establish precise diagnosis. There were 1.5 million biopsies performed on inpatients in short-stay non-Federal hospitals during 1983 (table E). Of these 1.5 million biopsies, females had 868,000 and males 627,000. This was an increase of 10.7 percent since 1980. The most common biopsy performed during 1983 for all discharges was on the digestive system. Biopsies were also relatively common on the hemic and lymphatic sys-

tem, integumentary system, respiratory system, and female genital organs.

The number of biopsies per 1,000 population was 6.0 in 1980 and 6.4 in 1983 (table E). Women had a higher rate of biopsies per 1,000 population: 6.9 in 1980 and 7.2 in 1983 compared with 5.0 in 1980 and 5.6 in 1983 for men. This difference was largely accounted for by biopsies of the integumentary system, which includes biopsy of breast.

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List of detailed tables

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Table 1. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983

Procedure category and ICD-9-CM code		Both sexes				
		All ages	Under 15 years	15-44 years	45-64 years	65 years and over
		Number of all-listed procedures in thousands				
01	All procedures	35,939	2,293	15,214	8,615	9,816
02	Operations on the nervous system 01-05	924	143	333	258	191
03	Incision and excision of the skull, brain, and cerebral meninges 01.0, 01.2-01.6	86	8	22	28	28
04	Laminectomy 03.0	98	-	35	40	22
05	Operations on the cranial and peripheral nerves . . . 04.0, 04.2-04.9	236	7	110	81	39
06	Spinal tap and biopsies on the nervous system 01.1, 03.3, 04.1, 05.1	285	101	85	45	55
07	Residual	219	27	81	64	47
08	Operations on the endocrine system 06-07	105	6	41	36	22
09	Thyroidectomy 06.2-06.6	58	1	25	24	8
10	Other operations on the endocrine system 06.7-07.9	47	5	16	12	14
11	Operations on the eye 08-16	1,559	67	119	295	1,077
12	Extraction of lens 13.1-13.6	630	5	18	106	501
13	Resection and recession of ocular muscle 15.1-15.6	47	31	12	3	1
14	Residual	882	31	89	186	575
15	Operations on the ear 18-20	372	220	84	43	26
16	Tympanoplasty 19.4-19.5	47	12	21	12	3
17	Myringotomy 20.0	187	169	10	5	3
18	Residual	138	39	53	26	20
19	Operations on the nose, mouth, and pharynx 21-29	1,505	452	690	220	137
20	Submucous resection of nasal septum 21.5	49	2	38	6	2
21	Incision, excision, and destruction of nose and lesion of nose 21.1, 21.3-21.4, 21.6	145	10	80	35	19
22	Reduction of nasal fracture 21.7	37	5	28	2	1
23	Rhinoplasty and repair of nose 21.8	263	13	188	46	15
24	Forceps extraction of tooth 23.0	71	11	29	15	15
25	Surgical removal of tooth 23.1	63	4	46	7	6
26	Plastic operations on mouth and palate 27.5-27.6	42	22	12	5	4
27	Tonsillectomy without adenoidectomy 28.2	170	47	118	4	-
28	Tonsillectomy with adenoidectomy 28.3	255	232	22	1	-
29	Adenoidectomy without tonsillectomy 28.6	53	50	2	-	-
30	Residual	357	56	127	99	75
31	Operations on the respiratory system 30-34	970	72	184	335	378
32	Temporary tracheostomy 31.1	49	4	9	16	20
33	Laryngoscopy and tracheoscopy 31.41-31.42	92	20	15	33	24
34	Lung lobectomy and pneumonectomy 32.3-32.5	40	-	5	20	15
35	Bronchoscopy 33.21-33.23	229	17	34	76	102
36	Incision of chest wall and pleura 34.0	130	13	45	34	39
37	Thoracentesis 34.91	107	1	14	31	60
38	Biopsy and other diagnostic procedures on the respiratory system 31.43-31.44, 33.24-33.27, 34.2	202	3	29	82	88
39	Residual	121	14	33	43	30
40	Operations on the cardiovascular system 35-39	1,906	117	233	782	776
41	Operations on valves of heart 35.1-35.2, 35.99	37	3	5	15	13
42	Direct heart revascularization 36.1	191	1	11	112	67
43	Other open heart operations 35.3-35.51, 35.53-35.98, 36.0, 36.2, 36.9, 37.10-37.11, 37.32-37.33, 37.5	47	14	5	20	8
44	Cardiac catheterization 37.21-37.23	508	32	61	277	138
45	Pacemaker insertion, replacement, removal, and repair . . 37.7-37.8	189	-	9	31	150
46	Ligation and stripping of varicose veins 38.5	54	-	25	22	7
47	Systemic shunt and graft bypass 39.0-39.2	137	3	13	56	66
48	Hemodialysis 39.95	72	2	22	31	17
49	Residual	671	62	82	218	310

Table 1. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>All ages</i>	<i>Male</i>				<i>Female</i>					
	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</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 procedures in thousands—Con.										
13,993	1,346	4,013	4,078	4,556	21,946	947	11,201	4,538	5,261	01
454	76	174	120	84	469	66	158	138	108	02
46	5	11	15	15	40	4	11	13	13	03
52	-	19	22	12	45	-	16	19	10	04
98	3	57	26	12	138	3	53	55	27	05
139	55	38	23	23	146	46	47	21	32	06
119	13	49	34	22	100	13	31	30	26	07
29	*2	13	8	6	76	*4	28	28	16	08
9	-	4	3	2	49	1	21	21	6	09
20	2	9	5	4	27	3	7	7	10	10
603	38	62	148	355	956	28	56	147	722	11
227	3	8	55	161	403	2	10	51	339	12
23	15	5	2	1	24	15	6	1	-	13
353	20	49	91	193	529	11	40	95	383	14
207	132	43	17	13	166	88	39	26	13	15
23	7	9	5	1	25	5	11	7	2	16
108	101	4	2	1	79	68	6	3	2	17
76	24	30	10	11	62	15	22	16	9	18
728	240	306	115	70	773	212	383	108	68	19
23	1	18	3	1	26	1	20	3	1	20
72	5	38	20	10	72	5	42	15	10	21
18	3	14	1	1	18	2	14	1	1	22
125	5	89	22	8	138	8	99	24	7	23
34	7	13	8	7	36	4	16	8	8	24
27	2	19	4	2	36	2	27	4	4	25
25	13	6	3	2	17	9	5	2	1	26
56	19	35	3	-	113	28	84	1	-	27
131	124	6	1	-	124	108	15	-	-	28
33	32	1	-	-	20	18	1	-	-	29
184	29	67	50	39	173	27	60	50	36	30
584	45	115	209	219	385	29	68	129	160	31
32	3	6	11	13	17	1	3	6	8	32
53	13	8	18	13	39	7	15	15	10	33
22	-	3	12	8	18	-	2	8	7	34
137	12	18	48	60	91	6	16	28	42	35
86	7	35	22	23	44	6	10	12	16	36
54	1	8	18	28	52	1	6	14	32	37
124	1	17	52	54	79	2	12	30	35	38
76	8	20	28	20	45	6	12	16	10	39
1,148	61	136	513	438	760	56	97	270	339	40
17	2	2	7	6	20	2	3	8	7	41
145	1	9	87	49	46	-	2	25	19	42
32	5	4	17	7	15	9	1	3	1	43
326	16	46	184	79	182	16	15	93	59	44
95	-	5	18	72	95	-	4	13	78	45
16	-	6	7	3	38	-	19	16	4	46
81	1	8	36	36	57	2	5	20	30	47
42	1	12	18	10	30	1	10	13	7	48
394	35	44	139	176	277	26	38	79	134	49

Table 1. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

Procedure category and ICD-9-CM code		Both sexes				
		All ages	Under 15 years	15-44 years	45-64 years	65 years and over
Number of all-listed procedures in thousands						
50	Operations on the hemic and lymphatic system 40-41	365	22	86	106	151
51	Splenectomy 41.5	33	1	14	8	10
52	Biopsies on the hemic and lymphatic system 40.1, 41.3	255	16	48	73	118
53	Residual	77	5	24	25	23
54	Operations on the digestive system 42-54	5,847	281	2,003	1,597	1,968
55	Esophagoscopy and gastroscopy (natural orifice) . . . 42.23, 44.13	246	9	52	91	95
56	Partial gastrectomy 43.5-43.8	31	-	5	11	15
57	Local excision and destruction of lesion and tissue of stomach and intestine 43.4, 45.3-45.4	93	3	11	27	51
58	Resection of intestine 45.6-45.8	217	5	22	57	133
59	Intestinal anastomosis and repair 45.9, 46.4-46.9	112	7	27	31	47
60	Ileostomy, colostomy, and other enterostomy 46.1-46.3	101	2	15	26	57
61	Appendectomy, excluding incidental 47.0	282	75	165	28	15
62	Local excision and destruction of lesion and tissue of rectum and anus except anal fistula 48.3, 49.3	83	1	31	26	25
63	Hemorrhoidectomy 49.43-49.46	134	-	64	50	21
64	Cholecystectomy 51.2	487	1	167	162	156
65	Repair of inguinal hernia 53.0-53.1	510	81	134	155	140
66	Repair of umbilical hernia 53.4	63	10	17	20	17
67	Other hernia repair 53.2-53.3, 53.5-53.9	141	3	36	50	52
68	Laparotomy 54.1	82	4	38	18	22
69	Incision and excision of abdominal wall and peritoneum except laparotomy 54.0, 54.3-54.4, 54.91	125	8	40	40	37
70	Division of peritoneal adhesions 54.5	298	3	180	58	57
71	Biopsies and other endoscopies of the digestive system 42.21-42.22, 42.24, 44.11-44.12, 44.14-44.15, 45.1-45.2, 48.2, 49.2, 50.1, 51.1, 52.1, 54.2	1,824	27	603	477	717
72	Residual	1,018	42	396	270	311
73	Operations on the urinary system 55-59	1,872	94	422	521	835
74	Nephrotomy, pyelotomy, and complete nephrectomy 55.0-55.1, 55.5	76	5	20	25	26
75	Endoscopies of the urinary system through natural orifice 55.21-55.22, 56.31, 57.32, 58.22	800	31	135	222	411
76	Transurethral excision or destruction of bladder tissue 57.4	135	-	11	35	89
77	Urethral meatotomy 58.1	22	9	3	5	5
78	Dilation of urethra 58.6	163	13	37	43	70
79	Retropubic urethral suspension 59.5	47	-	22	18	7
80	Ureteral catheterization 59.8	34	1	9	13	11
81	Biopsies and other endoscopies of the urinary system 55.23-55.24, 56.32-56.33, 57.31, 57.33-57.34, 58.21, 58.23-58.24, 59.2	75	2	16	22	35
82	Residual	520	33	169	138	181
83	Operations on the male genital organs 60-64	845	127	131	180	411
84	Prostatectomy 60.2-60.6	357	-	2	81	274
85	Excision of hydrocele and other lesion of tunica vaginalis 61.2, 61.92	55	22	12	13	8
86	Orchiectomy and orchiopexy 62.3-62.5	80	27	15	9	30
87	Vasectomy and ligation of vas deferens 63.7	24	-	10	5	10
88	Circumcision 64.0	91	53	19	12	8
89	Biopsy and other diagnostic procedures on the male genital organs 60.1, 61.1, 62.1, 63.0, 64.1	93	2	10	24	58
90	Residual	145	23	63	36	23
91	Operations on the female genital organs 65-71	3,872	10	2,933	689	240
92	Local excision or destruction of ovarian lesion or tissue . . . 65.2	107	2	95	6	4
93	Unilateral oophorectomy and salpingo-oophorectomy . . . 65.3-65.4	197	1	158	28	10
94	Bilateral oophorectomy and salpingo-oophorectomy . . . 65.5-65.6	315	-	156	125	34
95	Bilateral endoscopic destruction or occlusion of fallopian tubes 66.2	105	-	102	3	-
96	Other bilateral destruction or occlusion of fallopian tubes . . . 66.3	463	-	462	1	-
97	Total bilateral salpingectomy 66.5	26	-	23	3	1
98	Conization of cervix 67.2	71	-	59	10	3

Table 1. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>All ages</i>	<i>Male</i>				<i>Female</i>					
	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</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 procedures in thousands—Con.										
181	12	45	58	66	185	10	40	48	86	50
18	-	9	5	4	15	1	5	3	6	51
124	10	23	41	50	131	6	24	32	69	52
39	2	13	12	12	39	3	11	13	11	53
2,506	184	688	776	856	3,341	100	1,315	817	1,108	54
107	5	24	43	35	139	5	28	47	59	55
13	-	3	5	5	17	-	2	6	9	56
47	1	7	15	24	46	2	5	12	27	57
101	3	12	28	58	116	2	10	29	75	58
52	4	15	12	20	60	3	12	18	27	59
53	2	9	14	28	48	1	6	11	30	60
147	38	90	13	6	135	36	75	15	9	61
44	1	17	14	11	39	-	13	11	14	62
76	-	40	26	10	59	-	24	24	10	63
147	1	27	57	62	340	1	140	105	94	64
456	67	117	146	127	54	13	18	9	13	65
26	8	5	8	5	37	3	11	11	12	66
49	3	12	18	17	92	-	24	33	35	67
34	3	14	8	9	48	2	24	10	13	68
51	7	16	15	13	74	2	25	25	23	69
38	2	11	9	15	260	2	168	49	41	70
635	14	139	209	272	1,189	12	464	268	445	71
430	25	130	136	139	588	16	266	134	172	72
1,098	47	162	296	594	774	47	262	225	242	73
39	2	10	13	14	36	3	10	11	12	74
532	14	58	141	319	268	17	77	81	92	75
96	-	3	26	67	40	-	8	9	23	76
18	6	3	4	5	4	3	1	1	-	77
80	4	11	21	45	83	9	27	22	25	78
-	-	-	-	-	46	-	22	18	7	79
16	-	3	6	6	19	1	6	7	5	80
43	1	7	14	21	32	1	9	9	14	81
274	20	67	71	117	246	13	102	67	64	82
845	127	131	180	411	-	-	-	-	-	83
357	-	2	81	274	-	-	-	-	-	84
55	22	12	13	8	-	-	-	-	-	85
80	27	15	9	30	-	-	-	-	-	86
24	-	10	5	10	-	-	-	-	-	87
91	53	19	12	8	-	-	-	-	-	88
93	2	10	24	58	-	-	-	-	-	89
145	23	63	36	23	-	-	-	-	-	90
-	-	-	-	-	3,872	10	2,933	689	240	91
-	-	-	-	-	107	2	95	6	4	92
-	-	-	-	-	197	1	158	28	10	93
-	-	-	-	-	315	-	156	125	34	94
-	-	-	-	-	105	-	102	3	-	95
-	-	-	-	-	463	-	462	1	-	96
-	-	-	-	-	26	-	23	3	1	97
-	-	-	-	-	71	-	59	10	3	98

Table 1. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

Procedure category and ICD-9-CM code		Both sexes				
		All ages	Under 15 years	15-44 years	45-64 years	65 years and over
Number of all-listed procedures in thousands						
99	Other excision or destruction of lesion or tissue of cervix, uterus, and supporting structures 67.3-67.4, 68.2, 69.1	97	-	67	21	9
100	Abdominal hysterectomy 68.3-68.4, 68.6	506	-	330	142	34
101	Vaginal hysterectomy 68.5, 68.7	166	-	109	37	19
102	Dilation and curettage of uterus to terminate pregnancy . . . 69.01	29	-	29	-	-
103	Dilation and curettage of uterus after delivery or abortion . . . 69.02	281	-	281	-	-
104	Diagnostic dilation and curettage of uterus 69.09	632	1	421	166	44
105	Aspiration curettage of uterus for termination of pregnancy 69.51	66	1	64	1	-
106	Repair of cystocele and rectocele 70.5	150	-	58	56	35
107	Incision and excision of lesion of vulva and perineum 71.0, 71.2-71.4	57	1	43	10	3
108	Biopsy and other diagnostic procedures on the female genital organs 65.1, 66.1, 67.1, 68.1, 70.2, 71.1	159	-	99	44	16
109	Residual	445	4	377	36	28
110	Obstetrical procedures 72-75	3,915	10	3,901	*2	-
111	Low forceps operation with and without episiotomy . . . 72.0-72.1	366	1	365	-	-
112	Extraction procedures to assist delivery 72.2-72.5, 72.7-72.9, 73.2	123	-	122	-	-
113	Episiotomy 73.6	1,574	5	1,569	1	-
114	Other procedures to assist delivery 72.6, 73.0-73.1, 73.3-73.5, 73.8-73.9	342	-	341	-	-
115	Cesarean section 74.0-74.2, 74.4, 74.99	808	1	805	1	-
116	Repair of current obstetric laceration 75.5-75.6	479	2	478	-	-
117	Residual	223	1	221	-	-
118	Operations on the musculoskeletal system 76-84	3,761	249	1,718	966	830
119	Incision of bone 76.0, 77.0-77.3	161	14	83	45	19
120	Reduction of fracture and dislocation of jawbone 76.71-76.77, 76.93-76.96	55	3	46	4	3
121	Bunionectomy 77.5	182	3	75	68	36
122	Partial excision of bone 76.2-76.3, 77.6-77.8	251	7	119	84	41
123	Removal of internal bone fixation device 76.97, 78.6	94	10	43	19	23
124	Open reduction of fracture 76.79, 79.2-79.3, 79.5-79.6	390	29	162	68	131
125	Other reduction of fracture 76.70, 76.78, 79.0-79.1, 79.4	215	68	71	35	41
126	Reduction of dislocation of joint 79.7-79.8	38	6	18	8	8
127	Repair and plastic operations on bone (except facial) 78.0-78.5, 78.7, 78.9, 79.9	147	13	64	28	42
128	Excision or destruction of intervertebral disc 80.5	188	-	108	65	15
129	Excision of semilunar cartilage of knee 80.6	147	3	91	37	15
130	Spinal fusion 81.0	70	5	35	24	6
131	Arthroplasty of knee 81.41-81.47	147	3	74	29	41
132	Arthroplasty and replacement of hip 81.5-81.6	159	-	7	34	118
133	Arthroplasty of other joints 81.3, 81.48-81.49, 81.7-81.8	194	4	91	60	38
134	Operations on muscles, tendons, fascia, and bursa 82-83.1, 83.3-83.9	403	41	190	116	57
135	Amputation of the lower limb 84.1	118	-	12	31	75
136	Residual	802	40	429	211	121
137	Operations on the integumentary system 85-86	1,831	120	742	560	409
138	Excision or destruction of breast tissue (partial mastectomy) 85.20-85.23	113	1	48	43	21
139	Mastectomy 85.4	116	1	17	54	44
140	Incision of skin and subcutaneous tissue 86.0	161	16	69	41	34
141	Excision of pilonidal cyst or sinus 86.21	39	2	34	2	1
142	Debridement of wound, infection, or burn 86.22	219	24	86	46	63
143	Other excision or destruction of lesion of skin and subcutaneous tissue 86.23-86.4	423	25	159	139	100
144	Suture of skin and subcutaneous tissue 86.5	178	20	105	31	22
145	Skin graft (except lip or mouth) 86.6-86.7	154	18	55	42	40
146	Biopsies on the integumentary system 85.1, 86.1	211	4	60	80	67
147	Residual	217	9	109	82	17

Table 1. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>All ages</i>	<i>Male</i>				<i>Female</i>					
	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</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>	
-	-	-	-	-	97	-	67	21	9	99
-	-	-	-	-	506	-	330	142	34	100
-	-	-	-	-	166	-	109	37	19	101
-	-	-	-	-	29	-	29	-	-	102
-	-	-	-	-	281	-	281	-	-	103
-	-	-	-	-	632	1	421	166	44	104
-	-	-	-	-	66	1	64	1	-	105
-	-	-	-	-	150	-	58	56	35	106
-	-	-	-	-	57	1	43	10	3	107
-	-	-	-	-	159	-	99	44	16	108
-	-	-	-	-	445	4	377	36	28	109
-	-	-	-	-	3,915	10	3,901	*2	-	110
-	-	-	-	-	366	1	365	-	-	111
-	-	-	-	-	123	-	122	-	-	112
-	-	-	-	-	1,574	5	1,569	1	-	113
-	-	-	-	-	342	-	341	-	-	114
-	-	-	-	-	808	1	805	1	-	115
-	-	-	-	-	479	2	478	-	-	116
-	-	-	-	-	223	1	221	-	-	117
1,827	141	1,036	408	241	1,934	108	680	555	590	118
61	8	34	13	6	100	6	49	31	14	119
45	2	39	2	2	11	1	7	1	1	120
22	-	13	6	3	160	2	63	62	33	121
117	5	64	32	16	135	2	55	52	26	122
43	5	26	8	4	51	5	17	11	18	123
190	17	114	29	31	199	12	48	39	100	124
123	47	52	16	8	93	21	19	19	33	125
23	2	15	4	2	15	4	2	3	6	126
70	7	41	13	9	76	7	22	14	33	127
106	-	66	34	6	82	-	43	31	9	128
97	1	68	24	3	50	2	23	13	12	129
36	1	21	12	2	34	4	14	12	4	130
79	1	54	11	12	68	2	20	18	29	131
51	-	3	16	32	108	-	4	18	86	132
72	2	49	15	6	122	2	42	45	32	133
217	22	113	58	24	186	19	76	58	33	134
64	-	9	18	37	54	-	3	13	38	135
411	21	255	97	38	390	19	173	115	83	136
707	69	345	175	122	1,121	53	395	384	287	137
6	-	2	2	2	107	1	46	41	19	138
6	1	2	2	1	110	-	15	51	43	139
89	10	47	19	13	71	7	22	22	21	140
23	-	21	2	1	15	2	13	-	-	141
127	14	65	22	27	92	11	21	24	36	142
177	12	65	64	37	246	13	94	75	63	143
122	13	80	19	11	55	7	25	12	11	144
88	12	38	23	15	66	6	17	19	24	145
29	2	5	11	11	182	2	54	69	56	146
40	5	20	11	4	177	4	88	71	14	147

Number of all-listed procedures in thousands—Con.

Table 1. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>Procedure category and ICD-9-CM code</i>		<i>Both sexes</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 procedures in thousands				
148	Miscellaneous diagnostic and therapeutic procedures 87-99	6,293	301	1,596	2,027	2,366
149	Computerized axial tomography (CAT scan) 87.03, 87.41, 87.71, 88.01, 88.38	871	46	212	240	373
150	Contrast myelogram 87.21	404	2	215	139	46
151	Intravenous pyelogram 87.73	283	14	95	76	98
152	Retrograde pyelogram 87.74	170	4	50	61	56
153	Arteriography using contrast material 88.4	426	6	52	158	209
154	Angiocardiology using contrast material 88.5	399	10	52	231	106
155	Diagnostic ultrasound 88.7	695	31	225	189	249
156	Radioisotope scan 92.0-92.1	685	14	119	230	322
157	Residual	2,360	174	576	703	907

Table 1. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>All ages</i>	<i>Male</i>				<i>Female</i>					
	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</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 procedures in thousands—Con.										
3,077	172	756	1,058	1,089	3,216	128	840	967	1,279	148
431	28	117	124	161	440	17	95	115	212	149
230	1	131	74	23	173	1	85	65	23	150
157	6	46	45	60	127	8	49	31	38	151
94	1	25	37	31	76	2	25	24	25	152
247	4	30	96	118	179	2	22	62	92	153
261	5	40	151	65	138	5	12	80	41	154
264	16	54	92	101	431	15	171	97	148	155
319	8	63	107	141	367	7	55	123	182	156
1,074	103	250	332	389	1,285	71	326	370	518	157

Table 2. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983

Procedure category and ICD-9-CM code		Both sexes				
		All ages	Under 15 years	15-44 years	45-64 years	65 years and over
		Rate of all-listed procedures per 100,000				
01	All procedures.	15,471.8	4,445.7	13,984.4	19,351.1	35,846.6
02	Operations on the nervous system 01-05	397.8	277.2	306.1	579.5	697.5
03	Incision and excision of the skull, brain, and cerebral meninges. 01.0, 01.2-01.6	36.9	15.7	20.1	62.5	101.8
04	Laminectomy. 03.0	42.0	0.3	32.1	90.0	81.8
05	Operations on the cranial and peripheral nerves . . . 04.0, 04.2-04.9	101.6	13.1	100.9	181.1	141.7
06	Spinal tap and biopsies on the nervous system 01.1, 03.3, 04.1, 05.1	122.9	195.3	77.7	100.4	202.4
07	Residual	94.2	51.9	74.1	143.7	172.8
08	Operations on the endocrine system. 06-07	45.2	11.6	37.7	80.9	80.3
09	Thyroidectomy 06.2-06.6	25.0	1.0	23.4	54.1	29.0
10	Other operations on the endocrine system. 06.7-07.9	20.1	9.0	14.6	26.8	52.3
11	Operations on the eye 08-16	671.2	129.9	109.4	662.6	3,933.1
12	Extraction of lens 13.1-13.6	271.1	9.8	16.6	238.4	1,827.9
13	Resection and recession of ocular muscle 15.1-15.6	20.1	59.2	10.8	7.3	4.3
14	Residual	379.6	60.5	81.9	418.1	2,101.2
15	Operations on the ear. 18-20	160.1	426.4	77.2	96.6	94.9
16	Tympanoplasty 19.4-19.5	20.4	23.1	18.9	26.0	12.4
17	Myringotomy. 20.0	80.6	326.7	9.5	11.0	12.3
18	Residual	59.2	76.0	48.3	58.6	72.1
19	Operations on the nose, mouth, and pharynx. 21-29	647.9	876.2	634.2	494.1	500.3
20	Submucous resection of nasal septum 21.5	20.9	3.7	35.2	14.6	6.9
21	Incision, excision, and destruction of nose and lesion of nose. 21.1, 21.3-21.4, 21.6	62.2	19.4	73.4	79.4	70.2
22	Reduction of nasal fracture 21.7	15.8	9.8	25.9	4.5	4.7
23	Rhinoplasty and repair of nose 21.8	113.1	25.2	173.1	104.3	55.0
24	Forceps extraction of tooth 23.0	30.4	21.5	26.6	34.7	54.7
25	Surgical removal of tooth. 23.1	27.2	6.9	42.5	16.7	21.8
26	Plastic operations on mouth and palate 27.5-27.6	18.1	42.0	10.6	11.4	13.4
27	Tonsillectomy without adenoidectomy 28.2	73.0	91.4	108.5	9.0	1.2
28	Tonsillectomy with adenoidectomy. 28.3	109.8	449.8	19.8	1.9	1.8
29	Adenoidectomy without tonsillectomy 28.6	22.6	97.4	1.7	1.0	-
30	Residual	153.9	107.7	117.2	222.9	274.3
31	Operations on the respiratory system 30-34	417.6	139.6	169.1	752.4	1,380.4
32	Temporary tracheostomy 31.1	21.1	7.4	8.0	36.4	74.0
33	Laryngoscopy and tracheoscopy. 31.41-31.42	39.7	39.2	13.8	74.4	86.7
34	Lung lobectomy and pneumonectomy 32.3-32.5	17.1	0.8	4.2	44.1	54.8
35	Bronchoscopy. 33.21-33.23	98.5	33.6	31.5	169.7	370.8
36	Incision of chest wall and pleura. 34.0	56.1	25.1	41.0	75.7	142.6
37	Thoracentesis 34.91	45.9	2.6	12.6	70.7	219.7
38	Biopsy and other diagnostic procedures on the respiratory system. 31.43-31.44, 33.24-33.27, 34.2	87.1	6.0	26.4	184.9	322.3
39	Residual	52.0	27.9	30.0	97.6	110.8
40	Operations on the cardiovascular system 35-39	820.5	226.8	214.2	1,756.5	2,833.9
41	Operations on valves of heart 35.1-35.2, 35.99	15.9	6.6	4.9	34.3	46.8
42	Direct heart revascularization. 36.1	82.4	1.9	9.7	252.3	246.3
43	Other open heart operations. 35.3-35.51, 35.53-35.98, 36.0, 36.2, 36.9, 37.10-37.11, 37.32-37.33, 37.5	20.3	26.8	4.7	45.6	29.1
44	Cardiac catheterization 37.21-37.23	218.8	62.4	55.7	622.9	504.2
45	Pacemaker insertion, replacement, removal, and repair . . . 37.7-37.8	81.5	-	8.0	69.1	547.6
46	Ligation and stripping of varicose veins 38.5	23.4	-	23.3	50.4	24.1
47	Systemic shunt and graft bypass. 39.0-39.2	59.1	5.6	11.6	126.5	239.3
48	Hemodialysis 39.95	30.9	4.5	20.0	70.1	60.3
49	Residual	289.0	119.2	75.0	489.6	1,133.0

Table 2. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>Male</i>					<i>Female</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>	<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>	
Rate of all-listed procedures per 100,000—Con.										
12,474.5	5,102.3	7,481.9	19,274.4	41,445.6	18,271.1	3,758.3	20,308.5	19,419.7	32,092.1	01
404.7	288.0	324.4	567.2	764.2	390.4	261.9	286.5	590.6	658.9	02
40.9	17.2	20.9	72.0	135.4	33.2	14.1	19.5	53.8	79.3	03
46.5	0.6	34.5	101.7	108.5	37.9	-	29.8	79.4	63.8	04
87.1	13.2	105.7	121.3	107.4	115.1	12.9	96.2	235.2	164.6	05
123.9	207.4	70.7	110.2	209.3	121.9	182.6	84.5	91.5	197.8	06
105.8	50.9	91.8	162.9	196.0	83.3	53.0	57.0	126.3	157.2	07
25.9	*7.6	24.2	37.8	54.6	63.3	15.9	50.8	119.8	97.6	08
7.9	-	7.5	14.5	16.2	40.9	2.1	38.8	89.9	37.6	09
17.4	6.0	16.1	24.5	38.2	22.6	12.3	13.1	28.9	61.8	10
537.6	144.0	115.6	699.6	3,229.6	795.9	111.1	101.5	629.1	4,404.6	11
202.2	10.3	14.5	260.2	1,466.9	335.5	9.2	18.6	218.6	2,070.0	12
20.6	57.3	10.0	8.9	7.1	19.7	61.3	11.7	5.8	2.5	13
314.3	75.9	92.0	428.8	1,751.5	440.6	44.3	72.2	408.4	2,335.7	14
184.5	500.3	80.2	80.4	118.3	138.2	349.2	70.7	111.3	79.3	15
20.3	26.3	17.3	24.0	13.1	20.6	19.6	20.5	27.9	11.9	16
96.3	381.4	8.1	8.8	11.2	65.8	269.4	10.9	13.1	13.0	17
67.4	91.8	56.5	48.5	98.7	51.6	59.4	40.3	67.8	54.4	18
649.0	909.6	570.5	543.6	636.8	643.6	841.2	694.4	462.2	414.8	19
20.4	1.9	34.0	16.5	6.2	21.4	5.6	36.4	12.8	7.4	20
64.3	18.1	70.0	95.5	87.4	60.3	20.8	76.8	64.8	58.7	21
16.2	12.2	26.3	2.7	2.4	15.4	7.3	25.6	6.2	6.3	22
111.4	20.4	166.5	104.3	74.5	114.8	30.3	179.5	104.3	41.9	23
30.7	26.1	24.9	35.5	61.0	30.0	16.6	28.3	34.0	50.5	24
24.1	6.0	36.2	18.5	18.9	30.1	7.9	48.6	15.0	23.7	25
22.0	47.8	12.0	14.8	22.4	14.4	35.8	9.2	8.4	7.4	26
50.1	72.5	64.4	12.2	-	94.3	111.1	151.4	6.1	2.0	27
117.0	470.4	11.5	2.4	3.7	103.0	428.3	27.9	1.5	0.5	28
29.3	120.4	1.7	0.7	-	16.4	73.2	1.8	1.2	-	29
164.4	109.1	125.2	235.0	353.0	144.0	106.3	109.3	211.9	221.5	30
520.6	170.5	214.4	987.9	1,992.4	320.5	115.1	123.3	552.1	976.1	31
28.6	10.9	11.3	49.8	114.6	14.1	3.8	4.8	24.4	46.7	32
47.3	50.8	14.5	86.9	122.8	32.5	27.1	13.2	63.0	62.6	33
19.6	-	4.9	54.7	70.3	14.8	1.7	3.6	34.5	44.4	34
122.5	44.7	33.7	226.8	541.8	76.0	21.9	29.3	118.0	256.2	35
77.1	27.5	64.9	102.7	206.4	36.5	22.7	17.7	51.3	99.8	36
48.5	2.6	15.2	82.8	255.0	43.6	2.6	10.2	59.7	196.1	37
110.1	3.9	30.9	247.2	487.8	65.7	8.2	22.1	128.5	211.2	38
67.8	30.5	38.2	130.6	181.5	37.3	25.2	22.1	67.8	63.5	39
1,023.4	231.2	253.6	2,425.0	3,984.7	632.7	222.2	175.9	1,155.5	2,068.1	40
14.9	7.1	3.7	32.1	54.9	16.8	6.1	6.1	36.4	41.3	41
129.3	3.8	15.9	410.8	442.8	38.5	-	3.7	108.7	114.5	42
28.5	18.0	6.9	79.8	60.5	12.7	36.0	2.6	14.7	8.0	43
290.4	60.2	85.8	871.8	722.7	151.8	64.6	26.4	397.6	357.7	44
84.3	-	9.5	84.4	651.8	78.9	-	6.5	55.2	477.7	45
14.2	-	11.5	32.6	25.7	32.0	-	34.7	66.4	23.0	46
71.8	3.7	14.1	170.5	326.7	47.3	7.5	9.3	86.6	180.7	47
37.2	5.6	22.6	86.9	89.3	25.0	3.4	17.5	54.8	40.8	48
351.7	133.9	81.5	659.2	1,601.4	230.4	103.9	68.7	336.0	818.9	49

Table 2. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

Procedure category and ICD-9-CM code		Both sexes				
		All ages	Under 15 years	15-44 years	45-64 years	65 years and over
		Rate of all-listed procedures per 100,000				
50	Operations on the hemic and lymphatic system 40-41	157.1	42.6	79.1	238.1	551.4
51	Splenectomy 41.5	14.0	2.8	12.4	18.1	35.2
52	Biopsies on the hemic and lymphatic system. 40.1, 41.3	109.9	30.8	43.9	164.5	432.6
53	Residual	33.3	10.4	22.1	55.6	84.7
54	Operations on the digestive system 42-54	2,517.2	544.7	1,841.1	3,587.1	7,186.9
55	Esophagoscopy and gastroscopy (natural orifice) 42.23, 44.13	106.0	17.7	47.6	203.5	345.7
56	Partial gastrectomy. 43.5-43.8	13.3	-	4.9	24.6	53.0
57	Local excision and destruction of lesion and tissue of stomach and intestine. 43.4, 45.3-45.4	39.9	5.7	10.4	61.4	186.6
58	Resection of intestine 45.6-45.8	93.6	8.9	20.6	128.7	486.5
59	Intestinal anastomosis and repair 45.9, 46.4-46.9	48.3	13.6	25.2	68.8	172.7
60	Ileostomy, colostomy, and other enterostomy 46.1-46.3	43.4	4.2	14.1	58.3	209.3
61	Appendectomy, excluding incidental 47.0	121.4	144.9	151.4	62.5	54.1
62	Local excision and destruction of lesion and tissue of rectum and anus except anal fistula. 48.3, 49.3	35.6	2.4	28.1	57.3	92.8
63	Hemorrhoidectomy. 49.43-49.46	57.8	-	58.8	111.5	75.6
64	Cholecystectomy. 51.2	209.6	2.6	153.8	364.1	570.1
65	Repair of inguinal hernia 53.0-53.1	219.5	156.4	123.4	348.5	510.5
66	Repair of umbilical hernia 53.4	27.2	20.0	15.2	43.8	61.2
67	Other hernia repair 53.2-53.3, 53.5-53.9	60.8	5.7	33.4	113.0	188.2
68	Laparotomy 54.1	35.2	7.9	34.6	41.4	79.2
69	Incision and excision of abdominal wall and peritoneum except laparotomy 54.0, 54.3-54.4, 54.91	53.7	16.0	36.8	89.6	133.6
70	Division of peritoneal adhesions 54.5	128.2	6.1	165.1	130.8	207.1
71	Biopsies and other endoscopies of the digestive system 42.21-42.22, 42.24, 44.11-44.12, 44.14-44.15, 45.1-45.2, 48.2, 49.2, 50.1, 51.1, 52.1, 54.2	785.2	51.9	554.0	1,072.1	2,618.7
72	Residual	438.4	81.1	364.0	605.7	1,135.0
73	Operations on the urinary system 55-59	805.9	182.2	387.9	1,170.2	3,049.3
74	Nephrotomy, pyelotomy, and complete nephrectomy 55.0-55.1, 55.5	32.6	9.3	18.8	55.8	93.2
75	Endoscopies of the urinary system through natural orifice 55.21-55.22, 56.31, 57.32, 58.22	344.2	60.2	123.9	499.7	1,501.9
76	Transurethral excision or destruction of bladder tissue 57.4	58.3	0.6	10.0	78.3	326.2
77	Urethral meatotomy 58.1	9.7	17.5	3.2	10.4	19.9
78	Dilation of urethra. 58.6	70.4	25.3	34.3	96.6	255.9
79	Retropubic urethral suspension. 59.5	20.1	0.3	20.1	40.5	23.8
80	Ureteral catheterization 59.8	14.7	2.1	8.6	29.6	38.7
81	Biopsies and other endoscopies of the urinary system 55.23-55.24, 56.32-56.33, 57.31, 57.33-57.34, 58.21, 58.23-58.24, 59.2	32.1	4.0	14.4	50.3	126.0
82	Residual	224.0	64.0	155.0	309.4	660.5
83	Operations on the male genital organs 60-64	363.8	246.2	120.4	404.3	1,500.9
84	Prostatectomy. 60.2-60.6	153.6	-	1.6	183.0	999.1
85	Excision of hydrocele and other lesion of tunica vaginalis 61.2, 61.92	23.5	42.2	11.2	29.0	28.4
86	Orchiectomy and orchiopexy. 62.3-62.5	34.6	52.4	13.7	19.3	108.7
87	Vasectomy and ligation of vas deferens 63.7	10.4	-	8.8	10.4	36.2
88	Circumcision 64.0	39.3	102.4	17.4	26.0	29.2
89	Biopsy and other diagnostic procedures on the male genital organs. 60.1, 61.1, 62.1, 63.0, 64.1	40.1	3.3	9.4	52.8	210.5
90	Residual	62.3	44.3	58.0	80.1	84.2
91	Operations on the female genital organs 65-71	1,666.9	19.4	2,696.0	1,547.6	876.5
92	Local excision or destruction of ovarian lesion or tissue. 65.2	45.9	3.5	87.6	12.6	13.9
93	Unilateral oophorectomy and salpingo-oophorectomy. . . 65.3-65.4	85.0	2.4	145.4	62.0	37.8
94	Bilateral oophorectomy and salpingo-oophorectomy. . . 65.5-65.6	135.5	-	143.3	281.4	122.8
95	Bilateral endoscopic destruction or occlusion of fallopian tubes 66.2	45.1	0.3	93.5	6.3	-
96	Other bilateral destruction or occlusion of fallopian tubes 66.3	199.3	-	425.0	1.5	-
97	Total bilateral salpingectomy. 66.5	11.3	-	20.9	6.1	3.0
98	Conization of cervix 67.2	30.7	-	54.3	21.7	9.7

Table 2. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

Male					Female					
All ages	Under 15 years	15-44 years	45-64 years	65 years and over	All ages	Under 15 years	15-44 years	45-64 years	65 years and over	
Rate of all-listed procedures per 100,000—Con.										
161.4	45.5	83.9	274.2	600.4	154.0	39.7	72.5	205.4	524.6	50
16.0	1.9	16.4	24.2	32.1	12.2	3.7	8.6	12.6	37.2	51
110.5	38.8	43.4	193.3	450.6	109.4	22.5	44.4	138.4	420.5	52
34.5	7.5	24.6	54.8	108.9	32.2	13.5	19.8	56.4	68.5	53
2,234.1	697.3	1,282.7	3,668.2	7,787.5	2,781.5	396.8	2,384.3	3,496.4	6,759.4	54
95.2	17.2	44.3	204.5	320.5	116.1	18.3	50.8	202.6	362.6	55
11.9	-	5.7	24.9	45.8	14.5	-	4.2	24.4	57.8	56
41.6	4.9	12.6	71.0	214.6	38.3	6.6	8.3	52.8	167.8	57
90.2	10.5	22.7	132.5	529.0	96.9	7.2	18.5	125.3	457.9	58
46.3	16.4	27.9	57.7	185.7	50.2	10.5	22.4	78.9	163.9	59
47.2	6.0	17.1	68.5	252.0	39.8	2.2	11.2	49.1	180.7	60
131.5	145.9	168.1	60.7	54.5	112.0	143.8	135.1	64.2	53.9	61
39.4	4.7	32.5	68.2	100.3	32.1	-	23.7	47.4	87.8	62
67.5	-	73.9	121.1	95.0	48.8	-	44.1	102.8	62.5	63
131.0	2.7	50.1	270.5	565.8	283.0	2.5	254.7	448.9	573.1	64
406.7	254.8	217.5	688.7	1,151.4	44.6	53.3	31.8	40.4	80.7	65
23.0	29.1	9.8	39.3	41.6	31.1	10.4	20.5	47.9	74.4	66
44.0	9.9	23.1	83.1	152.6	76.4	1.4	43.4	140.0	212.1	67
30.1	9.7	26.3	40.1	78.5	40.0	6.0	42.7	42.5	79.6	68
45.1	25.2	28.9	71.4	120.8	61.8	6.4	44.4	106.0	142.2	69
33.5	6.2	21.0	43.7	140.9	216.6	6.1	305.2	209.7	251.6	70
566.3	54.5	259.2	990.0	2,477.6	989.7	49.0	840.8	1,146.4	2,713.4	71
383.5	96.6	242.7	641.1	1,263.1	489.7	64.9	482.0	573.6	1,049.1	72
978.9	178.1	302.0	1,399.2	5,403.9	644.4	186.5	475.0	962.9	1,476.3	73
35.2	7.5	19.5	63.8	123.1	30.1	11.2	18.0	48.6	73.2	74
474.1	52.2	107.8	666.5	2,904.4	223.0	68.6	139.6	348.7	561.4	75
85.4	1.2	5.3	122.0	607.7	33.0	-	14.6	38.8	137.5	76
16.1	23.5	5.4	17.7	47.7	3.7	11.2	0.9	3.7	1.2	77
71.6	16.1	19.6	98.4	406.5	69.2	34.8	48.6	95.0	154.9	78
0.1	0.5	-	-	-	38.7	-	39.7	77.2	39.7	79
13.8	0.8	6.3	29.4	51.9	15.6	3.4	10.9	29.9	29.7	80
38.1	5.3	12.7	65.2	189.0	26.5	2.7	16.0	36.7	83.9	81
244.6	75.7	124.3	333.7	1,066.2	204.7	51.8	184.9	287.4	388.4	82
753.3	481.3	244.2	850.9	3,739.1	-	-	-	-	-	83
318.1	-	3.3	385.0	2,489.0	-	-	-	-	-	84
48.7	82.6	22.6	61.0	70.8	-	-	-	-	-	85
71.6	102.5	27.7	40.6	270.8	-	-	-	-	-	86
21.5	-	17.9	21.9	90.1	-	-	-	-	-	87
81.5	200.3	35.3	54.6	72.8	-	-	-	-	-	88
83.0	6.5	19.1	111.2	524.5	-	-	-	-	-	89
129.0	86.7	117.7	168.6	209.7	-	-	-	-	-	90
-	-	-	-	-	3,223.6	39.7	5,317.9	2,948.6	1,464.1	91
-	-	-	-	-	88.7	7.2	172.8	24.0	23.3	92
-	-	-	-	-	164.3	4.8	286.9	118.2	63.1	93
-	-	-	-	-	262.1	-	282.6	536.1	205.1	94
-	-	-	-	-	87.2	0.6	184.5	12.0	-	95
-	-	-	-	-	385.5	-	838.4	2.8	-	96
-	-	-	-	-	21.9	-	41.3	11.7	5.1	97
-	-	-	-	-	59.4	-	107.1	41.3	16.2	98

Table 2. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

Procedure category and ICD-9-CM code		Both sexes				
		All ages	Under 15 years	15-44 years	45-64 years	65 years and over
Rate of all-listed procedures per 100,000						
99	Other excision or destruction of lesion or tissue of cervix, uterus, and supporting structures. 67.3-67.4, 68.2, 69.1	41.6	0.3	61.6	46.4	32.3
100	Abdominal hysterectomy 68.3-68.4, 68.6	218.0	-	303.5	319.8	123.3
101	Vaginal hysterectomy 68.5, 68.7	71.4	-	100.6	84.2	69.4
102	Dilation and curettage of uterus to terminate pregnancy. . . . 69.01	12.6	0.4	26.6	0.3	-
103	Dilation and curettage of uterus after delivery or abortion . . . 69.02	121.0	0.4	257.9	0.9	-
104	Diagnostic dilation and curettage of uterus 69.09	272.1	1.7	387.2	372.7	161.1
105	Aspiration curettage of uterus for termination of pregnancy. 69.51	28.4	1.6	59.2	1.5	-
106	Repair of cystocele and rectocele 70.5	64.5	-	53.5	126.5	129.5
107	Incision and excision of lesion of vulva and perineum 71.0, 71.2-71.4	24.6	1.2	39.8	23.2	10.7
108	Biopsy and other diagnostic procedures on the female genital organs. 65.1, 66.1, 67.1, 68.1, 70.2, 71.1	68.3	0.4	90.8	97.9	58.6
109	Residual	191.5	7.7	346.3	80.0	103.7
110	Obstetrical procedures 72-75	1,685.4	19.4	3,585.8	*4.5	-
111	Low forceps operation with and without episiotomy. . . . 72.0-72.1	157.5	1.4	335.7	0.2	-
112	Extraction procedures to assist delivery 72.2-72.5, 72.7-72.9, 73.2	52.7	0.5	112.4	-	-
113	Episiotomy. 73.6	677.8	9.7	1,442.1	1.3	-
114	Other procedures to assist delivery 72.6, 73.0-73.1, 73.3-73.5, 73.8-73.9	147.2	0.8	313.5	1.0	-
115	Cesarean section. 74.0-74.2, 74.4, 74.99	347.6	1.7	740.4	2.6	-
116	Repair of current obstetric laceration 75.5-75.6	206.3	3.3	438.9	-	-
117	Residual	95.8	2.2	203.5	-	-
118	Operations on the musculoskeletal system. 76-84	1,619.1	482.7	1,579.2	2,169.8	3,031.1
119	Incision of bone 76.0, 77.0-77.3	69.5	27.5	76.6	100.3	70.5
120	Reduction of fracture and dislocation of jawbone 76.71-76.77, 76.93-76.96	23.9	5.0	42.4	8.2	11.2
121	Bunionectomy. 77.5	78.3	5.2	69.3	152.3	131.8
122	Partial excision of bone 76.2-76.3, 77.6-77.8	108.2	14.0	109.5	188.0	150.7
123	Removal of internal bone fixation device 76.97, 78.6	40.6	18.6	40.0	42.1	82.4
124	Open reduction of fracture. 76.79, 79.2-79.3, 79.5-79.6	167.7	56.7	148.6	152.9	477.3
125	Other reduction of fracture. 76.70, 76.78, 79.0-79.1, 79.4	92.7	132.3	65.6	77.9	150.0
126	Reduction of dislocation of joint. 79.7-79.8	16.5	10.7	16.2	16.9	27.9
127	Repair and plastic operations on bone (except facial) 78.0-78.5, 78.7, 78.9, 79.9	63.1	26.0	58.5	62.0	153.3
128	Excision or destruction of intervertebral disc 80.5	81.0	-	99.4	145.5	55.4
129	Excision of semilunar cartilage of knee. 80.6	63.4	6.7	84.0	83.9	54.9
130	Spinal fusion. 81.0	30.1	10.1	32.1	53.8	21.4
131	Arthroplasty of knee. 81.41-81.47	63.2	5.1	68.4	65.2	149.0
132	Arthroplasty and replacement of hip. 81.5-81.6	68.4	-	6.7	76.5	429.3
133	Arthroplasty of other joints 81.3, 81.48-81.49, 81.7-81.8	83.3	8.2	83.6	135.4	139.2
134	Operations on muscles, tendons, fascia, and bursa 82-83.1, 83.3-83.9	173.5	78.7	174.2	261.1	207.2
135	Amputation of the lower limb 84.1	50.8	0.8	10.9	68.6	274.9
136	Residual	345.1	77.9	394.0	474.8	443.3
137	Operations on the integumentary system 85-86	788.3	232.6	682.0	1,257.8	1,493.6
138	Excision or destruction of breast tissue (partial mastectomy). 85.20-85.23	48.8	2.4	43.7	97.4	77.3
139	Mastectomy. 85.4	50.0	2.0	15.6	120.5	162.5
140	Incision of skin and subcutaneous tissue 86.0	69.2	31.9	63.3	92.1	125.5
141	Excision of pilonidal cyst or sinus 86.21	16.7	3.5	30.9	5.4	3.9
142	Debridement of wound, infection, or burn 86.22	94.2	46.8	79.1	103.4	228.6
143	Other excision or destruction of lesion of skin and subcutaneous tissue. 86.23-86.4	182.0	48.3	146.1	311.6	365.9
144	Suture of skin and subcutaneous tissue 86.5	76.6	38.6	96.9	68.9	79.9
145	Skin graft (except lip or mouth). 86.6-86.7	66.3	35.0	50.1	93.8	144.7
146	Biopsies on the integumentary system 85.1, 86.1	90.9	8.1	54.8	179.4	246.3
147	Residual	93.4	18.0	99.8	183.2	63.9

Table 2. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>Male</i>					<i>Female</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>	<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>	
Rate of all-listed procedures per 100,000—Con.										
-	-	-	-	-	80.5	0.6	121.5	88.4	54.0	99
-	-	-	-	-	421.5	-	598.6	609.4	205.9	100
-	-	-	-	-	138.2	-	198.5	160.4	115.9	101
-	-	-	-	-	24.3	0.7	52.4	0.6	-	102
-	-	-	-	-	234.0	0.9	508.6	1.6	-	103
-	-	-	-	-	526.3	3.4	763.7	710.2	269.2	104
-	-	-	-	-	54.9	3.3	116.9	2.9	-	105
-	-	-	-	-	124.8	-	105.5	241.0	216.3	106
-	-	-	-	-	47.6	2.4	78.6	44.3	17.9	107
-	-	-	-	-	132.0	0.8	179.1	186.5	97.8	108
-	-	-	-	-	370.3	15.7	683.2	152.3	173.2	109
-	-	-	-	-	3,259.4	39.7	7,073.1	*8.6	-	110
-	-	-	-	-	304.7	2.9	662.1	0.3	-	111
-	-	-	-	-	102.0	1.0	221.7	-	-	112
-	-	-	-	-	1,310.8	19.9	2,844.6	2.4	-	113
-	-	-	-	-	284.7	1.7	618.4	1.9	-	114
-	-	-	-	-	672.3	3.5	1,460.4	5.0	-	115
-	-	-	-	-	399.0	6.7	865.8	-	-	116
-	-	-	-	-	185.3	4.5	401.5	-	-	117
1,628.8	534.4	4,897.2	1,928.6	2,192.5	1,610.1	428.5	1,232.9	2,375.1	3,599.3	118
54.6	30.2	63.9	63.0	51.7	83.4	24.6	88.9	134.0	83.1	119
39.8	6.5	72.1	11.7	15.8	9.0	3.4	13.5	5.0	8.0	120
19.5	1.3	23.4	27.5	29.0	133.3	9.2	114.0	265.4	200.6	121
104.0	19.2	119.7	150.0	142.9	112.1	8.6	99.5	222.4	156.0	122
38.3	17.6	49.3	35.9	38.3	42.8	19.5	30.8	47.7	111.9	123
169.6	65.4	211.9	135.3	278.9	166.0	47.5	87.0	168.8	610.3	124
109.3	177.6	96.9	75.7	70.1	77.3	84.9	35.2	79.9	203.6	125
20.6	6.9	28.5	20.1	15.6	12.6	14.8	4.1	14.0	36.1	126
62.6	25.0	77.1	62.7	82.3	63.6	27.0	40.5	61.3	200.8	127
94.5	-	122.1	161.2	58.4	68.3	-	77.3	131.2	53.4	128
86.5	5.3	127.5	112.9	30.9	41.7	8.2	41.6	57.6	71.1	129
32.2	5.5	38.8	55.7	18.5	28.2	15.0	25.6	52.1	23.4	130
70.0	4.1	101.5	53.8	105.7	56.9	6.2	36.2	75.6	178.1	131
45.8	-	6.4	75.8	290.3	89.6	-	7.1	77.1	522.6	132
64.1	9.4	91.1	70.2	51.6	101.3	6.9	76.3	194.5	197.6	133
193.4	82.9	210.7	273.9	219.2	155.0	74.2	138.6	249.6	199.1	134
56.9	1.2	15.9	83.0	341.0	45.1	0.5	6.1	55.5	230.6	135
366.5	81.0	475.8	456.3	346.1	325.1	74.7	314.5	491.5	508.5	136
630.3	261.5	643.2	827.2	1,109.9	933.3	210.3	716.2	1,643.3	1,750.9	137
5.5	1.8	3.4	10.2	16.0	89.2	3.0	82.9	176.3	118.5	138
5.4	3.8	3.0	11.3	9.3	91.7	-	27.9	219.3	265.2	139
79.6	36.2	87.8	91.6	121.0	59.4	27.5	39.4	92.5	128.5	140
20.8	-	38.4	9.8	6.5	12.9	7.1	23.6	1.5	2.2	141
113.2	51.2	120.7	104.1	242.4	76.5	42.1	38.6	102.8	219.3	142
157.7	45.1	120.5	300.5	334.7	204.7	51.7	170.9	321.7	386.9	143
109.1	49.1	149.3	87.8	97.7	46.2	27.7	45.8	51.8	68.0	144
78.6	45.2	70.2	109.8	140.2	54.8	24.3	30.6	79.4	147.8	145
26.0	7.0	10.2	50.5	101.0	151.5	9.3	98.0	296.0	343.7	146
35.7	20.7	38.1	49.7	33.0	147.3	15.1	159.9	304.1	84.6	147

Table 2. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>Procedure category and ICD-9-CM code</i>		<i>Both sexes</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>
		Rate of all-listed procedures per 100,000				
148	Miscellaneous diagnostic and therapeutic procedures 87-99	2,709.2	583.5	1,467.0	4,552.9	8,640.4
149	Computerized axial tomography (CAT scan). 87.03, 87.41, 87.71, 88.01, 88.38	374.8	88.4	195.3	538.1	1,362.2
150	Contrast myelogram 87.21	173.8	4.7	198.1	313.2	168.9
151	Intravenous pyelogram 87.73	122.0	27.2	87.7	171.5	356.4
152	Retrograde pyelogram 87.74	73.0	7.0	45.6	136.2	203.6
153	Arteriography using contrast material 88.4	183.4	11.7	48.0	355.7	764.9
154	Angiocardiology using contrast material. 88.5	171.8	19.6	47.9	518.6	387.5
155	Diagnostic ultrasound. 88.7	299.0	60.9	206.9	424.8	909.0
156	Radioisotope scan 92.0-92.1	295.0	28.0	109.2	516.1	1,176.5
157	Residual	1,015.9	337.9	529.6	1,578.3	3,310.7

Table 2. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, sex, and age: United States, 1983—Con.

<i>Male</i>					<i>Female</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>	<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>	
Rate of all-listed procedures per 100,000—Con.										
2,743.2	651.9	1,409.4	5,001.2	9,907.2	2,677.4	507.9	1,523.0	4,138.3	7,802.6	148
384.2	106.6	218.8	586.7	1,467.8	366.1	69.2	172.5	494.0	1,291.4	149
205.3	5.6	244.2	351.3	213.7	144.3	3.8	153.2	278.6	138.8	150
139.8	22.1	86.0	213.9	542.3	105.4	32.6	89.3	133.0	231.8	151
83.5	4.6	46.5	173.2	281.5	63.2	9.4	44.8	102.8	151.3	152
220.5	13.5	55.7	454.7	1,071.1	148.7	9.7	40.4	266.0	559.6	153
232.5	18.0	74.3	712.2	595.7	115.2	21.3	22.1	343.2	247.8	154
235.0	62.2	101.2	433.3	921.6	358.8	59.5	309.8	417.1	900.6	155
284.0	29.6	118.2	504.9	1,278.9	305.2	26.3	100.5	526.2	1,107.8	156
957.9	390.6	466.9	1,571.3	3,534.6	1,070.1	282.8	590.6	1,584.5	3,160.6	157

Table 3. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, and geographic region: United States, 1983

<i>Procedure category and ICD-9-CM code</i>	<i>All regions</i>	<i>Northeast</i>	<i>North Central</i>	<i>South</i>	<i>West</i>
	Number of all-listed procedures in thousands				
All procedures	35,939	7,549	10,196	11,668	6,526
Operations on the nervous system 01-05	923	161	265	308	189
Incision and excision of the skull, brain, and cerebral meninges. 01.0, 01.2-01.6	86	17	24	29	15
Laminectomy 03.0	98	13	30	32	23
Operations on the cranial and peripheral nerves. 04.0, 04.2-04.9	236	39	62	73	61
Spinal tap and biopsies on the nervous system. 01.1, 03.3, 04.1, 05.1	285	68	78	91	49
Residual.	219	25	71	82	41
Operations on the endocrine system 06-07	105	24	28	34	18
Thyroidectomy. 06.2-06.6	58	15	17	19	7
Other operations on the endocrine system 06.7-07.9	47	9	12	15	11
Operations on the eye 08-16	1,558	280	493	457	328
Extraction of lens. 13.1-13.6	630	117	197	178	138
Resection and recession of ocular muscle 15.1-15.6	47	11	14	12	9
Residual.	882	152	283	267	181
Operations on the ear 18-20	372	74	134	110	54
Tympanoplasty 19.4-19.5	47	7	18	14	8
Myringotomy 20.0	187	45	59	59	24
Residual.	138	22	58	36	21
Operations on the nose, mouth, and pharynx 21-29	1,503	306	552	432	212
Submucous resection of nasal septum 21.5	49	19	17	8	5
Incision, excision, and destruction of nose and lesion of nose 21.1, 21.3-21.4, 21.6	145	19	75	36	15
Reduction of nasal fracture. 21.7	37	11	9	10	6
Rhinoplasty and repair of nose. 21.8	263	46	116	63	38
Forceps extraction of tooth. 23.0	71	28	17	16	9
Surgical removal of tooth 23.1	63	25	17	19	2
Plastic operations on mouth and palate 27.5-27.6	42	9	13	14	6
Tonsillectomy without adenoidectomy 28.2	170	29	58	55	28
Tonsillectomy with adenoidectomy 28.3	255	33	85	95	41
Adenoidectomy without tonsillectomy 28.6	53	9	22	17	5
Residual.	357	79	122	98	58
Operations on the respiratory system. 30-34	970	210	281	305	174
Temporary tracheostomy 31.1	49	10	15	15	8
Laryngoscopy and tracheoscopy 31.41-31.42	92	21	27	30	15
Lung lobectomy and pneumonectomy. 32.3-32.5	40	10	10	8	11
Bronchoscopy 33.21-33.23	229	45	71	77	35
Incision of chest wall and pleura 34.0	130	22	38	43	27
Thoracentesis 34.91	107	31	26	29	21
Biopsy and other diagnostic procedures on the respiratory system 31.43-31.44, 33.24-33.27, 34.2	202	50	52	65	36
Residual.	121	21	41	38	21
Operations on the cardiovascular system 35-39	1,908	307	558	640	402
Operations on valves of heart. 35.1-35.2, 35.99	37	6	7	16	8
Direct heart revascularization 36.1	191	27	62	61	41
Other open heart operations. 35.3-35.51, 35.53-35.98, 36.0, 36.2, 36.9, 37.10-37.11, 37.32-37.33, 37.5	47	4	12	23	8
Cardiac catheterization. 37.21-37.23	508	66	156	193	93
Pacemaker insertion, replacement, removal, and repair. 37.7-37.8	189	39	48	65	38
Ligation and stripping of varicose veins 38.5	54	13	16	18	7
Systemic shunt and graft bypass 39.0-39.2	137	28	38	43	29
Hemodialysis. 39.95	72	13	18	19	22
Residual.	671	111	202	202	156
Operations on the hemic and lymphatic system 40-41	365	82	116	104	63
Splenectomy 41.5	33	6	9	9	8
Biopsies on the hemic and lymphatic system 40.1, 41.3	255	60	80	73	42
Residual.	77	16	27	21	13

Table 3. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, and geographic region: United States, 1983—Con.

Procedure category and ICD-9-CM code	All regions	Northeast	North		
			Central	South	West
Number of all-listed procedures in thousands					
Operations on the digestive system..... 42-54	5,847	1,229	1,541	2,111	965
Esophagoscopy and gastroscopy (natural orifice)..... 42.23, 44.13	246	60	79	76	31
Partial gastrectomy..... 43.5-43.8	31	6	8	11	6
Local excision and destruction of lesion and tissue of stomach and intestine ... 43.4, 45.3-45.4	93	27	21	34	11
Resection of intestine..... 45.6-45.8	217	56	58	61	42
Intestinal anastomosis and repair..... 45.9, 46.4-46.9	112	27	32	30	24
Ileostomy, colostomy, and other enterostomy..... 46.1-46.3	101	26	27	26	22
Appendectomy, excluding incidental..... 47.0	282	57	71	97	57
Local excision and destruction of lesion and tissue of rectum and anus except anal fistula..... 48.3, 49.3	83	19	21	29	14
Hemorrhoidectomy..... 49.43-49.46	134	26	34	52	22
Cholecystectomy..... 51.2	487	90	143	178	77
Repair of inguinal hernia..... 53.0-53.1	510	127	131	159	93
Repair of umbilical hernia..... 53.4	63	12	16	24	11
Other hernia repair..... 53.2-53.3, 53.5-53.9	141	25	41	44	32
Laparotomy..... 54.1	82	17	16	31	18
Incision and excision of abdominal wall and peritoneum except laparotomy..... 54.0, 54.3-54.4, 54.91	125	32	33	36	25
Division of peritoneal adhesions..... 54.5	298	58	72	118	49
Biopsies and other endoscopies of the digestive system..... 42.21-42.22, 42.24, 44.11-44.12, 44.14-44.15, 45.1-45.2, 48.2, 49.2, 50.1, 51.1, 52.1, 54.2	1,824	377	464	720	263
Residual.....	1,018	188	275	386	169
Operations on the urinary system..... 55-59	1,872	403	513	701	255
Nephrotomy, pyelotomy, and complete nephrectomy..... 55.0-55.1, 55.5	76	18	21	21	16
Endoscopies of the urinary system through natural orifice ... 55.21-55.22, 56.31, 57.32, 58.22	800	199	224	303	74
Transurethral excision or destruction of bladder tissue..... 57.4	135	36	38	41	20
Urethral meatotomy..... 58.1	22	6	3	12	1
Dilation of urethra..... 58.6	163	30	47	77	9
Retropubic urethral suspension..... 59.5	47	6	13	16	11
Ureteral catheterization..... 59.8	34	8	8	14	5
Biopsies and other endoscopies of the urinary system..... 55.23-55.24, 56.32-56.33, 57.31, 57.33-57.34, 58.21, 58.23-58.24, 59.2	75	17	21	23	13
Residual.....	520	81	139	194	106
Operations on the male genital organs..... 60-64	845	194	232	297	122
Prostatectomy..... 60.2-60.6	357	82	105	107	63
Excision of hydrocele and other lesion of tunica vaginalis..... 61.2, 61.92	55	14	16	20	5
Orchiectomy and orchiopexy..... 62.3-62.5	80	19	22	26	14
Vasectomy and ligation of vas deferens..... 63.7	24	4	6	10	4
Circumcision..... 64.0	91	23	13	49	7
Biopsy and other diagnostic procedures on the male genital organs..... 60.1, 61.1, 62.1, 63.0, 64.1	93	22	29	30	12
Residual.....	145	32	40	56	17
Operations on the female genital organs..... 65-71	3,872	917	853	1,500	602
Local excision or destruction of ovarian lesion or tissue..... 65.2	107	20	27	36	24
Unilateral oophorectomy and salpingo-oophorectomy..... 65.3-65.4	197	28	51	86	32
Bilateral oophorectomy and salpingo-oophorectomy..... 65.5-65.6	315	64	73	117	60
Bilateral endoscopic destruction or occlusion of fallopian tubes..... 66.2	105	28	13	50	13
Other bilateral destruction or occlusion of fallopian tubes..... 66.3	463	71	92	228	71
Total bilateral salpingectomy..... 66.5	26	6	8	8	4
Conization of cervix..... 67.2	71	15	12	34	10
Other excision or destruction of lesion or tissue of cervix, uterus, and supporting structures..... 67.3-67.4, 68.2, 69.1	97	30	16	36	14
Abdominal hysterectomy..... 68.3-68.4, 68.6	506	97	125	199	85
Vaginal hysterectomy..... 68.5, 68.7	166	15	37	74	40
Dilation and curettage of uterus to terminate pregnancy..... 69.01	29	19	2	6	3
Dilation and curettage of uterus after delivery or abortion..... 69.02	281	72	67	107	35
Diagnostic dilation and curettage of uterus..... 69.09	632	222	134	212	64
Aspiration curettage of uterus for termination of pregnancy..... 69.51	66	47	5	10	4
Repair of cystocele and rectocele..... 70.5	150	20	35	61	34
Incision and excision of lesion of vulva and perineum..... 71.0, 71.2-71.4	57	18	11	22	7
Biopsy and other diagnostic procedures on the female genital organs..... 65.1, 66.1, 67.1, 68.1, 70.2, 71.1	159	62	30	52	14
Residual.....	445	82	114	162	86

Table 3. Number of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, and geographic region: United States, 1983—Con.

<i>Procedure category and ICD-9-CM code</i>	<i>All regions</i>	<i>Northeast</i>	<i>North Central</i>	<i>South</i>	<i>West</i>
	Number of all-listed procedures in thousands				
Obstetrical procedures 72-75	3,914	710	1,081	1,381	742
Low forceps operation with and without episiotomy 72.0-72.1	366	64	75	182	44
Extraction procedures to assist delivery 72.2-72.5, 72.7-72.9, 73.2	123	20	36	47	20
Episiotomy 73.6	1,574	293	446	500	336
Other procedures to assist delivery 72.6, 73.0-73.1, 73.3-73.5, 73.8-73.9	342	53	127	101	60
Cesarean section 74.0-74.2, 74.4, 74.99	808	159	192	306	151
Repair of current obstetric laceration 75.5-75.6	479	72	124	184	99
Residual	223	49	81	60	33
Operations on the musculoskeletal system 76-84	3,762	597	1,142	1,099	923
Incision of bone 76.0, 77.0-77.3	161	15	45	47	54
Reduction of fracture and dislocation of jawbone 76.71-76.77, 76.93-76.96	55	11	15	17	13
Bunionectomy 77.5	182	20	59	43	59
Partial excision of bone 76.2-76.3, 77.6-77.8	251	35	78	74	64
Removal of internal bone fixation device 76.97, 78.6	94	17	29	24	25
Open reduction of fracture 76.79, 79.2-79.3, 79.5-79.6	390	76	100	120	93
Other reduction of fracture 76.70, 76.78, 79.0-79.1, 79.4	215	42	60	74	39
Reduction of dislocation of joint 79.7-79.8	38	7	12	9	11
Repair and plastic operations on bone (except facial) 78.0-78.5, 78.7, 78.9, 79.9	147	28	46	38	35
Excision or destruction of intervertebral disc 80.5	188	21	59	65	44
Excision of semilunar cartilage of knee 80.6	147	27	44	38	39
Spinal fusion 81.0	70	6	21	26	16
Arthroplasty of knee 81.41-81.47	147	20	53	36	37
Arthroplasty and replacement of hip 81.5-81.6	159	27	53	42	37
Arthroplasty of other joints 81.3, 81.48-81.49, 81.7-81.8	194	23	60	44	66
Operations on muscles, tendons, fascia, and bursa 82-83.1, 83.3-83.9	403	61	123	136	83
Amputation of the lower limb 84.1	118	27	31	46	14
Residual	802	133	254	219	195
Operations on the integumentary system 85-86	1,830	374	547	622	287
Excision or destruction of breast tissue (partial mastectomy) 85.20-85.23	113	31	29	44	9
Mastectomy 85.4	116	28	34	35	19
Incision of skin and subcutaneous tissue 86.0	161	30	43	56	32
Excision of pilonidal cyst or sinus 86.21	39	14	9	12	5
Debridement of wound, infection, or burn 86.22	219	47	68	68	37
Other excision or destruction of lesion of skin and subcutaneous tissue 86.23-86.4	423	80	122	166	55
Suture of skin and subcutaneous tissue 86.5	178	31	52	59	35
Skin graft (except lip or mouth) 86.6-86.7	154	27	45	50	32
Biopsies on the integumentary system 85.1, 86.1	211	47	62	71	31
Residual	217	39	84	63	31
Miscellaneous diagnostic and therapeutic procedures 87-99	6,292	1,679	1,858	1,566	1,189
Computerized axial tomography (CAT scan) 87.03, 87.41, 87.71, 88.01, 88.38	871	302	191	198	179
Contrast myelogram 87.21	404	55	113	130	106
Intravenous pyelogram 87.73	283	86	80	69	48
Retrograde pyelogram 87.74	170	33	47	68	22
Arteriography using contrast material 88.4	426	72	141	117	96
Angiocardiography using contrast material 88.5	399	42	134	142	81
Diagnostic ultrasound 88.7	695	247	213	122	113
Radioisotope scan 92.0-92.1	685	271	187	105	122
Residual	2,360	571	753	614	422

Table 4. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, and geographic region: United States, 1983

<i>Procedure category and ICD-9-CM code</i>	<i>All regions</i>	<i>Northeast</i>	<i>North Central</i>	<i>South</i>	<i>West</i>
	Rate of all-listed procedures per 100,000				
All procedures	15,471.8	15,279.1	17,337.5	14,835.4	14,367.9
Operations on the nervous system 01-05	397.5	326.7	451.1	391.3	415.7
Incision and excision of the skull, brain, and cerebral meninges 01.0, 01.2-01.6	36.9	34.4	41.3	37.5	32.8
Laminectomy 03.0	42.0	26.2	51.1	40.3	50.5
Operations on the cranial and peripheral nerves 04.0, 04.2-04.9	101.6	79.4	106.0	93.3	134.2
Spinal tap and biopsies on the nervous system 01.1, 03.3, 04.1, 05.1	122.9	137.0	132.1	116.0	107.3
Residual	94.2	49.7	120.7	104.2	90.9
Operations on the endocrine system 06-07	45.1	49.4	48.2	42.9	40.1
Thyroidectomy 06.2-06.6	25.0	30.6	28.3	23.8	16.5
Other operations on the endocrine system 06.7-07.9	20.1	18.9	19.9	19.1	23.6
Operations on the eye 08-16	670.9	566.9	839.1	580.6	722.6
Extraction of lens 13.1-13.6	271.1	236.6	335.2	225.8	303.9
Resection and recession of ocular muscle 15.1-15.6	20.1	23.2	23.4	15.7	20.3
Residual	379.6	307.1	480.5	339.0	398.3
Operations on the ear 18-20	160.2	150.3	228.6	139.3	118.7
Tympanoplasty 19.4-19.5	20.4	14.3	30.1	18.2	18.4
Myringotomy 20.0	80.6	90.9	100.3	74.8	53.8
Residual	59.2	45.1	98.2	46.3	46.5
Operations on the nose, mouth, and pharynx 21-29	646.9	620.0	938.4	549.2	467.8
Submucous resection of nasal septum 21.5	20.9	37.8	29.3	10.1	10.5
Incision, excision, and destruction of nose and lesion of nose 21.1, 21.3-21.4, 21.6	62.2	38.0	127.0	46.4	32.0
Reduction of nasal fracture 21.7	15.8	22.0	16.1	13.0	13.4
Rhinoplasty and repair of nose 21.8	113.1	92.7	197.0	80.6	83.2
Forceps extraction of tooth 23.0	30.4	57.3	29.0	20.3	20.3
Surgical removal of tooth 23.1	27.2	49.9	29.5	23.9	5.3
Plastic operations on mouth and palate 27.5-27.6	18.1	18.8	22.0	18.0	12.3
Tonsillectomy without adenoidectomy 28.2	73.0	58.0	99.5	69.7	60.6
Tonsillectomy with adenoidectomy 28.3	109.8	67.5	144.3	121.4	90.8
Adenoidectomy without tonsillectomy 28.6	22.6	17.3	37.5	21.4	11.3
Residual	153.9	160.7	207.3	124.5	127.9
Operations on the respiratory system 30-34	417.5	424.2	477.7	387.7	383.9
Temporary tracheostomy 31.1	21.1	21.0	25.2	19.6	18.4
Laryngoscopy and tracheoscopy 31.41-31.42	39.7	41.9	46.2	37.7	32.2
Lung lobectomy and pneumonectomy 32.3-32.5	17.1	21.1	16.8	10.7	24.2
Bronchoscopy 33.21-33.23	98.5	91.2	121.6	97.9	77.4
Incision of chest wall and pleura 34.0	56.1	45.2	64.6	54.3	60.2
Thoracentesis 34.91	45.9	61.8	44.7	36.4	46.8
Biopsy and other diagnostic procedures on the respiratory system 31.43-31.44, 33.24-33.27, 34.2	87.1	100.2	89.1	82.6	78.3
Residual	52.0	41.7	69.6	48.6	46.4
Operations on the cardiovascular system 35-39	821.3	620.9	949.7	814.2	885.2
Operations on valves of heart 35.1-35.2, 35.99	15.9	11.4	11.7	20.3	18.6
Direct heart revascularization 36.1	82.4	54.1	105.3	78.0	90.9
Other open heart operations 35.3-35.51, 35.53-35.98, 36.0, 36.2, 36.9, 37.10-37.11, 37.32-37.33, 37.5	20.3	8.6	21.2	29.0	17.0
Cardiac catheterization 37.21-37.23	218.8	133.9	264.8	246.0	204.3
Pacemaker insertion, replacement, removal, and repair 37.7-37.8	81.5	78.4	81.2	83.0	82.7
Ligation and stripping of varicose veins 38.5	23.4	26.8	27.5	22.4	16.1
Systemic shunt and graft bypass 39.0-39.2	59.1	56.5	63.9	54.4	64.2
Hemodialysis 39.95	30.9	26.6	30.3	23.9	48.5
Residual	289.0	224.5	343.7	257.4	343.0
Operations on the hemic and lymphatic system 40-41	157.3	166.5	197.9	131.9	138.8
Splenectomy 41.5	14.0	11.3	16.1	11.9	18.1
Biopsies on the hemic and lymphatic system 40.1, 41.3	109.9	122.1	135.6	93.4	92.2
Residual	33.3	33.2	46.2	26.6	28.5

Table 4. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, and geographic region: United States, 1983—Con.

<i>Procedure category and ICD-9-CM code</i>	<i>All regions</i>	<i>Northeast</i>	<i>North Central</i>	<i>South</i>	<i>West</i>
	Rate of all-listed procedures per 100,000				
Operations on the digestive system 42-54	2,517.0	2,487.8	2,620.2	2,684.6	2,125.2
Esophagoscopy and gastroscopy (natural orifice) 42.23, 44.13	106.0	121.2	133.7	97.2	68.7
Partial gastrectomy 43.5-43.8	13.3	11.8	13.5	13.7	13.6
Local excision and destruction of lesion and tissue of stomach and intestine 43.4, 45.3-45.4	39.9	53.7	35.5	43.3	24.8
Resection of intestine 45.6-45.8	93.6	114.3	98.2	77.8	92.6
Intestinal anastomosis and repair 45.9, 46.4-46.9	48.3	54.0	53.8	38.0	52.9
Ileostomy, colostomy, and other enterostomy 46.1-46.3	43.4	52.5	45.9	33.1	47.9
Appendectomy, excluding incidental 47.0	121.4	116.3	120.9	122.9	125.2
Local excision and destruction of lesion and tissue of rectum and anus except anal fistula 48.3, 49.3	35.6	37.9	35.7	36.5	31.5
Hemorrhoidectomy 49.43-49.46	57.8	52.3	58.3	66.7	47.7
Cholecystectomy 51.2	209.6	181.9	242.6	225.9	168.8
Repair of inguinal hernia 53.0-53.1	219.5	256.2	222.6	202.4	204.9
Repair of umbilical hernia 53.4	27.2	24.4	27.3	31.0	23.4
Other hernia repair 53.2-53.3, 53.5-53.9	60.8	50.4	69.7	55.4	69.7
Laparotomy 54.1	35.2	35.1	27.6	39.0	38.7
Incision and excision of abdominal wall and peritoneum except laparotomy 54.0, 54.3-54.4, 54.91	53.7	63.9	56.0	45.3	54.2
Division of peritoneal adhesions 54.5	128.2	118.1	122.7	150.2	108.0
Biopsies and other endoscopies of the digestive system 42.21-42.22, 42.24, 44.11-44.12, 44.14-44.15, 45.1-45.2, 48.2, 49.2, 50.1, 51.1, 52.1, 54.2	785.2	763.5	788.9	915.0	579.4
Residual	438.4	380.3	467.2	491.0	373.0
Operations on the urinary system 55-59	806.0	815.2	871.8	891.8	562.4
Nephrotomy, pyelotomy, and complete nephrectomy 55.0-55.1, 55.5	32.6	36.7	35.1	26.7	34.9
Endoscopies of the urinary system through natural orifice 55.21-55.22, 56.31, 57.32, 58.22	344.2	402.6	380.3	385.9	162.1
Transurethral excision or destruction of bladder tissue 57.4	58.3	73.0	64.1	52.5	45.0
Urethral meatotomy 58.1	9.7	12.0	5.8	15.4	2.2
Dilation of urethra 58.6	70.4	61.6	80.0	97.9	19.7
Retropubic urethral suspension 59.5	20.1	12.4	21.6	20.8	25.1
Ureteral catheterization 59.8	14.7	17.0	13.2	17.2	10.1
Biopsies and other endoscopies of the urinary system 55.23-55.24, 56.32-56.33, 57.31, 57.33-57.34, 58.21, 58.23-58.24, 59.2	32.1	35.3	35.8	28.8	29.7
Residual	224.0	164.8	235.9	246.6	233.7
Operations on the male genital organs 60-64	363.8	393.4	394.0	378.0	267.9
Prostatectomy 60.2-60.6	153.6	165.9	178.7	135.5	139.1
Excision of hydrocele and other lesion of tunica vaginalis 61.2, 61.92	23.5	27.4	27.5	25.3	11.0
Orchiectomy and orchiopexy 62.3-62.5	34.6	38.3	37.2	32.6	30.3
Vasectomy and ligation of vas deferens 63.7	10.4	7.5	10.4	12.7	9.7
Circumcision 64.0	39.3	46.4	21.5	62.5	14.7
Biopsy and other diagnostic procedures on the male genital organs 60.1, 61.1, 62.1, 63.0, 64.1	40.1	43.6	50.0	38.6	26.0
Residual	62.3	64.3	68.7	70.9	37.0
Operations on the female genital organs 65-71	1,666.9	1,856.1	1,450.7	1,907.7	1,324.2
Local excision or destruction of ovarian lesion or tissue 65.2	45.9	40.3	45.3	46.1	52.3
Unilateral oophorectomy and salpingo-oophorectomy 65.3-65.4	85.0	57.6	86.9	108.8	71.0
Bilateral oophorectomy and salpingo-oophorectomy 65.5-65.6	135.5	129.7	124.5	148.8	133.0
Bilateral endoscopic destruction or occlusion of fallopian tubes 66.2	45.1	56.8	22.6	63.5	29.6
Other bilateral destruction or occlusion of fallopian tubes 66.3	199.3	144.7	156.0	290.4	157.2
Total bilateral salpingectomy 66.5	11.3	11.2	14.2	10.8	8.7
Conization of cervix 67.2	30.7	30.0	20.6	43.2	23.0
Other excision or destruction of lesion or tissue of cervix, uterus, and supporting structures 67.3-67.4, 68.2, 69.1	41.6	60.7	27.6	46.0	31.4
Abdominal hysterectomy 68.3-68.4, 68.6	218.0	197.1	212.5	253.0	187.1
Vaginal hysterectomy 68.5, 68.7	71.4	30.7	62.7	94.6	87.1
Dilation and curettage of uterus to terminate pregnancy 69.01	12.6	38.4	3.1	7.3	6.1
Dilation and curettage of uterus after delivery or abortion 69.02	121.0	145.9	113.7	136.5	76.8
Diagnostic dilation and curettage of uterus 69.09	272.1	448.9	228.2	269.5	141.4
Aspiration curettage of uterus for termination of pregnancy 69.51	28.4	95.2	9.2	12.1	8.7
Repair of cystocele and rectocele 70.5	64.5	41.1	59.7	77.5	73.9
Incision and excision of lesion of vulva and perineum 71.0, 71.2-71.4	24.6	35.5	18.3	28.0	15.1
Biopsy and other diagnostic procedures on the female genital organs 65.1, 66.1, 67.1, 68.1, 70.2, 71.1	68.3	126.0	51.2	65.8	31.8
Residual	191.5	166.3	194.5	205.7	190.2

Table 4. Rate of all-listed procedures for patients discharged from non-Federal short-stay hospitals by procedure category and ICD-9-CM codes, and geographic region: United States, 1983—Con.

<i>Procedure category and ICD-9-CM code</i>	<i>All regions</i>	<i>Northeast</i>	<i>North Central</i>	<i>South</i>	<i>West</i>
Rate of all-listed procedures per 100,000					
Obstetrical procedures 72-75	1,685.1	1,437.4	1,838.2	1,755.7	1,634.0
Low forceps operation with and without episiotomy 72.0-72.1	157.5	129.5	128.1	232.0	97.4
Extraction procedures to assist delivery 72.2-72.5, 72.7-72.9, 73.2	52.7	39.9	61.6	59.8	43.1
Episiotomy 73.6	677.8	593.0	757.9	635.9	739.0
Other procedures to assist delivery 72.6, 73.0-73.1, 73.3-73.5, 73.8-73.9	147.2	107.3	216.0	129.0	132.9
Cesarean section 74.0-74.2, 74.4, 74.99	347.6	321.6	326.7	388.7	331.9
Repair of current obstetric laceration 75.5-75.6	206.3	146.4	210.7	234.3	217.3
Residual	95.8	99.7	137.1	76.0	72.4
Operations on the musculoskeletal system 76-84	1,619.5	1,208.6	1,941.7	1,397.9	2,033.0
Incision of bone 76.0, 77.0-77.3	69.5	30.7	76.8	60.2	118.3
Reduction of fracture and dislocation of jawbone 76.71-76.77, 76.93-76.96	23.9	22.0	25.5	21.3	28.2
Bunionectomy 77.5	78.3	40.4	100.9	55.0	130.8
Partial excision of bone 76.2-76.3, 77.6-77.8	108.2	71.3	132.4	94.1	141.5
Removal of internal bone fixation device 76.97, 78.6	40.6	33.8	49.0	30.8	54.2
Open reduction of fracture 76.79, 79.2-79.3, 79.5-79.6	167.7	154.3	170.6	153.1	203.9
Other reduction of fracture 76.70, 76.78, 79.0-79.1, 79.4	92.7	85.6	101.8	94.6	85.6
Reduction of dislocation of joint 79.7-79.8	16.5	14.3	19.7	11.3	23.6
Repair and plastic operations on bone (except facial) 78.0-78.5, 78.7, 78.9, 79.9	63.1	56.8	78.2	47.8	77.1
Excision or destruction of intervertebral disc 80.5	81.0	41.8	99.5	82.1	97.5
Excision of semilunar cartilage of knee 80.6	63.4	54.8	74.2	48.1	85.1
Spinal fusion 81.0	30.1	12.6	36.0	33.7	35.4
Arthroplasty of knee 81.41-81.47	63.2	41.2	90.6	45.8	82.2
Arthroplasty and replacement of hip 81.5-81.6	68.4	54.1	90.6	53.6	81.0
Arthroplasty of other joints 81.3, 81.48-81.49, 81.7-81.8	83.3	46.6	102.4	56.4	145.3
Operations on muscles, tendons, fascia, and bursa 82-83.1, 83.3-83.9	173.5	123.3	209.3	172.9	183.0
Amputation of the lower limb 84.1	50.8	55.5	52.2	58.9	30.0
Residual	345.1	269.5	432.2	278.3	430.3
Operations on the integumentary system 85-86	788.0	757.3	929.9	791.5	631.6
Excision or destruction of breast tissue (partial mastectomy) 85.20-85.23	48.8	63.0	49.9	56.2	18.9
Mastectomy 85.4	50.0	57.2	58.3	44.2	41.6
Incision of skin and subcutaneous tissue 86.0	69.2	61.2	72.5	70.6	71.0
Excision of pilonidal cyst or sinus 86.21	16.7	27.3	15.0	14.8	10.9
Debridement of wound, infection, or burn 86.22	94.2	94.1	115.2	86.2	81.0
Other excision or destruction of lesion of skin and subcutaneous tissue 86.23-86.4	182.0	162.4	207.1	210.6	121.3
Suture of skin and subcutaneous tissue 86.5	76.6	63.6	88.3	75.4	77.3
Skin graft (except lip or mouth) 86.6-86.7	66.3	54.4	76.6	63.2	71.2
Biopsies on the integumentary system 85.1, 86.1	90.9	94.7	104.9	90.5	69.3
Residual	93.4	79.3	142.2	79.8	69.1
Miscellaneous diagnostic and therapeutic procedures 87-99	2,708.7	3,398.2	3,160.2	1,991.1	2,616.9
Computerized axial tomography (CAT scan) 87.03, 87.41, 87.71, 88.01, 88.38	374.8	612.2	324.8	252.3	393.5
Contrast myelogram 87.21	173.8	110.5	192.2	165.8	232.5
Intravenous pyelogram 87.73	122.0	174.3	135.7	87.9	106.4
Retrograde pyelogram 87.74	73.0	66.5	79.1	86.5	48.9
Arteriography using contrast material 88.4	183.4	146.2	240.0	148.3	211.3
Angiocardiography using contrast material 88.5	171.8	85.0	228.6	180.4	178.0
Diagnostic ultrasound 88.7	299.0	500.1	361.5	154.9	249.0
Radioisotope scan 92.0-92.1	295.0	548.5	318.3	133.9	267.9
Residual	1,015.9	1,154.8	1,279.8	781.2	929.4

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Appendix I

Technical notes on methods

Statistical design of the National Hospital Discharge Survey

Scope of the survey

The National Hospital Discharge Survey (NHDS) encompasses patients discharged from noninstitutional hospitals, exclusive of military and Veterans' Administration hospitals, located in the 50 States and the District of Columbia. Only hospitals with six or more beds for patient use and those in which the average length of stay for all patients is less than 30 days are included in the survey. Although all discharges of patients from these hospitals are within the scope of the survey, discharges of newborn infants from all hospitals, as well as discharges of patients from Federal hospitals, are excluded from this report.

Sampling frame and size of sample

The sampling frame (universe) for hospitals in the NHDS is the Master Facility Inventory of Hospitals and Institutions (MFI). A detailed description of the development, contents, plans for maintenance, and procedures for assessing completeness of coverage of the MFI has been previously published.⁷

The original universe for the survey consisted of 6,965 short-stay hospitals contained in the MFI in 1963. This universe is periodically updated, as shown in table I. The distribution of the hospitals in the NHDS universe and sample for 1983 is given by bed size and geographic region in table II.

The sample for 1983 consisted of 553 hospitals. Of these, 78 refused to participate, and 57 were out of scope either be-

cause the hospital had gone out of business or because it failed to meet the definition of a short-stay hospital. Thus 418 hospitals participated in the survey during 1983 and provided approximately 206,000 abstracts of medical records.

Sample design

All hospitals with 1,000 or more beds in the universe of short-stay hospitals were selected with certainty in the sample. All hospitals with fewer than 1,000 were stratified, the primary strata being the 24 size-by-region classes shown in table II. Within each primary stratum, the allocation of the hospitals was made through a controlled selection technique so that hospitals in the sample would be properly distributed with regard to ownership and geographic division. Sample hospitals were drawn with probabilities ranging from certainty for the largest hospitals to 1 in 40 for the smallest hospitals.

The within-hospital sampling ratio for selecting sample discharges varied inversely with the probability of hospital selection. The smallest sampling fraction of discharged patients was taken in the largest hospitals, and the largest fraction was taken in the smallest hospitals. The sampling was done to compensate for hospitals that were selected with probabilities proportionate to their size class and to ensure that the overall probability of selecting a discharge would be approximately the same in each size class.

In nearly all hospitals, the daily listing sheet of discharges was the frame from which the subsamples of discharges were selected within the sample hospitals. The sample discharges were selected by a random technique, usually on the basis of the terminal digit(s) of the patient's medical record number that was assigned when the patient was admitted to the hospital. If the daily discharge listing of the hospital did not show the medical record numbers, the sample was selected by starting with a randomly selected discharge and taking every k th discharge thereafter.

NOTE: A list of references follows the text.

Table I. Number of hospitals in the National Hospital Discharge Survey (NHDS) universe and number of hospitals added to the NHDS universe, by year of addition and year of Master Facility Inventory (MFI) used: United States, 1963-82

MFI data year	NHDS universe		
	Year added	Number added	Total universe
1963	1965	6,965	6,965
1969	1972	442	7,407
1972	1975	223	7,630
1975	1977	273	7,903
1977	1979	114	8,017
1979	1981	63	8,080
1982	1983	50	8,130

Data collection and processing

Data collection

Depending on the study procedure agreed on with the hospital administrator, the sample selection and the transcription of information from the hospital records to abstract forms were performed either by the hospital staff or by representatives of the National Center for Health Statistics (NCHS) or by both. In about two-thirds of the hospitals that participated in the NHDS during the year, this work was performed by the

Table II. Distribution of short-stay hospitals in the National Hospital Discharge Survey universe and survey sample and number of hospitals that participated in the survey, by geographic region and bed size of hospital: United States, 1983

<i>Bed size of hospital</i>	<i>All regions</i>	<i>North-east</i>	<i>North Central</i>	<i>South</i>	<i>West</i>
All sizes		Number of hospitals			
Universe	8,130	1,188	2,168	3,266	1,508
Total sample	553	132	155	183	83
Number participating	418	105	118	133	62
6-49 beds					
Universe	3,542	223	903	1,680	735
Total sample	70	8	18	30	14
Number participating	41	6	11	17	7
50-99 beds					
Universe	1,939	301	490	766	302
Total sample	82	14	20	34	14
Number participating	60	10	15	25	10
100-199 beds					
Universe	1,444	299	419	501	225
Total sample	125	26	34	46	19
Number participating	96	22	28	30	16
200-299 beds					
Universe	639	198	170	172	99
Total sample	101	31	28	26	16
Number participating	80	26	23	19	12
300-499 beds					
Universe	413	113	135	112	53
Total sample	99	25	33	29	12
Number participating	77	20	23	25	9
500-999 beds					
Universe	135	45	48	29	13
Total sample	58	19	19	13	7
Number participating	47	13	15	12	7
1,000 beds or more					
Universe	18	9	3	5	1
Total sample	18	9	3	5	1
Number participating	17	8	3	5	1

medical records department of the hospital. In the remaining hospitals, the work was performed by personnel of the U.S. Bureau of the Census acting for NCHS.

Survey hospitals used an abstract form to transcribe data from the hospital records (figure I). The form provides space for recording demographic data, admission and discharge dates, zip code of the patient's residence, expected sources of payment, disposition of the patient at discharge, information on diagnoses and surgical operations or procedures, and dates of procedures. All discharge diagnoses and procedures were listed on the abstract in the order of the principal one, or the first-listed one if the principal one was not identified, followed by the order in which all other diagnoses or procedures were entered on the face sheet of the medical record.

Completed abstract forms for each sample hospital were shipped, along with sample selection control sheets, to a regional office of the U.S. Bureau of the Census. Every shipment of abstracts was reviewed, and each abstract form was checked for completeness. Abstracts were then sent to NCHS for processing.

Medical coding and edit

The medical information recorded on the sample patient abstracts was coded centrally by the NCHS staff. A maximum of seven diagnostic codes was assigned for each sample abstract; in addition, if the medical information included surgical or nonsurgical procedures, a maximum of four codes for these procedures was assigned. Following conversion of the data on the medical abstract to computer tape, a final medical edit was accomplished by computer inspection runs and a 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.

The system currently used for coding the diagnoses and procedures on NHDS sample patient abstracts is the *International Classification of Diseases, 9th Revision, Clinical Modification*² (ICD-9-CM). Earlier data for 1970-78 were coded according to the *Eighth Revision International Classi-*

NOTE: A list of references follows the text.

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**
(8-5-82)

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

MEDICAL ABSTRACT — NATIONAL HOSPITAL DISCHARGE SURVEY

A. PATIENT IDENTIFICATION		Month Day Year	
1. Hospital number <input type="text"/>	4. Date of admission <input type="text"/> - <input type="text"/> - <input type="text"/>		
2. HDS number <input type="text"/>	5. Date of discharge <input type="text"/> - <input type="text"/> - <input type="text"/>		
3. Medical record number _____	6. Residence ZIP code <input type="text"/>		
B. PATIENT CHARACTERISTICS		Units <input type="checkbox"/> Years	
7. Date of birth Month Day Year	8. Age (Complete only if date of birth not given) <input type="text"/>	<input type="checkbox"/> Months	
9. Sex (Mark (X) one)	1 <input type="checkbox"/> Male	<input type="checkbox"/> Days	
	2 <input type="checkbox"/> Female		
	3 <input type="checkbox"/> Not stated		
10. Race	1 <input type="checkbox"/> White	3 <input type="checkbox"/> American Indian/Alaskan Native	
	2 <input type="checkbox"/> Black	4 <input type="checkbox"/> Asian/Pacific Islander	
	5 <input type="checkbox"/> Other (Specify) _____	6 <input type="checkbox"/> Not stated	
11. Ethnicity (Mark (X) one)	1 <input type="checkbox"/> Hispanic origin	2 <input type="checkbox"/> Non-Hispanic	
	3 <input type="checkbox"/> Not stated		
12. Marital status (Mark (X) one)	1 <input type="checkbox"/> Married	3 <input type="checkbox"/> Widowed	
	2 <input type="checkbox"/> Single	4 <input type="checkbox"/> Divorced	
	5 <input type="checkbox"/> Separated	6 <input type="checkbox"/> Not stated	
13. Expected source(s) of payment	Principal (Mark one only)	Other additional sources (Mark accordingly)	
Government sources	1. Workmen's Compensation <input type="checkbox"/>	<input type="checkbox"/>	
	2. Medicare <input type="checkbox"/>	<input type="checkbox"/>	
	3. Medicaid <input type="checkbox"/>	<input type="checkbox"/>	
	4. Title V <input type="checkbox"/>	<input type="checkbox"/>	
	5. Other government payments <input type="checkbox"/>	<input type="checkbox"/>	
Private sources	6. Blue Cross <input type="checkbox"/>	<input type="checkbox"/>	
	7. Other private or commercial insurance <input type="checkbox"/>	<input type="checkbox"/>	
Other sources	8. Self pay <input type="checkbox"/>	<input type="checkbox"/>	
	9. No charge <input type="checkbox"/>	<input type="checkbox"/>	
	10. Other (Specify) _____ <input type="checkbox"/>	<input type="checkbox"/>	
	<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"/> Disposition not stated		
2 <input type="checkbox"/> Died			
3 <input type="checkbox"/> Status not stated			
C. FINAL DIAGNOSES			
Principal: _____			
Other/additional: _____			

<input type="checkbox"/> See reverse side			
D. SURGICAL AND DIAGNOSTIC PROCEDURES			
Principal: _____	Month	Date	Year
Other/additional: _____	<input type="text"/>	- <input type="text"/>	- <input type="text"/>
_____	<input type="text"/>	- <input type="text"/>	- <input type="text"/>
_____	<input type="text"/>	- <input type="text"/>	- <input type="text"/>
<input type="checkbox"/> NONE <input type="checkbox"/> See reverse side			
Completed by _____		Date _____	

Figure 1. Medical abstract for the National Hospital Discharge Survey

*fication of Diseases, Adapted for Use in the United States*³ (ICDA), with some modifications. These modifications, which were necessary because of incomplete or ill-defined terminology in the abstracts, are presented elsewhere.⁸ It has not been necessary, however, to modify the ICD-9-CM for use in the NHDS.

Both the ICDA and the ICD-9-CM are divided into two main sections: (1) diseases and injuries and (2) surgical and nonsurgical procedures. However, many differences exist between the two classifications. These differences are discussed in a previous report.⁹

Prior to 1979, data on radiotherapy and physical medicine and rehabilitation (ICDA codes R1-R4) and some obstetrical procedures were not collected by means of the NHDS. The obstetrical procedures not coded were artificial rupture of membranes, external, internal, and combined version; outlet and low forceps delivery with and without episiotomy; and episiotomy (ICDA codes 75.0-75.6 and 75.9). In addition, data for diagnostic endoscopy, radiography, and other nonsurgical procedures (ICDA codes A4-A9 and R9), although coded, were not published. Starting with 1979 data, however, the procedures coding has followed the guidelines of the Uniform Hospital Discharge Data Set (UHDDS).^{10,11} The UHDDS is a minimum data set of items uniformly defined and abstracted from hospital medical records. These items were selected on the basis of their continuous usefulness to organizations and agencies requiring hospital information.

According to the UHDDS guidelines, all procedures are allocated into one of four classes. Classes 1-3 consist of procedures that carry an operative or anesthetic risk or require highly trained personnel, special facilities, or special equipment. Class 4 procedures do not meet these criteria. See appendix II for the procedure codes included in these classes.

Until 1983, the only Class 4 procedures coded in the NHDS were circumcision (ICD-9-CM code 64.0), episiotomy (code 73.6), and removal of intrauterine contraceptive device (code 97.71). The coding of additional Class 4 procedures, listed in appendix II, that are used in the assignment of diagnosis-related groupings (DRG's) was begun in mid-1983. DRG's, developed at the Yale School of Organization and Management, are being used by the Health Care Financing Administration, some States, and some third-party payors to reimburse hospitals for inpatient care. A report has been published on the conversion of NHDS data to DRG's.¹²

Presentation of estimates

Grouping of procedures

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 4-digit codes provided by the ICD-9-CM.

In developing the tables of procedures, an effort was made to maximize specificity of the procedures consistent with clarity

of characterization, the frequency of their occurrence, and their interest.

Patient characteristics not stated

The age and sex of the patient were not stated on the hospital records (the face sheet of the patient's medical record) for about one-half of 1 percent of the discharges. Imputations of these missing items were made by assigning the patient an age or sex consistent with the age or sex of other patients with the same diagnostic code.

During 1983, 8.9 percent of the records had no race identified in the hospital records.

If the dates of admission or discharge were not given and could not be obtained from the monthly sample listing sheet transmitted by the sample hospital, a length of stay was imputed by assigning the patient a length of stay characteristic of the stays of other patients of the same age. During 1983 only 0.13 percent of the records had a missing date of admission or discharge.

Rounded numbers—Estimates of the numbers of inpatient discharges, days of care, discharges with procedures, all-listed diagnoses, and all-listed procedures have been rounded to the nearest thousand for tabular presentation. Therefore, detailed figures within the tables do not always add to totals. Rates and percents were calculated on the basis of unrounded figures and will not necessarily agree with computations made from the rounded data.

Population estimates—The population estimates used in computing rates are from published and unpublished estimates for the U.S. civilian population on July 1 of the data year provided by the U.S. Bureau of the Census. The estimates by age and sex and by geographic region are presented in table III and are consistent with the population estimates published in *Current Population Reports*, Series P-25.

Although the civilian noninstitutionalized population was used prior to 1981, it has been determined that the civilian population is more appropriate to use for the NHDS as persons in institutions are usually hospitalized in short-stay hospitals. This is especially true for elderly residents of nursing homes. A report comparing NHDS rates based on the civilian population with the civilian noninstitutionalized population is currently being prepared.

Reliability of estimates

Estimation—Statistics produced by the NHDS are derived by a complex estimating procedure. The basic unit of estimation is the sample inpatient discharge abstract. The estimating procedure used to produce essentially unbiased national estimates in the NHDS has three principal components: inflation by reciprocals of the probabilities of sample selection, adjustment for nonresponse, and ratio adjustment to fixed totals. These components of estimation are described in appendix I of two earlier publications.^{13,14}

Measurement errors—As in any survey, results are subject to nonsampling or measurement errors, which include errors because of hospital nonresponse, missing abstracts, information incompletely or inaccurately recorded on abstract forms, and

NOTE: A list of references follows the text.

Table III. Civilian population by sex, age, geographic region, and race: United States, July 1, 1983

[Population estimates consistent with Series P-25, *Current Population Reports*, U.S. Bureau of the Census]

Age, geographic region, and race	Both sexes	Male	Female
Population in thousands			
All ages.....	232,286	112,170	120,115
Northeast.....	49,407	23,549	25,857
North Central.....	58,808	28,520	30,288
South.....	78,647	37,819	40,828
West.....	45,424	22,282	23,142
White.....	198,199	96,089	102,111
All other.....	34,087	16,082	18,005
0-14 years.....	51,588	26,385	25,203
Under 1 year.....	3,660	1,875	1,785
1-4 years.....	14,166	7,246	6,920
5-14 years.....	33,762	17,264	16,498
Northeast.....	9,917	5,071	4,845
North Central.....	13,255	6,787	6,469
South.....	17,952	9,175	8,777
West.....	10,464	5,351	5,112
White.....	42,016	21,548	20,468
All other.....	9,573	4,638	4,737
15-44 years.....	108,792	53,638	55,153
15-24 years.....	40,031	19,934	20,097
25-34 years.....	39,574	19,470	20,104
35-44 years.....	29,187	14,234	14,952
Northeast.....	22,853	11,179	11,674
North Central.....	27,390	13,596	13,795
South.....	36,611	17,915	18,694
West.....	21,940	10,948	10,992
White.....	92,140	45,795	46,348
All other.....	16,652	7,845	8,806
45-64 years.....	44,521	21,155	23,367
45-54 years.....	22,303	10,778	11,526
55-64 years.....	22,218	10,377	11,841
Northeast.....	10,236	4,813	5,423
North Central.....	11,077	5,308	5,769
South.....	14,912	7,015	7,897
West.....	8,296	4,018	4,278
White.....	39,272	18,813	20,459
All other.....	5,250	2,343	2,908
65 years and over.....	27,384	10,992	16,392
65-74 years.....	16,362	7,105	9,257
75 years and over.....	11,021	3,887	7,135
Northeast.....	6,402	2,486	3,916
North Central.....	7,085	2,830	4,256
South.....	9,172	3,711	5,461
West.....	4,725	1,966	2,759
White.....	24,773	9,933	14,839
All other.....	2,612	1,058	1,555

processing errors. Some of these errors were discussed under the previous section entitled "Patient characteristics not stated."

The Institute of Medicine (IOM) has conducted three studies on the reliability of hospital abstract data collection; the most recent study was on the NHDS. The IOM NHDS study was performed by using data coded according to the

ICDA; however, some of the findings are relevant to the 1981 NHDS data, even though these data were coded according to the ICD-9-CM. Of special interest to this report is the finding that, in a number of cases, the first-listed diagnosis in the NHDS was not the principal diagnosis as determined by IOM after a study of the entire medical record. For example, when diagnoses at the ICDA class level were examined, the principal diagnosis from IOM matched the first-listed diagnosis from the NHDS in approximately 86 percent of the cases. Detailed accounts of this and other IOM findings have been published.¹⁵⁻¹⁷

Sampling errors

The standard error is primarily a measure of the variability attributed to a value obtained from a sample as an estimate of a population value. In this report it also reflects part of the measurement error. The value that would have been obtained if a complete enumeration of the population had been made will be contained in an interval represented by the sample estimate plus or minus 1 standard error about 68 out of 100 times and plus or minus 2 standard errors about 95 out of 100 times.

The relative standard error is obtained by dividing the standard error by the estimate. The resulting value is multiplied by 100, which expresses the standard error as a percentage of the estimate.

The standard error of one statistic is generally different from that of another, even when the two come from the same survey. To derive standard errors that would be applicable to a wide variety of statistics that could be prepared at a moderate cost, a number of approximations are required. As a result, the figures in this appendix provide general relative standard errors for a wide variety of estimates rather than the specific error for a particular statistic.

Approximate relative standard errors and standard errors have been prepared for measuring the variances applicable to: (1) estimates of the discharges or first-listed diagnoses, and days of care for patient characteristics (for example, age, sex, race) and of hospital characteristics (for example, region, bed size, ownership), and patient characteristics cross-tabulated by hospital characteristics; and (2) estimates of all procedures performed by the specific procedure for the patient characteristics age, sex, and race and the hospital characteristics geographic region and bed size of hospital.

The relative standard errors applicable to patients discharged or first-listed diagnoses, all-listed diagnoses days of care, and procedures are provided in figures II-IV. The curves for relative standard errors of the estimates in each figure relate to the variables by which estimates are presented in this report. In these figures, several curves are shown for a few variables whose relative standard errors are different from those in the curve for "All other variables" that is relevant to most of the estimates. For example, one curve is applicable only to estimates of discharges from voluntary nonprofit hospitals, a second curve is concerned with discharges from hospitals by bed size,

NOTE: A list of references follows the text.

and a third curve pertains to estimates of days of care in proprietary hospitals.

The selection of the appropriate relative standard error curve is made as follows:

1. *Discharges or first-listed diagnoses and all-listed diagnoses for patient and hospital characteristics:* Relative standard errors of the estimated number of discharges and of all-listed diagnoses are obtained from the curves in figure II.
2. *Days of care for discharges or first-listed diagnoses for patient and hospital characteristics:* Relative standard errors of the estimated number of days of care are obtained from the curves in figure III.
3. *Procedures:* Relative standard errors for procedures are obtained from the curves in figure IV.

The presentation of estimates for the NHDS is based on both the relative standard error of the estimate and the number of sample records on which the estimate is based (referred to as the sample size). Estimates are not presented unless a reasonable assumption regarding the probability distribution of the sampling error is possible. The Central Limit Theorem is used to determine the distribution of the sampling errors. The Central Limit Theorem states that, given a sufficiently large sample size, the sample estimate is approximately normally distributed and approximates the population estimate.

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

1. If the sample size is less than 30 the value of the estimate is not reported. Only an asterisk (*) is shown in the tables.
2. If the sample size is 30–59 the value of the estimate is reported but should be used with caution. The estimate is preceded by an asterisk (*) in the tables.
3. If the sample size is 60 or more but the relative standard error is over 30 percent the estimate is reported, but should be used with caution. The estimate is preceded by an asterisk (*) in the tables.

Tests of significance

In this report, the determination of statistical inference is based on the *t*-test with a critical value of 1.96 (0.05 level of significance). Terms relating to differences such as “higher” and “less” indicate that the differences are statistically significant. Terms such as “similar” or “no difference” mean that no statistically significant difference exists between the estimates being compared. A lack of comment on the difference between any two estimates does not mean that the difference was tested and found to be not significant.

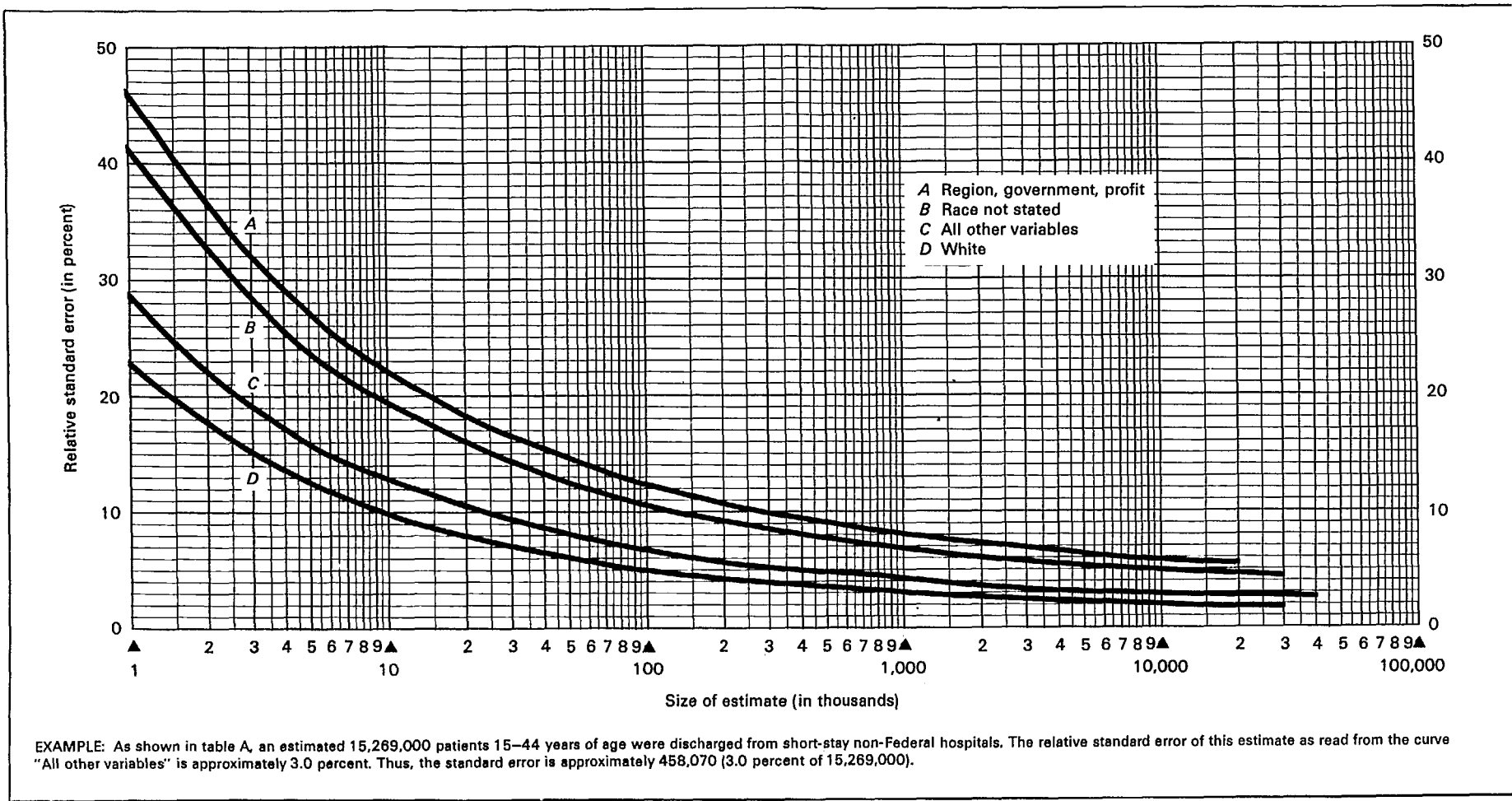


Figure II. Approximate relative standard errors of estimated numbers of patients discharged, or of first-listed diagnoses, and of all-listed diagnoses, by selected patient and hospital characteristics

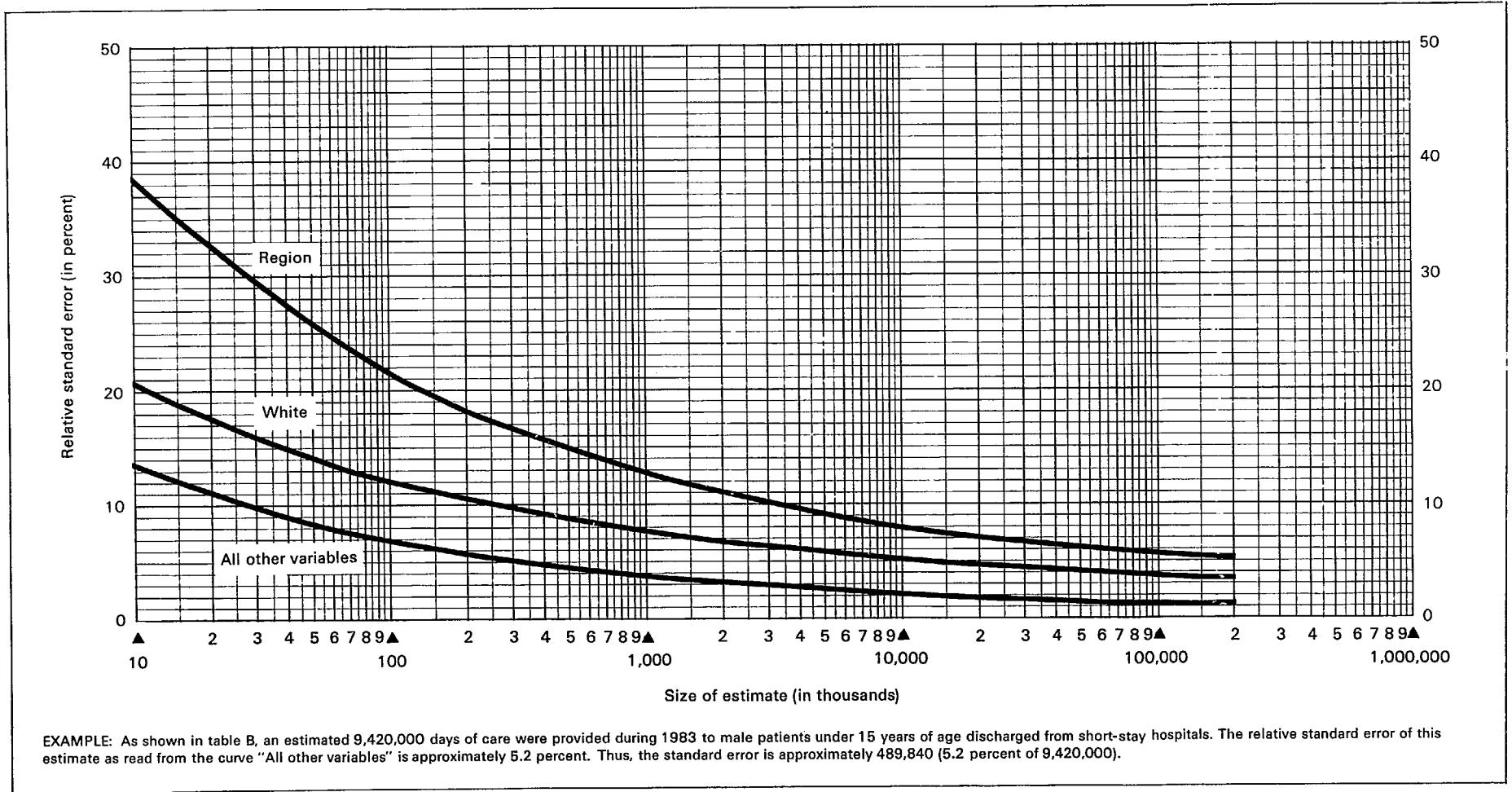


Figure III. Approximate relative standard errors of estimated numbers of days of care by selected patient and hospital characteristics

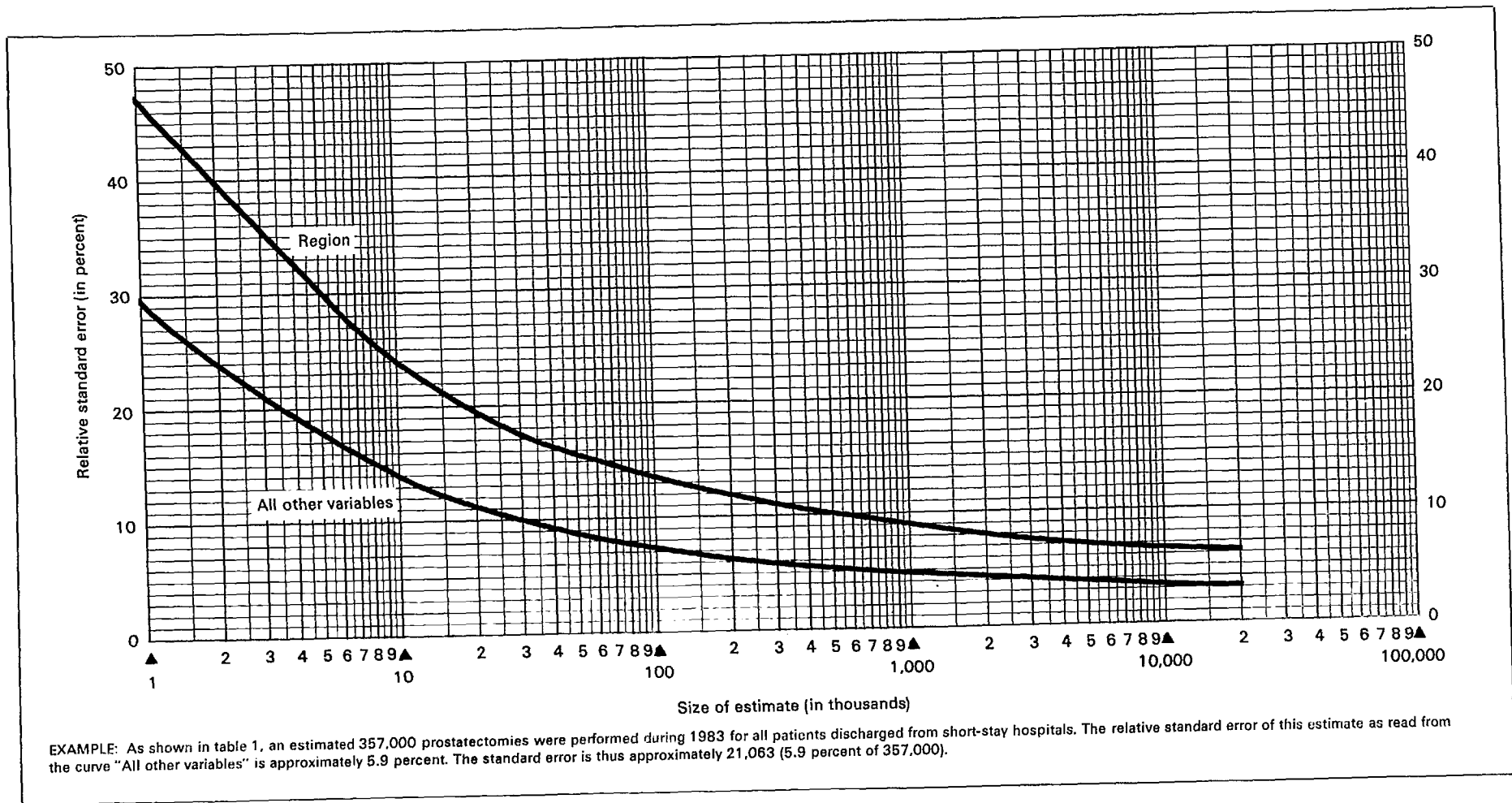


Figure IV. Approximate relative standard errors of estimated numbers of procedures for patients discharged by selected patient and hospital characteristics

Appendix II

Definitions of certain terms used in this report

Hospitals and hospital characteristics

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

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

Type of ownership of hospital—The type is determined by the organization that controls and operates the hospital. Hospitals are grouped as follows:

- *Voluntary nonprofit*—Hospitals operated by a church or another nonprofit organization.
- *Government*—Hospitals operated by State or local governments.
- *Proprietary*—Hospitals operated by individuals, partnerships, or corporations for profit.

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

Newborn infant—A newborn infant is defined as a patient admitted by birth to a hospital.

Discharge—Discharge is 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 determines the discharge rate.

Days of care—The total number of patient days accumulated at time of discharge by patients discharged from short-

stay hospitals during a year constitute days of care. 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.

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

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

Diagnoses

Discharge diagnoses—One or more diseases or injuries (or some factor that influences health status and contact with health services that is not itself a current illness or injury) listed by the attending physician on the medical record of patients. In the NHDS all discharge (or final) diagnoses listed on the face sheet (summary sheet) of the medical record for patients discharged from the inpatient service of short-stay hospitals are transcribed in the order listed. Each sample discharge is assigned a maximum of seven 5-digit codes according to ICD-9-CM. The number of principal or first-listed diagnoses is equivalent to the number of discharges.

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

First-listed diagnosis—The coded diagnosis identified as the principal diagnosis or listed first on the face sheet of the medical record is the first-listed diagnosis. The number of first-listed diagnoses is equivalent to the number of discharges.

All-listed diagnoses—All-listed diagnoses are an estimated number of discharge (or final) diagnoses, up to a maximum of seven, that are listed on the face sheet of the medical record for inpatients discharged from non-Federal short-stay hospitals during the year.

Obstetrical diagnosis—A diagnosis relating to conditions arising from or affecting the management of pregnancy, childbirth, and the puerperium (the period following childbirth). These are code numbers 640-676 of the *International Classi-*

*fication of Diseases, 9th Revision, Clinical Modification (ICD-9-CM).*²

Normal delivery—Delivery without abnormality or complication of pregnancy, childbirth, or the puerperium, and with spontaneous cephalic delivery (that is, presentation of the child headfirst and delivery of the child without external aid). 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. ICD-9-CM code numbers 640-648 and 651-676 are assigned.

Surgical and nonsurgical 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 procedure is one or more surgical or nonsurgical operations, diagnostic procedures, or special treatments assigned by the physician to the medical record of patients discharged from the inpatient service of short-stay hospitals. In the NHDS all terms listed on the face sheet of the medical record under captions such as “operation,” “operative procedures,” “operations and/or special treatments” are transcribed in the order listed. A maximum of four 4-digit codes are assigned per sample discharge according to ICD-9-CM and NHDS directives. (See “Medical coding and edit” in the “Data collection and processing” section of appendix I for further details.)

All-listed procedures—All coded procedures that are listed on the face sheet of the medical record exclusive of all but three Class 4 procedures.

UHDDS classes of procedures—Procedures are categorized into four classes according to UHDDS guidelines. Classes 1-3 consist of significant procedures—that is, procedures that carry an operative or anesthetic risk or require highly trained personnel, special facilities, or special equipment. Class 4 procedures do not meet these criteria.

UHDDS Class 1 procedures—All procedures not categorized as Class 2, 3, or 4 procedures.

UHDDS Class 2 procedures—The following ICD-9-CM procedure codes identify Class 2 procedures as categorized by the UHDDS:

03.31, 03.91-03.92, 04.80-04.89, 21.01, 24.7, 31.41-31.42, 34.91-34.92, 37.92-37.93, 42.22-42.23, 44.12-44.13, 45.12-45.13, 45.22-45.24, 48.22, 50.92, 54.91, 54.97-54.98, 57.31, 58.22, 59.95, 62.91, 66.8, 69.6-69.7, 69.93, 70.0, 73.01-73.1, 73.3, 73.51-73.59, 76.96, 81.91-81.92, 82.92-82.96, 83.94-83.98, 85.91-85.92, 86.01, 87.03-87.08, 87.13-87.15, 87.31-87.35, 87.38, 87.41-87.42, 87.51-87.52, 87.54-87.66, 87.71-87.73, 87.75, 87.77-87.78, 87.81-87.84, 87.91, 87.93-87.94, 88.01-88.03, 88.12-88.15, 88.38, 88.71-88.89, 89.14, 89.21-89.25, 89.32, 89.41-89.44, 89.54, 89.61-89.65,

89.8, 92.01-92.29, 93.45-93.54, 93.56-93.59, 93.92-93.93, 93.95, 93.97, 94.24, 94.26-94.27, 95.04, 95.12-95.13, 95.16-95.26, 96.01-96.08, 96.21-96.25, 96.31-96.33, 97.11-97.13, 98.02-98.04, 98.14-98.16, 98.19, 99.01, 99.60-99.69, 99.81.

UHDDS Class 3 procedures—The following ICD-9-CM procedure codes identify Class 3 procedures as categorized by the UHDDS:

29.11, 57.94-57.95, 60.19, 84.41-84.43, 84.45-84.47, 86.26, 93.98, 98.01, 98.05-98.13, 98.17, 98.18, 98.20-98.29, 99.25.

UHDDS Class 4 procedures—From 1979 through the middle of 1983 only three Class 4 procedures were coded for the NHDS: Circumcision (ICD-9-CM code 64.0), episiotomy (code 73.6), and removal of intrauterine contraceptive device (code 97.71). The ICD-9-CM codes for the Class 4 procedures coded during the last half of 1983 are as follows:

01.18-01.19, 03.39, 04.19, 05.19, 06.19, 07.19, 08.91-08.93, 09.19, 09.41-09.49, 10.29, 11.29, 12.29, 14.19, 15.09, 16.29, 20.39, 28.19, 33.28-33.29, 34.28-34.29, 38.29, 40.19, 50.19, 51.19, 52.19, 54.29, 55.29, 56.39, 57.39, 59.29, 60.18, 62.19, 63.09, 64.0, 65.19, 66.19, 67.19, 68.19, 70.29, 71.19, 73.6, 76.19, 78.8, 81.98, 83.29, 97.71.

The following ICD-9-CM procedure codes identify Class 4 procedures not coded by the NHDS:

08.19, 16.21, 18.01, 18.11, 18.19, 21.21, 21.29, 22.19, 24.19, 25.09, 25.91, 26.19, 27.29, 27.91, 29.19, 31.48-31.49, 37.29, 41.38-41.39, 42.29, 44.19, 45.19, 45.28-45.29, 48.23, 48.29, 49.21, 49.29, 49.41, 58.29, 61.19, 64.19, 64.91, 64.94, 69.92, 70.21, 73.91-73.92, 75.35, 85.19, 86.19, 86.92, 87.09-87.12, 87.16-87.17, 87.22-87.29, 87.36-87.37, 87.39, 87.43-87.49, 87.69, 87.79, 87.85-87.89, 87.92, 87.95-87.99, 88.09, 88.16-88.31, 88.33, 88.35, 88.37, 88.39, 89.01-89.13, 89.15-89.16, 89.26-89.31, 89.33-89.39, 89.45-89.53, 89.55-89.59, 89.66, 89.7, 90.01-91.99, 93.01-93.25, 93.27-93.28, 93.31-93.39, 93.42-93.44, 93.61-93.91, 93.94, 93.96, 93.99-94.23, 94.25, 94.29-95.03, 95.05-95.11, 95.14-95.15, 95.31-95.49, 96.09-96.19, 96.26-96.28, 96.34-97.04, 97.14-97.69, 97.72-97.89, 99.02-99.24, 99.26-99.59, 99.71-99.79, 99.82-99.99.

Surgical operations—All procedures exclusive of those listed under “Nonsurgical procedures” are listed as surgical operations.

Biopsy—Biopsy is excision of tissue for microscopic examination. The ICD-9-CM biopsy codes are as follows:

0.11-0.15, 03.32, 04.11-04.12, 05.11, 06.11-06.13, 07.11-07.17, 08.11, 09.11-09.12, 10.21, 11.22, 12.22, 15.01, 16.23, 18.12, 20.32, 21.22, 22.11, 24.11-24.12, 25.01, 25.02, 26.11, 27.21-27.24, 28.11, 29.12, 31.43-31.44, 33.24-33.27, 34.23-34.27, 37.24-37.25, 38.21, 40.11, 41.31-41.33, 42.24, 44.14-44.15, 45.14-45.15, 45.25-45.27, 48.24-48.26, 49.22-49.23, 50.11-50.12,

NOTE: A list of references follows the text.

51.12-51.13, 52.11-52.12, 54.22-54.23, 55.23-55.24, 56.32-56.33, 57.33-57.34, 58.23-58.24, 59.21, 60.11-60.15, 61.11, 62.11-62.12, 63.01, 64.11, 65.11-65.12, 66.11, 67.11-67.12, 68.13-68.14, 70.23-70.24, 71.11, 76.11, 77.40-77.49, 80.30-80.39, 83.21, 85.11-85.12, 86.11.

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 (ICDA codes A4-A9 and R1-R9). The following ICD-9-CM codes are for diagnostic and nonsurgical procedures:

03.31, 11.21, 12.21, 14.11, 16.22, 20.31, 29.11, 31.41-31.42, 33.21-33.23, 34.21-34.22, 39.95, 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11, 54.21, 55.21-55.22, 56.31, 57.31-57.32, 58.21-58.22, 60.19, 68.11-68.12, 70.22, 80.20-80.29, 87.01-99.99.

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

Demographic terms

Population—Civilian population is the resident population excluding members of the Armed Forces. Civilian noninstitutionalized population is the civilian population not residing in institutions.

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

Race—Patients are classified into two groups: “white” and “all other.” The all other classification includes all categories other than white. Mexican and Puerto Rican are included in the white category unless specifically identified as all other. In addition, 9.3 percent of the patients had no race stated on the face sheet of the record.

Geographic region—Hospitals are classified by location in one of the four geographic regions within the nine divisions

of the United States that correspond to those used by the U.S. Bureau of the Census.

<i>Region</i>	<i>Division</i>	<i>State</i>
Northeast	New England	Connecticut
		Maine
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		Pennsylvania
		Illinois
North Central . . .	East North Central	Indiana
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		Ohio
		Wisconsin
		Iowa
	West North Central	Kansas
		Minnesota
		Missouri
		Nebraska
		North Dakota
South	South Atlantic	South Dakota
		Delaware
		District of Columbia
		Florida
		Maryland
	East South Central	North Carolina
		South Carolina
		Virginia
		Alabama
		Kentucky
West South Central	Mississippi	
	Tennessee	
	Arkansas	
	Louisiana	
	Oklahoma	
West	Mountain	Texas
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