

# **Surgical Operations in Short-Stay Hospitals: United States, 1978**

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Statistics are presented on the utilization of non-Federal short-stay hospitals based on data abstracted in the National Hospital Discharge Survey from a national sample of hospital records of discharged inpatients. The numbers, percent distributions, and rates of patients with surgery are presented for 1970, 1974, and 1978. The number and rate of all-listed surgeries (as many as three) are shown for categories of surgery by sex and age. Number and percent distributions for all-listed surgeries are shown for surgical categories by race, and number of all-listed surgeries are shown for surgical categories by bed size of hospital. Number of single-listed operations and corresponding average lengths of stay are shown by surgical category for sex and age of patient.

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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 operations in short-stay hospitals

by Robert Pokras, Edmund J. Graves, and Charles F. Dennison,  
Division of Health Care Statistics

## Introduction

This report of surgical operations in non-Federal short-stay hospitals in 1978 is based on data collected by means of the National Hospital Discharge Survey. The National Center for Health Statistics has conducted this survey continuously since 1965.

Data for the survey are abstracted from face sheets in a sample of the medical records for patients discharged from a national sample of the non-Federal general and special short-stay hospitals located in the 50 States and the District of Columbia. The 1978 sample included approximately 219,000 medical records from 413 hospitals that participated in the survey. Data for newborn infants are excluded from this report. The survey design, data collection procedures, and the estimation process are described in appendix I. A detailed report describing the design of the National Hospital Discharge Survey has been published.<sup>1</sup>

Estimates are presented in this report on the number of inpatients with surgery discharged from short-stay hospitals during 1970, 1974, and 1978. Estimates for specific operations for 1978 are shown by the demographic characteristics of the patients with surgery and by the bed size of hospitals from which patients were discharged. Measurements of hospital utilization by surgical patients are given in terms of frequencies, surgical rates, and percent distributions. Data on biopsies performed during 1970, 1974, and 1978 are provided, and average length of stay is presented for single-listed operations.

Two counting methods were used in this report. One was to count patients with surgery; the other was to count surgical procedures. In the first method, to study the number of patients who had surgery, each patient with one or more procedures was counted only once. In the second method, to study the number of particular procedures performed, each procedure performed for a patient was counted. The section of this report titled "Discharges with surgery" addresses patients with surgery regardless of the

number of procedures performed. The sections titled "Surgical operations by patient and hospital characteristics" and "Biopsies" discuss the total number of procedures performed for patients.

A maximum of three operations is coded for each medical record in the sample. Medical data from the National Hospital Discharge Survey (NHDS) are coded according to the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*<sup>2</sup> (ICDA-8), with some modifications. In this report, the term "surgery" includes biopsies and other selected diagnostic procedures but excludes some obstetrical procedures, diagnostic endoscopy and radiography, and certain other nonsurgical procedures. Familiarity with this definition of surgery is important for interpreting these data and for making comparisons with statistical data on surgery from other data collection sources. The NHDS modifications of the ICDA-8 section on "Surgical Operations, Diagnostic and Other Therapeutic Procedures" are described in appendix I under "Data collection and processing." Definitions of the terms used in this report are presented in appendix II.

Data from NHDS on surgery in short-stay hospitals were published in reports for 1965, 1968, 1971, 1973, and 1975.<sup>3-5,7,9</sup> Limited information on surgery also was published for 1972<sup>6</sup> and 1976-78.<sup>8,10-12</sup> The 1975 report on surgery provides selected data on operations by sex and by age for 1965, 1970, and 1975. The reader interested in trend data for specific surgical procedures may find the 1975 report in conjunction with this report to be valuable.

Another program of the National Center for Health Statistics (NCHS), the National Health Interview Survey (NHIS), also has hospitalization data. The NHIS estimates generally show fewer discharges and longer average lengths of stay than NHDS estimates because of differences in collection procedures, population sampled, and definitions. Data from NHIS are published by NCHS in Series 10 of *Vital and Health Statistics* reports.

# Highlights

In 1978, approximately 14.7 million patients had surgery, an increase of 3.1 million (29 percent) from 1970. This increase may be attributed to increases in the population and the rate of surgery. In 1970, 57.9 patients per 1,000 population had surgery; in 1978, 68.7 patients per 1,000 population had surgery. The increased rate of surgery primarily is due to an increase in the surgical rate for patients 65 years of age and over.

Although the number of patients with surgery and surgery rates increased from 1970 to 1978, the proportion of all patients with surgery remained rela-

tively constant. The proportions of patients with surgery in 1970, 1974, and 1978 were 40, 42, and 41 percent.

The rate at which people use hospitals increases with age, regardless of whether surgery is required. In comparing hospital utilization rates for patients with surgery and patients without surgery, the rate of increase with age is greater for patients without surgery.

Biopsies performed in hospitals increased 57 percent, from 745,000 in 1970 to 1,173,000 in 1978. Biopsies of breast and female genital organs accounted for 48 percent of all biopsies on women.

# Discharges with surgery

Surgery was performed for an estimated 14.7 million patients, 41.2 percent of the 35.6 million patients discharged from non-Federal hospitals during 1978 (table 1). This was an increase of approximately 3.1 million from those discharged in 1970. There were approximately 68.7 discharges with surgery per 1,000 population in the civilian noninstitutionalized population in 1978, an increase of 10.8 discharges per 1,000 population over 1970. The discharge rate for patients without surgery also increased from 1970 by 9.8 discharges per 1,000 population to 97.9 per 1,000 population in 1978. (Civilian noninstitutionalized population estimates for 1978 used to calculate rates in this report are in table III, appendix I.) However, the percent of patients discharged with surgery remained fairly uniform during this time: 39.7 percent in 1970, 41.8 percent in 1974, and 41.2 percent in 1978.

Approximately 5.7 million male patients and 9.0 million female patients were hospitalized for surgery during 1978. The corresponding rates per 1,000 population were 55.1 for males and 81.3 for females. This difference in rates largely is accounted for by the performance of gynecological and obstetrical procedures. Approximately 23.2 percent more male patients were hospitalized for surgery in 1978 than in 1970. In addition, the number of female patients hospitalized for surgery in 1978 was approximately 29.7 percent greater than in 1970. This increase in the number of males and females who underwent surgery during 1970 to 1978 reflects the growth in population and the increase in utilization of hospitals as measured by rate of discharge for both sexes. From 1970 to 1978, the male noninstitutionalized population increased 7.5 percent, and the discharge rate increased 16.9 percent. For females, the noninstitutionalized population increased 6.8 percent, and the discharge rate increased 12.4 percent.

In 1970, 1974, and 1978, the rate of surgery increased with age. This increase was greater in 1978 than in 1974 and also was greater in 1974 than in 1970 (table 1). This increase is primarily because the rate of surgery for younger patients remained con-

stant during this time, while the rate of surgery for elderly patients increased by 18.2 percent from 1970 to 1974 and by 14.8 percent from 1974 to 1978. However, while the percent of all elderly patients with surgery remained relatively constant (29.2 percent in 1970, 30.6 percent in 1974, 31.8 percent in 1978), the percent of patients under 15 years of age with surgery decreased from 49.3 percent in 1970 to 41.7 percent in 1978.

These general relationships are similar for both sexes, except that the rate of surgery for females did not increase consistently with age. In each of the years studied, the rate of surgery for females was greater for women 15-44 years of age than for those 45-64 years of age; and the rate of surgery in 1970 and 1974 for women 15-44 years of age was about the same as that for women 65 years of age and over. This is because women 15-44 years of age are in the prime childbearing years and also in the years during which many gynecological and obstetrical procedures are performed.

The increase in the discharge rate for each older age group was smaller for patients with surgery than for those without surgery. For patients with surgery, the rates were 2.7, 3.1, and 4.2 times greater for patients over 64 years of age than for those under 15 years of age during 1970, 1974, and 1978. The rates for patients 65 years of age and older without surgery were approximately 6 times greater than the rates for those under 15 years of age in each of these years. Results by sex followed a similar pattern. These differences reflect the fact that a larger proportion of older than of younger patients were hospitalized for illnesses that were not treated by surgery.

For both sexes, there were more patients without surgery than with surgery in 1970, 1974, and 1978 for each age group presented in table 1. Moreover, for each of these years, sexes, and age groups, more patients had one surgery than two or more surgeries. In general, patients were more likely not to have surgery than to have surgery, and patients who had surgery were more likely to have a single procedure than multiple procedures.

# Surgical operations by patient and hospital characteristics

Estimates of surgical operations presented in this report are grouped in the detailed tables by the 17 surgical classes or specialties, including biopsy, as defined in the ICDA-8 section entitled "Surgical Operations, Diagnostic and Other Therapeutic Procedures." Data are omitted for the parts of this section on the nonsurgical procedures, such as diagnostic endoscopy, diagnostic radiotherapy and related therapies, and physical medicine and rehabilitation (see the technical appendix). Operations within each surgical class are presented in the detailed tables by surgical categories, which represent single surgical procedures that occurred in large frequencies or groups of associated surgical operations. The titles and order of the categories in the detailed tables follow ICDA-8 as closely as possible.

Estimates for surgery and surgical rates in the remainder of this report were calculated by using the total number of operations performed for each patient. The previous section presented estimates and rates for patients with surgery, regardless of the number of procedures performed.

## Surgery by sex and age

The number of operations for inpatients discharged from non-Federal short-stay hospitals during 1978 is presented by age and sex in table 2, and the corresponding rates per 100,000 population are shown in table 3. (Rates in the detailed tables are shown per 100,000 population to accommodate small estimates.)

An estimated 20.8 million surgical procedures were performed during 1978 (table 2). This is 97.0 operations per 1,000 population in the civilian noninstitutionalized population (table 3). (Note the comparison with data in table 1, which shows that 14.7 million patients had surgery and that 68.7 discharges per 1,000 population had at least one surgical procedure performed in 1978.) Approximately 7.8 mil-

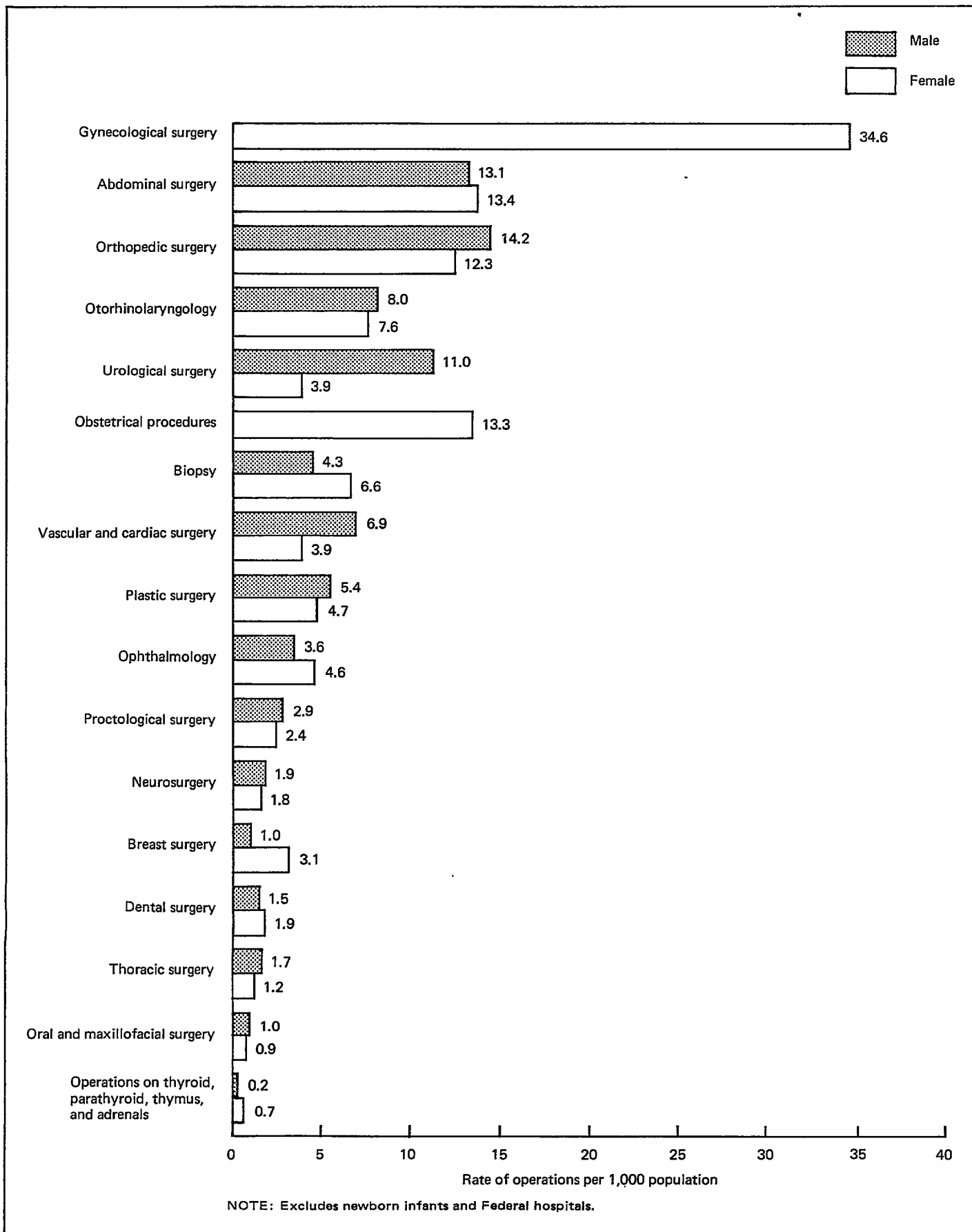
lion procedures were for males, and 12.9 million were for females. This results in surgical rates per 1,000 population of 75.9 for males and 116.8 for females. However, exclusive of sex-specific surgical procedures, surgical rates were 70.9 for males and 67.3 for females.

Surgical operations presented in the detailed tables of this report are grouped by the 17 ICDA-8 surgical classes. The annual surgical rates for 1978 for the ICDA-8 specialties or classes are shown by sex in figure 1. Approximately 46 percent of the operations for males were in four specialties: abdominal, orthopedic, otorhinolaryngological, and urological surgery. For females, 52.4 percent of the operations were in three specialties: abdominal, gynecological, and obstetrical surgery (table 2).

Surgical procedures with the largest frequencies and rates in 1978 are shown by sex in table A. Seven procedures were performed at least 500,000 times during 1978: biopsy, diagnostic dilation and curettage of uterus, hysterectomy, bilateral ligation and division of fallopian tubes, tonsillectomy with or without adenoidectomy, repair of inguinal hernia, and cesarean section. These procedures accounted for about 23.6 percent of all surgical operations performed during 1978. The leading surgical procedures among males were biopsy and repair of inguinal hernia, and the leading surgical procedures among females were diagnostic dilation and curettage of uterus and biopsy.

Rates of many operations that are not sex-specific were greater for one sex than for the other (table 3). For example, surgical rates were about 8 times larger for males than for females for repair of inguinal hernia, about 6 times greater for cardiac revascularization, about 3 times greater for excision of semilunar cartilage of knee joint, and about 2 times greater for cardiac catheterization and for local excision and destruction of lesion of bladder. On the other hand, surgical rates were about 4.5 times greater for females than for males having repair and plastic operations on





Text figure: Annual rate of all-listed operations for inpatients discharged from short-stay hospitals, by sex and surgical categories: United States, 1978

Table A. Number and rate of all-listed operations for inpatients of all ages discharged from short-stay hospitals, by sex and selected surgical categories: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes	Male	Female	Both sexes	Male	Female
	Number of operations in thousands			Rate of operations per 1,000 population		
All operations <sup>1</sup>	20,754	7,831	12,923	97.0	75.9	116.8
Total of selected surgical categories	10,489	3,242	7,247	49.2	30.8	65.6
Biopsy . . . . . A1-A2	1,172	446	727	5.5	4.3	6.6
Dilation and curettage of uterus, diagnostic . . . . . 70.3	967	...	967	4.5	...	8.7
Hysterectomy . . . . . 69.1-69.5	644	...	644	3.0	...	5.8
Ligation and division of fallopian tubes (bilateral) . . . . . 68.5	553	...	553	2.6	...	5.0
Tonsillectomy with or without adenoidectomy . . . . . 21.1-21.2	548	232	315	2.6	2.2	2.9
Repair of inguinal hernia . . . . . 38.2-38.3	510	448	62	2.4	4.3	0.6
Cesarean section . . . . . 77	510	...	510	2.4	...	4.6
Excision of lesion of skin and subcutaneous tissue . . . . . 92.1-92.2	443	207	236	2.1	2.0	2.1
Oophorectomy; salpingo-oophorectomy . . . . . 67.2-67.5	434	...	434	2.0	...	3.9
Cholecystectomy . . . . . 43.5	432	113	320	2.0	1.1	2.9
Reduction of fracture with fixation . . . . . 82.2	382	161	221	1.8	1.6	2.0
Operations on muscles, tendons, fascia, and bursa . . . . . 88-89	366	196	170	1.7	1.9	1.5
Extraction of lens . . . . . 14.4-14.6	357	139	218	1.7	1.3	2.0
Exploratory laparotomy or celiotomy . . . . . 39.1	327	99	228	1.5	1.0	2.1
Cardiac catheterization . . . . . 30.2	305	209	96	1.4	2.0	0.9
Dilation and curettage after delivery or abortion . . . . . 78.1	303	...	303	1.4	...	2.7
Appendectomy <sup>2</sup> . . . . . 41.1	299	154	146	1.4	1.5	1.3
Prostatectomy . . . . . 58.1-58.3	297	297	...	1.4	2.9	...
Repair of obstetrical laceration . . . . . 78.2-78.3	292	...	292	1.4	...	2.6
Closed reduction of fracture without fixation . . . . . 82.0	289	151	138	1.4	1.5	1.2
Myringotomy . . . . . 17.0	229	131	98	1.1	1.3	0.9
Dilation of urethra . . . . . 57.5	228	100	127	1.1	1.0	1.2
Antepartum procedures to terminate pregnancy . . . . . 74.6-74.9	208	...	208	1.0	...	1.9
Operations on peripheral nerves . . . . . 04	201	85	116	0.9	0.8	1.1
Other hernia repair . . . . . 38.0-38.1, 38.4-38.9	193	74	118	0.9	0.7	1.1

<sup>1</sup>Includes operations not listed in table.

<sup>2</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

joints of foot and toes and 4 times greater for thyroidectomy.

Surgical rates increased for each older age group from 37.6 operations per 1,000 population under 15 years of age to 172.2 per 1,000 population 65 years of age and over (about 4.5 times greater). Rates of operations were greater for each older age group in 7 of the 17 surgical categories: vascular and cardiac surgery, thoracic surgery, abdominal surgery, urological surgery, orthopedic surgery, plastic surgery, and biopsy.

In addition, 5 of the 17 categories had higher rates for patients 45 years of age and over than for patients under 45 years of age: neurosurgery; ophthalmology; operations on thyroid, parathyroid, thymus, and adrenals; proctological surgery; and breast surgery. Otorhinolaryngology was the only specialty with lower rates for each older age group. Rates for patients with obstetrical, gynecological, or dental surgery were highest for patients 15-44 years of age.

Surgical rates for females, although approximately 4.7 times greater for patients 65 years of age and over than for patients under 15 years of age, did not increase with each older age group. Surgical rates

per 1,000 female population were not greater for those 45-64 years of age than for those 15-44 years of age, because females between 15 and 44 years of age are in prime childbearing years. The overall surgery rate for females 15-44 years of age was 141.2 per 1,000 population in 1978 but was only 68.9 per 1,000 population when obstetrical and gynecological procedures were excluded.

Surgical rates per 1,000 male population increased for each older age group from 42.3 operations per 1,000 population for those under 15 years of age to 197.1 per 1,000 for those 65 years of age and over (4.7 times larger).

Statistics for selected surgical operations and procedures performed most frequently during 1978 are presented by sex and age in tables B through E. The selection of leading surgical operations for the text tables excludes residual categories of operations listed in the detailed tables.

*Age group under 15 years.*—Approximately 1.9 million operations were performed on patients under 15 years of age, excluding newborn infants. This was about 9 percent of all operations performed during 1978. Tonsillectomy with or without adenoidectomy

Table B. Number and rate of all-listed operations for inpatients under 15 years of age discharged from short-stay hospitals, by sex and selected surgical categories: United States, 1978

[Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes			Both sexes		
	Male	Female	Both sexes	Male	Female	Both sexes
	Number of operations in thousands			Rate of operations per 1,000 population		
All operations for inpatients under 15 years <sup>1</sup>	1,907	1,094	813	37.6	42.3	32.7
Total of selected surgical categories	1,203	684	522	23.8	26.7	20.9
Tonsillectomy with or without adenoidectomy . . . . . 21.1-21.2	359	175	185	7.1	6.8	7.4
Myringotomy . . . . . 17.0	208	121	87	4.1	4.7	3.5
Repair of inguinal hernia . . . . . 38.2-38.3	95	77	18	1.9	3.0	0.7
Closed reduction of fracture without fixation . . . . . 82.0	85	53	32	1.7	2.1	1.3
Adenoidectomy without tonsillectomy . . . . . 21.3	83	48	35	1.6	1.9	1.4
Appendectomy <sup>2</sup> . . . . . 41.1	82	44	38	1.6	1.7	1.5
Resection and recession of eye muscle . . . . . 10.5-10.6	39	17	22	0.8	0.7	0.9
Excision of lesion of skin and subcutaneous tissue . . . . . 92.1-92.2	39	23	17	0.8	0.9	0.7
Operations on muscles, tendons, fascia, and bursa . . . . . 88-89	38	18	20	0.7	0.7	0.8
Biopsy . . . . . A1-A2	36	20	16	0.7	0.8	0.6
Circumcision . . . . . 61.2	35	35	...	0.7	1.4	...
Dilation of urethra . . . . . 57.5	33	8	25	0.6	0.3	1.0
Cardiac catheterization . . . . . 30.2	25	15	11	0.5	0.6	0.4
Reduction of fracture with fixation . . . . . 82.2	23	14	9	0.5	0.5	0.4
Suture of skin or mucous membrane . . . . . 92.5	23	16	7	0.5	0.6	0.3

<sup>1</sup>Includes operations not listed in table.

<sup>2</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

Table C. Number and rate of all-listed operations for inpatients 15-44 years of age discharged from short-stay hospitals, by sex and selected surgical categories: United States, 1978

[Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes			Both sexes		
	Male	Female	Both sexes	Male	Female	Both sexes
	Number of operations in thousands			Rate of operations per 1,000 population		
All operations for inpatients 15-44 years <sup>1</sup>	9,754	2,728	7,025	100.6	57.8	141.2
Total of selected surgical categories	4,701	469	4,230	48.5	10.0	84.0
Dilation and curettage of uterus, diagnostic . . . . . 70.3	663	...	663	6.8	...	13.3
Ligation and division of fallopian tubes (bilateral) . . . . . 68.5	542	...	542	5.6	...	10.9
Cesarean section . . . . . 77	508	...	508	5.2	...	10.2
Hysterectomy . . . . . 69.1-69.5	406	...	406	4.2	...	8.2
Biopsy . . . . . A1-A2	352	78	274	3.6	1.6	5.5
Dilation and curettage after delivery or abortion . . . . . 78.1	299	...	299	3.1	...	6.0
Repair of laceration . . . . . 78.2-78.3	291	...	291	3.0	...	5.8
Oophorectomy; salpingo-oophorectomy . . . . . 67.2-67.5	257	...	257	2.7	...	5.2
Antepartum procedures to terminate pregnancy . . . . . 74.6-74.9	203	...	203	2.1	...	4.1
Operations on muscles, tendons, fascia, and bursa . . . . . 88-89	195	114	81	2.0	2.4	1.6
Appendectomy <sup>2</sup> . . . . . 41.1	179	88	90	1.8	1.9	1.8
Exploratory laparotomy or celiotomy . . . . . 39.1	174	41	133	1.8	0.9	2.7
Excision of lesion of skin and subcutaneous tissue . . . . . 92.1-92.2	170	80	90	1.8	1.7	1.8
Cholecystectomy . . . . . 43.5	157	23	134	1.6	0.5	2.7
Tonsillectomy without adenoidectomy . . . . . 21.1	152	45	107	1.6	1.0	2.1
Salpingectomy, bilateral . . . . . 68.2	152	...	152	1.6	...	2.1

<sup>1</sup>Includes operations not listed in table.

<sup>2</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

Table D. Number and rate of all-listed operations for inpatients 45-64 years of age discharged from short-stay hospitals, by sex and selected surgical categories: United States, 1978

[Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes	Male	Female	Both sexes	Male	Female
	Number of operations in thousands			Rate of operations per 1,000 population		
All operations for inpatients 45-64 years <sup>1</sup>	5,167	2,154	3,012	119.0	103.8	132.9
Total of selected surgical categories	2,324	849	1,478	53.6	40.2	65.2
Biopsy . . . . . A1-A2	424	169	255	9.8	8.1	11.3
Dilation and curettage of uterus, diagnostic . . . . . 70.3	256	...	256	5.9	...	11.3
Hysterectomy . . . . . 69.1-69.5	197	...	197	4.5	...	8.7
Cholecystectomy . . . . . 43.5	165	52	113	3.8	2.5	5.0
Cardiac catheterization . . . . . 30.2	164	117	47	3.8	5.7	2.1
Repair of inguinal hernia . . . . . 38.2-38.3	160	145	14	3.7	7.0	0.6
Oophorectomy, salpingo-oophorectomy . . . . . 67.2-67.5	148	...	148	3.4	...	6.5
Excision of lesion of skin and subcutaneous tissue . . . . . 92.1-92.2	135	63	73	3.1	3.0	3.2
Operations on muscles, tendons, fascia, and bursa . . . . . 88-89	102	52	50	2.3	2.5	2.2
Extraction of lens . . . . . 14.4-14.6	79	40	40	1.8	1.9	1.7
Exploratory laparotomy or celiotomy . . . . . 39.1	76	27	50	1.8	1.3	2.2
Operations on peripheral nerves . . . . . 04	74	25	48	1.7	0.6	2.1
Other hernia repair . . . . . 38.0-38.1, 38.4-38.9	71	29	43	1.6	1.4	1.9
Hemorrhoidectomy . . . . . 51.3	69	36	34	1.6	1.7	1.5
Prostatectomy . . . . . 58.1-58.3	68	68	...	1.6	3.3	...
Plastic repair of cystocele and/or rectocele . . . . . 71.4	68	...	68	1.6	...	3.0
Reduction of fracture with fixation . . . . . 82.2	68	26	42	1.6	1.2	1.9

<sup>1</sup>Includes operations not listed in table.

Table E. Number and rate of all-listed operations for inpatients 65 years of age and over discharged from short-stay hospitals, by sex and selected surgical categories: United States, 1978

[Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes	Male	Female	Both sexes	Male	Female
	Number of operations in thousands			Rate of operations per 1,000 population		
All operations for inpatients 65 years and over <sup>1</sup>	3,926	1,854	2,072	172.2	197.1	154.7
Total of selected surgical categories	2,002	1,038	965	87.6	110.4	71.9
Biopsy . . . . . A1-A2	360	179	182	15.8	19.0	13.5
Extraction of lens . . . . . 14.4-14.6	265	91	174	11.6	9.7	13.0
Prostatectomy . . . . . 58.1-58.3	226	226	...	9.9	24.0	...
Reduction of fracture with fixation . . . . . 82.2	175	32	143	7.7	3.4	10.7
Repair of inguinal hernia . . . . . 38.2-38.3	121	107	14	5.3	11.4	1.0
Insertion of replacement of electric heart device . . . . . 30.4-30.5	116	59	58	5.1	6.3	4.3
Cholecystectomy . . . . . 43.5	108	37	71	4.7	3.9	5.3
Excision of lesion of skin and subcutaneous tissue . . . . . 92.1-92.2	99	42	57	4.3	4.5	4.2
Resection of small intestine or colon . . . . . 47.4-47.6	89	35	54	3.9	3.8	4.0
Local excision and destruction of lesion of bladder . . . . . 56.1-56.2	82	59	24	3.6	6.2	1.8
Dilation of urethra . . . . . 57.5	69	46	22	3.0	4.9	1.7
Cardiac catheterization . . . . . 30.2	65	40	25	2.8	4.3	1.9
Exploratory laparotomy or celiotomy . . . . . 39.1	64	26	38	2.8	2.7	2.8
Other operations on peripheral blood vessels . . . . . 24.0-24.3, 24.5-24.9	60	33	27	2.6	3.5	2.0
Closed reduction of fracture without fixation . . . . . 82.0	58	11	47	2.5	1.2	3.5
Other hernia repair . . . . . 38.0-38.1, 38.4-38.9	45	15	29	2.0	1.6	2.2

<sup>1</sup>Includes operations not listed in table.

(359,000 operations performed) and myringotomy (208,000 operations performed) were the most common operations for children. These two procedures accounted for approximately 30 percent of all operations performed on patients under 15 years of age and for about 27 and 33 percent of all operations on males and females respectively in this age group. No other surgical procedures were performed 100,000 or more times on patients under 15 years of age.

*Age group 15-44 years.*—Approximately 9.8 million surgical operations were performed on patients 15-44 years of age. This was about 47 percent of all operations performed during 1978. An estimated 2.7 million surgical operations were performed for males 15-44 years of age compared with 7.0 million surgical operations for females. Surgery in this age group accounted for 54 percent of all surgery for females but only 35 percent of all surgery for males. The number of operations per 1,000 population was 57.8 for males and 141.2 for females, or about 2.4 times greater for females than for males. The large difference in the rates for this age group by sex was due mainly to the number of gynecological procedures (2.8 million) and obstetrical procedures (1.5 million) performed for females (table 2).

The leading surgical procedures for patients 15-44 years of age were dominated by sex-specific operations. As shown in table C, 8 of the 10 most frequent surgical procedures for this age group were sex-specific for females. The remaining two procedures were biopsy, for which the rate was approximately 3.4 times greater for females than for males, and operations on muscles, tendons, fascia, and bursa, which were more than 40 percent more frequent for males than for females. The surgical categories with the greatest rates per 1,000 women for this age group were diagnostic dilation and curettage of uterus (13.3), bilateral ligation and division of fallopian tubes (10.9), cesarean section (10.2), and hysterectomy (8.2). Some leading surgical categories per 1,000 males in this age group (table 3) were repair of inguinal hernia (2.5), operations on muscles, tendons, fascia, and bursa (2.4), excision of semilunar cartilage of knee joint (2.0), reduction of fracture with fixation (1.9), and appendectomy (1.9).

*Age group 45-64 years.*—The estimated number of operations performed for patients 45-64 years of age was 5,167,000, approximately 24.9 percent of all operations performed during 1978. The number of operations per 1,000 population 45-64 years of age was approximately 103.8 for males compared with 132.9 for females (table D). The higher rate for females is primarily the result of the large number of gynecological operations, which accounted for 830,000 surgical procedures, or 27.6 percent of all surgery for females 45-64 years of age (table 2).

The highest surgical rates for males 45-64 years of

age were for the surgical categories biopsy, repair of inguinal hernia, cardiac catheterization, prostatectomy, and excision of lesion of skin and subcutaneous tissue. The leading surgical procedures for females in this age group were diagnostic dilation and curettage of uterus and biopsy. Other common surgical procedures for women were hysterectomy, oophorectomy and salpingo-oophorectomy, and cholecystectomy.

Several surgical categories are not sex-specific but had substantially higher rates for one sex than for the other. Surgical rates were greater for males than for females for repair of inguinal hernia and cardiac catheterization. Rates for females were greater than for males for biopsy and cholecystectomy.

*Age group 65 years of age and over.*—An estimated 3.9 million surgical operations were performed on patients 65 years of age and over. This was about 18.9 percent of all operations performed during 1978. Of these, about 1.9 million operations were performed for males 65 years of age and over, and about 2.1 million operations were performed for females 65 years of age and over (table E). The surgical rate for males per 1,000 population was 197.1; for females, the rate was 154.7 per 1,000.

The most frequent operations for males 65 years of age and over were prostatectomy, biopsy, repair of inguinal hernia, and extraction of lens. For females 65 years of age and over, the most frequent surgical procedures were biopsy, extraction of lens, and reduction of fracture with fixation. For operations that were not sex-specific, rates for males were greater than for females for repair of inguinal hernia, local excision and destruction of lesion of bladder, dilation of urethra, and cardiac catheterization. Surgical rates were greater for females than for males for reduction of fracture with fixation, extraction of lens, and closed reduction of fracture without fixation.

#### Surgery by race

The number and percent distribution of operations in short-stay hospitals during 1978 by race are shown in table 4. The race of patients was not identified in 13.5 percent of the operations performed; therefore, rates by race are not presented.

Six of the 17 surgical classes accounted for 67 percent of all operations for white patients and for 73 percent of all operations for all other inpatients: gynecological, abdominal, orthopedic, obstetrical, urological, and otorhinolaryngological surgery. Differences by race were found in the percents of operations in each surgical class represented relative to all operations. The largest difference was for obstetrical procedures, which accounted for only 6.1 percent of the operations for white patients compared with 14.0 percent of the operations for all other patients.

Another difference was for otorhinolaryngology, which was 8.2 percent of the operations for white patients compared with 4.7 percent for all other patients.

The two leading surgical categories for patients of all races were biopsy and diagnostic dilation and curettage of uterus. For white patients, hysterectomy, ligation and division of fallopian tubes (bilateral), and repair of inguinal hernia were among the leading surgical categories. For all other patients, ligation and division of fallopian tubes (bilateral), cesarean section, and antepartum procedures to terminate pregnancy were among the leading surgical categories.

### Surgery by bed size of hospital

Estimates of the number of operations performed in short-stay hospitals during 1978 for each surgical class and category are shown in table 5 by bed size of hospital. About 45.7 percent of all operations in 1978 were in gynecological, abdominal, and orthopedic surgical categories. As a percent of total operations, these three surgical classes decreased from about 52.2 percent in hospitals with fewer than 100 beds to about 41.8 percent in hospitals with 500 beds or more. A higher proportion of total operations were performed in the largest hospitals for certain surgical

classes, such as vascular and cardiac surgery, biopsy, thoracic surgery, and oral and maxillofacial surgery.

Approximately 48 percent of all operations in 1978 were performed in hospitals with fewer than 300 beds, but some operations were more common than others in these hospitals. For example, 60 percent or more of all of the following operations were performed in hospitals with fewer than 300 beds: repair and plastic operations on joints of foot and toes, appendectomy, tonsillectomy and adenoidectomy, bilateral salpingectomy, suture of skin and mucous membranes, and repair of hernia other than inguinal hernia. In contrast, only 9 percent of operations on valves of the heart and 13 percent of cardiac revascularizations were performed in hospitals with fewer than 300 beds, and operations on peripheral blood vessels and cardiac catheterization were performed 30 percent of the time or less in hospitals with fewer than 300 beds.

Table F presents the estimated number and percent distribution of patients with and without surgery by bed size of hospital. In 1978, the proportion of patients who had surgery increased in direct relation to the bed size of the hospital: only 29 percent of all discharges in the smallest hospitals (fewer than 100 beds) had surgery, while 57 percent of all discharges from hospitals with more than 500 beds involved surgery.

Table F. Number and percent distribution of inpatients discharged from short-stay hospitals with surgery and without surgery, according to bed size of hospital: United States, 1978

[Excludes newborn infants and Federal hospitals]

<i>Surgery status</i>	<i>Bed size of hospital</i>					
	<i>All sizes</i>	<i>6-99 beds</i>	<i>100-199 beds</i>	<i>200-299 beds</i>	<i>300-499 beds</i>	<i>500 beds or more</i>
<i>All patients</i>						
Number (1,000) . . . . .	35,616	6,888	6,046	6,324	8,259	8,100
Percent distribution . . . . .	100	100	100	100	100	100
<i>Patients with surgery</i>						
Number (1,000) . . . . .	16,735	1,981	2,714	3,180	4,260	4,601
Percent distribution . . . . .	47.0	28.8	44.9	50.3	51.6	56.8
<i>Patients without surgery</i>						
Number (1,000) . . . . .	18,881	4,908	3,333	3,144	3,998	3,499
Percent distribution . . . . .	53.0	71.2	55.1	49.7	48.4	43.2

# Biopsies

The number of biopsies increased from 745,000 in 1970 to 1,173,000 in 1978, an increase of 57 percent. The number of biopsies per 1,000 population was 3.5 in 1970, 4.9 in 1974, and 5.5 in 1978 (table G). More biopsies were performed for females than for males in each of these years. The most common biopsies performed on females during the 3 years under consideration were biopsies of the breast

and internal female genital organs. These biopsies constituted about 48.4 percent of all biopsies performed on females in 1978, 62.4 percent in 1970, and 58.0 percent in 1974. Biopsies that accounted for at least 10 percent of all biopsies on males in 1970, 1974, and 1978 involved bone; thorax; male genital organs; and biopsies of the biliary tract, spleen, and pancreas.

Table G. Number and rate of biopsies performed for inpatients discharged from short-stay hospitals, by sex and site of biopsy: United States, 1970, 1974, 1978

[Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Biopsy and ICDA code	1970			1974			1978		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Number of biopsies in thousands									
All biopsies . . . . . A1-A2	745	234	511	1,023	327	696	1,173	446	727
Biopsy of breast . . . . . A2.3	144	5	138	234	4	229	184	5	179
Biopsy of internal female genital organs . . . . . A2.5	181	...	181	175	...	175	173	...	173
Biopsy of bone . . . . . A2.7	72	35	37	103	49	54	141	68	75
Biopsy of stomach and intestines . . . . . A1.8	36	17	19	69	32	38	118	57	61
Biopsy of biliary tract, spleen and pancreas . . . . . A1.9	66	33	33	99	47	52	111	50	61
Biopsy of thorax . . . . . A1.6	40	25	15	67	42	25	107	68	41
Other biopsy of circulatory and lymphatic systems . . . . . A2.6	56	31	25	67	34	33	70	37	33
Biopsy of male genital organs . . . . . A2.2	27	27	...	40	40	...	59	59	...
Biopsy of urinary tract . . . . . A2.1	17	10	7	22	12	9	47	28	19
Biopsy of mouth and throat . . . . . A1.4	29	19	10	37	22	15	42	28	16
Biopsy of skin and subcutaneous tissue . . . . . A2.9	23	10	13	36	15	21	36	19	17
Other biopsy of musculoskeletal system . . . . . A2.8	16	9	8	20	9	11	21	9	12
Other biopsies . . . . . Residual	40	13	27	56	21	35	66	23	44
Rate of biopsies per 1,000 population									
All biopsies . . . . . A1-A2	3.5	2.5	5.0	4.9	3.3	6.5	5.5	4.3	6.6
Biopsy of breast . . . . . A2.3	0.7	0.1	1.3	1.1	0.0	2.1	0.9	0.0	1.6
Biopsy of internal female genital organs . . . . . A2.5	0.9	...	1.8	0.8	...	1.6	0.8	...	1.6
Biopsy of bone . . . . . A2.7	0.4	0.4	0.4	0.5	0.5	0.5	0.7	0.6	0.7
Biopsy of stomach and intestines . . . . . A1.8	0.2	0.2	0.2	0.3	0.3	0.4	0.6	0.6	0.6
Biopsy of biliary tract, spleen and pancreas . . . . . A1.9	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.6
Biopsy of thorax . . . . . A1.6	0.2	0.3	0.1	0.3	0.4	0.2	0.5	0.6	0.4
Other biopsy of circulatory and lymphatic systems . . . . . A2.6	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.3
Biopsy of male genital organs . . . . . A2.2	0.1	0.3	...	0.2	0.4	...	0.3	0.6	...
Biopsy of urinary tract . . . . . A2.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2
Biopsy of mouth and throat . . . . . A1.4	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.3	0.1
Biopsy of skin and subcutaneous tissue . . . . . A2.9	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2
Other biopsy of musculoskeletal system . . . . . A2.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other biopsies . . . . . Residual	0.2	0.1	0.3	0.3	0.2	0.3	0.3	0.2	0.4

# Average lengths of stay for single-listed operations

Published reports from the National Hospital Discharge Survey computed average lengths of stay 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. Two factors limit this approach to average length of stay data: (1) only 67.6 percent of all patients with surgery have a single-listed surgery; and (2) this method still does not control the variance introduced by other patient characteristics, such as other diagnoses or diagnostic complexity.

The number of patients with a single-listed operation and average length of stay for these inpatients are shown by sex and surgical categories for 1978 in

table 6. These statistics are shown by age and surgical category in tables 7 and 8. Table H provides the length of stay for inpatients discharged from short-stay hospitals by the 17 ICDA-8 surgical categories of single-listed operations as a function of sex, and table J provides the same data as a function of age.

Patients undergoing neurosurgery and thoracic surgery had the longest length of stay for any of the 17 ICDA-8 surgical categories (table J). The average length of stay for patients with neurosurgery was 12.4 days; for patients with thoracic surgery, it was 11.8 days. No appreciable difference between the length of stay for males and females was found for these two categories. However, as shown in table 6, average length of stay varied considerably for males and females for neurosurgery involving incision and excision of skull and intracranial structures. Males

Table H. Average length of stay for inpatients discharged from short-stay hospitals, by sex and the 17 ICDA-8 surgical categories for single-listed operations: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Total	Male	Female
Total of surgical categories	6.8	7.3	6.4
Neurosurgery . . . . . 01-05	12.4	12.3	12.6
Ophthalmology . . . . . 06-14	4.2	4.2	4.2
Otorhinolaryngology . . . . . 16-21	3.2	3.4	3.8
Operations on thyroid, parathyroid, thymus, and adrenals . . . . . 22-23	6.2	6.4	6.2
Vascular and cardiac surgery . . . . . 24-30	9.5	9.2	10.0
Thoracic surgery . . . . . 32-35	11.8	11.7	11.9
Abdominal surgery . . . . . 38-48	8.1	7.2	9.4
Proctological surgery . . . . . 50-52	6.2	6.0	6.4
Urological surgery . . . . . 54-61	7.7	7.7	7.3
Breast surgery . . . . . 65	5.2	4.1	5.2
Gynecological surgery . . . . . 67-72	3.8	...	3.8
Obstetrical procedures . . . . . 74-78	3.9	...	3.9
Orthopedic surgery . . . . . 80-90	9.7	8.2	11.1
Plastic surgery . . . . . 92-94	7.1	6.7	7.5
Oral and maxillofacial surgery . . . . . 95-98	4.4	4.4	4.3
Dental surgery . . . . . 99	2.8	2.8	2.8
Biopsy . . . . . A1-A2	9.1	9.5	8.9



Table J. Average length of stay for inpatients discharged from short-stay hospitals, by age and the 17 ICDA-8 surgical categories of single-listed operations: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Total	Average length of stay in days			
		Under 15 years	15-44 years	45-64 years	65 years and over
Total of surgical categories . . . . .	6.8	3.8	4.8	8.1	11.7
Neurosurgery . . . . .01-05	12.4	11.3	11.3	11.6	16.5
Ophthalmology . . . . .06-14	4.2	2.2	3.5	4.1	4.9
Otorhinolaryngology . . . . .16-21	3.2	2.1	2.9	5.1	11.1
Operations on thyroid, parathyroid, thymus, and adrenals . . . . .22-23	6.2	4.4	5.0	7.1	8.9
Vascular and cardiac surgery . . . . .24-30	9.5	7.7	7.0	9.0	11.8
Thoracic surgery . . . . .32-35	11.8	9.5	9.1	13.1	13.2
Abdominal surgery . . . . .38-48	8.1	4.3	6.6	8.8	12.4
Proctological surgery . . . . .50-52	6.2	3.8	5.1	7.0	9.5
Urological surgery . . . . .54-61	7.7	3.9	5.5	7.6	10.7
Breast surgery . . . . .65	5.2	2.7	3.5	5.6	9.2
Gynecological surgery . . . . .67-72	3.8	3.0	3.7	3.7	6.7
Obstetrical procedures . . . . .74-78	3.9	3.2	3.9	3.1	...
Orthopedic surgery . . . . .80-90	9.7	5.4	6.5	10.2	16.7
Plastic surgery . . . . .92-94	7.1	4.9	5.4	8.0	12.1
Oral and maxillofacial surgery . . . . .95-98	4.4	3.1	4.2	4.2	7.0
Dental surgery . . . . .99	2.8	1.5	2.2	4.3	9.3
Biopsy . . . . .A1-A2	9.1	7.2	6.6	9.1	11.4

had an average length of stay of 20.1 days, but the average length of stay for females was 34.8 days, a difference of 14.7 days.

The longest length of stay for any specific surgical procedure was for emergency tracheotomy or tracheostomy, for which the average length of stay was 30.6 days (table 8). The only other surgical procedure that required an average length of stay of 30 days or more involved a specific age group. Patients 15-44 years of age who had incision and excision of skull and intracranial structures stayed an average of 34.3 days.

Surgical patients with the shortest length of stay underwent dental and otorhinolaryngological surgery. For dental surgery, the average length of stay was 2.8 days; for otorhinolaryngological surgery, it was 3.2 days. The average length of stay for males undergoing dental surgery was about the same compared with females undergoing dental surgery. Male patients hospitalized for otorhinolaryngological surgery had an average length of stay only 0.4 days less than females.

Dental surgery was the only classification with an average length of stay less than 3 days. For patients under 15 years of age with dental surgery, the average length of stay was only 1.5 days. This was the only age group in any class that had an average length of stay less than 2 days, although certain specific surgeries had shorter lengths of stay.

Average length of stay increased with age for patients undergoing surgery (table J). Patients under 15 years of age had an average length of stay of 3.8 days. Patients 65 years of age and over had an average length of stay of 11.7 days, a difference of 7.9 days. Length of stay tended to increase with age in each surgical category. The longest lengths of stay were for patients 65 years of age and over with orthopedic surgery (16.7 days) and neurosurgery (16.5 days). These two categories averaged 3.5 and 3.3 days longer than any of the other 17 major surgical categories for patients 65 years of age and over.

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# List of detailed tables

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Table 1. Number, percent distribution, and rate of inpatients discharged from short-stay hospitals with one surgery, with two or more surgeries, or without surgery, by sex and age: United States, 1970, 1974, and 1978

[Excludes newborn infants and Federal hospitals]

Sex and age	Discharges in 1970					Discharges in 1974					Discharges in 1978				
	Total	Without surgery	With surgery			Total	Without surgery	With surgery			Total	Without surgery	With surgery		
			Total	One	Two or more			Total	One	Two or more			Total	One	Two or more
Both sexes <sup>1</sup>															
Number of discharges in thousands															
All ages	29,127	17,573	11,553	8,352	3,201	33,018	19,201	13,817	9,574	4,244	35,616	20,932	14,683	9,929	4,754
Under 15 years	3,873	1,962	1,911	1,571	340	3,912	2,077	1,834	1,420	415	3,488	2,031	1,456	1,061	395
15-44 years	12,664	7,509	5,156	3,738	1,418	13,855	7,514	6,341	4,364	1,977	15,037	8,102	6,935	4,750	2,185
45-64 years	6,693	3,927	2,765	1,818	948	8,067	4,621	3,446	2,241	1,205	8,383	4,864	3,519	2,252	1,267
65 years and over	5,897	4,176	1,721	1,225	496	7,185	4,988	2,196	1,549	648	8,708	5,935	2,773	1,866	907
Male															
All ages	11,431	6,817	4,614	3,436	1,178	13,120	7,820	5,300	3,820	1,480	14,367	8,683	5,684	3,963	1,721
Under 15 years	2,173	1,106	1,068	856	212	2,189	1,152	1,037	786	250	1,946	1,128	818	578	240
15-44 years	3,486	1,908	1,578	1,183	395	4,015	2,196	1,818	1,316	502	4,565	2,576	1,989	1,409	580
45-64 years	3,104	1,953	1,151	820	331	3,727	2,300	1,426	1,013	414	3,981	2,421	1,560	1,089	472
65 years and over	2,667	1,849	817	577	240	3,190	2,171	1,019	705	314	3,875	2,558	1,317	888	429
Female															
All ages	17,696	10,756	6,939	4,916	2,024	19,876	11,368	8,508	5,747	2,761	21,249	12,249	9,000	5,966	3,033
Under 15 years	1,699	856	844	715	128	1,720	923	797	633	164	1,542	903	638	483	155
15-44 years	9,178	5,600	3,578	2,555	1,023	9,831	5,313	4,518	3,044	1,474	10,472	5,525	4,947	3,341	1,605
45-64 years	3,588	1,974	1,614	997	617	4,334	2,317	2,017	1,227	790	4,403	2,443	1,959	1,164	795
65 years and over	3,230	2,326	904	648	256	3,990	2,814	1,176	843	333	4,833	3,377	1,456	978	478
Both sexes															
Percent distribution															
All ages	100.0	60.3	39.7	28.7	11.0	100.0	58.2	41.8	29.0	12.9	100.0	58.8	41.2	27.9	13.3
Under 15 years	100.0	50.7	49.3	40.6	8.8	100.0	53.1	46.9	36.3	10.6	100.0	58.2	41.7	30.4	11.3
15-44 years	100.0	59.3	40.7	29.5	11.2	100.0	54.2	45.8	31.5	14.3	100.0	53.9	46.1	31.6	14.5
45-64 years	100.0	58.7	41.3	27.2	14.2	100.0	57.3	42.7	27.8	14.9	100.0	58.0	42.0	26.9	15.1
65 years and over	100.0	70.8	29.2	20.8	8.4	100.0	69.4	30.6	21.6	9.6	100.0	68.2	31.8	21.4	10.4
Male															
All ages	100.0	59.6	40.4	30.1	10.3	100.0	59.6	40.4	29.1	11.3	100.0	60.4	39.6	27.6	12.0
Under 15 years	100.0	50.9	49.1	39.4	9.8	100.0	52.6	47.4	35.9	11.4	100.0	58.0	42.0	29.7	12.3
15-44 years	100.0	54.7	45.3	33.9	11.3	100.0	54.7	45.3	32.8	12.5	100.0	56.4	43.6	30.9	12.7
45-64 years	100.0	62.9	37.1	26.4	10.7	100.0	61.7	38.3	27.2	11.1	100.0	60.8	39.2	27.4	11.9
65 years and over	100.0	69.3	30.6	21.6	9.0	100.0	68.1	31.9	22.1	9.8	100.0	66.0	34.0	22.9	11.1
Female															
All ages	100.0	60.8	39.2	27.8	11.4	100.0	57.2	42.8	28.9	13.9	100.0	57.6	42.4	28.1	14.3
Under 15 years	100.0	50.4	49.7	42.1	7.5	100.0	53.7	46.3	36.8	9.5	100.0	58.6	41.4	31.3	10.1
15-44 years	100.0	61.0	39.0	27.8	11.1	100.0	54.0	46.0	31.0	15.0	100.0	52.8	47.2	31.9	15.3
45-64 years	100.0	55.0	45.0	27.8	17.2	100.0	53.5	46.5	28.3	18.2	100.0	55.5	44.5	26.4	18.1
65 years and over	100.0	72.0	28.0	20.1	7.9	100.0	70.5	29.5	21.1	8.3	100.0	69.9	30.1	20.2	9.9

		Rate of discharges per 1,000 population													
<b>Both sexes</b>															
All ages . . . . .	145.9	88.1	57.9	41.8	16.0	159.2	92.6	66.6	46.2	20.5	166.5	97.9	68.7	46.4	22.2
Under 15 years . . . . .	67.1	34.0	33.1	27.2	5.9	71.8	38.1	33.7	26.1	7.6	68.8	40.1	28.7	20.9	7.8
15-44 years . . . . .	156.0	92.5	63.5	46.0	17.5	155.2	84.2	71.0	48.9	22.1	155.1	83.6	71.5	49.0	22.5
45-64 years . . . . .	161.4	94.7	66.7	43.8	22.9	188.1	107.8	80.4	52.3	28.1	193.1	112.0	81.0	51.9	29.2
65 years and over . . . . .	306.8	217.3	89.6	63.7	25.8	346.2	240.4	105.8	74.6	31.2	381.9	260.2	121.6	81.8	39.8
<b>Male</b>															
All ages . . . . .	119.1	71.0	48.1	35.8	12.3	131.1	78.1	53.0	38.2	14.8	139.2	84.1	55.1	38.4	16.7
Under 15 years . . . . .	73.9	37.6	36.3	29.1	7.2	78.8	41.5	37.3	28.3	9.0	75.2	43.6	31.6	22.3	9.3
15-44 years . . . . .	90.0	49.2	40.7	30.5	10.2	92.8	50.7	42.0	30.4	11.6	96.7	54.6	42.2	29.9	12.3
45-64 years . . . . .	157.2	98.9	58.3	41.5	16.8	182.4	112.6	69.8	49.6	20.3	191.9	116.7	75.2	52.5	22.7
65 years and over . . . . .	329.6	228.5	101.0	71.3	29.7	371.5	252.8	118.7	82.1	36.6	412.1	272.0	140.0	94.4	45.6
<b>Female</b>															
All ages . . . . .	170.8	103.8	67.0	47.5	19.5	185.2	105.9	79.3	53.6	25.7	192.0	110.7	81.3	53.9	27.4
Under 15 years . . . . .	60.0	30.2	29.8	25.3	4.5	64.4	34.6	29.8	23.7	6.1	62.1	36.4	25.7	19.4	6.2
15-44 years . . . . .	216.3	132.0	84.3	60.2	24.1	213.7	115.5	98.2	66.2	32.0	210.5	111.0	99.4	67.1	32.3
45-64 years . . . . .	165.1	90.8	74.3	45.9	28.4	193.0	103.2	89.8	54.6	35.2	194.2	107.7	86.4	51.3	35.1
65 years and over . . . . .	290.3	209.0	81.2	58.2	23.0	328.0	231.4	96.7	69.3	27.4	360.7	252.0	108.7	73.0	35.7

<sup>1</sup>Includes sex not stated.

Table 2. Number of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes				
	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
	Number of all-listed operations in thousands				
All operations . . . . .	20,754	1,907	9,754	5,167	3,926
Neurosurgery . . . . .01-05	396	30	153	142	71
Incision and excision of skull and intracranial structures . . . . .01	66	6	21	23	16
Laminectomy . . . . .03.0	44	*1	16	18	9
Operations on peripheral nerves . . . . .04	201	7	89	74	32
Other neurosurgery . . . . .Residual	85	17	27	27	14
Ophthalmology . . . . .06-14	881	89	120	216	456
Resection and recession of eye muscle . . . . .10.5-10.6	63	39	18	4	*2
Reattachment of retina . . . . .13.4-13.5	36	*2	6	12	16
Extraction of lens . . . . .14.4-14.6	357	5	7	79	265
Other eye surgery . . . . .Residual	425	43	89	120	173
Otorhinolaryngology . . . . .16-21	1,668	762	602	209	95
Myringotomy . . . . .17.0	229	208	11	9	*2
Stapedectomy with ossicular reconstruction . . . . .17.4	27	*2	11	11	3
Tympanoplasty . . . . .17.6-17.7	67	14	32	18	3
Excision of lesion of nose . . . . .19.0	51	4	13	17	16
Section of nasal septum . . . . .19.1	55	3	44	7	*1
Rhinoplasty and repair of nose . . . . .19.3	188	7	135	36	9
Tracheotomy or tracheostomy, emergency . . . . .20.5	44	4	10	14	16
Tonsillectomy without adenoidectomy . . . . .21.1	204	48	152	4	*1
Tonsillectomy with adenoidectomy . . . . .21.2	344	311	30	*2	*1
Adenoidectomy without tonsillectomy . . . . .21.3	86	83	*2	*1	*-
Other operations on ears, nose, and throat . . . . .Residual	373	78	162	90	43
Operations on thyroid, parathyroid, thymus, and adrenals . . . . .22-23	100	6	43	36	16
Thyroidectomy . . . . .22.1-22.2	76	*1	34	27	13
Other operations on thyroid, parathyroid, thymus, and adrenals . . . . .Residual	25	5	8	8	3
Vascular and cardiac surgery . . . . .24-30	1,143	62	187	493	401
Excision and ligation of varicose veins . . . . .24.4	60	*-	29	27	5
Other operations on peripheral blood vessels . . . . .24.0-24.3, 24.5-24.9	163	6	30	67	60
Incision and excision of lymphatic structure . . . . .25.0-25.2	71	5	19	25	22
Operations on valves of heart . . . . .29.2-29.4	33	3	7	15	7
Cardiac revascularization . . . . .29.8	95	*1	8	67	20
Cardiac catheterization . . . . .30.2	305	25	51	164	65
Insertion or replacement of electric heart device . . . . .30.4-30.5	149	*2	5	26	116
Other vascular and cardiac surgery . . . . .Residual	267	21	38	102	106
Thoracic surgery . . . . .32-35	311	16	82	117	95
Thoracotomy and pleurotomy . . . . .32.0	108	7	41	38	22
Lung lobectomy and pneumonectomy . . . . .34.2-34.4	39	*1	6	20	13
Other thoracic surgery . . . . .Residual	164	9	34	60	60
Abdominal surgery . . . . .38-48	2,830	256	991	845	738
Repair of inguinal hernia . . . . .38.2-38.3	510	95	135	160	121
Other hernia repair . . . . .38.0-38.1, 38.4-38.9	193	21	55	71	45
Exploratory laparotomy or celiotomy . . . . .39.1	327	13	174	76	64
Appendectomy <sup>1</sup> . . . . .41.1	299	82	179	28	10
Cholecystectomy . . . . .43.5	432	*2	157	165	108
Splenectomy . . . . .45.1	36	3	14	11	9
Gastric resection, partial or complete . . . . .46.2-46.3	42	*2	8	17	17
Vagotomy . . . . .46.8	29	*-	8	11	10
Resection of small intestine or colon . . . . .47.4-47.6	170	5	22	54	89
Ileostomy, colostomy, and other enterostomy . . . . .47.7-47.9	84	3	13	29	39
Other abdominal surgery . . . . .Residual	707	32	227	221	227
Proctological surgery . . . . .50-52	548	10	292	170	76
Local excision and destruction of lesion of rectum and anus . . . . .50.2, 51.2	128	4	61	42	21
Hemorrhoidectomy . . . . .51.3	190	*1	100	69	20
Excision of pilonidal sinus or cyst . . . . .52.1	53	*1	49	3	*2
Other proctological surgery . . . . .Residual	178	5	83	56	34

See footnotes at end of table.

Table 2. Number of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

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
Number of all-listed operations in thousands									
7,831	1,094	2,728	2,154	1,854	12,923	813	7,025	3,012	2,072
196	18	80	65	32	201	12	73	77	39
37	4	12	12	8	30	*2	9	11	8
28	*Z	12	11	4	17	*Z	5	7	5
85	3	44	25	12	116	3	45	48	19
47	10	13	16	7	38	6	13	11	8
369	45	67	92	165	512	44	53	123	291
26	17	8	*1	*Z	37	22	11	3	*1
21	*2	3	7	9	15	*-	3	5	7
139	3	5	40	91	218	*2	2	40	174
183	23	51	45	65	241	20	38	75	108
822	410	258	98	55	846	351	344	110	39
131	121	6	4	*1	98	87	5	5	*1
11	*1	5	4	*1	16	*Z	6	8	*2
31	8	14	7	*2	36	6	18	11	*2
27	*2	8	10	7	23	*2	6	7	8
22	*1	18	*2	*Z	33	*1	26	5	*1
90	5	63	16	6	99	*2	72	20	4
27	*1	5	9	12	16	*2	4	6	4
64	17	45	*1	*Z	140	31	107	*2	*Z
168	158	10	*1	*-	175	154	20	*1	*1
49	48	*1	*Z	*-	37	35	*1	*1	*-
202	47	83	45	27	171	30	79	45	17
24	*2	10	8	4	77	4	33	27	12
15	*Z	6	6	3	61	*1	29	21	10
9	*2	4	*2	*1	16	3	4	7	*2
709	34	107	333	235	434	28	79	160	167
20	*-	8	10	*2	41	*-	21	17	3
95	*2	19	40	33	69	4	11	27	27
38	3	9	12	14	33	*2	10	14	8
16	*2	4	7	3	17	*1	3	8	4
80	*1	7	57	15	15	*-	*1	9	4
209	15	37	117	40	96	11	14	47	25
80	*-	3	18	59	69	*Z	3	8	58
172	11	21	72	68	95	10	17	30	38
179	10	52	63	53	133	6	30	54	43
69	5	29	22	14	38	*2	12	16	8
23	*1	4	10	8	17	*-	*2	10	4
86	5	19	32	31	78	4	15	28	30
1,350	168	401	424	360	1,479	91	590	420	378
448	77	119	145	107	62	18	16	14	14
74	10	20	29	15	118	11	35	43	29
99	6	41	27	26	228	7	133	50	38
154	44	88	15	6	146	38	90	14	4
113	*1	23	52	37	320	*1	134	113	71
20	*1	10	6	4	16	*1	4	5	5
23	*Z	4	12	8	19	*Z	4	6	9
16	*-	3	7	5	14	*-	4	5	4
72	4	10	23	35	98	*1	12	31	54
41	*1	6	14	19	43	*1	6	15	20
291	20	77	96	98	416	12	150	126	129
300	5	167	93	35	248	6	125	77	41
72	*2	36	25	9	56	*2	25	17	12
100	*Z	56	36	8	90	*Z	43	34	12
29	*Z	26	*2	*Z	24	*1	22	*1	*Z
99	*2	48	30	18	79	*2	35	26	16

See footnotes at end of table.

Table 2. Number of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes				
	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
	Number of all-listed operations in thousands				
Urological surgery . . . . .54-61	1,572	181	392	405	594
Nephrotomy and pyelotomy . . . . .54.0-54.1	33	*1	11	12	9
Nephrectomy . . . . .54.4-54.5	30	*1	12	8	9
Passage of catheter to kidney . . . . .55.7	79	3	30	30	16
Local excision and destruction of lesion of bladder . . . . .56.1-56.2	130	*1	11	36	82
Removal of calculus and drainage of bladder without incision . . .56.8	58	3	19	13	24
Meatotomy (urethral) . . . . .57.1	39	18	8	7	7
Excision or destruction of lesion of urethra . . . . .57.2	27	*1	14	5	8
Dilation of urethra . . . . .57.5	228	33	69	58	69
Prostatectomy . . . . .58.1-58.3	297	*1	2	68	226
Excision of hydrocele and hematocele . . . . .59.1	57	22	10	14	10
Orchiopexy . . . . .59.7	25	18	6	*1	*.
Vasectomy . . . . .60.1	42	*2	15	11	15
Circumcision . . . . .61.2	91	35	34	13	9
Other urological surgery . . . . .Residual	435	43	152	129	112
Breast surgery . . . . .65	365	3	169	128	66
Partial mastectomy . . . . .65.2	162	*1	83	57	21
Complete and radical mastectomy . . . . .65.3-65.6	114	*2	21	51	42
Other breast surgery . . . . .Residual	89	*1	65	20	3
Gynecological surgery . . . . .67-72	3,824	19	2,785	830	189
Local excision or destruction of lesion of ovary . . . . .67.1	92	*2	82	7	3
Oophorectomy; salpingo-oophorectomy . . . . .67.2-67.5	434	2	257	148	27
Salpingectomy, bilateral . . . . .68.2	159	*2	152	7	*2
Ligation and division of fallopian tubes (bilateral) . . . . .68.5	553	*1	542	9	*2
Hysterectomy . . . . .69.1-69.5	644	*1	406	197	39
Local excision and destruction of other lesions of uterus, cervix, and supporting tissues . . . . .70.2	100	*2	68	27	5
Dilation and curettage of uterus, diagnostic . . . . .70.3	967	4	663	256	44
Trachelectomy . . . . .70.4	83	*.	64	15	4
Colporrhaphy . . . . .71.3	39	*1	24	10	4
Plastic repair of cystocele and/or rectocele . . . . .71.4	140	*2	44	68	28
Other gynecological surgery . . . . .Residual	613	9	482	87	35
Obstetrical procedures <sup>2</sup> . . . . .74-78	1,469	9	1,456	5	...
Antepartum procedures to terminate pregnancy . . . . .74.6-74.9	208	4	203	*1	...
Cesarean section . . . . .77	510	*1	508	*1	...
Dilation and curettage after delivery or abortion . . . . .78.1	303	*1	299	*2	...
Repair of laceration . . . . .78.2-78.3	292	*1	291	*2	...
Other obstetrical procedures . . . . .Residual	156	*1	155	*.	...
Orthopedic surgery . . . . .80-90	2,821	250	1,305	735	532
Incision and division of bones . . . . .80.0-80.3	91	6	50	25	10
Excision of bone, partial . . . . .80.4	161	8	76	57	20
Removal of fixation device (internal) . . . . .80.8	87	8	44	18	17
Closed reduction of fracture without fixation . . . . .82.0	289	85	96	51	58
Open reduction of fracture without fixation . . . . .82.1	69	7	38	15	9
Reduction of fracture with fixation . . . . .82.2	382	23	116	68	175
Excision of intervertebral cartilage (prolapsed disk) . . . . .86.4	149	*2	81	58	9
Excision of semilunar cartilage of knee joint . . . . .86.5	172	7	121	38	6
Arthroplasty of hip . . . . .87.0	67	*1	8	25	34
Repair and plastic operations on joints of foot and toes . . . . .87.2	123	4	51	48	20
Repair and plastic operations on other joints . . . . .87.3	135	4	77	30	25
Spinal fusion . . . . .87.4	53	3	31	17	*2
Arthrodesis and stabilization of joints (except spine) . . . . .87.5-87.6	35	3	15	13	4
Closed reduction of dislocation of joint . . . . .87.7	30	4	15	5	7
Operations on muscles, tendons, fascia, and bursa . . . . .88-89	366	38	195	102	32
Other orthopedic surgery . . . . .Residual	612	47	292	166	108

See footnotes at end of table.



Table 2. Number of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category:  
United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

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
Number of all-listed operations in thousands									
1,138	134	228	281	495	434	47	164	124	99
18	*Z	5	8	5	15	*1	6	4	4
15	*Z	6	5	4	15	*1	5	4	5
47	*2	16	20	10	32	*2	15	10	6
90	*1	4	27	59	41	*Z	7	10	24
31	*1	7	6	17	27	*1	12	7	7
30	14	5	5	6	9	5	*2	*2	*1
9	*Z	5	*1	3	18	*Z	9	4	5
100	8	19	27	46	127	25	49	31	22
297	*1	2	68	226	...	...	...	...	...
57	22	10	14	10	...	...	...	...	...
25	18	6	*1	*	...	...	...	...	...
42	*Z	15	11	15	...	...	...	...	...
91	35	34	13	9	...	...	...	...	...
287	31	94	77	86	149	12	58	53	26
21	*1	11	5	4	344	*2	158	122	63
6	*Z	*2	*2	*1	156	*1	81	54	20
9	*Z	5	*1	*2	106	*Z	16	50	40
6	*Z	3	*2	*1	83	*1	61	18	*2
...	...	...	...	...	3,824	19	2,785	830	189
...	...	...	...	...	92	*Z	82	7	3
...	...	...	...	...	434	*2	257	148	27
...	...	...	...	...	159	*Z	152	7	*Z
...	...	...	...	...	553	*1	542	9	*Z
...	...	...	...	...	644	*1	406	197	39
...	...	...	...	...	100	*Z	68	27	5
...	...	...	...	...	967	4	663	256	44
...	...	...	...	...	83	*	64	15	4
...	...	...	...	...	39	*1	24	10	4
...	...	...	...	...	140	*Z	44	68	28
...	...	...	...	...	613	9	482	87	35
...	...	...	...	...	1,469	9	1,456	5	*
...	...	...	...	...	208	4	203	*1	*
...	...	...	...	...	510	*1	508	*1	*
...	...	...	...	...	303	*1	299	*2	*
...	...	...	...	...	292	*1	291	*Z	*
...	...	...	...	...	156	*1	155	*	*
1,465	144	842	334	144	1,357	106	463	400	388
35	*2	23	8	*2	56	4	27	17	8
72	4	40	21	7	88	4	36	36	12
42	4	29	5	3	45	4	15	13	13
151	53	68	19	11	138	32	28	31	47
48	6	31	9	3	21	*2	7	6	6
161	14	89	26	32	221	9	27	42	143
85	*Z	47	33	4	64	*Z	34	26	4
124	4	94	25	*2	47	3	27	13	4
26	*Z	3	12	10	41	*1	4	12	24
22	*1	11	8	2	102	3	40	41	17
81	*2	57	14	8	54	*2	19	16	17
28	*1	17	9	*1	26	*2	14	8	*1
18	*1	10	5	*2	16	*2	5	7	*2
19	3	11	3	*2	11	*2	3	*2	4
196	18	114	52	12	170	20	81	50	19
357	30	196	87	44	256	17	96	79	64

See footnotes at end of table.

Table 2. Number of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<i>Surgical category and ICDA 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 operations in thousands					
Plastic surgery . . . . .	1,078	120	483	294	181
Incision of skin and subcutaneous tissue . . . . .	144	21	71	33	19
Excision of lesion of skin and subcutaneous tissue . . . . .	443	39	170	135	99
Suture of skin or mucous membrane . . . . .	188	23	114	31	20
Plastic operations on lip and mouth . . . . .	15	6	5	3	*2
Skin graft except lip and mouth . . . . .	149	15	68	36	29
Other plastic surgery . . . . .	139	15	55	56	13
Oral and maxillofacial surgery . . . . .	208	25	105	51	28
Excision of salivary glands, local or total . . . . .	35	*1	11	17	6
Reduction of fracture and fracture-dislocation of jawbone . . . . .	61	5	46	7	3
Other oral and maxillofacial surgery . . . . .	112	19	47	27	19
Dental surgery . . . . .	366	32	237	69	28
Extraction of tooth, forceps extraction . . . . .	142	12	84	31	16
Surgical removal of tooth . . . . .	131	7	108	13	4
Alveoloplasty . . . . .	39	*2	17	16	6
Other dental surgery . . . . .	55	14	29	9	3
Biopsy . . . . .	1,172	36	352	424	360

See footnotes at end of table.

Table 2. Number of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<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 operations in thousands									
554	72	279	131	72	525	48	204	164	109
85	13	45	18	9	59	9	26	15	10
207	23	80	63	42	236	17	90	73	57
126	16	82	21	7	63	7	32	10	13
8	4	*2	*1	*1	8	*2	*2	*1	*1
85	10	46	19	10	64	6	22	17	19
43	8	23	9	3	96	7	32	47	10
108	15	59	24	11	100	10	46	27	17
14	*2	6	6	*2	21	*1	6	10	4
43	3	34	5	*1	18	*2	13	*2	*1
51	11	19	12	8	61	7	28	15	11
152	19	90	32	11	214	14	147	37	17
62	6	35	16	5	79	5	48	15	10
49	3	39	6	*2	82	3	69	7	*2
16	*2	7	7	*2	22	*1	10	9	4
24	9	10	4	*1	31	5	19	6	*1
446	20	78	169	179	727	16	274	255	182

<sup>1</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

<sup>2</sup>Excludes some obstetrical procedures (ICDA codes 75.0-75.6 and 75.9) for inducing or assisting delivery.

NOTE: See section entitled "Medical coding and edit," appendix I, for coding modifications for the Hospital Discharge Survey.

**Table 3. Rate of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978**  
 [Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes				
	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
	Rate of all-listed operations per 100,000 population				
All operations	9,703.8	3,761.6	10,061.1	11,898.7	17,216.8
Neurosurgery . . . . .01-05	185.3	58.8	157.9	327.2	312.5
Incision and excision of skull and intracranial structures . . . . .01	30.9	11.7	22.0	52.4	70.7
Laminectomy . . . . .03.0	20.7	*1.3	16.7	42.2	39.8
Operations on peripheral nerves . . . . .04	93.9	13.3	91.7	169.6	138.6
Other neurosurgery . . . . .Residual	39.7	32.6	27.5	63.0	63.5
Ophthalmology . . . . .06-14	411.9	176.1	124.1	496.4	1,998.4
Resection and recession of eye muscle . . . . .10.5-10.6	29.5	76.3	18.8	9.7	*8.3
Reattachment of retina . . . . .13.4-13.5	17.0	*4.3	6.3	28.5	69.2
Extraction of lens . . . . .14.4-14.6	166.8	10.0	7.6	182.4	1,162.6
Other eye surgery . . . . .Residual	198.6	85.5	91.4	275.9	758.3
Otorhinolaryngology . . . . .16-21	779.8	1,502.4	621.3	481.1	415.6
Myringotomy . . . . .17.0	107.2	409.6	11.3	20.5	*7.7
Stapedectomy with ossicular reconstruction . . . . .17.4	12.7	*3.8	11.6	26.0	11.7
Tympanoplasty . . . . .17.6-17.7	31.3	27.6	33.1	40.8	14.0
Excision of lesion of nose . . . . .19.0	23.6	8.4	13.9	39.8	68.3
Section of nasal septum . . . . .19.1	25.7	5.1	45.3	16.4	*5.8
Rhinoplasty and repair of nose . . . . .19.3	88.0	14.5	139.4	83.5	41.4
Tracheotomy or tracheostomy, emergency . . . . .20.5	20.5	7.2	10.1	32.6	71.1
Tonsillectomy without adenoidectomy . . . . .21.1	95.3	95.1	156.3	8.1	*2.8
Tonsillectomy with adenoidectomy . . . . .21.2	160.7	614.3	31.1	*3.5	*2.6
Adenoidectomy without tonsillectomy . . . . .21.3	40.1	164.0	*1.6	*2.7	*-
Other operations on ears, nose, and throat . . . . .Residual	174.6	153.0	167.6	207.1	190.3
Operations on thyroid, parathyroid, thymus, and adrenals . . . . .22-23	46.8	12.2	43.9	81.8	69.9
Thyroidectomy . . . . .22.1-22.2	35.4	*2.1	35.4	62.5	57.8
Other operations on thyroid, parathyroid, thymus, and adrenals . . . . .Residual	11.5	10.1	8.5	19.4	12.1
Vascular and cardiac surgery . . . . .24-30	534.2	121.4	192.6	1,135.7	1,759.2
Excision and ligation of varicose veins . . . . .24.4	28.2	*-	29.9	61.4	20.6
Other operations on peripheral blood vessels . . . . .24.0-24.3, 24.5-24.9	76.3	11.2	31.2	154.3	264.0
Incision and excision of lymphatic structure . . . . .25.0-25.2	33.2	9.8	19.2	58.1	96.9
Operations on valves of heart . . . . .29.2-29.4	15.4	6.7	7.5	34.5	32.1
Cardiac revascularization . . . . .29.8	44.2	*1.1	8.0	153.4	86.0
Cardiac catheterization . . . . .30.2	142.5	49.7	52.3	377.6	284.7
Insertion or replacement of electric heart device . . . . .30.4-30.5	69.5	*0.9	5.4	60.9	510.6
Other vascular and cardiac surgery . . . . .Residual	125.0	42.0	39.2	235.6	464.3
Thoracic surgery . . . . .32-35	145.5	32.3	84.6	270.1	418.5
Thoracotomy and pleurotomy . . . . .32.0	50.4	13.1	42.7	86.4	97.5
Lung lobectomy and pneumonectomy . . . . .34.2-34.4	18.4	*1.3	6.5	45.2	55.8
Other thoracic surgery . . . . .Residual	76.7	17.9	35.4	138.6	265.1
Abdominal surgery . . . . .38-48	1,323.1	505.5	1,022.3	1,944.8	3,235.8
Repair of inguinal hernia . . . . .38.2-38.3	238.3	186.9	138.8	367.6	529.9
Other hernia repair . . . . .38.0-38.1, 38.4-38.9	90.1	42.2	57.0	164.3	195.4
Exploratory laparotomy or celiotomy . . . . .39.1	153.0	25.9	179.6	175.8	279.1
Appendectomy <sup>1</sup> . . . . .41.1	139.9	162.3	184.4	65.5	42.6
Cholecystectomy . . . . .43.5	202.2	*3.4	162.5	379.7	474.8
Splenectomy . . . . .45.1	16.9	5.0	14.4	24.2	40.1
Gastric resection, partial or complete . . . . .46.2-46.3	19.6	*0.8	7.9	39.9	72.7
Vagotomy . . . . .46.8	13.6	*-	8.2	26.2	43.2
Resection of small intestine or colon . . . . .47.4-47.6	79.7	10.5	22.3	125.4	390.2
Ileostomy, colostomy, and other enterostomy . . . . .47.7-47.9	39.1	5.1	13.2	67.0	172.2
Other abdominal surgery . . . . .Residual	330.7	63.5	234.0	509.2	995.7
Proctological surgery . . . . .50-52	256.3	20.6	301.1	391.1	333.0
Local excision and destruction of lesion of rectum and anus . . . . .50.2, 51.2	59.8	8.0	62.8	95.9	93.4
Hemorrhoidectomy . . . . .51.3	88.8	*1.8	102.8	159.5	88.8
Excision of pilonidal sinus or cyst . . . . .52.1	24.6	*1.6	50.1	6.7	*1.5
Other proctological surgery . . . . .Residual	83.0	9.3	85.4	129.0	149.4

See footnotes at end of table.

Table 3. Rate of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.  
 [Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

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 operations per 100,000 population									
7,587.4	4,230.7	5,781.5	10,383.6	19,713.3	11,677.7	3,273.0	14,120.0	13,285.1	15,466.0
189.4	70.4	170.5	312.2	341.1	181.4	46.8	145.9	340.9	292.5
35.4	16.8	25.2	57.3	89.9	26.7	*6.3	19.0	48.0	57.2
26.8	*1.1	24.6	55.1	46.2	15.0	*1.5	9.2	30.4	35.3
81.9	12.9	92.2	121.8	132.0	105.1	13.6	91.2	213.3	143.2
45.3	39.5	28.5	78.1	73.0	34.6	25.4	26.5	49.2	56.8
357.8	174.0	141.9	445.5	1,753.4	462.4	178.4	107.3	543.1	2,170.4
25.0	65.1	16.2	*4.1	*4.6	33.7	87.9	21.3	14.8	*10.9
20.7	*8.5	6.9	33.2	96.1	13.6	*.	5.7	24.2	50.4
134.3	11.5	11.3	190.6	965.8	197.1	*8.4	4.1	174.9	1,300.8
177.8	88.8	107.5	217.6	686.9	218.0	82.1	76.2	329.2	808.4
796.6	1,586.0	546.8	474.5	590.0	764.1	1,415.4	692.1	487.1	293.3
127.1	467.4	12.9	17.5	*6.6	88.6	349.4	9.9	23.3	*8.4
10.6	*5.5	11.1	17.0	*8.7	14.6	*2.0	12.1	34.3	*13.7
29.6	31.8	29.3	33.1	*17.6	32.8	23.1	36.6	47.8	*11.4
26.6	*7.7	16.5	49.5	78.5	20.9	*9.1	11.4	30.9	61.2
21.0	*4.9	37.7	*11.4	*2.8	30.0	*5.3	52.4	21.1	*7.8
86.8	19.1	132.9	78.1	60.8	89.1	*9.7	145.6	88.3	27.9
26.6	*5.5	11.3	41.1	129.1	14.8	*8.9	9.0	24.9	30.4
61.7	66.0	95.4	*6.6	*1.9	126.8	125.4	214.1	*9.5	*3.4
163.2	610.1	21.4	*2.8	*.	158.3	618.6	40.3	*4.1	*4.5
47.7	185.7	*2.0	*1.2	*.	33.1	141.4	*1.3	*4.1	*.
195.7	182.2	176.3	216.3	284.1	154.9	122.5	159.3	198.8	124.5
22.9	*8.3	20.5	39.7	37.7	69.2	16.2	66.0	120.4	92.6
14.3	*0.5	11.7	31.0	28.7	55.0	*3.8	57.8	91.3	78.2
8.5	*7.8	8.7	*8.7	*9.0	14.2	12.4	8.3	29.1	*14.4
686.8	130.6	227.5	1,605.6	2,494.0	392.0	111.8	159.5	705.6	1,243.7
19.0	*.	17.8	45.8	*18.6	36.8	*.	41.4	75.6	22.1
91.7	*8.2	40.1	195.1	351.7	61.9	14.3	22.7	117.1	202.4
36.4	12.4	18.7	55.4	148.8	30.2	*7.1	19.7	60.6	60.5
15.7	*8.2	8.6	33.4	33.1	15.1	*5.2	6.5	35.5	31.3
77.4	*2.1	14.3	276.5	162.0	13.2	*.	*2.1	40.7	32.6
202.3	56.9	77.4	566.0	426.2	86.7	42.3	28.4	205.1	185.4
77.2	*.	5.7	87.3	626.6	62.2	*1.9	5.1	36.7	429.3
167.1	42.9	45.0	346.1	727.0	85.8	41.0	33.7	134.4	280.0
173.1	40.0	110.3	306.0	561.0	119.7	24.3	60.3	237.3	318.5
67.3	18.8	61.3	105.6	146.3	34.7	*7.2	25.1	68.8	63.3
22.0	*2.6	8.5	47.0	88.4	15.0	*.	*4.6	43.5	33.0
83.7	18.6	40.4	153.4	326.4	70.1	17.1	30.6	125.0	222.2
1,308.4	640.2	849.0	2,044.9	3,827.0	1,336.8	365.2	1,186.6	1,853.3	2,821.2
433.8	298.4	251.1	699.7	1,135.7	56.0	70.7	32.2	63.7	104.7
71.8	39.8	42.4	138.2	161.1	107.1	44.7	71.0	188.2	219.4
96.1	24.2	86.4	128.0	271.9	206.1	27.8	268.0	219.6	284.1
148.8	172.0	187.5	70.4	64.1	131.6	152.3	181.4	61.0	27.4
109.1	*2.4	49.0	251.1	391.3	288.9	*4.4	270.1	497.3	533.4
19.7	*4.6	20.3	28.2	39.7	14.2	*5.4	8.7	20.6	40.4
22.4	*0.9	7.8	55.8	80.7	17.1	*0.7	8.0	25.3	67.1
15.1	*.	7.3	32.7	57.3	12.2	*.	9.0	20.2	33.3
70.2	14.8	21.2	112.1	376.2	88.5	*6.0	23.4	137.5	400.1
39.3	*4.3	13.6	67.8	202.1	38.9	*5.8	12.8	66.3	151.2
282.0	78.8	162.3	460.8	1,046.9	376.1	47.6	302.1	553.5	959.9
290.3	18.6	353.4	447.5	374.2	244.5	22.7	251.4	339.5	304.0
69.3	*6.7	76.2	120.1	94.9	50.9	*9.3	50.1	73.8	92.3
97.4	*1.9	119.6	171.6	84.4	80.9	*1.6	86.8	148.4	91.9
28.1	*0.6	56.0	*11.1	*2.0	21.3	*2.6	44.6	*2.7	*1.1
95.5	*9.4	101.6	144.7	192.9	71.4	*9.2	70.0	114.6	118.8

See footnotes at end of table.

Table 3. Rate of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.  
 [Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes				
	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
Rate of all-listed operations per 100,000 population					
Urological surgery . . . . . 54-61	735.1	357.0	404.7	932.6	2,604.0
Nephrotomy and pyelotomy . . . . . 54.0-54.1	15.6	*2.1	11.3	27.7	40.9
Nephrectomy . . . . . 54.4-54.5	14.1	*2.6	12.0	19.5	37.8
Passage of catheter to kidney . . . . . 55.7	37.1	6.4	31.4	68.8	69.0
Local excision and destruction of lesion of bladder . . . . . 56.1-56.2	61.0	*2.3	11.1	84.1	359.9
Removal of calculus and drainage of bladder without incision . . . . . 56.8	27.2	5.1	19.8	29.1	103.7
Meatotomy (urethral) . . . . . 57.1	18.3	36.2	7.8	15.2	29.2
Excision or destruction of lesion of urethra . . . . . 57.2	12.6	*1.9	14.1	10.6	33.4
Dilation of urethra . . . . . 57.5	106.4	64.2	71.0	132.6	300.9
Prostatectomy . . . . . 58.1-58.3	138.9	*1.7	1.7	157.7	991.1
Excision of hydrocele and hematocele . . . . . 59.1	26.5	43.5	10.6	32.2	45.2
Orchiopexy . . . . . 59.7	11.8	36.3	6.4	*1.3	*-
Vasectomy . . . . . 60.1	19.5	*0.7	15.9	25.2	65.4
Circumcision . . . . . 61.2	42.7	69.3	35.2	31.1	37.8
Other urological surgery . . . . . Residual	203.6	84.6	156.4	297.5	489.6
Breast surgery . . . . . 65	170.8	5.6	173.9	293.7	290.9
Partial mastectomy . . . . . 65.2	75.6	*2.0	85.7	130.1	92.4
Complete and radical mastectomy . . . . . 65.3-65.6	53.5	*0.9	21.5	117.8	184.3
Other breast surgery . . . . . Residual	41.7	*2.7	66.7	45.8	14.2
Gynecological surgery . . . . . 67-72	1,788.0	38.3	2,872.8	1,912.3	829.7
Local excision or destruction of lesion of ovary . . . . . 67.1	43.1	*0.7	84.6	15.7	12.9
Oophorectomy; salpingo-oophorectomy . . . . . 67.2-67.5	202.8	3.2	265.5	340.9	116.9
Salpingectomy, bilateral . . . . . 68.2	74.5	*0.6	156.7	15.2	*1.9
Ligation and division of fallopian tubes (bilateral) . . . . . 68.5	258.4	*2.3	559.5	20.2	*0.8
Hysterectomy . . . . . 69.1-69.5	301.1	*2.8	418.9	454.2	172.2
Local excision and destruction of other lesions of uterus, cervix, and supporting tissues . . . . . 70.2	46.7	*0.5	70.3	61.6	20.9
Dilation and curettage of uterus, diagnostic . . . . . 70.3	452.3	7.8	683.5	590.2	195.1
Trachelectomy . . . . . 70.4	38.6	*-	66.2	34.0	16.0
Colporrhaphy . . . . . 71.3	18.1	*1.7	24.7	23.0	17.2
Plastic repair of cystocele and/or rectocele . . . . . 71.4	65.7	*0.6	45.4	156.1	124.3
Other gynecological surgery . . . . . Residual	286.7	17.9	497.5	201.1	151.5
Obstetrical procedures <sup>2</sup> . . . . . 74-78	687.0	17.6	1,501.7	10.8	...
Antepartum procedures to terminate pregnancy . . . . . 74.6-74.9	97.3	8.4	209.2	*2.5	...
Cesarean section . . . . . 77	238.7	*2.9	523.9	*2.6	...
Dilation and curettage after delivery or abortion . . . . . 78.1	141.5	*2.2	308.7	*5.0	...
Repair of laceration . . . . . 78.2-78.3	136.5	*1.8	300.0	*0.7	...
Other obstetrical procedures . . . . . Residual	73.0	*2.2	159.9	*-	...
Orthopedic surgery . . . . . 80-90	1,319.1	492.3	1,346.5	1,691.5	2,331.4
Incision and division of bones . . . . . 80.0-80.3	42.5	11.4	51.4	58.6	42.6
Excision of bone, partial . . . . . 80.4	75.2	16.4	78.1	131.8	86.2
Removal of fixation device (internal) . . . . . 80.8	40.7	16.0	45.4	40.4	76.5
Closed reduction of fracture without fixation . . . . . 82.0	135.2	168.2	98.8	116.6	252.2
Open reduction of fracture without fixation . . . . . 82.1	32.2	14.3	39.3	34.5	37.7
Reduction of fracture with fixation . . . . . 82.2	178.5	46.1	119.5	156.0	766.4
Excision of intervertebral cartilage (prolapsed disk) . . . . . 86.4	69.5	*1.0	83.7	134.7	37.8
Excision of semilunar cartilage of knee joint . . . . . 86.5	80.3	13.5	125.1	86.8	25.3
Arthroplasty of hip . . . . . 87.0	31.4	*2.1	7.8	57.2	147.9
Repair and plastic operations on joints of foot and toes . . . . . 87.2	57.7	8.5	52.9	111.4	85.8
Repair and plastic operations on other joints . . . . . 87.3	62.9	7.3	79.0	68.3	108.3
Spinal fusion . . . . . 87.4	24.9	6.4	32.1	39.1	*8.9
Arthrodesis and stabilization of joints (except spine) . . . . . 87.5-87.6	16.1	5.9	15.9	29.0	15.5
Closed reduction of dislocation of joint . . . . . 87.7	14.1	8.4	15.1	10.7	29.2
Operations on muscles, tendons, fascia, and bursa . . . . . 88-89	171.3	74.9	201.4	234.1	138.5
Other orthopedic surgery . . . . . Residual	286.3	91.8	301.2	382.4	472.5

See footnotes at end of table.

Table 3. Rate of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<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 operations per 100,000 population									
1,102.6	516.5	483.6	1,356.2	5,261.5	392.3	190.8	329.9	545.1	739.2
17.5	*1.3	10.3	37.8	53.3	13.9	*3.0	12.2	18.5	32.3
14.4	*1.2	13.5	21.7	39.2	13.8	*4.1	10.7	17.6	36.9
45.6	*5.8	33.3	94.9	108.3	29.1	*7.1	29.5	44.9	41.4
86.8	*3.0	7.6	128.7	622.8	36.9	*1.5	14.3	43.2	175.4
30.0	*5.1	14.4	29.3	178.0	24.5	*5.0	25.0	29.0	51.6
28.9	53.3	11.0	23.7	63.6	8.4	18.5	*4.7	*7.5	*5.1
8.5	*1.8	10.5	*3.3	27.8	16.4	*1.9	17.6	17.2	37.4
97.2	29.4	41.0	129.8	493.9	115.0	100.6	99.4	135.2	165.5
287.8	*3.3	3.5	330.1	2,403.5	...	...	...	...	...
54.9	85.2	21.8	67.5	109.6	...	...	...	...	...
24.4	71.1	13.1	*2.7	*	...	...	...	...	...
40.3	*1.4	32.6	52.7	158.6	...	...	...	...	...
88.5	135.8	72.3	65.0	91.7	...	...	...	...	...
277.8	118.8	198.6	369.1	911.1	134.4	49.1	116.5	232.0	193.8
20.3	*3.6	23.1	25.9	39.7	311.2	*7.8	316.9	538.7	467.3
5.8	*0.8	*5.1	*11.1	*11.3	140.7	*3.4	162.1	239.0	149.4
8.4	*1.2	10.9	*6.6	*19.4	95.6	*0.6	31.5	219.5	300.0
6.1	*1.6	7.0	*8.2	*9.0	74.9	*3.8	123.2	80.2	*17.9
...	...	...	...	...	3,455.5	78.2	5,597.4	3,662.2	1,412.0
...	...	...	...	...	83.2	*1.5	164.8	30.0	21.9
...	...	...	...	...	391.9	*6.6	517.3	652.8	199.0
...	...	...	...	...	143.9	*1.3	305.3	29.0	*3.1
...	...	...	...	...	499.3	*4.7	1,090.2	38.7	*1.3
...	...	...	...	...	582.0	*5.7	816.2	869.9	293.1
...	...	...	...	...	90.3	*1.1	136.9	118.1	35.5
...	...	...	...	...	874.1	16.0	1,331.7	1,130.3	332.0
...	...	...	...	...	74.6	*	128.9	65.1	27.2
...	...	...	...	...	35.0	*3.5	48.2	44.1	29.3
...	...	...	...	...	127.0	*1.3	88.5	298.9	211.6
...	...	...	...	...	554.1	36.5	969.3	385.2	257.8
...	...	...	...	...	1,327.8	35.9	2,925.8	20.7	*
...	...	...	...	...	188.1	17.2	407.6	*4.8	*
...	...	...	...	...	461.3	*6.0	1,020.7	*5.0	*
...	...	...	...	...	273.4	*4.6	601.5	*9.6	*
...	...	...	...	...	263.9	*3.7	584.4	*1.3	*
...	...	...	...	...	141.1	*4.5	311.6	*	*
1,419.1	556.0	1,784.3	1,611.9	1,535.3	1,225.8	426.0	931.4	1,764.3	2,895.5
33.6	*8.3	48.4	38.4	*18.7	50.7	14.7	54.3	77.1	59.7
70.2	15.0	85.1	102.4	76.1	80.0	17.9	71.4	158.8	89.6
40.5	15.5	62.4	24.0	35.9	40.9	16.6	29.2	55.3	97.0
146.7	206.5	143.7	92.9	116.0	124.5	128.4	56.2	138.2	350.7
46.6	22.1	65.8	41.1	29.8	18.8	*6.3	14.1	28.3	43.3
155.7	54.9	189.0	123.2	337.5	199.7	36.9	53.5	186.0	1,067.5
81.9	*1.2	100.3	156.8	46.4	57.9	*0.8	67.8	114.4	31.7
120.6	14.9	199.0	120.2	*18.6	42.7	12.1	55.1	56.2	30.1
25.1	*0.6	7.2	59.8	105.9	37.3	*3.6	8.3	54.9	177.4
21.1	*4.9	22.9	36.6	22.1	91.9	12.3	81.3	179.7	130.5
78.3	*6.2	121.4	68.0	83.7	48.6	*8.5	38.7	68.5	125.6
26.8	*4.1	35.6	42.9	*10.6	23.2	*8.7	28.7	35.6	*8.7
17.6	*4.8	22.0	26.2	*21.3	14.7	*7.0	10.1	31.6	*18.0
18.6	10.4	24.1	12.7	*21.3	10.0	*6.4	6.6	*8.9	31.3
190.1	71.0	241.8	249.0	127.7	153.8	79.0	163.1	220.4	145.2
345.5	115.7	415.4	417.5	468.1	231.1	66.8	192.8	350.3	475.6

See footnotes at end of table.

Table 3. Rate of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<i>Surgical category and ICDA 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 operations per 100,000 population				
Plastic surgery . . . . .92-94	504.3	237.3	498.1	678.1	793.3
Incision of skin and subcutaneous tissue . . . . .92.0	67.1	42.3	72.9	75.9	81.3
Excision of lesion of skin and subcutaneous tissue . . . . .92.1-92.2	207.3	77.5	175.3	311.8	432.7
Suture of skin or mucous membrane . . . . .92.5	88.1	45.2	117.6	72.5	87.3
Plastic operations on lip and mouth . . . . .93.1	7.2	11.9	4.8	6.4	*8.0
Skin graft except lip and mouth . . . . .93.2-93.6	69.7	30.5	70.4	83.0	128.3
Other plastic surgery . . . . .Residual	65.0	29.9	57.0	128.5	55.7
Oral and maxillofacial surgery . . . . .95-98	97.3	49.1	108.3	116.5	121.2
Excision of salivary glands, local or total . . . . .95.1	16.4	*2.2	11.4	38.2	27.8
Reduction of fracture and fracture-dislocation of jawbone . . . . .98	28.7	10.1	47.9	16.2	11.9
Other oral and maxillofacial surgery . . . . .Residual	52.2	36.8	49.0	62.1	81.6
Dental surgery . . . . .99	171.2	63.6	244.7	158.4	122.6
Extraction of tooth, forceps extraction . . . . .99.3	66.3	22.8	86.2	71.7	68.2
Surgical removal of tooth . . . . .99.4	61.3	13.3	111.4	28.9	16.5
Alveoloplasty . . . . .99.7	18.1	*0.2	17.4	36.3	26.4
Other dental surgery . . . . .Residual	25.5	27.3	29.6	21.5	11.4
Biopsy . . . . .A1-A2	548.2	71.4	362.8	976.6	1,580.5

See footnotes at end of table.



Table 3. Rate of all-listed operations for inpatients discharged from short-stay hospitals, by sex, age, and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<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 operations per 100,000 population									
536.4	279.8	590.8	629.9	766.0	474.3	193.0	410.1	722.1	814.8
82.0	49.0	95.3	87.3	93.9	53.3	35.3	51.6	65.4	72.4
200.9	87.0	170.2	301.3	446.2	213.2	67.5	180.1	321.3	423.3
121.7	60.1	173.7	101.2	75.4	56.7	29.7	64.5	46.2	95.6
7.5	14.1	*4.6	*6.8	*5.4	6.9	*9.6	*5.0	*6.2	*9.8
82.7	38.2	97.6	92.1	109.7	57.5	22.4	44.6	74.7	141.4
41.6	31.3	49.4	41.2	32.1	86.8	28.5	64.3	208.4	72.3
104.8	56.1	124.1	115.5	118.2	90.3	41.8	93.2	117.5	123.3
13.9	*1.4	11.8	30.9	*20.9	18.8	*3.0	11.1	44.9	32.6
41.9	10.9	71.2	26.3	*14.9	16.3	*9.4	25.8	*7.0	*9.8
49.0	43.8	41.2	58.3	82.5	55.2	29.4	56.3	65.5	80.9
147.0	72.0	190.9	155.1	114.9	193.8	54.9	295.7	161.3	128.0
60.5	24.0	74.3	75.7	57.7	71.7	21.6	97.5	68.0	75.6
47.8	12.8	82.2	27.4	*16.1	73.9	13.8	139.2	30.2	*16.9
15.9	*0.5	14.1	34.6	*26.3	20.2	*	20.6	37.8	26.6
22.9	34.7	20.4	17.4	*14.9	27.9	19.5	38.4	25.3	*9.0
432.0	78.8	164.9	813.3	1,902.4	656.6	63.8	550.5	1,126.0	1,354.8

<sup>1</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

<sup>2</sup>Excludes some obstetrical procedures (ICDA codes 75.0-75.6 and 75.9) for inducing or assisting delivery.

NOTE: See section entitled "Medical coding and edit," appendix I, for coding modifications for the Hospital Discharge Survey.

Table 4. Number and percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by surgical category, according to race: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	All	White	All	All	White	All
	races <sup>1</sup>		other	races <sup>1</sup>		other
	Number of all-listed operations in thousands			Percent distribution		
All operations . . . . .	20,754	15,666	2,277	100.0	100.0	100.0
Neurosurgery . . . . .01-05	396	308	38	1.9	2.0	1.7
Incision and excision of skull and intracranial structures . . . . .01	66	50	10	0.3	0.3	0.4
Laminectomy . . . . .03.0	44	32	3	0.2	0.2	0.1
Operations on peripheral nerves . . . . .04	201	156	16	1.0	1.0	0.7
Other neurosurgery . . . . .Residual	85	69	8	0.4	0.4	0.4
Ophthalmology . . . . .06-14	881	676	63	4.2	4.3	2.8
Resection and recession of eye muscle . . . . .10.5-10.6	63	48	6	0.3	0.3	0.3
Reattachment of retina . . . . .13.4-13.5	36	33	*1	0.2	0.2	*0.1
Extraction of lens . . . . .14.4-14.6	357	272	22	1.7	1.7	1.0
Other eye surgery . . . . .Residual	425	323	34	2.0	2.1	1.5
Otorhinolaryngology . . . . .16-21	1,668	1,286	108	8.0	8.2	4.7
Myringotomy . . . . .17.0	229	163	12	1.1	1.0	0.5
Stapedectomy with ossicular reconstruction . . . . .17.4	27	23	*1	0.1	0.1	*0.0
Tympanoplasty . . . . .17.6-17.7	67	50	3	0.3	0.3	0.1
Excision of lesion of nose . . . . .19.0	51	42	*2	0.2	0.3	*0.1
Section of nasal septum . . . . .19.1	55	50	*1	0.3	0.3	*0.1
Rhinoplasty and repair of nose . . . . .19.3	188	159	6	0.9	1.0	0.2
Tracheotomy or tracheostomy, emergency . . . . .20.5	44	33	5	0.2	0.2	0.2
Tonsillectomy without adenoidectomy . . . . .21.1	204	149	19	1.0	0.9	0.8
Tonsillectomy with adenoidectomy . . . . .21.2	344	258	25	1.7	1.6	1.1
Adenoidectomy without tonsillectomy . . . . .21.3	86	66	4	0.4	0.4	0.2
Other operations on ears, nose, and throat . . . . .Residual	373	293	32	1.8	1.9	1.4
Operations on thyroid, parathyroid, thymus, and adrenals . . . . .22-23	100	79	10	0.5	0.5	0.4
Thyroidectomy . . . . .22.1-22.2	76	59	6	0.4	0.4	0.3
Other operations on thyroid, parathyroid, thymus, and adrenals . . . . .Residual	25	20	3	0.1	0.1	0.1
Vascular and cardiac surgery . . . . .24-30	1,143	931	96	5.5	5.9	4.2
Excision and ligation of varicose veins . . . . .24.4	60	48	4	0.3	0.3	0.2
Other operations on peripheral blood vessels . . . . .24.0-24.3, 24.5-24.9	163	116	27	0.8	0.7	1.2
Incision and excision of lymphatic structure . . . . .25.0-25.2	71	56	4	0.3	0.4	0.2
Operations on valves of heart . . . . .29.2-29.4	33	28	3	0.2	0.2	0.1
Cardiac revascularization . . . . .29.8	95	84	3	0.5	0.5	0.2
Cardiac catheterization . . . . .30.2	305	257	24	1.5	1.6	1.1
Insertion or replacement of electric heart device . . . . .30.4-30.5	149	122	11	0.7	0.8	0.5
Other vascular and cardiac surgery . . . . .Residual	267	219	19	1.3	1.4	0.8
Thoracic surgery . . . . .32-35	311	247	32	1.5	1.6	1.4
Thoracotomy and pleurotomy . . . . .32.0	108	86	12	0.5	0.6	0.5
Lung lobectomy and pneumonectomy . . . . .34.2-34.4	39	31	3	0.2	0.2	0.1
Other thoracic surgery . . . . .Residual	164	130	17	0.8	0.8	0.7
Abdominal surgery . . . . .38-48	2,830	2,160	294	13.6	13.8	12.9
Repair of inguinal hernia . . . . .38.2-38.3	510	388	46	2.5	2.5	2.0
Other hernia repair . . . . .38.0-38.1, 38.4-38.9	193	142	27	0.9	0.9	1.2
Exploratory laparotomy or celiotomy . . . . .39.1	327	240	50	1.6	1.5	2.2
Appendectomy <sup>2</sup> . . . . .41.1	299	232	29	1.4	1.5	1.3
Cholecystectomy . . . . .43.5	432	346	31	2.1	2.2	1.4
Splenectomy . . . . .45.1	36	30	4	0.2	0.2	0.2
Gastric resection, partial or complete . . . . .46.2-46.3	42	30	5	0.2	0.2	0.2
Vagotomy . . . . .46.8	29	20	4	0.1	0.1	0.2
Resection of small intestine or colon . . . . .47.4-47.6	170	134	12	0.8	0.9	0.5
Ileostomy, colostomy, and other enterostomy . . . . .47.7-47.9	84	65	8	0.4	0.4	0.4
Other abdominal surgery . . . . .Residual	707	533	78	3.4	3.4	3.4
Proctological surgery . . . . .50-52	548	419	59	2.6	2.7	2.6
Local excision and destruction of lesion of rectum and anus . . . . .50.2, 51.2	128	98	13	0.6	0.6	0.6
Hemorrhoidectomy . . . . .51.3	190	146	21	0.9	0.9	0.9
Excision of pilonidal sinus or cyst . . . . .52.1	53	40	6	0.3	0.3	0.3
Other proctological surgery . . . . .Residual	178	134	19	0.9	0.9	0.8

See footnotes at end of table.

Table 4. Number and percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by surgical category, according to race: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Number of all-listed operations in thousands			Percent distribution		
	All races <sup>1</sup>	White	All other	All races <sup>1</sup>	White	All other
Urological surgery . . . . .54-61	1,572	1,180	155	7.6	7.5	6.8
Nephrotomy and pyelotomy . . . . .54.0-54.1	33	27	3	0.2	0.2	0.1
Nephrectomy . . . . .54.4-54.5	30	23	3	0.1	0.1	0.2
Passage of catheter to kidney . . . . .55.7	79	64	6	0.4	0.4	0.3
Local excision and destruction of lesion of bladder . . . . .56.1-56.2	130	101	6	0.6	0.6	0.3
Removal of calculus and drainage of bladder without incision . . . . .56.8	58	45	7	0.3	0.3	0.3
Meatotomy (urethral) . . . . .57.1	39	29	3	0.2	0.2	0.2
Excision or destruction of lesion of urethra . . . . .57.2	27	19	3	0.1	0.1	0.1
Dilation of urethra . . . . .57.5	228	173	25	1.1	1.1	1.1
Prostatectomy . . . . .58.1-58.3	297	222	24	1.4	1.4	1.1
Excision of hydrocele and hematocele . . . . .59.1	57	42	5	0.3	0.3	0.2
Orchiopexy . . . . .59.7	25	17	5	0.1	0.1	0.2
Vasectomy . . . . .60.1	42	34	*2	0.2	0.2	*0.1
Circumcision . . . . .61.2	91	51	26	0.4	0.3	1.2
Other urological surgery . . . . .Residual	435	334	35	2.1	2.1	1.5
Breast surgery . . . . .65	365	285	31	1.8	1.8	1.4
Partial mastectomy . . . . .65.2	162	120	17	0.8	0.8	0.8
Complete and radical mastectomy . . . . .65.3-65.6	114	92	8	0.6	0.6	0.3
Other breast surgery . . . . .Residual	89	73	6	0.4	0.5	0.2
Gynecological surgery . . . . .67-72	3,824	2,811	505	18.4	17.9	22.2
Local excision or destruction of lesion of ovary . . . . .67.1	92	72	10	0.4	0.5	0.4
Oophorectomy; salpingo-oophorectomy . . . . .67.2-67.5	434	326	53	2.1	2.1	2.3
Salpingectomy, bilateral . . . . .68.2	159	114	23	0.8	0.7	1.0
Ligation and division of fallopian tubes (bilateral) . . . . .68.5	553	401	92	2.7	2.6	4.0
Hysterectomy . . . . .69.1-69.5	644	479	79	3.1	3.1	3.5
Local excision and destruction of other lesions of uterus, cervix, and supporting tissues . . . . .70.2	100	79	8	0.5	0.5	0.3
Dilation and curettage of uterus, diagnostic . . . . .70.3	967	704	123	4.7	4.5	5.4
Trachelectomy . . . . .70.4	83	60	12	0.4	0.4	0.5
Colporrhaphy . . . . .71.3	39	29	3	0.2	0.2	0.1
Plastic repair of cystocele and/or rectocele . . . . .71.4	140	116	5	0.7	0.7	0.2
Other gynecological surgery . . . . .Residual	613	431	98	3.0	2.8	4.3
Obstetrical procedures <sup>3</sup> . . . . .74-78	1,469	963	318	7.1	6.1	14.0
Antepartum procedures to terminate pregnancy . . . . .74.6-74.9	208	105	80	1.0	0.7	3.5
Cesarean section . . . . .77	510	364	84	2.5	2.3	3.7
Dilation and curettage after delivery or abortion . . . . .78.1	303	197	64	1.5	1.3	2.8
Repair of laceration . . . . .78.2-78.3	292	191	65	1.4	1.2	2.9
Other obstetrical procedures . . . . .Residual	156	106	25	0.8	0.7	1.1
Orthopedic surgery . . . . .80-90	2,821	2,147	273	13.6	13.7	12.0
Incision and division of bones . . . . .80.0-80.3	91	70	12	0.4	0.4	0.5
Excision of bone, partial . . . . .80.4	161	118	18	0.8	0.8	0.8
Removal of fixation device (internal) . . . . .80.8	87	63	8	0.4	0.4	0.3
Closed reduction of fracture without fixation . . . . .82.0	289	227	23	1.4	1.4	1.0
Open reduction of fracture without fixation . . . . .82.1	69	54	5	0.3	0.3	0.2
Reduction of fracture with fixation . . . . .82.2	382	302	27	1.8	1.9	1.2
Excision of intervertebral cartilage (prolapsed disk) . . . . .86.4	149	119	8	0.7	0.8	0.3
Excision of semilunar cartilage of knee joint . . . . .86.5	172	132	13	0.8	0.8	0.6
Arthroplasty of hip . . . . .87.0	67	52	4	0.3	0.3	0.2
Repair and plastic operations on joints of foot and toes . . . . .87.2	123	89	22	0.6	0.6	1.0
Repair and plastic operations on other joints . . . . .87.3	135	103	9	0.6	0.7	0.4
Spinal fusion . . . . .87.4	53	42	3	0.3	0.3	0.1
Arthrodesis and stabilization of joints (except spine) . . . . .87.5-87.6	35	25	4	0.2	0.2	0.2
Closed reduction of dislocation of joint . . . . .87.7	30	23	3	0.1	0.1	0.1
Operations on muscles, tendons, fascia, and bursa . . . . .88-89	366	272	40	1.8	1.7	1.8
Other orthopedic surgery . . . . .Residual	612	456	73	3.0	2.9	3.2

See footnotes at end of table.

Table 4. Number and percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by surgical category, according to race: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	All races <sup>1</sup>	White	All other	Percent distribution		
				All races <sup>1</sup>	White	All other
	Number of all-listed operations in thousands			Percent distribution		
Plastic surgery . . . . .	1,078	847	116	5.2	5.4	5.1
Incision of skin and subcutaneous tissue . . . . .	144	102	26	0.7	0.7	1.1
Excision of lesion of skin and subcutaneous tissue . . . . .	443	350	44	2.1	2.2	1.9
Suture of skin or mucous membrane . . . . .	188	146	17	0.9	0.9	0.7
Plastic operations on lip and mouth . . . . .	15	13	*1	0.1	0.1	*0.1
Skin graft except lip and mouth . . . . .	149	115	19	0.7	0.7	0.8
Other plastic surgery . . . . .	139	119	9	0.7	0.8	0.4
Oral and maxillofacial surgery . . . . .	208	158	23	1.0	1.0	1.0
Excision of salivary glands, local or total . . . . .	35	27	4	0.2	0.2	0.2
Reduction of fracture and fracture-dislocation of jawbone . . . . .	61	42	9	0.3	0.3	0.4
Other oral and maxillofacial surgery . . . . .	112	88	10	0.5	0.6	0.4
Dental surgery . . . . .	366	275	25	1.8	1.8	1.1
Extraction of tooth, forceps extraction . . . . .	142	102	12	0.7	0.6	0.5
Surgical removal of tooth . . . . .	131	104	5	0.6	0.7	0.2
Alveoloplasty . . . . .	39	28	3	0.2	0.2	0.1
Other dental surgery . . . . .	55	40	5	0.3	0.3	0.2
Biopsy . . . . .	1,172	896	132	5.6	5.7	5.8

<sup>1</sup>Includes discharge data for which color was not stated.

<sup>2</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

<sup>3</sup>Excludes some obstetrical procedures (ICDA codes 75.0-75.6 and 75.9) for inducing or assisting delivery.

NOTE: See section entitled "Medical coding and edit," appendix I, for coding modifications for the Hospital Discharge Survey.

Table 5. Number of all-listed operations for inpatients discharged from short-stay hospitals, by bed size of hospital and surgical category: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Bed size of hospital					
	All sizes	6-99 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Number of all-listed operations in thousands						
All operations . . . . .	20,754	2,586	3,319	4,030	5,253	5,566
Neurosurgery . . . . .01-05	396	37	50	65	106	138
Incision and excision of skull and intracranial structures . . . . .01	66	*-	6	11	20	30
Laminectomy . . . . .03.0	44	*1	8	8	10	18
Operations on peripheral nerves . . . . .04	201	34	26	34	49	59
Other neurosurgery . . . . .Residual	85	3	11	13	27	32
Ophthalmology . . . . .06-14	881	88	130	143	255	265
Resection and recession of eye muscle . . . . .10.5-10.6	63	3	5	10	25	19
Reattachment of retina . . . . .13.4-13.5	36	*2	3	4	6	23
Extraction of lens . . . . .14.4-14.6	357	29	60	65	109	95
Other eye surgery . . . . .Residual	425	55	63	64	115	128
Otorhinolaryngology . . . . .16-21	1,668	203	274	351	464	376
Myringotomy . . . . .17.0	229	13	33	51	79	54
Stapedectomy with ossicular reconstruction . . . . .17.4	27	*1	3	7	9	8
Tympanoplasty . . . . .17.6-17.7	67	*1	11	16	22	17
Excision of lesion of nose . . . . .19.0	51	6	8	9	15	12
Section of nasal septum . . . . .19.1	55	13	15	6	10	11
Rhinoplasty and repair of nose . . . . .19.3	188	26	34	36	51	41
Tracheotomy or tracheostomy, emergency . . . . .20.5	44	*1	6	9	14	14
Tonsillectomy without adenoidectomy . . . . .21.1	204	33	35	42	52	41
Tonsillectomy with adenoidectomy . . . . .21.2	344	69	60	83	78	53
Adenoidectomy without tonsillectomy . . . . .21.3	86	3	14	14	30	24
Other operations on ears, nose, and throat . . . . .Residual	373	36	55	78	103	101
Operations on thyroid, parathyroid, thymus, and adrenals . . . . .22-23	100	7	12	21	24	36
Thyroidectomy . . . . .22.1-22.2	76	6	9	16	19	25
Other operations on thyroid, parathyroid, thymus, and adrenals . . . . .Residual	25	*1	3	5	5	10
Vascular and cardiac surgery . . . . .24-30	1,143	39	95	194	324	491
Excision and ligation of varicose veins . . . . .24.4	60	8	9	12	20	12
Other operations on peripheral blood vessels . . . . .24.0-24.3, 24.5-24.9	163	6	15	27	53	62
Incision and excision of lymphatic structure . . . . .25.0-25.2	71	6	11	14	17	24
Operations on valves of heart . . . . .29.2-29.4	33	*2	*2	3	8	22
Cardiac revascularization . . . . .29.8	95	*-	4	8	28	53
Cardiac catheterization . . . . .30.2	305	6	14	48	80	157
Insertion or replacement of electric heart device . . . . .30.4-30.5	149	5	17	34	44	49
Other vascular and cardiac surgery . . . . .Residual	267	9	25	48	74	112
Thoracic surgery . . . . .32-35	311	22	40	56	86	106
Thoractomy and pleurotomy . . . . .32.0	108	8	13	23	28	36
Lung lobectomy and pneumonectomy . . . . .34.2-34.4	39	*1	4	6	13	15
Other thoracic surgery . . . . .Residual	164	13	23	28	45	55
Abdominal surgery . . . . .38-48	2,830	409	498	577	684	661
Repair of inguinal hernia . . . . .38.2-38.3	510	79	84	107	129	111
Other hernia repair . . . . .38.0-38.1, 38.4-38.9	193	35	42	40	40	36
Exploratory laparotomy or celiotomy . . . . .39.1	327	48	59	70	77	73
Appendectomy <sup>1</sup> . . . . .41.1	299	65	61	61	56	56
Cholecystectomy . . . . .43.5	432	67	76	93	110	86
Splenectomy . . . . .45.1	36	*2	5	6	10	13
Gastric resection, partial or complete . . . . .46.2-46.3	42	5	8	10	9	9
Vagotomy . . . . .46.8	29	4	5	7	7	6
Resection of small intestine or colon . . . . .47.4-47.6	170	17	22	31	50	50
Ileostomy, colostomy, and other enterostomy . . . . .47.7-47.9	84	8	14	15	23	24
Other abdominal surgery . . . . .Residual	707	79	121	138	172	198
Proctological surgery . . . . .50-52	548	80	79	135	140	114
Local excision and destruction of lesion of rectum and anus . . . . .50.2, 51.2	128	19	18	33	30	28
Hemorrhoidectomy . . . . .51.3	190	33	31	45	48	34
Excision of pilonidal sinus or cyst . . . . .52.1	53	6	8	13	15	10
Other proctological surgery . . . . .Residual	178	22	22	45	47	42

See footnotes at end of table.

Table 5. Number of all-listed operations for inpatients discharged from short-stay hospitals, by bed size of hospital and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Bed size of hospital					
	All sizes	6-99 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Number of all-listed operations in thousands						
Urological surgery . . . . .	1,572	165	257	337	426	387
Nephrotomy and pyelotomy . . . . . 54.0-54.1	33	*1	4	8	9	11
Nephrectomy . . . . . 54.4-54.5	30	*1	4	4	10	10
Passage of catheter to kidney . . . . . 55.7	79	9	10	15	27	17
Local excision and destruction of lesion of bladder . . . . . 56.1-56.2	130	7	27	26	38	32
Removal of calculus and drainage of bladder without incision . . . . . 56.8	58	3	4	16	11	24
Meatotomy (urethral) . . . . . 57.1	39	3	4	6	14	12
Excision or destruction of lesion of urethra . . . . . 57.2	27	3	3	5	9	7
Dilation of urethra . . . . . 57.5	228	29	47	55	59	37
Prostatectomy . . . . . 58.1-58.3	297	23	50	67	82	75
Excision of hydrocele and hematocele . . . . . 59.1	57	8	11	11	15	12
Orchiopexy . . . . . 59.7	25	3	4	4	7	7
Vasectomy . . . . . 60.1	42	6	8	11	9	7
Circumcision . . . . . 61.2	91	17	15	15	22	22
Other urological surgery . . . . . Residual	435	50	65	92	115	114
Breast surgery . . . . . 65	365	40	54	71	95	105
Partial mastectomy . . . . . 65.2	162	15	22	37	46	41
Complete and radical mastectomy . . . . . 65.3-65.6	114	10	21	22	30	31
Other breast surgery . . . . . Residual	89	15	10	12	19	33
Gynecological surgery . . . . . 67-72	3,824	518	729	760	871	945
Local excision or destruction of lesion of ovary . . . . . 67.1	92	16	19	19	21	18
Oophorectomy; salpingo-oophorectomy . . . . . 67.2-67.5	434	55	81	85	105	108
Salpingectomy, bilateral . . . . . 68.2	159	30	27	41	31	30
Ligation and division of fallopian tubes (bilateral) . . . . . 68.5	553	89	125	106	110	122
Hysterectomy . . . . . 69.1-69.5	644	85	121	129	148	162
Local excision and destruction of other lesions of uterus, cervix, and supporting tissues . . . . . 70.2	100	10	23	21	25	21
Dilation and curettage of uterus, diagnostic . . . . . 70.3	967	125	181	184	232	245
Trachelectomy . . . . . 70.4	83	9	16	21	17	19
Colporrhaphy . . . . . 71.3	39	5	5	8	13	9
Plastic repair of cystocele and/or rectocele . . . . . 71.4	140	20	29	24	33	33
Other gynecological surgery . . . . . Residual	613	73	101	123	138	179
Obstetrical procedures <sup>2</sup> . . . . . 74-78	1,469	155	260	250	349	457
Antepartum procedures to terminate pregnancy . . . . . 74.6-74.9	208	10	38	30	35	95
Cesarean section . . . . . 77	510	51	93	91	133	143
Dilation and curettage after delivery or abortion . . . . . 78.1	303	39	56	57	75	75
Repair of laceration . . . . . 78.2-78.3	292	41	47	49	67	89
Other obstetrical procedures . . . . . Residual	156	15	26	23	39	55
Orthopedic surgery . . . . . 80-90	2,821	424	419	557	701	720
Incision and division of bones . . . . . 80.0-80.3	91	33	10	9	17	22
Excision of bone, partial . . . . . 80.4	161	41	23	29	32	35
Removal of fixation device (internal) . . . . . 80.8	87	4	12	21	25	24
Closed reduction of fracture without fixation . . . . . 82.0	289	56	54	59	64	57
Open reduction of fracture without fixation . . . . . 82.1	69	9	9	15	18	18
Reduction of fracture with fixation . . . . . 82.2	382	43	68	77	100	93
Excision of intervertebral cartilage (prolapsed disk) . . . . . 86.4	149	5	23	30	42	48
Excision of semilunar cartilage of knee joint . . . . . 86.5	172	16	25	38	49	44
Arthroplasty of hip . . . . . 87.0	67	3	8	15	18	23
Repair and plastic operations on joints of foot and toes . . . . . 87.2	123	64	15	16	17	12
Repair and plastic operations on other joints . . . . . 87.3	135	10	16	24	39	45
Spinal fusion . . . . . 87.4	53	*2	9	8	12	22
Arthrodesis and stabilization of joints (except spine) . . . . . 87.5-87.6	35	3	3	7	11	10
Closed reduction of dislocation of joint . . . . . 87.7	30	6	5	7	6	6
Operations on muscles, tendons, fascia, and bursa . . . . . 88-89	366	59	54	74	88	92
Other orthopedic surgery . . . . . Residual	612	69	84	127	163	168

See footnotes at end of table.

Table 5. Number of all-listed operations for inpatients discharged from short-stay hospitals, by bed size of hospital and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<i>Surgical category and ICDA code</i>	<i>Bed size of hospital</i>					
	<i>All sizes</i>	<i>6-99 beds</i>	<i>100-199 beds</i>	<i>200-299 beds</i>	<i>300-499 beds</i>	<i>500 beds or more</i>
Number of all-listed operations in thousands						
Plastic surgery . . . . .92-94	1,078	226	169	189	252	243
Incision of skin and subcutaneous tissue . . . . .92.0	144	26	23	27	33	36
Excision of lesion of skin and subcutaneous tissue . . . . .92.1-92.2	443	94	72	82	105	91
Suture of skin or mucous membrane . . . . .92.5	188	48	37	31	42	30
Plastic operations on lip and mouth . . . . .93.1	15	*2	*2	*2	4	7
Skin graft except lip and mouth . . . . .93.2-93.6	149	14	20	29	41	45
Other plastic surgery . . . . .Residual	139	43	18	17	27	34
Oral and maxillofacial surgery . . . . .95-98	208	15	20	37	59	76
Excision of salivary glands, local or total . . . . .95.1	35	*2	4	5	9	15
Reduction of fracture and fracture-dislocation of jawbone . . . . .98	61	5	6	14	18	18
Other oral and maxillofacial surgery . . . . .Residual	112	8	10	19	32	43
Dental surgery . . . . .99	366	42	63	64	106	91
Extraction of tooth, forceps extraction . . . . .99.3	142	21	30	22	33	35
Surgical removal of tooth . . . . .99.4	131	11	18	29	45	28
Alveoloplasty . . . . .99.7	39	3	8	6	13	9
Other dental surgery . . . . .Residual	55	8	7	6	15	19
Biopsy . . . . .A1-A2	1,172	115	168	222	311	355

<sup>1</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

<sup>2</sup>Excludes some obstetrical procedures (ICDA codes 75.0-75.6 and 75.9) for inducing or assisting delivery.

NOTE: See section entitled "Medical coding and edit," appendix I, for coding modifications for the Hospital Discharge Survey.

Table 6. Number of single-listed operations and average length of stay for inpatients discharged from short-stay hospitals, by sex and surgical category: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes			Both sexes		
	Male	Female	Both sexes	Male	Female	Both sexes
	Number of single-listed operations in thousands			Average length of stay in days		
All operations . . . . .	9,929	3,963	5,966	6.8	7.3	6.4
Neurosurgery . . . . .01-05	213	104	109	12.4	12.3	12.6
Incision and excision of skull and intracranial structures . . . . .01	41	23	18	26.5	20.1	34.8
Laminectomy . . . . .03.0	33	21	12	17.0	16.0	18.7
Operations on peripheral nerves . . . . .04	89	33	57	4.2	4.6	3.9
Other neurosurgery . . . . .Residual	50	28	23	12.6	12.0	13.4
Ophthalmology* . . . . .06-14	462	192	270	4.2	4.2	4.2
Resection and recession of eye muscle . . . . .10.5-10.6	42	17	26	2.0	1.9	2.1
Reattachment of retina . . . . .13.4-13.5	30	17	13	6.2	6.2	6.3
Extraction of lens . . . . .14.4-14.6	240	88	152	4.7	4.5	4.8
Other eye surgery . . . . .Residual	149	69	80	3.7	3.8	3.6
Otorhinolaryngology . . . . .16-21	823	374	449	3.2	3.4	3.0
Myringotomy . . . . .17.0	53	30	23	1.8	1.7	2.0
Stapedectomy with ossicular reconstruction . . . . .17.4	18	7	11	2.5	2.5	2.6
Tympanoplasty . . . . .17.6-17.7	38	16	22	2.4	2.3	2.4
Excision of lesion of nose . . . . .19.0	14	8	6	3.4	2.9	4.1
Section of nasal septum . . . . .19.1	9	6	3	2.9	2.9	3.1
Rhinoplasty and repair of nose . . . . .19.3	81	43	37	2.9	2.8	2.9
Tracheotomy or tracheostomy, emergency . . . . .20.5	17	10	7	30.6	29.2	32.8
Tonsillectomy without adenoidectomy . . . . .21.1	190	58	133	2.4	2.5	2.3
Tonsillectomy with adenoidectomy . . . . .21.2	252	115	137	2.0	2.1	1.9
Adenoidectomy without tonsillectomy . . . . .21.3	11	7	4	2.0	2.1	1.9
Other operations on ears, nose, and throat . . . . .Residual	142	76	65	4.1	4.2	4.0
Operations on thyroid, parathyroid, thymus, and adrenals . . . . .22-23	68	13	55	6.2	6.4	6.2
Thyroidectomy . . . . .22.1-22.2	54	8	46	5.7	5.0	5.8
Other operations on thyroid, parathyroid, thymus, and adrenals . . . . .Residual	13	5	9	8.3	8.7	8.1
Vascular and cardiac surgery . . . . .24-30	661	400	261	9.5	9.2	10.0
Excision and ligation of varicose veins . . . . .24.4	48	17	31	5.7	6.1	5.5
Other operations on peripheral blood vessels . . . . .24.0-24.3, 24.5-24.9	81	43	38	14.1	13.9	14.3
Incision and excision of lymphatic structure . . . . .25.0-25.2	25	13	13	6.2	5.9	6.5
Operations on valves of heart . . . . .29.2-29.4	12	5	7	15.8	16.7	15.2
Cardiac revascularization . . . . .29.8	51	43	7	13.4	13.3	14.1
Cardiac catheterization . . . . .30.2	242	166	77	5.4	5.2	5.8
Insertion or replacement of electric heart device . . . . .30.4-30.5	97	51	47	12.0	11.2	12.8
Other vascular and cardiac surgery . . . . .Residual	104	63	41	12.9	12.6	13.4
Thoracic surgery . . . . .32-35	136	78	59	11.8	11.7	11.9
Thoracotomy and pleurotomy . . . . .32.0	49	33	16	10.9	10.6	11.4
Lung lobectomy and pneumonectomy . . . . .34.2-34.4	13	7	5	19.4	19.7	19.1
Other thoracic surgery . . . . .Residual	75	38	37	11.1	11.1	11.1
Abdominal surgery . . . . .38-48	1,244	685	559	8.1	7.2	9.4
Repair of inguinal hernia . . . . .38.2-38.3	383	335	48	5.0	5.1	4.3
Other hernia repair . . . . .38.0-38.1, 38.4-38.9	97	39	57	6.4	5.9	6.8
Exploratory laparotomy or celiotomy . . . . .39.1	39	16	23	11.0	12.5	10.0
Appendectomy <sup>1</sup> . . . . .41.1	237	127	110	5.5	5.2	5.7
Cholecystectomy . . . . .43.5	276	64	211	9.9	10.4	9.8
Splenectomy . . . . .45.1	6	3	3	13.7	10.7	17.3
Gastric resection, partial or complete . . . . .46.2-46.3	8	5	3	16.3	16.3	16.3
Vagotomy . . . . .46.8	*1	*1	*2	13.4	9.0	19.4
Resection of small intestine or colon . . . . .47.4-47.6	46	23	23	19.3	17.3	21.3
Ileostomy, colostomy, and other enterostomy . . . . .47.7-47.9	13	6	6	18.8	17.2	20.5
Other abdominal surgery . . . . .Residual	138	64	75	12.9	12.3	13.5
Proctological surgery . . . . .50-52	230	131	99	6.2	6.0	6.4
Local excision and destruction of lesion of rectum and anus . . . . .50.2, 51.2	43	26	17	5.0	5.4	4.5
Hemorrhoidectomy . . . . .51.3	89	49	40	6.5	6.1	7.0
Excision of pilonidal sinus or cyst . . . . .52.1	44	24	20	5.2	4.9	5.5
Other proctological surgery . . . . .Residual	54	32	21	7.4	7.3	7.6

See footnotes at end of table.



Table 6. Number of single-listed operations and average length of stay for inpatients discharged from short-stay hospitals, by sex and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes	Male	Female	Both sexes	Male	Female	
	Number of single-listed operations in thousands			Average length of stay in days			
Urological surgery . . . . .	54-61	748	537	212	7.7	7.7	7.7
Nephrotomy and pyelotomy . . . . .	54.0-54.1	17	9	8	13.2	9.9	16.8
Nephrectomy . . . . .	54.4-54.5	16	7	9	13.7	13.9	13.6
Passage of catheter to kidney . . . . .	55.7	48	31	17	6.0	5.6	6.8
Local excision and destruction of lesion of bladder . . . . .	56.1-56.2	68	47	20	6.6	6.5	6.9
Removal of calculus and drainage of bladder without incision . . . . .	56.8	21	11	10	9.4	9.9	8.9
Meatotomy (urethral) . . . . .	57.1	14	12	3	2.8	2.9	2.4
Excision or destruction of lesion of urethra . . . . .	57.2	11	3	8	5.5	3.6	6.2
Dilation of urethra . . . . .	57.5	130	48	82	5.8	5.6	5.9
Prostatectomy . . . . .	58.1-58.3	172	172	...	11.4	11.4	...
Excision of hydrocele and hematocele . . . . .	59.1	14	14	...	4.1	4.1	...
Orchiopexy . . . . .	59.7	10	10	...	3.3	3.3	...
Vasectomy . . . . .	60.1	10	10	...	2.5	2.5	...
Circumcision . . . . .	61.2	67	67	...	3.1	3.1	...
Other urological surgery . . . . .	Residual	149	95	55	8.4	7.9	9.1
Breast surgery . . . . .	65	199	14	184	5.2	4.1	5.2
Partial mastectomy . . . . .	65.2	101	4	97	3.8	4.0	3.8
Complete and radical mastectomy . . . . .	65.3-65.6	54	6	48	9.0	5.4	9.4
Other breast surgery . . . . .	Residual	44	4	39	3.6	2.5	3.7
Gynecological surgery . . . . .	67-72	1,094	...	1,094	3.8	...	3.8
Local excision or destruction of lesion of ovary . . . . .	67.1	13	...	13	6.3	...	6.3
Oophorectomy; salpingo-oophorectomy . . . . .	67.2-67.5	26	...	26	6.6	...	6.6
Salpingectomy, bilateral . . . . .	68.2	60	...	60	3.9	...	3.9
Ligation and division of fallopian tubes (bilateral) . . . . .	68.5	281	...	281	3.0	...	3.0
Hysterectomy . . . . .	69.1-69.5	124	...	124	7.1	...	7.1
Local excision and destruction of other lesions of uterus, cervix, and supporting tissues . . . . .	70.2	4	...	4	3.5	...	3.5
Dilation and curettage of uterus, diagnostic . . . . .	70.3	409	...	409	2.6	...	2.6
Trachelectomy . . . . .	70.4	6	...	6	3.5	...	3.5
Colporrhaphy . . . . .	71.3	8	...	8	12.5	...	12.5
Plastic repair of cystocele and/or rectocele . . . . .	71.4	24	...	24	8.1	...	8.1
Other gynecological surgery . . . . .	Residual	138	...	138	4.0	...	4.0
Obstetrical procedures <sup>2</sup> . . . . .	74-78	1,145	...	1,145	3.9	...	3.9
Antepartum procedures to terminate pregnancy . . . . .	74.6-74.9	148	...	148	1.6	...	1.6
Cesarean section . . . . .	77	398	...	398	6.5	...	6.5
Dilation and curettage after delivery or abortion . . . . .	78.1	258	...	258	1.8	...	1.8
Repair of laceration . . . . .	78.2-78.3	241	...	241	3.2	...	3.2
Other obstetrical procedures . . . . .	Residual	100	...	100	3.4	...	3.4
Orthopedic surgery . . . . .	80-90	1,571	795	776	9.7	8.2	11.1
Incision and division of bones . . . . .	80.0-80.3	25	13	11	7.5	7.3	7.8
Excision of bone, partial . . . . .	80.4	57	28	29	5.4	4.9	5.9
Removal of fixation device (internal) . . . . .	80.8	59	30	30	5.0	3.7	6.3
Closed reduction of fracture without fixation . . . . .	82.0	229	116	113	6.4	5.5	7.3
Open reduction of fracture without fixation . . . . .	82.1	41	28	14	8.0	7.7	8.8
Reduction of fracture with fixation . . . . .	82.2	311	124	187	14.6	10.8	17.1
Excision of intervertebral cartilage (prolapsed disk) . . . . .	86.4	121	68	53	13.0	12.3	13.9
Excision of semilunar cartilage of knee joint . . . . .	86.5	75	55	20	5.1	4.8	5.7
Arthroplasty of hip . . . . .	87.0	58	23	35	18.5	16.7	19.7
Repair and plastic operations on joints of foot and toes . . . . .	87.2	46	9	38	5.1	4.6	5.2
Repair and plastic operations on other joints . . . . .	87.3	74	43	31	9.9	8.0	12.4
Spinal fusion . . . . .	87.4	24	11	13	16.8	18.2	15.5
Arthrodesis and stabilization of joints (except spine) . . . . .	87.5-87.6	19	12	7	6.9	6.2	8.2
Closed reduction of dislocation of joint . . . . .	87.7	22	15	7	5.4	4.2	7.8
Operations on muscles, tendons, fascia, and bursa . . . . .	88-89	161	84	77	3.8	4.0	3.6
Other orthopedic surgery . . . . .	Residual	248	136	112	11.3	10.6	12.1

See footnotes at end of table.

Table 6. Number of single-listed operations and average length of stay for inpatients discharged from short-stay hospitals, by sex and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	Both sexes			Both sexes		
	Male	Female	Both sexes	Male	Female	Both sexes
	Number of single-listed operations in thousands			Average length of stay in days		
Plastic surgery . . . . . 92-94	495	266	229	7.1	6.7	7.5
Incision of skin and subcutaneous tissue . . . . . 92.0	90	53	37	8.6	9.1	7.9
Excision of lesion of skin and subcutaneous tissue . . . . . 92.1-92.2	207	97	110	5.8	5.4	6.2
Suture of skin or mucous membrane . . . . . 92.5	92	60	31	5.0	4.4	6.3
Plastic operations on lip and mouth . . . . . 93.1	4	3	*2	4.2	4.7	3.5
Skin graft except lip and mouth . . . . . 93.2-93.6	57	34	23	14.6	12.6	17.4
Other plastic surgery . . . . . Residual	45	19	26	4.6	3.9	5.1
Oral and maxillofacial surgery . . . . . 95-98	88	45	43	4.4	4.4	4.3
Excision of salivary glands, local or total . . . . . 95.1	21	7	14	4.4	4.1	4.5
Reduction of fracture and fracture-dislocation of jawbone . . . . . 98	32	23	9	4.8	4.6	5.1
Other oral and maxillofacial surgery . . . . . Residual	34	15	19	3.9	4.2	3.8
Dental surgery . . . . . 99	191	75	116	2.8	2.8	2.8
Extraction of tooth, forceps extraction . . . . . 99.3	79	35	45	3.8	3.8	3.8
Surgical removal of tooth . . . . . 99.4	94	32	61	2.0	1.9	2.1
Alveoloplasty . . . . . 99.7	*1	*2	*1	6.4	5.0	6.7
Other dental surgery . . . . . Residual	17	8	10	2.1	1.8	2.3
Biopsy . . . . . A1-A2	562	255	306	9.1	9.5	8.9

<sup>1</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

<sup>2</sup>Excludes some obstetrical procedures (ICDA codes 75.0-75.6 and 75.9) for inducing or assisting delivery.

NOTE: See section entitled "Medical coding and edit," appendix I, for coding modifications for the Hospital Discharge Survey.

Table 7. Number of single-listed operations for inpatients discharged from short-stay hospitals, by age and surgical category: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<i>Surgical category and ICDA code</i>	<i>All ages</i>	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</i>
Number of single-listed operations in thousands					
All operations . . . . .	9,929	1,061	4,750	2,252	1,866
Neurosurgery . . . . .01-05	213	16	75	81	41
Incision and excision of skull and intracranial structures . . . . .01	41	3	12	15	11
Laminectomy . . . . .03.0	33	*2	11	16	6
Operations on peripheral nerves . . . . .04	89	*2	37	34	16
Other neurosurgery . . . . .Residual	50	10	16	16	9
Ophthalmology . . . . .06-14	462	56	57	114	234
Resection and recession of eye muscle . . . . .10.5-10.6	42	28	12	*2	*1
Reattachment of retina . . . . .13.4-13.5	30	*2	5	11	13
Extraction of lens . . . . .14.4-14.6	240	*2	4	60	173
Other eye surgery . . . . .Residual	149	24	37	42	47
Otorhinolaryngology . . . . .16-21	823	361	336	85	40
Myringotomy . . . . .17.0	53	43	5	4	*1
Stapedectomy with ossicular reconstruction . . . . .17.4	18	*2	7	9	*2
Tympanoplasty . . . . .17.6-17.7	38	8	17	11	*2
Excision of lesion of nose . . . . .19.0	14	*2	3	4	5
Section of nasal septum . . . . .19.1	9	*1	7	*1	*2
Rhinoplasty and repair of nose . . . . .19.3	81	*2	62	14	*2
Tracheotomy or tracheostomy, emergency . . . . .20.5	17	*2	4	4	7
Tonsillectomy without adenoidectomy . . . . .21.1	190	42	146	*2	*1
Tonsillectomy with adenoidectomy . . . . .21.2	252	222	29	*1	*1
Adenoidectomy without tonsillectomy . . . . .21.3	11	9	*1	*.	*.
Other operations on ears, nose, and throat . . . . .Residual	142	30	57	35	19
Operations on thyroid, parathyroid, thymus, and adrenals . . . . .22-23	68	6	30	22	10
Thyroidectomy . . . . .22.1-22.2	54	*1	26	18	9
Other operations on thyroid, parathyroid, thymus, and adrenals . . . . .Residual	13	4	4	3	*1
Vascular and cardiac surgery . . . . .24-30	661	39	114	297	211
Excision and ligation of varicose veins . . . . .24.4	48	*.	24	21	4
Other operations on peripheral blood vessels . . . . .24.0-24.3, 24.5-24.9	81	3	15	33	29
Incision and excision of lymphatic structure . . . . .25.0-25.2	25	3	8	7	6
Operations on valves of heart . . . . .29.2-29.4	12	*1	3	6	3
Cardiac revascularization . . . . .29.8	51	*2	5	38	7
Cardiac catheterization . . . . .30.2	242	21	45	133	43
Insertion or replacement of electric heart device . . . . .30.4-30.5	97	*2	3	16	77
Other vascular and cardiac surgery . . . . .Residual	104	9	11	42	42
Thoracic surgery . . . . .32-35	136	8	38	49	40
Thoracotomy and pleurotomy . . . . .32.0	49	*2	24	15	8
Lung lobectomy and pneumonectomy . . . . .34.2-34.4	13	*2	*2	7	3
Other thoracic surgery . . . . .Residual	75	6	12	28	29
Abdominal surgery . . . . .38-48	1,244	166	454	365	258
Repair of inguinal hernia . . . . .38.2-38.3	383	60	104	130	89
Other hernia repair . . . . .38.0-38.1, 38.4-38.9	97	15	28	35	19
Exploratory laparotomy or celiotomy . . . . .39.1	39	*2	21	7	8
Appendectomy <sup>1</sup> . . . . .41.1	237	73	140	20	5
Cholecystectomy . . . . .43.5	276	*1	114	104	57
Splenectomy . . . . .45.1	6	*1	3	*1	*1
Gastric resection, partial or complete . . . . .46.2-46.3	8	*2	*1	4	3
Vagotomy . . . . .46.8	*1	*.	*1	*.	*2
Resection of small intestine or colon . . . . .47.4-47.6	46	*1	4	15	25
Ileostomy, colostomy, and other enterostomy . . . . .47.7-47.9	13	*2	*2	4	6
Other abdominal surgery . . . . .Residual	138	13	37	46	43
Proctological surgery . . . . .50-52	230	6	132	59	33
Local excision and destruction of lesion of rectum and anus . . . . .50.2, 51.2	43	3	19	11	10
Hemorrhoidectomy . . . . .51.3	89	*2	46	33	9
Excision of pilonidal sinus or cyst . . . . .52.1	44	*1	41	*2	*.
Other proctological surgery . . . . .Residual	54	3	26	12	13

See footnotes at end of table.

Table 7. Number of single-listed operations for inpatients discharged from short-stay hospitals, by age and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	All ages	Under 15 years	15-44 years	45-64 years	65 years and over	Number of single-listed operations in thousands				
Urological surgery . . . . . 54-61	748	96	189	194	269					
Nephrotomy and Pyelotomy . . . . . 54.0-54.1	17	*Z	6	6	5					
Nephrectomy . . . . . 54.4-54.5	16	*Z	6	5	4					
Passage of catheter to kidney . . . . . 55.7	48	*2	19	20	7					
Local excision and destruction of lesion of bladder . . . . . 56.1-56.2	68	*Z	3	19	46					
Removal of calculus and drainage of bladder without incision . . . . . 56.8	21	*1	7	5	9					
Meatotomy (urethral) . . . . . 57.1	14	10	3	*1	*Z					
Excision or destruction of lesion of urethra . . . . . 57.2	11	*1	5	3	3					
Dilation of urethra . . . . . 57.5	130	23	44	33	31					
Prostatectomy . . . . . 58.1-58.3	172	*1	*1	40	131					
Excision of hydrocele and hematocele . . . . . 59.1	14	*2	4	5	3					
Orchiopexy . . . . . 59.7	10	8	*2	*Z	*.					
Vasectomy . . . . . 60.1	10	0	7	2	*Z					
Circumcision . . . . . 61.2	67	27	25	10	5					
Other urological surgery . . . . . Residual	149	20	57	47	26					
Breast surgery . . . . . 65	199	3	96	66	34					
Partial mastectomy . . . . . 65.2	101	*1	54	34	12					
Complete and radical mastectomy . . . . . 65.3-65.6	54	*Z	9	23	21					
Other breast surgery . . . . . Residual	44	*1	33	8	*1					
Gynecological surgery . . . . . 67-72	1,094	11	874	173	36					
Local excision or destruction of lesion of ovary . . . . . 67.1	13	*.	13	*Z	*Z					
Oophorectomy; salpingo-oophorectomy . . . . . 67.2-67.5	26	*Z	22	3	*1					
Salpingectomy, bilateral . . . . . 68.2	60	*Z	59	*1	*.					
Ligation and division of fallopian tubes (bilateral) . . . . . 68.5	281	*1	277	4	*.					
Hysterectomy . . . . . 69.1-69.5	124	*Z	106	17	*2					
Local excision and destruction of other lesions of uterus, cervix, and supporting tissues . . . . . 70.2	4	*Z	*2	*Z	*Z					
Dilation and curettage of uterus, diagnostic . . . . . 70.3	409	*2	267	120	19					
Trachelectomy . . . . . 70.4	6	*.	5	*Z	*1					
Colporrhaphy . . . . . 71.3	8	*1	5	*1	*1					
Plastic repair of cystocele and/or rectocele . . . . . 71.4	24	*.	5	14	5					
Other gynecological surgery . . . . . Residual	138	6	112	12	8					
Obstetrical procedures <sup>2</sup> . . . . . 74-78	1,145	7	1,135	3	...					
Antepartum procedures to terminate pregnancy . . . . . 74.6-74.9	148	3	144	*1	...					
Cesarean section . . . . . 77	398	*1	396	*1	...					
Dilation and curettage after delivery or abortion . . . . . 78.1	258	*1	256	*2	...					
Repair of laceration . . . . . 78.2-78.3	241	*1	240	*Z	...					
Other obstetrical procedures . . . . . Residual	100	*Z	99	*.	...					
Orthopedic surgery . . . . . 80-90	1,571	166	657	383	365					
Incision and division of bones . . . . . 80.0-80.3	25	3	14	6	*2					
Excision of bone, partial . . . . . 80.4	57	6	30	16	5					
Removal of fixation device (internal) . . . . . 80.8	59	6	32	12	9					
Closed reduction of fracture without fixation . . . . . 82.0	229	76	66	40	47					
Open reduction of fracture without fixation . . . . . 82.1	41	5	21	9	7					
Reduction of fracture with fixation . . . . . 82.2	311	17	86	54	153					
Excision of intervertebral cartilage (prolapsed disk) . . . . . 86.4	121	*Z	67	46	7					
Excision of semilunar cartilage of knee joint . . . . . 86.5	75	3	54	16	*2					
Arthroplasty of hip . . . . . 87.0	58	*1	7	22	29					
Repair and plastic operations on joints of foot and toes . . . . . 87.2	46	*2	18	17	9					
Repair and plastic operations on other joints . . . . . 87.3	74	*1	39	16	18					
Spinal fusion . . . . . 87.4	24	*2	14	7	*1					
Arthrodesis and stabilization of joints (except spine) . . . . . 87.5-87.6	19	*1	10	6	*2					
Closed reduction of dislocation of joint . . . . . 87.7	22	4	11	*2	6					
Operations on muscles, tendons, fascia, and bursa . . . . . 88-89	161	20	85	42	15					
Other orthopedic surgery . . . . . Residual	248	18	103	72	55					

See footnotes at end of table.

Table 7. Number of single-listed operations for inpatients discharged from short-stay hospitals, by age and surgical category: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<i>Surgical category and ICDA code</i>	<i>All ages</i>	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</i>
Number of single-listed operations in thousands					
Plastic surgery . . . . .92-94	495	71	222	118	84
Incision of skin and subcutaneous tissue . . . . .92.0	90	16	46	18	10
Excision of lesion of skin and subcutaneous tissue . . . . .92.1-92.2	207	25	75	60	47
Suture of skin or mucous membrane . . . . .92.5	92	11	55	14	11
Plastic operations on lip and mouth . . . . .93.1	4	3	*1	*2	*2
Skin graft except lip and mouth . . . . .93.2-93.6	57	7	27	13	10
Other plastic surgery . . . . .Residual	45	10	18	13	5
Oral and maxillofacial surgery . . . . .95-98	88	12	47	21	9
Excision of salivary glands, local or total . . . . .95.1	21	*1	7	10	3
Reduction of fracture and fracture-dislocation of jawbone . . . . .98	32	3	25	3	*1
Other oral and maxillofacial surgery . . . . .Residual	34	8	14	8	5
Dental surgery . . . . .99	191	16	144	21	11
Extraction of tooth, forceps extraction . . . . .99.3	79	4	52	14	9
Surgical removal of tooth . . . . .99.4	94	4	84	4	*1
Alveoloplasty . . . . .99.7	*1	*-	*2	*2	*2
Other dental surgery . . . . .Residual	17	8	6	3	*2
Biopsy . . . . .A1-A2	562	21	150	201	190

<sup>1</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

<sup>2</sup>Excludes some obstetrical procedures (ICDA codes 75.0-75.6 and 75.9) for inducing or assisting delivery.

NOTE: See section entitled "Medical coding and edit," appendix I, for coding modifications for the Hospital Discharge Survey.

Table 8. Average length of stay for inpatients discharged from short-stay hospitals, by age and surgical category of single-listed operations: United States, 1978

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	All ages	Under 15 years	15-44 years	45-64 years	65 years and over	Average length of stay in days				
All operations	6.8	3.8	4.8	8.1	11.7					
Neurosurgery . . . . .01-05	12.4	11.3	11.3	11.6	16.5					
Incision and excision of skull and intracranial structures . . . . .01	26.5	19.1	34.3	20.6	28.4					
Laminectomy . . . . .03.0	17.0	13.0	14.2	16.1	25.0					
Operations on peripheral nerves . . . . .04	4.2	4.4	3.9	4.2	4.9					
Other neurosurgery . . . . .Residual	12.6	10.1	9.9	14.7	16.9					
Ophthalmology . . . . .06-14	4.2	2.2	3.5	4.1	4.9					
Resection and recession of eye muscle . . . . .10.5-10.6	2.0	1.9	2.1	2.5	5.6					
Reattachment of retina . . . . .13.4-13.5	6.2	6.4	6.2	6.3	6.2					
Extraction of lens . . . . .14.4-14.6	4.7	3.3	3.8	4.3	4.8					
Other eye surgery . . . . .Residual	3.7	2.3	3.6	3.3	4.7					
Otorhinolaryngology . . . . .16-21	3.2	2.1	2.9	5.1	11.1					
Myringotomy . . . . .17.0	1.8	1.5	2.5	4.5	1.2					
Stapedectomy with ossicular reconstruction . . . . .17.4	2.5	1.4	2.6	2.5	2.7					
Tympanoplasty . . . . .17.6-17.7	2.4	1.8	2.2	2.9	2.7					
Excision of lesion of nose . . . . .19.0	3.4	3.1	2.5	2.6	4.8					
Section of nasal septum . . . . .19.1	2.9	2.8	2.9	2.8	4.0					
Rhinoplasty and repair of nose . . . . .19.3	2.9	3.1	2.7	3.1	4.6					
Tracheotomy or tracheostomy, emergency . . . . .20.5	30.6	23.3	26.0	25.4	37.6					
Tonsillectomy without adenoidectomy . . . . .21.1	2.4	2.0	2.5	2.5	2.4					
Tonsillectomy with adenoidectomy . . . . .21.2	2.0	1.9	2.1	2.0	2.0					
Adenoidectomy without tonsillectomy . . . . .21.3	2.0	1.8	3.2	-	-					
Other operations on ears, nose, and throat . . . . .Residual	4.1	3.0	3.3	5.3	6.3					
Operations on thyroid, parathyroid, thymus, and adrenals . . . . .22-23	6.2	4.4	5.0	7.1	8.9					
Thyroidectomy . . . . .22.1-22.2	5.7	4.1	4.9	5.9	7.9					
Other operations on thyroid, parathyroid, thymus, and adrenals . . . . .Residual	8.3	4.4	5.8	13.5	16.9					
Vascular and cardiac surgery . . . . .24-30	9.5	7.7	7.0	9.0	11.8					
Excision and ligation of varicose veins . . . . .24.4	5.7	-	5.0	6.4	6.4					
Other operations on peripheral blood vessels . . . . .24.0-24.3, 24.5-24.9	14.1	17.0	9.1	15.4	14.9					
Incision and excision of lymphatic structure . . . . .25.0-25.2	6.2	4.3	4.0	7.5	8.7					
Operations on valves of heart . . . . .29.2-29.4	15.8	9.8	12.7	16.2	20.4					
Cardiac revascularization . . . . .29.8	13.4	12.4	13.5	13.0	15.5					
Cardiac catheterization . . . . .30.2	5.4	3.1	5.0	5.2	7.7					
Insertion or replacement of electric heart device . . . . .30.4-30.5	12.0	3.6	10.4	12.3	12.0					
Other vascular and cardiac surgery . . . . .Residual	12.9	16.6	13.3	11.8	13.1					
Thoracic surgery . . . . .32-35	11.8	9.5	9.1	13.1	13.2					
Thoracotomy and pleurotomy . . . . .32.0	10.9	11.6	8.6	13.1	13.6					
Lung lobectomy and pneumonectomy . . . . .34.2-34.4	19.4	12.0	25.1	18.3	19.4					
Other thoracic surgery . . . . .Residual	11.1	8.5	7.9	11.8	12.3					
Abdominal surgery . . . . .38-48	8.1	4.3	6.6	8.8	12.4					
Repair of inguinal hernia . . . . .38.2-38.3	5.0	2.2	4.6	5.4	6.9					
Other hernia repair . . . . .38.0-38.1, 38.4-38.9	6.4	2.8	5.0	7.8	8.7					
Exploratory laparotomy or celiotomy . . . . .39.1	11.0	8.4	8.4	14.0	15.7					
Appendectomy <sup>1</sup> . . . . .41.1	5.5	5.4	5.0	7.7	10.2					
Cholecystectomy . . . . .43.5	9.9	12.1	8.6	9.8	12.6					
Splenectomy . . . . .45.1	13.7	6.6	10.6	16.0	27.2					
Gastric resection, partial or complete . . . . .46.2-46.3	16.3	11.0	17.8	15.3	17.5					
Vagotomy . . . . .46.8	13.4	-	16.9	-	6.5					
Resection of small intestine or colon . . . . .47.4-47.6	19.3	10.5	14.4	18.2	21.0					
Ileostomy, colostomy, and other enterostomy . . . . .47.7-47.9	18.8	9.0	8.6	22.8	20.2					
Other abdominal surgery . . . . .Residual	12.9	7.1	10.5	11.9	17.8					
Proctological surgery . . . . .50-52	6.2	3.8	5.1	7.0	9.5					
Local excision and destruction of lesion of rectum and anus . . . . .50.2, 51.2	5.0	2.5	3.9	6.9	5.6					
Hemorrhoidectomy . . . . .51.3	6.5	2.0	5.9	6.6	9.1					
Excision of pilonidal sinus or cyst . . . . .52.1	5.2	5.0	5.3	3.8	-					
Other proctological surgery . . . . .Residual	7.4	4.9	4.3	9.1	12.8					

See footnotes at end of table.

Table 8. Average length of stay for inpatients discharged from short-stay hospitals, by age and surgical category of single-listed operations: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

Surgical category and ICDA code	All ages	Under 15 years	15-44 years	45-64 years	65 years and over	Average length of stay in days					
Urological surgery . . . . .	54-61	7.7	3.9	5.5	7.6	10.7					
Nephrotomy and pyelotomy . . . . .	54.0-54.1	13.2	29.2	12.1	12.3	14.6					
Nephrectomy . . . . .	54.4-54.5	13.7	6.6	9.5	13.0	22.4					
Passage of catheter to kidney . . . . .	.55.7	6.0	2.8	5.1	6.3	8.4					
Local excision and destruction of lesion of bladder . . . . .	56.1-56.2	6.6	2.8	2.9	4.8	7.6					
Removal of calculus and drainage of bladder without incision . . . . .	.56.8	9.4	20.9	5.3	7.8	12.3					
Meatotomy (urethral) . . . . .	.57.1	2.8	2.0	4.6	5.0	8.0					
Excision or destruction of lesion of urethra . . . . .	.57.2	5.5	1.7	4.5	5.8	7.7					
Dilation of urethra . . . . .	.57.5	5.8	2.1	4.4	6.6	9.6					
Prostatectomy . . . . .	58.1-58.3	11.4	11.0	6.3	9.8	11.9					
Excision of hydrocele and hematocele . . . . .	.59.1	4.1	2.8	3.1	4.6	5.2					
Orchiopexy . . . . .	.59.7	3.3	3.6	2.6	2.0	-					
Vasectomy . . . . .	.60.1	2.5	2.0	1.8	3.7	12.0					
Circumcision . . . . .	.61.2	3.1	3.0	2.6	3.6	4.7					
Other urological surgery . . . . .	Residual	8.4	7.0	7.6	8.5	10.8					
Breast surgery . . . . .	.65	5.2	2.7	3.5	5.6	9.2					
Partial mastectomy . . . . .	.65.2	3.8	1.8	3.4	3.6	6.5					
Complete and radical mastectomy . . . . .	65.3-65.6	9.0	3.9	5.3	8.7	11.0					
Other breast surgery . . . . .	Residual	3.6	3.0	3.2	4.7	5.5					
Gynecological surgery . . . . .	67-72	3.8	3.0	3.7	3.7	6.7					
Local excision or destruction of lesion of ovary . . . . .	.67.1	6.3	-	6.2	8.0	12.0					
Oophorectomy; salpingo-oophorectomy . . . . .	67.2-67.5	6.6	11.9	6.2	8.6	9.3					
Salpingectomy, bilateral . . . . .	.68.2	3.9	4.0	3.9	1.8	-					
Ligation and division of fallopian tubes (bilateral) . . . . .	.68.5	3.0	3.5	3.0	1.9	-					
Hysterectomy . . . . .	69.1-69.5	7.1	6.0	7.0	7.7	11.8					
Local excision and destruction of other lesions of uterus, cervix, and supporting tissues . . . . .	.70.2	3.5	4.6	4.0	1.7	2.3					
Dilation and curettage of uterus, diagnostic . . . . .	.70.3	2.6	2.3	2.5	2.5	5.9					
Trachelectomy . . . . .	.70.4	3.5	-	3.1	4.1	6.1					
Colporrhaphy . . . . .	.71.3	12.5	1.5	16.4	4.4	6.8					
Plastic repair of cystocele and/or rectocele . . . . .	.71.4	8.1	-	8.1	8.0	8.3					
Other gynecological surgery . . . . .	Residual	4.0	2.5	3.9	4.5	6.4					
Obstetrical procedures <sup>2</sup> . . . . .	74-78	3.9	3.2	3.9	3.1	...					
Antepartum procedures to terminate pregnancy . . . . .	74.6-74.9	1.6	1.4	1.6	1.3	...					
Cesarean section . . . . .	.77	6.5	6.9	6.5	5.5	...					
Dilation and curettage after delivery or abortion . . . . .	.78.1	1.8	3.8	1.8	2.8	...					
Repair of laceration . . . . .	78.2-78.3	3.2	3.5	3.2	4.0	...					
Other obstetrical procedures . . . . .	Residual	3.4	2.1	3.4	-	...					
Orthopedic surgery . . . . .	80-90	9.7	5.4	6.5	10.2	16.7					
Incision and division of bones . . . . .	80.0-80.3	7.5	8.2	5.9	8.9	14.8					
Excision of bone, partial . . . . .	.80.4	5.4	4.0	4.5	6.3	9.9					
Removal of fixation device (internal) . . . . .	.80.8	5.0	3.3	3.8	5.6	10.1					
Closed reduction of fracture without fixation . . . . .	.82.0	6.4	4.8	5.4	6.8	10.1					
Open reduction of fracture without fixation . . . . .	.82.1	8.0	6.7	5.9	8.6	15.0					
Reduction of fracture with fixation . . . . .	.82.2	14.6	6.5	7.7	14.7	19.3					
Excision of intervertebral cartilage (prolapsed disk) . . . . .	.86.4	13.0	21.9	12.1	13.3	18.8					
Excision of semilunar cartilage of knee joint . . . . .	.86.5	5.1	5.2	4.7	6.2	5.2					
Arthroplasty of hip . . . . .	.87.0	18.5	7.8	17.8	17.3	19.8					
Repair and plastic operations on joints of foot and toes . . . . .	.87.2	5.1	3.9	4.1	5.8	5.8					
Repair and plastic operations on other joints . . . . .	.87.3	9.9	6.3	5.3	12.1	18.0					
Spinal fusion . . . . .	.87.4	16.8	20.2	17.8	13.8	17.9					
Arthrodesis and stabilization of joints (except spine) . . . . .	87.5-87.6	6.9	5.1	6.8	6.3	10.8					
Closed reduction of dislocation of joint . . . . .	.87.7	5.4	5.2	3.4	2.7	10.5					
Operations on muscles, tendons, fascia, and bursa . . . . .	88-89	3.8	3.9	3.4	3.7	5.9					
Other orthopedic surgery . . . . .	Residual	11.3	7.2	6.5	12.1	20.5					

See footnotes at end of table.

Table 8. Average length of stay for inpatients discharged from short-stay hospitals, by age and surgical category of single-listed operations: United States, 1978—Con.

[Excludes newborn infants and Federal hospitals. Groupings of operations by surgical category and code number inclusions are based on the Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)]

<i>Surgical category and ICDA code</i>	<i>All ages</i>	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</i>
Average length of stay in days					
Plastic surgery . . . . .92-94	7.1	4.9	5.4	8.0	12.1
Incision of skin and subcutaneous tissue . . . . .92.0	8.6	6.9	7.0	10.3	16.3
Excision of lesion of skin and subcutaneous tissue . . . . .92.1-92.2	5.8	2.9	5.0	5.8	8.7
Suture of skin or mucous membrane . . . . .92.5	5.0	4.3	3.6	7.1	10.5
Plastic operations on lip and mouth . . . . .93.1	4.2	5.2	1.8	3.0	3.0
Skin graft except lip and mouth . . . . .93.2-93.6	14.6	11.2	9.9	17.8	25.0
Other plastic surgery . . . . .Residual	4.6	2.9	2.2	5.9	12.9
Oral and maxillofacial surgery . . . . .95-98	4.4	3.1	4.2	4.2	7.0
Excision of salivary glands, local or total . . . . .95.1	4.4	2.9	4.0	4.2	6.7
Reduction of fracture and fracture-dislocation of jawbone . . . . .98	4.8	3.3	4.5	5.5	12.0
Other oral and maxillofacial surgery . . . . .Residual	3.9	3.0	3.9	3.8	5.8
Dental surgery . . . . .99	2.8	1.5	2.2	4.3	9.3
Extraction of tooth, forceps extraction . . . . .99.3	3.8	1.7	2.5	5.3	9.9
Surgical removal of tooth . . . . .99.4	2.0	1.9	1.9	2.1	7.7
Alveoloplasty . . . . .99.7	6.4	-	8.3	3.5	6.0
Other dental surgery . . . . .Residual	2.1	1.3	2.5	3.0	3.3
Biopsy . . . . .A1-A2	9.1	7.2	6.6	9.1	11.4

<sup>1</sup>Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

<sup>2</sup>Excludes some obstetrical procedures (ICDA codes 75.0-75.6 and 75.9) for inducing or assisting delivery.

NOTE: See section entitled "Medical coding and edit," appendix I, for coding modifications for the Hospital Discharge Survey.



# Appendixes

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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 beds or more 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 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 published.<sup>13</sup>

The universe for the survey consisted of 6,965 short-stay hospitals contained in the MFI in 1963, 442 hospitals that were added to the MFI in 1969, 223 hospitals that were added in 1972, and 273 hospitals that were added in 1976. The distribution of the hospitals in the MFI and in the NHDS sample is given by bed size and geographic region in table I.

The sample for 1978 consisted of 535 hospitals. Of these, 74 refused to participate, and 48 were out of scope either because the hospital had gone out of business or because it failed to meet the definition of a short-stay hospital. Thus 413 hospitals participated in the survey during 1978 and provided approximately 219,000 abstracts of medical records.

*Sample design.*—All hospitals with 1,000 beds or more in the universe of short-stay hospitals were selected with certainty in the sample. All hospitals with

fewer than 1,000 beds were stratified; the primary strata were the 24 size-by-region classes shown in table I. Within each primary stratum, hospitals were allocated through a controlled selection technique so that hospitals in the sample would be distributed properly regarding type of ownership and geographic division. Sample hospitals were drawn with probabilities ranging from certainty for the largest hospitals to 1 in 40 for the smallest hospitals.

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

In almost 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—a number assigned when the patient was admitted to the hospital. If the hospital's daily discharge listing 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.

## 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 medical records de-

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NOTE: A list of references follows the text.

Table 1. Distribution of short-stay hospitals in the universe (Master Facility Inventory) and in the National Hospital Discharge Survey sample and the number of hospitals that participated in the survey, by geographic region and bed size of hospital: United States, 1978

<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 . . . . .	7,903	1,177	2,124	3,130	1,472
Total sample . . . . .	535	132	152	170	81
Number participating . . . . .	413	110	115	125	63
6-49 beds					
Universe . . . . .	3,486	221	889	1,658	718
Total sample . . . . .	69	8	18	30	13
Number participating . . . . .	42	6	13	16	7
50-99 beds					
Universe . . . . .	1,871	299	482	721	369
Total sample . . . . .	79	14	20	31	14
Number participating . . . . .	58	10	14	23	11
100-199 beds					
Universe . . . . .	1,371	298	404	448	221
Total sample . . . . .	118	26	33	40	19
Number participating . . . . .	91	22	26	27	16
200-299 beds					
Universe . . . . .	614	193	164	160	97
Total sample . . . . .	96	31	27	23	15
Number participating . . . . .	76	26	21	17	12
300-499 beds					
Universe . . . . .	408	112	134	109	53
Total sample . . . . .	97	25	32	28	12
Number participating . . . . .	82	22	26	25	9
500-999 beds					
Universe . . . . .	135	45	48	29	13
Total sample . . . . .	58	19	19	13	7
Number participating . . . . .	48	16	12	13	7
1,000 beds or more					
Universe . . . . .	18	9	3	5	1
Total sample . . . . .	18	9	3	5	1
Number participating . . . . .	16	8	3	4	1

partment 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. The form provides for recording demographic data, admission and discharge dates, zip code of the patient's residence, expected sources of payment, disposition of patient at discharge, and information on discharge diagnoses and surgical operations or procedures (figure I). All discharge diagnoses and operations 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 operations were entered on the face sheet of the medical record.

Shipments of completed abstract forms for each sample hospital were transmitted, along with sample selection control sheets, to a Census Regional Office. 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 NCHS staff. A maximum of three codes for surgical operations and procedures was assigned. After 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 basic system for coding surgical operations and procedures is the ICDA section "Surgical Operations, Diagnostic and Other Therapeutic Procedures." This part of the ICDA was modified by NHDS in certain areas to accommodate incomplete terminology on the source documents, that is, lack of specificity of the body site involved, of surgical method or ap-

**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  
(12-13-75)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE  
HEALTH RESOURCES ADMINISTRATION  
NATIONAL CENTER FOR HEALTH STATISTICS

**MEDICAL ABSTRACT - HOSPITAL DISCHARGE SURVEY**

**A. PATIENT IDENTIFICATION**

1. Hospital number . . . . .        
 2. HDS number . . . . .        
 3. Medical Record number \_\_\_\_\_

4. Date of admission . . . . .   -   -    
 5. Date of discharge . . . . .   -   -    
 6. Residence ZIP Code

**B. PATIENT CHARACTERISTICS**

7. Date of birth . . . . .   -   -    
 Month Day Year

8. Age (Complete only if Date of Birth not given) . . . . .   Units  
 1  Years  
 2  Months  
 3  Days

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

10. Race or Color (Mark one) 1  White 2  Black 3  Other 4  Not stated

11. Marital Status (Mark one) 1  Married 2  Single 3  Widowed 4  Divorced 5  Separated 6  Not stated

**12. Expected Source(s) of payment**

<p>Principal (Mark one)</p> <p>1 <input type="checkbox"/></p> <p>2 <input type="checkbox"/></p> <p>3 <input type="checkbox"/></p> <p>4 <input type="checkbox"/></p> <p>5 <input type="checkbox"/></p> <p>6 <input type="checkbox"/></p> <p>7 <input type="checkbox"/></p> <p>8 <input type="checkbox"/></p> <p>9 <input type="checkbox"/></p> <p>10 <input type="checkbox"/></p>	<p>Other (Mark all that apply)</p> <p><input type="checkbox"/> Self-pay</p> <p><input type="checkbox"/> Workmen's Compensation</p> <p><input type="checkbox"/> Medicare</p> <p><input type="checkbox"/> Medicaid</p> <p><input type="checkbox"/> Other government payments</p> <p><input type="checkbox"/> Blue Cross</p> <p><input type="checkbox"/> Other private or commercial insurance</p> <p><input type="checkbox"/> No charge</p> <p><input type="checkbox"/> Other (Specify) _____</p> <p><input type="checkbox"/> Not stated</p>
--	--

**13. Disposition of Patient (Mark one)**

1  Routine discharge/discharged home  
 2  Left against medical advice  
 3  Discharged/transferred to another facility or organization  
 4  Discharged/referred to organized home care service  
 5  Died  
 6  Not stated

**C. DIAGNOSES**

Principal: \_\_\_\_\_  
 Other/additional: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

See reverse side

**D. SURGICAL AND DIAGNOSTIC PROCEDURES**

Principal: \_\_\_\_\_ Date:   -   -    
 Other/additional: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NONE

See reverse side

Completed by \_\_\_\_\_

Date \_\_\_\_\_

Figure 1. Medical Abstract for the National Hospital Discharge Survey

proach, or of other details prescribed by the ICDA. Some procedures in this section of the ICDA are not coded by NHDS. The NHDS modifications of the ICDA system for coding surgical operations and procedures are shown in table II.

### Presentation of estimates

*Groupings of operations.*—The surgery groupings that are used in this report are specialties or classes numbered 1-17 of the ICDA section “Surgical Operations, Diagnostic and Other Therapeutic Procedures.” Specific categories of operations or procedures, the most detailed groupings of surgical operations shown, are subsets of the major groups or classes and are based on the 3-digit codes provided by the ICDA. The titles and order of the categories in the tabular list developed for NHDS follow the format of the ICDA tabular list as closely as possible.

In developing the tables of operations, an effort was made to maximize specificity of the operations consistent with clarity of characterization and with the frequency of occurrence.

*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 less than one-fourth 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.

If the race of the patient was not identified on the hospital records, it was recorded as “not stated” for NHDS. Because this item was not stated for 13 percent of all discharges, rates by race were not computed. Caution should be used in drawing conclusions from the data by race that are shown. In the detailed tables presenting frequencies, rates, and average lengths of stay, the totals include the cases not stated.

If the dates of admission or discharge were not given and they 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 stay characteristic of the stays of other patients of the same age.

*Rounded numbers.*—Estimates were rounded to the nearest thousand for tabular presentation. For this reason, 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 unpublished estimates for the U.S. civilian noninstitutionalized population on July 1 of the data year provided by the U.S. Bureau of the Census. The estimates by age and sex are presented in table III and are consistent with the

population estimates published in *Current Population Reports*, Series P-25. However, they are not official population estimates of the Bureau of the Census.

### 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. 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 non-response, and ratio adjustment to fixed totals. These components of estimation are described in appendix I of two earlier publications.<sup>14,15</sup>

*Measurement errors.*—As in any survey, results are subject to nonsampling or measurement errors, which include errors due to hospital nonresponse, missing abstracts, incomplete or inaccurate information recorded on abstract forms, and processing errors. Some errors were discussed under a previous section, “Patient characteristics not stated.” In addition, the Institute of Medicine conducted a study<sup>16</sup> on the reliability of NHDS data in 1977. Because data collection and coding procedures are similar, the findings are applicable to the 1978 NHDS.

*Sampling errors.*—The standard error is primarily a measure of the variability attributed to using 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 and that could be prepared at a moderate cost, several approximations are required. As a result, the figures shown 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 were prepared to measure the variances applicable to all-listed and single-listed operations (figure II) and average length of stay for patients with a single-listed operation (table IV).

---

NOTE: A list of references follows the text.

Table II. Modifications by the National Hospital Discharge Survey of the ICDA-8 section entitled "Surgical Operations, Diagnostic and Other Therapeutic Procedures"

<i>ICDA code</i>	<i>NHDS modification</i>
01.1. . . . .	Omitted; coded to 01.7
01.7. . . . .	Omission Requires note
14. . . . .	Addition 14.6 Extraction of cataract N.O.S. Includes: extraction of lens N.O.S.
19.3. . . . .	Omission Excludes note
20.0. . . . .	Omission Laryngotracheotomy and tracheolaryngotomy; coded to 20.5
20.5. . . . .	Addition Includes: tracheolaryngotomy
21.6. . . . .	Addition Includes: excision of branchial cleft cyst
22.6. . . . .	Omitted; coded to 21.6
25.2. . . . .	Addition Includes: radical neck dissection (excision)
30.2. . . . .	Modification Cardiac catheterization, right or left heart
30.3. . . . .	Omitted; coded to 30.2
30.6. . . . .	Modification and addition 30.6 Open heart surgery (with or without cardiopulmonary bypass) N.O.S. Excludes: that involving specified heart surgery (29.2-29.6)
30.7. . . . .	Omitted; coded to 30.6
40.3. . . . .	Modification and addition Includes: abdominal adhesions, adhesions N.O.S., pelvic— male only Excludes: adhesions, pelvic—female (71.8)
41.1. . . . .	Addition Excludes: incidental appendectomy
50. . . . .	Omission "those by proctoscopy and sigmoidoscopy" in Includes note; coded to A4.5
51. . . . .	Omission "those by anoscopy or proctoscopy" in Includes note; coded to A4.5
54. . . . .	Omission "those by pyeloscopy" in Includes note; coded to A4.6
54.6. . . . .	Omission Excludes note
54.8. . . . .	Omission "use this code for solo procedures only" in Includes note
55. . . . .	Omission "those by cystoscopy or ureteroscopy" in Includes note; coded to A4.6

NOTE: N.O.S. = not otherwise specified.

Table II. Modifications by the National Hospital Discharge Survey of the ICDA-8 section entitled "Surgical Operations, Diagnostic and Other Therapeutic Procedures"—Con.

<i>ICDA code</i>	<i>NHDS modification</i>	
57. . . . .	Omission	"those by cystoscopy (transurethral)" in Includes note; coded to A4.6
56.8. . . . .	Addition	Requires: additional code for cystoscopy
57. . . . .	Omission	"those by cystoscopy or urethroscopy" in Includes note; coded to A4.6
61.2. . . . .	Addition	Excludes: routine circumcision for newborn infant born in hospital this admission
65. . . . .	Modification 65.7	Excludes: augmentation mammoplasty (65.8), mammoplasty reduction (65.9)
	Addition 65.8	Augmentation mammoplasty Includes: that for: acquired absence (total) (subtotal) hypomastia that by: free dermal-fat-fascia graft implantation of prosthetic material local pedicle graft of dermal-fat percutaneous injection
	Addition 65.9	Includes: reduction mammoplasty, amputative mammoplasty
68. . . . .	Addition 68.8	Bilateral endoscopic destruction and occlusion of fallopian tubes
69.1. . . . .	Addition	Includes: hysterectomy N.O.S.
69.4. . . . .	Addition	Includes: vaginal hysterectomy N.O.S.
71. . . . .	Omission	"those by vaginoscopy, colposcopy and culdoscopy" in Includes note; coded to A4.7, A5.4
71.6. . . . .	Addition	Includes: pelvic examination under anesthesia
74.7. . . . .	Addition	Includes: missed abortion
75.0-75.6. . . . .	Omitted	
75.7. . . . .	Omission	Requires note
75.8. . . . .	Omission	Requires note
75.9. . . . .	Omitted	
77.0. . . . .	Modification	Cesarean section, all types
77.1-77.2, 77.8-77.9 . . . . .	Omitted; coded to 77.0	

NOTE: N.O.S. = not otherwise specified.

Table II. Modifications by the National Hospital Discharge Survey of the ICDA-8 section entitled "Surgical Operations, Diagnostic and Other Therapeutic Procedures"—Con.

<i>ICDA code</i>	<i>NHDS modification</i>	
82, 82.0-82.2 . . . . .	Redefinition	
	82	Reduction of fracture and fracture dislocation
	82.0	Reduction (closed or N.O.S.) of fracture without mention of internal fixation as in 82.2
	82.1	Open reduction of fracture without mention of fixation as in 82.2
	82.2	Reduction (open or closed) of fracture with mention of fixation Includes: reduction or treatment of fracture of sites codable to 82 with mention of the following whether or not traction or cast or any other external support was also mentioned: band, nail, pin, press, screw, caliper, plate, rod, wire, brace, tongs, bolt
82.3-82.9 . . . . .	Omitted; coded to 82.0-82.2	
83-84 . . . . .	Omitted; coded to 82.0-82.2	
86.1 . . . . .	Addition	Includes: excision of carpal tunnel
87.0 . . . . .	Modification	Arthroplasty of hip with or without mechanical device
87.1 . . . . .	Omitted; coded to 87.0	
94.2 . . . . .	Omitted; coded to 19.3	
94.4 . . . . .	Omitted; coded to 65.8	
94.5 . . . . .	Omission	"amputative mammoplasty," "reduction mammoplasty," and "breasts (hypertrophic pendulous) (atrophic) (gynecomastia)" in Includes note; coded to 65.9
96.1 . . . . .	Addition	Includes: frenumectomy
96.2 . . . . .	Omission	"frenumectomy" in Includes note; coded to 96.1
98.0-98.1 . . . . .	Modification	
	98.0	Closed reduction, malar, zygoma, zygomatic arch, maxilla, mandible, alveolus Includes: wiring
	98.1	Open reduction, malar, zygoma, zygomatic arch, maxilla, mandible, alveolus Includes: only that which involves the dissection of tissues
98.2-98.6 . . . . .	Omitted; coded to 98.0-98.1	
A1 . . . . .	Omission	Excludes note
A4-A5 . . . . .	Not used	Diagnostic endoscopy
A8-A9 . . . . .	Not used	Diagnostic radiography
R1 . . . . .	Not used	Radiotherapy and related therapies
R4 . . . . .	Not used	Physical medicine and rehabilitation
R9 . . . . .	Not used	Other surgical procedures

NOTE: N.O.S. = not otherwise specified.



Table III. Civilian noninstitutionalized population by sex and age:  
United States, July 1, 1978

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

Age	Both sexes	Male	Female
Population in thousands			
All ages . . . . .	213,873	103,209	110,665
0-14 years . . . . .	50,701	25,867	24,834
15-44 years . . . . .	96,943	47,188	49,755
45-64 years . . . . .	43,424	20,749	22,675
65 years and over . . .	22,805	9,404	13,400

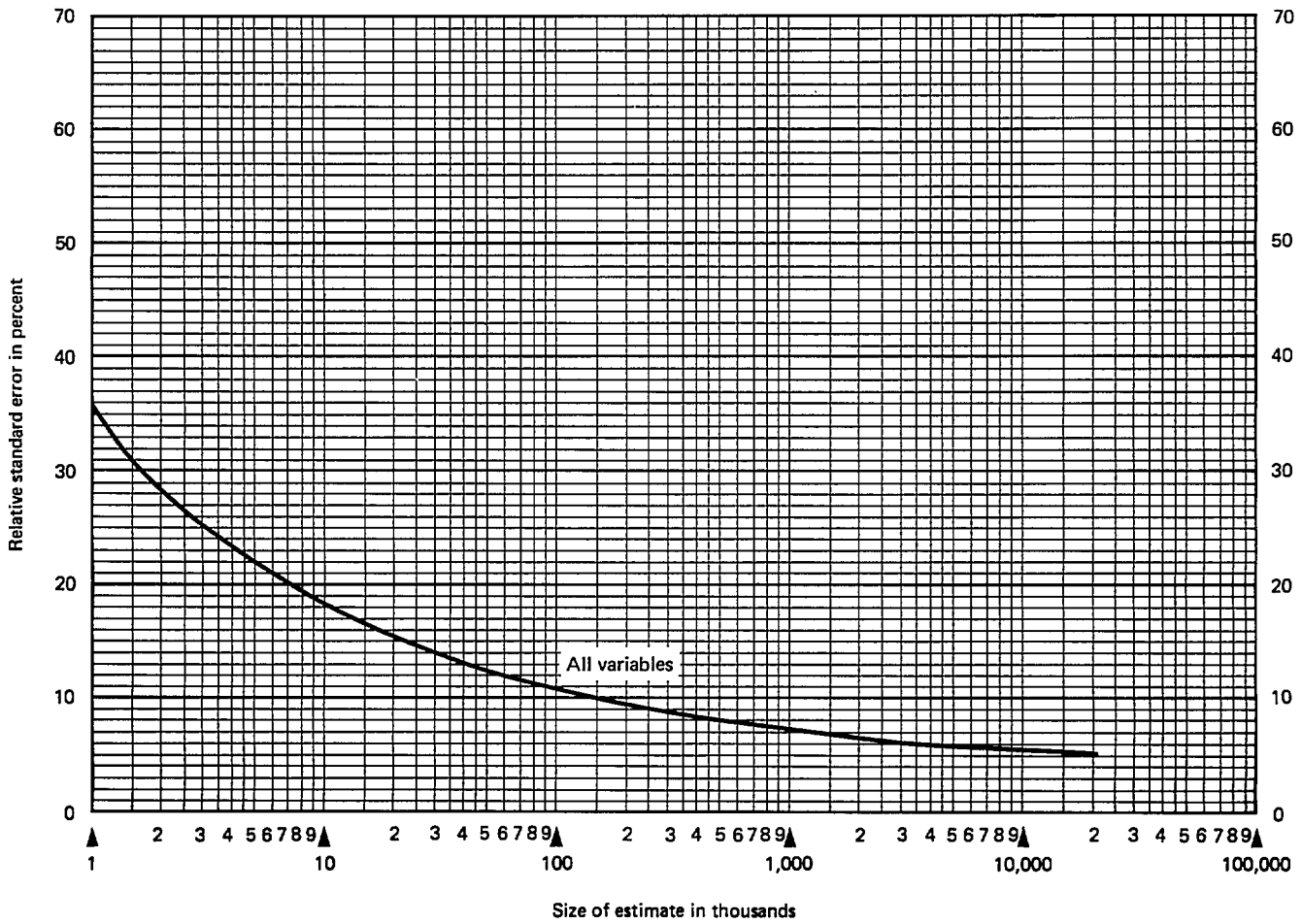


Illustration for use of figure II: As shown in table 2, an estimated 217,000 appendectomies were performed during 1978 for patients 15 years and over discharged from short-stay hospitals. The relative standard error of this estimate as read from the curve is approximately 9.3 percent. The standard error is thus approximately 20,180 (9.3 percent of 217,000).

Figure II. Approximate relative standard errors of estimated numbers of all-listed and single-listed operations for patients discharged from short-stay hospitals: United States, 1978

Table IV. Approximate standard errors in days of estimates presented in this report of average lengths of stay

Number of discharges (base of average in thousands)	Average length of stay in days									
	2	4	6	8	10	14	18	22	28	36
	Standard error in days									
10	0.27	0.47	0.68	0.89	1.10	1.53	1.98	2.45	3.16	4.14
20	0.23	0.40	0.57	0.75	0.93	1.30	1.68	2.07	2.68	3.51
30	0.21	0.37	0.52	0.68	0.84	1.18	1.53	1.89	2.45	3.34
40	0.19	0.34	0.49	0.64	0.79	1.11	1.44	1.78	2.31	3.01
50	0.18	0.32	0.46	0.61	0.75	1.06	1.38	1.70	2.19	2.89
60	0.18	0.31	0.45	0.58	0.73	1.03	1.38	1.65	2.14	2.81
80	0.17	0.29	0.41	0.54	0.67	0.94	1.21			
100	0.15	0.27	0.40	0.52	0.65	0.92	1.21			
500	0.11	0.20	0.30	0.40	0.50	0.73	0.95			
1,000	0.09	0.18	0.27	0.37	0.47	0.67	0.88			
2,000	0.08	0.16	0.25	0.34	0.44	0.63				
4,000	0.07	0.15	0.24	0.32	0.41					
6,000	0.07	0.15	0.23	0.32	0.40					
8,000	0.07	0.15	0.23	0.31	0.40					
10,000	0.07	0.14	0.22	0.31	0.39					

Illustration for use of table IV: Table 8 shows that the average length of stay was 9.1 days for the 38,000 patients 15-44 years of age with a single-listed thoracic surgery (table 7). Linear interpolation between the values shown in table IV will yield an approximate standard error of 0.72 days for an estimated average length of stay of 9.1 days with a base of 38,000 discharges.

## Appendix II. Definitions of certain terms used in this report

### Hospitals and hospital characteristics

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

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

### Terms relating to hospitalization

*Patient.*—A person who is formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment. In this report the number of patients refers to the number of discharges during the year, including any multiple discharges of the same individual from one 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. The terms “patient” and “inpatient” are used synonymously.

*Discharge.*—The formal release of a patient by a hospital; that is, the termination of a period of hospitalization by death or by disposition to 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 noninstitutionalized population on July 1 of that year.

*Days of care.*—The number of patient days accumulated at time of discharge by patients discharged

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

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

### Terms relating to surgery

*Discharges with surgery.*—The estimated number of surgically treated patients discharged from non-Federal short-stay hospitals during the year.

*Operation.*—One or more surgical operations, procedures, or special treatments assigned by the physician to the medical record of patients discharged from the inpatients service of short-stay hospitals. In the NHDS all terms listed on the face sheet (summary sheet) of the medical record under the captions “operation,” “operative procedures,” “operations and/or special treatments,” and the like are transcribed in the order listed. A maximum of three 3-digit codes is assigned per sample discharge according to ICDA and NHDS directives. (See “Medical coding and edit” in the “Data collection and processing” section of appendix I for further details.)

*All-listed operations.*—All coded operations listed in positions 1-3 on the face sheet of the medical record exclusive of certain obstetrical procedures, diagnostic endoscopy and radiography, radiotherapy, and certain other treatments not generally considered as surgery.

*Single-listed operations.*—When only one operation is listed on the face sheet of the medical record exclusive of certain obstetrical procedures, diagnostic endoscopy and radiography, radiotherapy, and cer-

tain other treatments not generally considered surgery.

*Surgery rate.*—The ratio of the number of all-listed operations during a year to the number of persons in the civilian noninstitutionalized population on July 1 of that year.

#### **Demographic terms**

*Age.*—Patient's age at birthday before admission to the hospital inpatient service.

*Race.*—Patients are classified into two groups, "white" and "all other." The all other classification comprises all categories other than white. Mexican and Puerto Rican are included in the white category unless specifically identified as all other.

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