

Surgical Operations in Short-Stay Hospitals United States-1971

Statistics are presented on the surgical operations and procedures performed in non-Federal short-stay hospitals based on data abstracted by the Hospital Discharge Survey from a national sample of the hospital records of discharged inpatients. Estimates of the number of operations and the rates are shown for the surgical classes and categories of operations, by sex, age, and color of inpatients with surgery and by geographic region and bed size of the hospitals.

PROPERTY OF THE
PUBLICATIONS BRANCH
EDITORIAL LIBRARY

DHEW Publication No. (HRA) 75-1769

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service

Health Resources Administration
National Center for Health Statistics
Rockville, Md. November 1974



Library of Congress Cataloging in Publication Data

Blanken, Gary E.

Surgical operations in short-stay hospitals, United States, 1971.

(Data from the National Health Survey, series 13, no. 18) (DHEW publication no. (HRA) 75-1769)

Supt. of Docs. no.: HE 20.6209: 13/18

Includes bibliographical references.

1. Operations, Surgical—Statistics. 2. Hospital care—United States—Statistics. I. Title. II. Series: United States. National Center for Health Statistics. Vital and health statistics. Series 13: Data from the National Health Survey. Data from the hospital discharge survey, no. 18. III. Series: United States. Dept. of Health, Education, and Welfare. DHEW publication no. (HRA) 75-1769. [DNLM: 1. Surgery—Statistics. W2A N148m no. 18 1974] RA407.3.A349 no. 18 362.1'1'0973s [362.1'9'70973]

ISBN 0-8406-0017-8

74-6259

NATIONAL CENTER FOR HEALTH STATISTICS

EDWARD B. PERRIN, Ph.D., *Director*

PHILIP S. LAWRENCE, Sc.D., *Deputy Director*

JACOB J. FELDMAN, Ph.D., *Acting Associate Director for Analysis*

GAIL F. FISHER, *Associate Director for the Cooperative Health Statistics System*

ELIJAH L. WHITE, *Associate Director for Data Systems*

IWAO M. MORIYAMA, Ph.D., *Associate Director for International Statistics*

EDWARD E. MINTY, *Associate Director for Management*

ROBERT A. ISRAEL, *Associate Director for Operations*

QUENTIN R. REMEIN, *Associate Director for Program Development*

PAUL E. LEAVERTON, Ph.D., *Acting Associate Director for Research*

ALICE HAYWOOD, *Information Officer*

DIVISION OF HEALTH RESOURCES UTILIZATION STATISTICS

SIEGFRIED A. HOERMANN, *Director*

WILLIAM F. STEWART, *Acting Deputy Director*

TOY C. TAIRA, *Acting Chief, Hospital Care Statistics Branch*

COOPERATION OF THE BUREAU OF THE CENSUS

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

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

Vital and Health Statistics-Series 13-No. 18

DHEW Publication No. (HRA) 75-1769

Library of Congress Catalog Card Number 74-6259

CONTENTS

	Page
Introduction -----	1
Surgical Operations by Patient Characteristics-----	1
Sex and Age-----	2
Color -----	8
Surgical Operations by Hospital Characteristics-----	9
Geographic Region-----	9
Bed Size-----	9
References -----	14
List of Detailed Tables-----	15
Appendix I. Technical Notes on Methods-----	37
Statistical Design of the Hospital Discharge Survey-----	37
Data Collection and Processing-----	37
Presentation of Estimates-----	40
Reliability of Estimates-----	42
Appendix II. Definitions of Certain Terms Used in This Report-----	45
Terms Relating to Hospitalization-----	45
Terms Relating to Surgery-----	45
Demographic Terms-----	45

SYMBOLS

Data not available-----	---
Category not applicable-----	...
Quantity zero-----	-
Quantity more than 0 but less than 0.05----	0.0
Figure does not meet standards of reliability or precision-----	*

SURGICAL OPERATIONS IN SHORT-STAY HOSPITALS

Gary E. Blanken, M.A., *Division of Health Resources Utilization Statistics*

INTRODUCTION

This report, based on data collected by the Hospital Discharge Survey (HDS), presents estimates of the surgical operations and procedures performed during 1971 in non-Federal general and special short-stay hospitals. Estimates are presented of the number of inpatient discharges with surgery and the volume of all-listed operations (up to three operations were coded for each medical record) grouped by surgical class. The volume of surgical operations is shown by patient characteristics, such as age and sex, and hospital characteristics, such as geographic location and bed size of facility. Other measurements presented are the rates and percent distributions of surgical operations performed in the civilian, noninstitutionalized population.

The Hospital Discharge Survey is a continuous nationwide survey conducted by the National Center for Health Statistics (NCHS). In this report the estimates of surgical operations performed are based on data abstracted from the medical records of discharges selected from a stratified random sample of the short-stay hospitals located in the 50 States and the District of Columbia. Demographic, diagnostic, and surgical data for each sample discharge are abstracted from the face or summary sheet of the patient's hospital medical record. During 1971, about 200,000 sample discharge records were abstracted from 379 hospitals that participated in the survey. Data collected on newborn infants are excluded in this report. Appendix I gives a description of the sample design, data collection procedures, and the estimation process.

Estimates presented in this report represent number of discharges rather than number of

persons hospitalized, since some patients were hospitalized more than once during the data year. Consequently, the number of inpatient discharges exceeds the number of persons hospitalized. Estimates from the Health Interview Survey of the number of persons hospitalized have been published.¹

Surgical operations in this report are classified and coded in accordance with the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)*,² with some modifications. Surgical operations in previous HDS reports were classified and coded according to the seventh revision of the ICDA.^{3,4} Up to three operations and procedures were coded per sample discharge. Included with surgery are biopsies, exploratory laparotomies, and certain other diagnostic procedures. Excluded from the estimates of surgical operations are certain obstetrical procedures, diagnostic endoscopy and radiography, and certain other nonsurgical procedures.

Definitions of terms used in this report relating to hospitalization and the characteristics of inpatients and hospitals are given in appendix II. Since several of the terms have specialized meanings in the HDS, familiarity with these definitions will be useful in interpreting the data.

SURGICAL OPERATIONS BY PATIENT CHARACTERISTICS

In 1971 there were an estimated 29.5 million inpatient discharges, excluding newborn infants, from the Nation's non-Federal short-stay hospitals (table A). An estimated 11.6 million inpatients, or about two out of every five inpatients, underwent at least one surgical operation. By

Table A., Number and percent distribution of inpatient discharges from short-stay hospitals by number of operations, according to sex and age: United States, 1971

[Excludes newborn infants and Federal hospitals]

Sex and age	All discharges	Number of operations				All discharges	Number of operations			
		None	One	Two	Three		None	One	Two	Three
<u>Both sexes</u> ¹	Number of discharges in thousands					Percent distribution				
All ages-----	29,459	17,824	8,351	2,429	855	100.0	60.5	28.4	8.3	2.9
Under 15 years-----	4,029	2,114	1,536	332	47	100.0	52.5	38.1	8.2	1.2
15-44 years-----	12,605	7,419	3,753	1,055	377	100.0	58.9	29.8	8.4	3.0
45-64 years-----	6,840	4,012	1,853	683	291	100.0	58.7	27.1	10.0	4.3
65 years and over---	5,986	4,278	1,209	360	140	100.0	71.5	20.2	6.0	2.3
<u>Male</u>										
All ages-----	11,644	6,999	3,411	948	286	100.0	60.1	29.3	8.1	2.5
Under 15 years-----	2,249	1,166	849	206	28	100.0	51.9	37.8	9.2	1.2
15-44 years-----	3,467	1,920	1,156	296	96	100.0	55.4	33.3	8.5	2.8
45-64 years-----	3,232	2,019	853	263	96	100.0	62.5	26.4	8.1	3.0
65 years and over---	2,696	1,894	553	182	67	100.0	70.3	20.5	6.8	2.5
<u>Female</u>										
All ages-----	17,767	10,794	4,927	1,479	567	100.0	60.8	27.7	8.3	3.2
Under 15 years-----	1,773	945	684	125	19	100.0	53.3	38.6	7.1	1.1
15-44 years-----	9,118	5,486	2,593	758	281	100.0	60.2	28.4	8.3	3.1
45-64 years-----	3,596	1,985	997	419	195	100.0	55.2	27.7	11.7	5.4
65 years and over---	3,280	2,378	653	176	72	100.0	72.5	19.9	5.4	2.2

¹Includes data for sex not stated.

number of operations per patient, about 8.4 million inpatients, or 28 percent of all patients hospitalized, underwent one surgical operation; approximately 2.4 million inpatients, or 8 percent, had two operations; and 855,000, or 3 percent, had three operations.

Sex and Age

Approximately 11.6 million discharged patients were male and 17.8 million were female. Forty percent of the males and 39 percent of the females hospitalized had had one or more surgical operations.

The proportion of surgically treated patients declined with increasing age. Thus from about 48 percent for patients under 15 years of age, the proportion of patients with surgery declined to about 29 percent for patients 65 years and over. The proportion of male patients with surgery also declined with age. However, for females the proportion of discharges with surgery was smaller for age group 15-44 years than for age group 45-64 years (figure 1). The smaller proportion in the childbearing years is partly accounted for by the large number of patients hospitalized with normal deliveries which were not counted as operations by the HDS.

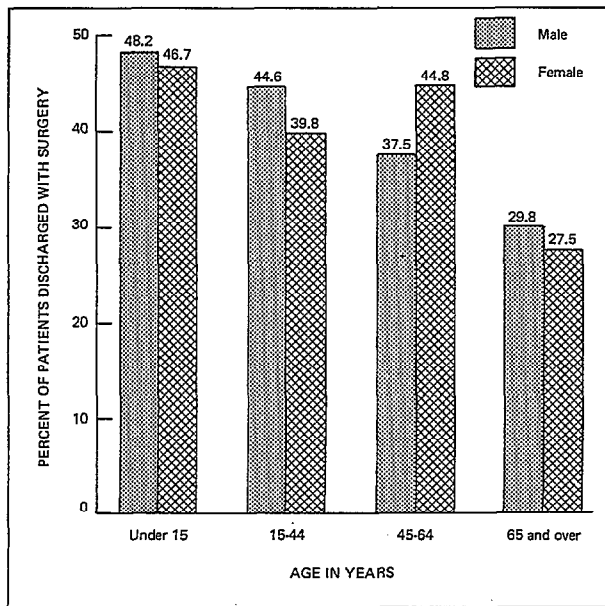


Figure 1. Percent of inpatients discharged from short-stay hospitals with surgery, by age and sex: United States, 1971.

Table B. Number and percent distribution of all-listed operations for inpatients discharged with surgery from short-stay hospitals, by age and sex: United States, 1971

[Excludes newborn infants and Federal hospitals]

Age and sex	Number in thousands	Percent distribution
Total ¹ ----	15,774	100.0
<u>Age</u>		
Under 15 years--	2,340	14.8
15-44 years-----	6,994	44.3
45-64 years-----	4,092	25.9
65+ years-----	2,347	14.9
<u>Sex and age</u>		
Male, all ages--	6,164	39.1
Male, 15+ years----	4,820	30.6
Female, all ages-----	9,587	60.8
Female, 15+ years----	8,595	54.5

¹Includes data for sex not stated.

Estimates of the total number of operations performed in 1971 are shown by age and sex in table B. An estimated 15.8 million surgical operations and procedures were reported for the 11.6 million discharges with surgery, yielding an average of 1.4 operations per discharge with surgery.

The largest proportion of the operations, about 44 percent, were performed on patients 15-44 years of age. Those aged 45-64 years accounted for 26 percent of all operations. The youngest and oldest age groups each accounted for about 15 percent of the operations. About 39 percent of all operations were performed on males and 61 percent on females.

The number of surgical operations and procedures reported for patients discharged from short-stay hospitals in 1971 are shown in table 1 by surgical class, sex, age, and color. Corresponding rates for each sex and for patients 15 years and over are presented in table 2.

The volume and rates for operations with the largest frequencies according to the surgery grouping used in this report are shown by sex in table C. Residual categories are excluded. The most frequently reported surgical operation was tonsillectomy with or without adenoidectomy. Diagnostic dilation and curettage of uterus and biopsy ranked second and third, respectively. Of the twenty surgical operations with the largest frequencies (presented in table C for both sexes), seven are sex-specific to females and only one is sex-specific to males.

Dilation and curettage of uterus and hysterectomy were the most frequently reported surgical operations among females. The numbers of cases of dilation and curettage and of hysterectomy per 100,000 females in the civilian, noninstitutionalized population were 734.0 and 544.1, respectively. For males the leading operations were tonsillectomy and repair of inguinal hernia, for which the rates were 457.0 and 446.5, respectively.

Many non-sex-specific operative procedures were performed more frequently for one sex than for the other (table 2). The ratios of the rates for some surgical operations with larger proportions of females than males were as follows: cholecystectomy, 3.1; thyroidectomy, 5.1; and excision and ligation of varicose veins, 3.3. The male-female ratios for surgical operations performed

Table C. Number and rate of operations with large frequencies performed for inpatients discharged from short-stay hospitals, by sex: United States, 1971

[Excludes newborn infants and Federal hospitals]

Surgical operation and ICDA code ¹	Both sexes ³		Male	Female	Both sexes ³		Male	Female
	Number in thousands	Rate per 100,000 population						
All operations ² -----	15,774	6,164	9,587	7,805.3	6,333.4	9,151.0		
Tonsillectomy with or without adenoidectomy-----21.1-21.2	967	445	520	478.3	457.0	496.4		
Dilation and curettage of uterus, diagnostic-----70.3	769	...	769	380.5	...	734.0		
Biopsy-----A1-A2	756	238	516	373.9	244.9	492.9		
Hysterectomy-----69.1-69.5	570	...	570	282.0	...	544.1		
Repair of inguinal hernia-----38.2-38.3	488	435	52	241.5	446.5	50.0		
Excision of lesion of skin and subcutaneous tissue--92.1-92.2	411	183	227	203.4	187.8	216.3		
Cholecystectomy-----43.5	373	86	287	184.6	88.0	273.6		
Oophorectomy; Salpingo- oophorectomy-----67.2-67.5	327	...	327	161.7	...	311.9		
Appendectomy ⁴ -----41.1	318	163	153	157.3	167.7	146.5		
Closed reduction of fracture without fixation-----82.0	311	176	135	154.1	180.3	128.7		
Operations on muscles, tendons, fascia, and bursa-----88-89	274	142	132	135.6	146.2	125.5		
Reduction of fracture with fixation-----82.2	263	114	148	130.1	117.3	141.6		
Dilation and curettage after delivery or abortion-----78.1	261	...	261	129.1	...	249.1		
Mastectomy-----65.2-65.6	254	12	242	125.7	11.8	231.2		
Extraction of lens----14.4-14.6	243	100	143	120.3	102.3	136.6		
Ligation and division of fallopian tubes, bilateral-----68.5	213	...	213	105.5	...	203.5		
Hemorrhoidectomy-----51.3	213	111	101	105.4	114.2	96.8		
Prostatectomy-----58.1-58.3	207	207	...	102.5	212.9	...		
Cesarean section-----77.0	194	...	194	95.9	...	185.1		
Repair of obstetrical laceration-----78.2-78.3	189	...	189	93.3	...	180.0		

¹ See appendix I.

² Includes data for surgery not shown in table.

³ Includes data for sex not stated.

⁴ Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

more frequently on males than females included the following: repair of inguinal hernia, 8.9; meatotomy (urethral), 3.8; and suture of skin, 2.3. There was only small variation between the sexes in the estimated surgery rates of such operations as tonsillectomy, appendectomy, re-

section of small intestine or colon, and reduction of fracture with fixation.

More than twice as many biopsies were performed for females than for males (table D). Biopsy of breast (148,000 biopsies) and biopsy of internal female genital organs (168,000 biopsies)

Table D. Number of biopsies performed for inpatients discharged from short-stay hospitals, by sex: United States, 1971

[Excludes newborn infants and Federal hospitals]

Biopsy and ICDA code	Both sexes ¹	Male	Female
	Number in thousands		
All biopsies-----A1-A2	756	238	516
Biopsy of thorax-----A1.6	38	24	14
Biopsy of stomach and intestines-----A1.8	37	20	17
Biopsy of biliary tract, spleen, and pancreas-----A1.9	76	37	39
Biopsy of breast-----A2.3	152	23	148
Biopsy of internal female genital organs-----A2.5	168	...	168
Other biopsy of circulatory and lymphatic systems-----A2.6	60	33	27
Biopsy of bone-----A2.7	76	38	39
Other biopsies-----Residual	149	83	66

¹Includes data for sex not stated.

²Caution should be exercised in the use of this figure since the relative standard error of the estimated number of discharges exceeds 25 percent. See appendix I on the reliability of estimates.

Table E. Number and rate of operations with large frequencies performed for inpatients under 15 years of age discharged from short-stay hospitals: United States, 1971

[Excludes newborn infants and Federal hospitals]

Surgical operation and ICDA code ¹	Number of operations in thousands	Rate of operations per 100,000 population
All operations ² -----	2,340	4,079.6
Tonsillectomy with or without adenoidectomy-----21.1-21.2	736	1,282.6
Myringotomy-----17.0	165	287.1
Repair of inguinal hernia-----38.2-38.3	120	209.7
Closed reduction of fracture without fixation-----82.0	104	182.1
Appendectomy ³ -----41.1	99	173.1
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	57	99.5
Circumcision-----61.2	52	90.1
Dilation of urethra-----57.5	51	89.2
Resection and recession of eye muscle---10.5-10.6	51	89.1
Adenoidectomy without tonsillectomy-----21.3	50	87.2

¹See appendix I.

²Includes data for surgery not shown in table.

³Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

accounted for 61 percent of the biopsies for females.

The numbers and rates for the most frequently reported surgical operations are shown by age in tables E-H. Many of the operations tended to be age-specific.

For inpatients under 15 years of age, tonsillectomy with or without adenoidectomy was the most frequently reported operation (table E). An estimated 736,000 tonsillectomies were performed, a rate of 1,282.6 per 100,000 persons under age 15. Tonsillectomies for under age 15 accounted for almost a third (31 percent) of all the operations in this age group and included about 76 percent of the patients of all ages with this operation (table 1). The operations ranked second to fifth for patients under 15 were myringotomy (165,000 operations), repair of inguinal hernia (120,000), closed reduction of fracture without fixation (104,000), and appendectomy (99,000). The five leading operations accounted

for over half the operations for patients under age 15.

Surgery among inpatients 15-44 years of age was dominated by the sex-specific specialties of gynecological surgery and certain obstetrical procedures (table F). The leading operations for patients aged 15-44 years were diagnostic dilation and curettage of uterus, for which the rate was 579.5 operations per 100,000 population, and hysterectomy with a rate of 400.6. Among the ten leading operations for this age group, the only non-sex-specific operations and their rates per 100,000 population were biopsy, 346.4; tonsillectomy, 268.8; and appendectomy, 202.8.

Among patients aged 45-64 years, the number of operations per 100,000 population was highest for biopsies, 648.8 (table G). Other leading surgical procedures for inpatients aged 45-64 years were diagnostic dilation and curettage of uterus, hysterectomy, repair of inguinal hernia, and cholecystectomy, with rates of 596.3, 492.5, 394.9,

Table F. Number and rate of operations with large frequencies performed for inpatients 15-44 years of age discharged from short-stay hospitals: United States, 1971

[Excludes newborn infants and Federal hospitals]

Surgical operation and ICDA code ¹	Number of operations in thousands	Rate of operations per 100,000 population
All operations ² -----	6,994	8,401.3
Dilation and curettage of uterus, diagnostic--70.3	482	579.5
Hysterectomy-----69.1-69.5	334	400.6
Biopsy-----A1-A2	288	346.4
Dilation and curettage after delivery or abortion-----78.1	257	308.5
Tonsillectomy with or without adenoidectomy-----21.1-21.2	224	268.8
Ligation and division of fallopian tubes, (bilateral)-----68.5	212	254.1
Cesarean section-----77.0	193	231.7
Repair of obstetrical laceration-----78.2-78.3	187	225.1
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	181	217.4
Appendectomy ³ -----41.1	169	202.8

¹See appendix I.

²Includes data for surgery not shown in table.

³Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

Table G. Number and rate of operations with large frequencies performed for inpatients 45-64 years of age discharged from short-stay hospitals: United States, 1971

[Excludes newborn infants and Federal hospitals]

Surgical operation and ICDA code ¹	Number of operations in thousands	Rate of operations per 100,000 population
All operations ² -----	4,092	9,769.4
Biopsy-----A1-A2	272	648.8
Dilation and curettage of uterus, diagnostic--70.3	250	596.3
Hysterectomy-----69.1-69.5	206	492.5
Repair of inguinal hernia-----38.2-38.3	165	394.9
Cholecystectomy-----43.5	145	346.0
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	127	302.9
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	127	302.0
Hemorrhoidectomy-----51.3	90	214.2
Operations on muscles, tendons, fascia and bursa-----88-89	80	192.1
Plastic repair of cystocele and/or rectocele--71.4	79	189.2

¹See appendix I.

²Includes data for surgery not shown in table.

Table H. Number and rate of operations with large frequencies performed for inpatients 65 years of age and over discharged from short-stay hospitals: United States, 1971

[Excludes newborn infants and Federal hospitals]

Surgical operation and ICDA code ¹	Number of operations in thousands	Rate of operations per 100,000 population
All operations ² -----	2,347	11,985.4
Extraction of lens-----14.4-14.6	171	875.3
Biopsy-----A1-A2	168	855.8
Prostatectomy-----58.1-58.3	149	761.1
Reduction of fracture with fixation-----82.2	118	604.1
Repair of inguinal hernia-----38.2-38.3	92	471.5
Cholecystectomy-----43.5	85	436.5
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	72	365.3
Resection of small intestine or colon-----47.4-47.6	48	243.0
Closed reduction of fracture without fixation--82.0	47	240.2
Local excision and destruction of lesion of bladder-----56.1-56.2	39	197.1

¹See appendix I.

²Includes data for surgery not shown in table.

and 346.0, respectively. Of the ten leading operations shown in table G, four were sex-specific to females.

Among the elderly, extraction of lens was the leading surgical operation (table H). There were an estimated 171,000 operations for extraction of lens with a rate of 875.3 per 100,000 persons aged 65 years and over. Ranked second through fifth were biopsy (168,000), prostatectomy (149,000), reduction of fracture with fixation (118,000), and repair of inguinal hernia (92,000). Of the leading surgical procedures, patients aged 65 and over accounted for over half of all the operations of prostatectomy (72 percent), of extraction of lens (70 percent), and of local excision and destruction of lesion of bladder (53 percent).

Color

Color of patients was identified on the medical records of about 25.8 million of the 29.5 million inpatients discharged in 1971 (table J). About 22.5 million, or 87 percent, were white and about 3.3 million, or 13 percent, were of all other color groups. Color was not stated for 3.7 million, or

12 percent of all inpatient discharges. Because of the large number of patients with color not stated, rates were not computed by color and the data by color should be interpreted with caution.

There were no appreciable differences between the proportions of white and of all other patients who were surgically treated. The percent distribution of each group according to number of operations performed closely parallels that for all patients hospitalized.

As shown in table 1, an estimated 12.2 million operations were performed on the 8.9 million surgically treated white patients (table J), an average of 1.4 operations per white patient with surgery. The estimated 1.6 million operations for the 1.2 million patients other than white with surgery yield an average of 1.3 operations per patient.

There were differences in the surgical classes and operations required by white and all other inpatients hospitalized in 1971. Gynecological and abdominal surgery ranked first and second in frequency for white and all other patients for whom color was identified (table 1). Ranked third and fourth were the specialties of orthopedic

Table J. Number and percent distribution of inpatient discharges from short-stay hospitals by number of operations, according to color: United States, 1971

[Excludes newborn infants and Federal hospitals]

Color	All discharges	Number of operations			
		None	One	Two	Three
Number of discharges in thousands					
Total-----	29,459	17,824	8,351	2,429	855
White-----	22,451	13,503	6,389	1,892	668
All other-----	3,338	2,121	887	248	82
Color not stated-----	3,670	2,201	1,075	290	105
Percent distribution					
Total-----	100.0	60.5	28.4	8.3	2.9
White-----	100.0	60.1	28.5	8.4	3.0
All other-----	100.0	63.5	26.6	7.4	2.5
Color not stated-----	100.0	60.0	29.3	7.9	2.9

and otorhinolaryngology for white patients and the specialties of obstetrical procedures and orthopedic surgery for all other patients.

Some large variations were evident between white and all other patients in the percentage of total operations that each surgical class represented. Accordingly, obstetrical procedures accounted for 5.3 percent of the operations for white patients compared with 13.1 percent for all other patients; vascular and cardiac surgery was 3.9 percent for white and only 2.1 percent for all other; and otorhinolaryngology was 11.4 percent for white and 7.4 percent for all other.

Many surgical operations and procedures also accounted for a larger proportion of the total operations performed for patients of one color group than the other. The surgical operations which accounted for the largest percentages of total operations for white patients were tonsillectomy with or without adenoidectomy (6.1 percent), dilation and curettage, diagnostic (4.9 percent), and biopsy (4.7 percent). For all other patients, the leading operations were biopsy (6.0 percent), dilation and curettage, diagnostic (4.9 percent), and tonsillectomy with or without adenoidectomy (4.7 percent).

SURGICAL OPERATIONS BY HOSPITAL CHARACTERISTICS

Geographic Region

The numbers, rates, and percent distributions of operations performed in 1971 for patients discharged from short-stay hospitals are presented by geographic region in tables 3-5. The estimated number of operations per 100,000 population ranged from 6,752.1 in the West Region to 8,848.3 in the North Central Region (table 4). By surgical class, surgery rates were lowest in the South Region for 10 of the 17 classes covered in this report and were highest in the North Central Region for 10 of the classes.

About 40 percent of all patients discharged had at least one surgical operation (table K). By geographic region, the percent of discharged patients with surgery was 44.6 percent in the Northeast Region, 40.5 percent in the North Central Region, 41.1 percent in the West Region, and 33.8 percent in the South Region. As shown in

table L, the numbers of discharges with surgery and all-listed operations were disproportionately higher in the North Central Region and lower in the South Region when their populations are considered in proportion to the total United States population.

Tonsillectomy with or without adenoidectomy was the most frequently reported operative procedure in all geographic regions except the Northeast Region, where it ranked third following diagnostic dilation and curettage of uterus and biopsy. According to the grouping of surgical operations used in the detailed tables of this report, the five leading surgical procedures in all regions except the South were tonsillectomy with or without adenoidectomy, diagnostic dilation and curettage of uterus, biopsy, hysterectomy, and repair of inguinal hernia, but they were not always in the same order. In the South Region, excision of lesion of skin and subcutaneous tissue ranked fifth and repair of inguinal hernia ranked sixth (table M).

The five leading operations accounted for 23 percent of all operations reported in the North Central and West Regions and for 22 percent in the Northeast and South Regions. In each region, the 10 operations with the largest frequencies, excluding residual categories, accounted for a third of all operations performed.

Large differences were evident in the number of operations per 100,000 population, by specific operation and geographic region. For example, among the operations with the largest frequencies the rates for tonsillectomy with or without adenoidectomy ranged from 398.2 in the Northeast Region to 604.2 in the North Central Region; for diagnostic dilation and curettage of uterus from 254.0 in the West Region to 508.5 in the Northeast Region; and for hysterectomy from 263.0 in the Northeast Region to 290.1 in the South Region.

Bed Size

The numbers of operations, grouped by surgical class, are presented by size of hospital in table 6; a percent distribution of these data is shown in table 7.

The distribution of surgical operations by size of hospital indicates that the smaller hospitals, less than 200 beds, accounted for a smaller proportion of the total operations than of the total

Table K. Number and percent distribution of inpatient discharges from short-stay hospitals by number of operations, according to geographic region: United States, 1971

[Excludes newborn infants and Federal hospitals]

Geographic region	All discharges	Number of operations			
		None	One	Two	Three
Number of discharges in thousands					
United States-----	29,459	17,824	8,351	2,429	855
Northeast-----	6,912	3,826	2,206	641	239
North Central-----	9,171	5,454	2,709	750	258
South-----	9,136	6,048	2,163	687	238
West-----	4,241	2,496	1,273	352	119
Percent distribution					
United States-----	100.0	60.5	28.4	8.3	2.9
Northeast-----	100.0	55.4	31.9	9.3	3.5
North Central-----	100.0	59.5	29.5	8.2	2.8
South-----	100.0	66.2	23.7	7.5	2.6
West-----	100.0	58.9	30.0	8.3	2.8

Table L. Percent distributions of the population, of inpatient discharges, of inpatient discharges with surgery, and of all-listed operations by geographic region: United States, 1971

[Excludes newborn infants and Federal hospitals]

Measure	United States	North-east	North Central	South	West
Percent distribution					
Civilian, noninstitutionalized population--	100.0	24.2	27.9	30.9	17.1
Hospital discharges (inpatients) ¹ -----	100.0	23.5	31.1	31.0	14.4
Discharges with surgery ¹ -----	100.0	26.5	31.9	26.5	15.0
All-listed operations ¹ -----	100.0	26.7	31.6	27.0	14.8

¹Excludes newborn infants.

Table M. Number and rate of operations with large frequencies performed for inpatients discharged from short-stay hospitals, by geographic region: United States, 1971

[Excludes newborn infants and Federal hospitals]

Surgical operation and ICDA code ¹	North-east	North Central	South	West
Number of operations in thousands				
All operations ² -----	4,206	4,982	4,250	2,335
Tonsillectomy with or without adenoidectomy-----21.1-21.2	194	340	267	165
Dilation and curettage of uterus, diagnostic-----70.3	248	256	177	88
Biopsy-----A1-A2	219	243	186	108
Hysterectomy-----69.1-69.5	128	162	181	98
Repair of inguinal hernia-----38.2-38.3	150	148	122	68
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	109	114	139	49
Cholecystectomy-----43.5	107	121	95	50
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	93	92	91	52
Appendectomy ³ -----41.1	74	97	95	52
Closed reduction of fracture without fixation-----82.0	80	101	82	49
Operations on muscles, tendons, fascia, and bursa-----88-89	73	79	80	41
Reduction of fracture with fixation-----82.2	62	83	71	47
Dilation and curettage after delivery or abortion-----78.1	73	83	74	31
Mastectomy-----65.2-65.6	77	80	67	30
Extraction of lens-----14.4-14.6	61	78	62	42
Ligation and division of fallopian tubes, bilateral-----68.5	59	53	70	32
Hemorrhoidectomy-----51.3	55	69	62	27
Prostatectomy-----58.1-58.3	57	69	49	32
Cesarean section-----77.0	60	54	51	29
Repair of obstetrical laceration-----78.2-78.3	37	50	65	37
Rate of operations per 100,000 population				
All operations ² -----	8,614.8	8,848.3	6,814.3	6,752.1
Tonsillectomy with or without adenoidectomy-----21.1-21.2	398.2	604.2	428.3	476.5
Dilation and curettage of uterus, diagnostic-----70.3	508.5	454.2	283.9	254.0
Biopsy-----A1-A2	448.0	431.7	298.0	312.4
Hysterectomy-----69.1-69.5	263.0	288.3	290.1	284.2
Repair of inguinal hernia-----38.2-38.3	306.8	263.6	196.0	195.3
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	223.3	202.2	222.9	142.1
Cholecystectomy-----43.5	219.6	215.6	152.0	143.6
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	189.6	163.2	145.3	149.4
Appendectomy ³ -----41.1	152.1	171.5	151.8	151.6
Closed reduction of fracture without fixation-----82.0	163.9	178.8	130.7	142.2
Operations on muscles, tendons, fascia, and bursa-----88-89	150.4	140.7	128.9	118.4
Reduction of fracture with fixation-----82.2	127.5	147.0	114.1	134.9
Dilation and curettage after delivery or abortion-----78.1	149.2	147.9	118.8	88.9
Mastectomy-----65.2-65.6	158.2	141.6	107.7	86.3
Extraction of lens-----14.4-14.6	124.9	137.7	99.9	122.1
Ligation and division of fallopian tubes, bilateral-----68.5	121.0	93.8	111.8	91.2
Hemorrhoidectomy-----51.3	113.2	122.4	98.8	78.6
Prostatectomy-----58.1-58.3	116.5	123.0	79.0	91.9
Cesarean section-----77.0	122.1	96.3	82.5	82.7
Repair of obstetrical laceration-----78.2-78.3	75.8	88.3	104.4	106.2

¹See appendix I.

²Includes data for surgery not shown in table.

³Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

discharges. Accordingly, for the larger hospitals, 200 beds and more, the proportion of total operations was greater than their proportion of total discharges. The percent distribution of all-listed operations by size of hospital compared with the distribution of discharges was as follows:

Size of hospital	Operations	Discharges
	Percent distribution	
Total	100.0	100.0
6-99 beds	12.3	19.8
100-199 beds	18.7	20.6
200-299 beds	19.4	17.6
300-499 beds	27.4	23.3
500 beds or more	22.2	18.7

Measured by the number of inpatients discharged with surgery, the percentages with surgery increased with size of hospital from 25.8 percent of the total patients in hospitals with 6-99 beds to 46.3 percent in hospitals with 500 beds or more (table N). Similarly, the proportion of patients with multiple operations increased from 6.0 percent in the smallest hospitals to 13.4 percent in the largest hospitals.

In all hospitals, the leading surgical classes were gynecological surgery, abdominal surgery, orthopedic surgery, and otorhinolaryngology, but the order of frequency was not the same for hospitals in different bed-size groups. A percent distribution of the operations performed by surgical class and size of hospital is shown in table O. Of the leading classes of surgery, orthopedic surgery represented about the same percentage of total operations in all size hospital groups, but abdominal surgery and gynecological surgery

Table N. Number and percent distribution of inpatient discharges from short-stay hospitals by number of operations, according to bed size of hospital: United States, 1971

[Excludes newborn infants and Federal hospitals]

Bed size of hospital	All discharges	Number of operations			
		None	One	Two	Three
Number of discharges in thousands					
All sizes-----	29,459	17,824	8,351	2,429	855
6-99 beds-----	5,829	4,324	1,156	264	85
100-199 beds-----	6,054	3,860	1,594	443	158
200-299 beds-----	5,186	2,952	1,577	483	174
300-499 beds-----	6,877	3,727	2,215	705	231
500 beds or more-----	5,513	2,962	1,809	535	206
Percent distribution					
All sizes-----	100.0	60.5	28.4	8.3	2.9
6-99 beds-----	100.0	74.2	19.8	4.5	1.5
100-199 beds-----	100.0	63.8	26.3	7.3	2.6
200-299 beds-----	100.0	56.9	30.4	9.3	3.4
300-499 beds-----	100.0	54.2	32.2	10.2	3.4
500 beds or more-----	100.0	53.7	32.8	9.7	3.7

Table O. Percent distribution of all-listed operations performed for inpatients discharged from short-stay hospitals by surgical class, according to bed size of hospital: United States, 1971

[Excludes newborn infants and Federal hospitals]

Surgical class and ICDA code ¹	All sizes	6-99 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
	Percent distribution					
All operations-----	100.0	100.0	100.0	100.0	100.0	100.0
Neurosurgery-----01-05	1.4	0.4	0.7	1.1	1.7	2.2
Ophthalmology-----06-14	3.6	2.1	3.7	3.5	3.7	4.3
Otorhinolaryngology-----16-21	11.4	13.5	11.1	12.0	12.5	8.3
Operations on thyroid, parathyroid, thymus and adrenals-----22-23	0.5	0.3	0.4	0.5	0.6	0.7
Vascular and cardiac surgery-----24-30	3.5	1.3	2.3	3.2	3.6	6.1
Thoracic surgery-----32-35	1.2	0.7	0.7	1.2	1.3	1.9
Abdominal surgery-----38-48	15.5	19.5	17.3	15.7	14.1	13.3
Proctological surgery-----50-52	3.3	3.8	3.3	3.3	3.6	2.5
Urological surgery-----54-61	7.8	5.4	8.4	8.5	8.1	7.9
Breast surgery-----65	1.8	1.6	1.9	2.1	1.8	1.6
Gynecological surgery-----67-72	17.7	18.7	19.0	17.4	17.2	16.8
Obstetrical procedures-----74-78	6.2	5.7	5.7	5.6	5.7	7.9
Orthopedic surgery-----80-90	12.4	12.5	12.2	12.6	12.4	12.4
Plastic surgery-----92-94	6.0	9.4	6.0	5.8	5.2	5.1
Oral and maxillofacial surgery-----95-98	0.9	0.6	0.8	0.9	1.1	1.1
Dental surgery-----99	2.2	1.0	2.4	2.6	2.4	2.0
Biopsy-----A1-A2	4.8	3.6	4.2	4.2	5.3	5.9

¹See appendix I.

accounted for larger proportions of operations in smaller hospital than in larger ones. The proportions for some classes such as neurosurgery and vascular and cardiac surgery increased consistently with the size of the hospital.

It is evident from the data in tables 6 and 7 that certain operations and surgical procedures are performed more frequently in the smaller hospitals and other operations more frequently in the larger hospitals. Surgery performed in hospitals with fewer than 300 beds accounted for over 60 percent of all the patients who had the following operations: appendectomy, tonsillectomy with adenoidectomy, closed reduction of

fracture without fixation, vasectomy, trachelectomy, and suture of skin or mucous membrane in plastic surgery. In contrast, hospitals with 300 beds or more accounted for 70 percent or more of all the patients who had the following surgery: reattachment of retina, arthroplasty and arthrodesis of hip, operations on valves of heart, lobectomy, and tympanoplasty. The degree of complexity of each surgical operation and the related requirements for specialized staff, the equipment, and facilities are probably among the important factors in determining where different kinds of surgery are performed.



REFERENCES

¹National Center for Health Statistics: Persons hospitalized by number of hospital episodes and days in a year. *Vital and Health Statistics*. Series 10-No. 64. DHEW Pub. No. (HSM) 72-1029. Health Services and Mental Health Administration. Washington. U.S. Government Printing Office, Dec. 1971.

²National Center for Health Statistics: *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*. PHS Pub. No. 1693. Public Health Service. Washington. U.S. Government Printing Office, 1967.

³National Center for Health Statistics: Surgical operations in short-stay hospitals for discharged patients, United States, 1965. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 13-No. 7. Public Health Service. Washington. U.S. Government Printing Office, Apr. 1971.

⁴National Center for Health Statistics: Surgical operations in short-stay hospitals, United States, 1968. *Vital and Health Statistics*. Series 13-No. 11. DHEW Pub. No. (HSM) 73-1762. Health Services and Mental Health Administration. Washington. U.S. Government Printing Office, Jan. 1973.

⁵National Center for Health Statistics: Development and maintenance of a national inventory of hospitals and institutions. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 1-No. 3. Public Health Service. Washington. U.S. Government Printing Office, Feb. 1965.

⁶National Center for Health Statistics: Utilization of short-stay hospitals, summary of nonmedical statistics, United States, 1965. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 13-No. 2. Public Health Service. Washington. U.S. Government Printing Office, Aug. 1967.

⁷National Center for Health Statistics: Utilization of short-stay hospitals by characteristics of discharged patients, United States, 1965. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 13-No. 3. Public Health Service. Washington. U.S. Government Printing Office, Dec. 1967.

LIST OF DETAILED TABLES

		Page
Table 1.	Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation, age, sex, and color: United States, 1971-----	16
2.	Rates of all-listed operations for inpatients discharged from short-stay hospitals, by operation, age, and sex: United States, 1971-----	19
3.	Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation and geographic region: United States, 1971-----	22
4.	Rates of all-listed operations for inpatients discharged from short-stay hospitals, by operation and geographic region: United States, 1971-----	25
5.	Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by geographic region: United States, 1971-----	28
6.	Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation and bed size of hospital: United States, 1971-----	31
7.	Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by bed size of hospital, according to operation: United States, 1971-----	34

Table 1. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation, age, sex, and color: United States, 1971

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

Surgical class, operation, and ICDA codes	All ages					15 years and over
	Sex			Color stated		
	Both sexes ¹	Male	Female	White	All other	
	Number of all-listed operations in thousands					
All operations-----	15,774	6,164	9,587	12,175	1,629	13,433
Operations excluding obstetrical procedures-----	14,802	6,164	8,614	11,531	1,416	12,467
Neurosurgery-----01-05	213	119	93	171	19	187
Ophthalmology-----06-14	562	254	307	438	54	459
Resection and recession of eye muscle-----10.5-10.6	67	33	34	52	6	16
Reattachment of retina-----13.4-13.5	22	10	11	21	² 1	21
Extraction of lens-----14.4-14.6	243	100	143	192	19	242
Other eye surgery-----Residual	230	110	119	173	28	180
Otorhinolaryngology-----16-21	1,790	896	891	1,390	121	746
Myringotomy-----17.0	177	103	73	133	8	12
Stapedectomy with ossicular reconstruction-----17.4	29	12	17	23	² 1	28
Tympanoplasty-----17.6-17.7	52	31	21	39	² 3	38
Excision of lesion of nose-----19.0	41	23	18	32	² 1	39
Section of nasal septum-----19.1	76	37	39	68	² 2	72
Laryngectomy-----20.1-20.2	26	16	11	21	² 3	24
Tracheotomy or tracheostomy, emergency-----20.5	39	25	13	31	4	34
Tonsillectomy without adenoidectomy-----21.1	227	74	152	169	23	175
Tonsillectomy with adenoidectomy-----21.2	740	371	368	573	53	56
Adenoidectomy without tonsillectomy-----21.3	52	29	23	38	² 3	² 2
Other operations on ears, nose and throat-----residual	331	176	155	263	20	267
Operations on thyroid, parathyroid, thymus and adrenals-----22-23	81	16	65	66	7	77
Thyroidectomy-----22.1-22.2	64	10	54	52	5	63
Other operations on thyroid, parathyroid, thymus and adrenals-----residual	17	6	10	14	² 1	14
Vascular and cardiac surgery-----24-30	557	301	254	474	35	517
Incision of peripheral vessels-----24.0	20	13	7	16	² 1	19
Excision and ligation of varicose veins-----24.4	104	23	81	86	² 3	103
Incision, drainage, and excision of lymphatic structure-----25.0-25.2	52	24	27	43	² 3	46
Operations on valves of heart-----29.2-29.4	16	6	10	15	² 1	15
Other vascular and cardiac surgery-----residual	365	235	130	315	27	333
Thoracic surgery-----32-35	190	107	83	147	24	179
Lung lobectomy-----34.2-34.4	28	17	11	25	² 1	27
Other thoracic surgery-----residual	163	90	72	122	23	152
Abdominal surgery-----38-48	2,446	1,245	1,195	1,904	241	2,138
Repair of diaphragm and diaphragmatic hernia-----38.0-38.1	29	12	17	24	² 2	28
Repair of inguinal hernia-----38.2-38.3	488	435	52	384	39	368
Appendectomy ³ -----41.1	318	163	153	249	24	219

See footnotes at end of table.

Table 1. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation, age, sex, and color: United States, 1971—Con.

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

Surgical class, operation, and ICDA codes	All ages					15 years and over
	Sex			Color stated		
	Both sexes ¹	Male	Female	White	All other	
Number of all-listed operations in thousands						
Cholecystectomy-----43.5	373	86	287	303	24	372
Splenectomy-----45.1	28	15	13	23	2 ³	25
Gastric resection, partial or complete-----46.2-46.3	63	38	25	47	8	63
Vagotomy-----46.8	62	39	23	48	7	62
Resection of small intestine or colon-----47.4-47.6	108	50	58	85	10	103
Ileostomy, colostomy, and other enterostomy-----47.7-47.9	59	27	32	48	6	57
Other abdominal surgery-----residual	918	381	534	692	117	842
Proctological surgery-----50-52	514	287	226	410	38	505
Local excision and destruction of lesion of rectum and anus-----50.2; 51.2	128	73	54	100	10	124
Hemorrhoidectomy-----51.3	213	111	101	168	17	213
Other proctological surgery-----residual	173	103	71	142	12	168
Urological surgery-----54-61	1,237	906	330	954	130	1,004
Nephrotomy and pyelotomy-----54.0-54.1	31	13	18	25	2 ²	29
Nephrectomy-----54.4-54.5	35	16	19	27	5	33
Passage of catheter to kidney-----55.7	62	36	26	49	2 ³	58
Local excision and destruction of lesion of bladder-----56.1-56.2	73	48	25	63	2 ²	72
Removal of calculus and drainage of bladder without incision-----56.8	17	12	5	12	2 ²	16
Meatotomy (Urethral)-----57.1	52	41	12	40	6	21
Excision or destruction of lesion of urethra-----57.2	22	6	17	18	2 ²	21
Dilation of urethra-----57.5	167	64	103	126	15	116
Prostatectomy-----58.1-58.3	207	207	...	170	15	207
Excision of hydrocele and hematocele-----59.1	69	69	...	53	2 ⁶	38
Orchiopexy (includes orchidopexy)-----59.7	22	22	...	19	2 ²	4
Vasectomy-----60.1	65	65	...	55	2 ²	65
Circumcision-----61.2	100	100	...	54	34	49
Other urological surgery-----residual	313	207	106	242	32	275
Breast surgery-----65	285	13	271	231	24	281
Partial mastectomy-----65.2	173	5	168	139	16	171
Complete, radical mastectomy-----65.3-65.6	81	6	74	68	5	80
Other breast surgery-----residual	31	2	29	25	2 ³	30
Gynecological surgery-----67-72	2,786	...	2,786	2,117	334	2,766
Local excision or destruction of lesion of ovary-----67.1	65	...	65	53	5	64
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	327	...	327	246	39	325
Ligation and division of fallopian tubes, (bilateral)-----68.5	213	...	213	142	52	213
Hysterectomy-----69.1-69.5	570	...	570	440	63	569
Local excision and destruction of other lesion of uterus, cervix, and supporting structures-----70.2	96	...	96	79	5	96
Dilation and curettage of uterus, diagnostic-----70.3	769	...	769	597	79	765
Trachelectomy-----70.4	123	...	123	94	12	123
Colporrhaphy-----71.3	29	...	29	23	2 ³	28
Plastic repair of cystocele and/or rectocele-----71.4	166	...	166	136	8	166
Other gynecological surgery-----residual	427	...	427	307	68	417

See footnotes at end of table.

Table 1. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation, age, sex, and color: United States, 1971--Con.

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

Surgical class, operation, and ICDA codes	All ages					15 years and over
	Sex			Color stated		
	Both sexes ¹	Male	Female	White	All other	
	Number of all-listed operations in thousands					
Obstetrical procedures-----74-78	972	...	972	644	213	966
Cesarean section-----77.0	194	...	194	134	36	193
Dilation and curettage after delivery or abortion---78.1	261	...	261	177	52	260
Repair of laceration-----78.2-78.3	189	...	189	124	47	188
Other obstetrical procedures-----residual	329	...	329	209	78	326
Orthopedic surgery-----80-90	1,957	1,071	882	1,536	169	1,680
Excision of bone, partial-----80.4	107	48	59	85	10	94
Closed reduction of fracture without fixation-----82.0	311	176	135	240	26	207
Open reduction of fracture without fixation-----82.1	63	38	25	49	6	54
Reduction of fracture with fixation-----82.2	263	114	148	215	19	244
Excision of intervertebral cartilage (prolapsed disk)-----86.4	123	75	48	101	7	123
Arthroplasty of hip-----87.0	28	11	16	24	² 2	27
Repair and plastic operations on joints of foot and toes-----87.2	57	9	48	44	7	55
Spinal fusion-----87.4	36	24	12	30	² 3	34
Arthrodesis and stabilization of joints (except spine)-----87.5-87.6	26	13	14	20	4	22
Closed reduction of dislocation of joint-----87.7	28	18	10	21	² 3	22
Operations on muscles, tendons, fascia and bursa---88-89	274	142	132	212	28	228
Other orthopedic surgery-----residual	640	402	236	495	56	570
Plastic surgery-----92-94	943	489	452	735	90	776
Incision of skin and subcutaneous tissue-----92.0	91	56	35	62	15	71
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	411	183	227	325	31	354
Suture of skin or mucous membrane-----92.5	187	126	60	141	20	155
Plastic operations on lip and mouth-----93.1	15	9	6	13	² 1	5
Skin graft except lip and mouth-----93.2-93.6	126	75	51	98	16	103
Other plastic surgery-----residual	113	40	73	96	6	88
Oral and maxillofacial surgery-----95-98	145	81	64	112	15	115
Glossectomy-----96.2	6	² 3	² 3	5	-	5
Other oral and maxillofacial surgery-----residual	139	78	61	107	14	110
Dental surgery-----99	341	141	199	266	19	310
Extraction of tooth, forceps extraction-----99.3	150	62	88	112	9	136
Surgical removal of tooth-----99.4	106	39	67	87	4	100
Alveoloplasty-----99.7	51	25	25	39	² 3	49
Other dental surgery-----residual	35	16	19	28	² 3	24
Biopsy-----A1-A2	756	238	516	578	97	728

¹Includes data for sex not stated.

²Caution should be exercised in the use of this figure since the relative standard error of the estimated number of operations exceeds 25 percent. See appendix I on the reliability of estimates.

³Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

⁴Codes 75.0-75.6 and 75.9 are not used by HDS.

Table 2. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by operation, age, and sex: United States, 1971

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

Surgical class, operation, and ICDA codes	All ages			15 years and over
	Both sexes ¹	Male	Female	
	Rate of all-listed operations per 100,000 population			
All operations-----	7,805.3	6,333.4	9,151.0	9,282.2
Operations excluding obstetrical procedures-----	7,324.2	6,333.4	8,223.0	8,614.6
Neurosurgery-----01-05	105.2	122.5	88.8	129.2
Ophthalmology-----06-14	278.0	260.5	293.2	317.0
Resection and recession of eye muscle-----10.5-10.6	33.2	34.0	32.4	11.0
Reattachment of retina-----13.4-13.5	10.8	10.7	10.9	14.4
Extraction of lens-----14.4-14.6	120.3	102.3	136.6	167.0
Other eye surgery-----residual	113.7	113.5	113.3	124.7
Otorhinolaryngology-----16-21	885.8	920.5	850.1	515.3
Myringotomy-----17.0	87.6	106.0	70.1	8.5
Stapedectomy with ossicular reconstruction-----17.4	14.4	11.9	16.6	19.1
Tympanoplasty-----17.6-17.7	25.8	31.9	20.0	26.2
Excision of lesion of nose-----19.0	20.2	23.7	16.9	26.6
Section of nasal septum-----19.1	37.8	37.9	37.6	49.6
Laryngectomy-----20.1-20.2	13.1	16.0	10.4	16.5
Tracheotomy or tracheostomy, emergency-----20.5	19.1	26.1	12.5	23.6
Tonsillectomy without adenoidectomy-----21.1	112.1	76.3	145.3	121.0
Tonsillectomy with adenoidectomy-----21.2	366.2	380.7	351.1	38.5
Adenoidectomy without tonsillectomy-----21.3	25.8	29.5	21.9	21.4
Other operations on ears, nose and throat-----residual	163.8	180.6	147.8	184.2
Operations on thyroid, parathyroid, thymus and adrenals-----22-23	40.1	16.5	61.9	53.3
Thyroidectomy-----22.1-22.2	31.8	10.1	51.9	43.5
Other operations on thyroid, parathyroid, thymus and adrenals-----residual	8.4	6.4	10.0	9.8
Vascular and cardiac surgery-----24-30	275.6	309.4	242.8	357.4
Incision of peripheral vessels-----24.0	9.8	13.3	6.5	13.4
Excision and ligation of varicose veins-----24.4	51.5	23.6	76.9	71.3
Incision, drainage, and excision of lymphatic structure-----25.0-25.2	25.5	25.0	25.9	31.8
Operations on valves of heart-----29.2-29.4	8.1	6.6	9.4	10.6
Other vascular and cardiac surgery-----residual	180.7	240.9	124.1	230.2
Thoracic surgery-----32-35	94.1	109.7	79.5	123.5
Lung lobectomy-----34.2-34.4	13.7	17.0	10.6	18.8
Other thoracic surgery-----residual	80.4	92.6	68.8	104.7
Abdominal surgery-----38-48	1,210.1	1,279.0	1,140.7	1,477.5
Repair of diaphragm and diaphragmatic hernia-----38.0-38.1	14.2	12.1	16.2	19.4
Repair of inguinal hernia-----38.2-38.3	241.5	446.5	50.0	254.1
Appendectomy-----41.1	157.3	167.7	146.5	151.0

See footnotes at end of table.

Table 2. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by operation, age, sex; United States, 1971--Con.

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

Surgical class, operation, and ICDA codes	All ages			15 years and over
	Both sexes ¹	Male	Female	
	Rate of all-listed operations per 100,000 population			
Cholecystectomy-----43.5	184.6	88.0	273.6	257.0
Splenectomy-----45.1	13.9	15.3	12.5	17.2
Gastric resection, partial or complete-----46.2-46.3	31.1	39.3	23.4	43.2
Vagotomy-----46.8	30.8	40.0	22.2	42.8
Resection of small intestine or colon-----47.4-47.6	53.2	51.0	55.1	71.2
Ileostomy, colostomy, and other enterostomy-----47.7-47.9	29.2	27.2	31.0	39.4
Other abdominal surgery-----residual	454.3	391.9	510.1	582.1
Proctological surgery-----50-52	254.2	294.7	215.8	349.0
Local excision and destruction of lesion of rectum and anus-----50.2; 51.2	63.1	75.2	51.6	86.0
Hemorrhoidectomy-----51.3	105.4	114.2	96.8	146.8
Other proctological surgery-----residual	85.7	105.3	67.4	116.1
Urological surgery-----54-61	611.9	930.9	314.8	693.4
Nephrotomy and pyelotomy-----54.0-54.1	15.3	13.4	17.0	20.3
Nephrectomy-----54.4-54.5	17.2	16.1	18.2	22.5
Passage of catheter to kidney-----55.7	30.7	36.8	25.1	39.9
Local excision and destruction of lesion of bladder-----56.1-56.2	36.0	49.1	23.9	49.9
Removal of calculus and drainage of bladder without incision-----56.8	8.4	12.8	4.3	11.2
Meatotomy (Urethral)-----57.1	25.9	42.0	11.0	14.3
Excision or destruction of lesion of urethra-----57.2	11.1	5.8	16.1	14.7
Dilation of urethra-----57.5	82.7	65.4	98.3	80.1
Prostatectomy-----58.1-58.3	102.5	212.9	...	142.9
Excision of hydrocele and hematocele-----59.1	34.3	71.1	...	26.2
Orchiopexy (includes orchidopexy)-----59.7	11.0	22.9	...	3.0
Vasectomy-----60.1	32.3	67.1	...	45.0
Circumcision-----61.2	49.6	103.0	...	33.6
Other urological surgery-----residual	154.7	212.6	100.9	189.8
Breast surgery-----65	141.0	13.7	259.1	194.3
Partial mastectomy-----65.2	85.7	5.6	160.1	118.1
Complete, radical mastectomy-----65.3-65.6	40.0	6.2	71.1	55.2
Other breast surgery-----residual	15.4	1.8	27.9	21.0
Gynecological surgery-----67-72	1,378.6	...	2,659.5	1,911.3
Local excision or destruction of lesion of ovary-----67.1	32.2	...	62.1	44.0
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	161.7	...	311.9	224.9
Ligation and division of fallopian tubes, (bilateral)-----68.5	105.5	...	203.5	147.0
Hysterectomy-----69.1-69.5	282.0	...	544.1	393.1
Local excision and destruction of other lesions of uterus, cervix, and supporting structures-----70.2	47.7	...	92.0	66.4
Dilation and curettage of uterus, diagnostic-----70.3	380.5	...	734.0	528.7
Trachelectomy-----70.4	61.1	...	117.8	85.0
Colporrhaphy-----71.3	14.5	...	27.9	19.4
Plastic repair of cystocele and/or rectocele-----71.4	82.3	...	158.8	114.7
Other gynecological surgery-----residual	211.2	...	407.4	288.1

See footnotes at end of table.

Table 2. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by operation, age, and sex: United States, 1971--Con.

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

Surgical class, operation, and ICDA codes	All ages			15 years and over
	Both sexes ¹	Male	Female	
	Rate of all-listed operations per 100,000 population			
Obstetrical procedures ⁴ -----74-78	481.1	...	928.0	667.6
Cesarean section-----77.0	95.9	...	185.1	133.6
Dilation and curettage after delivery or abortion-----78.1	129.1	...	249.1	179.3
Repair of laceration-----78.2-78.3	93.3	...	180.0	129.7
Other obstetrical procedures-----residual	162.7	...	313.8	225.0
Orthopedic surgery-----80-90	968.1	1,100.6	841.6	1,160.7
Excision of bone, partial-----80.4	52.8	48.9	56.4	65.1
Closed reduction of fracture without fixation-----82.0	154.1	180.3	128.7	143.0
Open reduction of fracture without fixation-----82.1	31.3	39.5	23.4	37.3
Reduction of fracture with fixation-----82.2	130.1	117.3	141.6	168.6
Excision of intervertebral cartilage (prolapsed disk)-----86.4	60.9	77.3	45.4	84.7
Arthroplasty of hip-----87.0	13.7	11.6	15.7	18.6
Repair and plastic operations on joints of foot and toes-----87.2	28.3	9.7	45.6	37.9
Spinal fusion-----87.4	17.9	24.6	11.8	23.7
Arthrodesis and stabilization of joints (except spine)-----87.5-87.6	13.1	13.0	13.1	15.1
Closed reduction of dislocation of joint-----87.7	13.9	18.8	9.3	15.3
Operations on muscles, tendons, fascia and bursa-----88-89	135.6	146.2	125.5	157.5
Other orthopedic surgery-----residual	316.5	413.5	224.9	393.9
Plastic surgery-----92-94	466.8	502.1	431.4	536.1
Incision of skin and subcutaneous tissue-----92.0	45.2	57.3	33.8	49.2
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	203.4	187.8	216.3	244.6
Suture of skin or mucous membrane-----92.5	92.3	129.8	57.0	107.3
Plastic operations on lip and mouth-----93.1	7.4	8.9	6.0	3.5
Skin graft except lip and mouth-----93.2-93.6	62.5	77.3	48.5	70.9
Other plastic surgery-----residual	56.0	41.0	69.8	60.7
Oral and maxillofacial surgery-----95-98	72.0	83.6	60.9	79.7
Glossectomy-----96.2	3.0	² 3.4	² 2.5	3.7
Other oral and maxillofacial surgery-----residual	69.0	80.2	58.3	76.0
Dental surgery-----99	168.8	144.8	190.1	213.9
Extraction of tooth, forceps extraction-----99.3	74.2	63.7	83.7	94.1
Surgical removal of tooth-----99.4	52.4	39.6	64.0	68.8
Alveoloplasty-----99.7	25.0	25.3	24.2	34.1
Other dental surgery-----residual	17.3	16.2	18.1	16.9
Biopsy-----A1-A2	373.9	244.9	492.9	502.9

¹Includes data for sex not stated.

²Caution should be exercised in the use of this figure since the relative standard error of the estimated number of operations exceeds 25 percent. See appendix I on the reliability of estimates.

³Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

⁴Codes 75.0-75.6 and 75.9 are not used by HDS.

Table 3. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation and geographic region: United States, 1971

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
	Number of all-listed operations in thousands				
All operations-----	15,774	4,206	4,982	4,250	2,335
Operations excluding obstetrical procedures-----	14,802	3,867	4,756	4,009	2,170
Neurosurgery-----01-05	213	50	68	60	35
Ophthalmology-----06-14	562	134	187	145	96
Resection and recession of eye muscle-----10.5-10.6	67	17	23	15	12
Reattachment of retina-----13.4-13.5	22	5	11	*	5
Extraction of lens-----14.4-14.6	243	61	78	62	42
Other eye surgery-----residual	230	51	75	66	38
Otorhinolaryngology-----16-21	1,790	395	649	471	274
Myringotomy-----17.0	177	35	66	47	30
Stapedectomy with ossicular reconstruction-----17.4	29	11	9	5	14
Tympanoplasty-----17.6-17.7	52	12	17	16	7
Excision of lesion of nose-----19.0	41	11	14	11	5
Section of nasal septum-----19.1	76	23	33	14	6
Laryngectomy-----20.1-20.2	26	8	10	6	13
Tracheotomy or tracheostomy, emergency-----20.5	39	12	10	9	8
Tonsillectomy without adenoidectomy-----21.1	227	52	77	53	45
Tonsillectomy with adenoidectomy-----21.2	740	143	263	214	120
Adenoidectomy without tonsillectomy-----21.3	52	14	21	11	6
Other operations on ears, nose and throat-----residual	331	76	128	86	41
Operations on thyroid, parathyroid, thymus and adrenals-----22-23	81	20	28	21	12
Thyroidectomy-----22.1-22.2	64	16	20	17	11
Other operations on thyroid, parathyroid, thymus and adrenals-----residual	17	14	8	14	*
Vascular and cardiac surgery-----24-30	557	131	198	133	94
Incision of peripheral vessels-----24.0	20	7	5	5	14
Excision and ligation of varicose veins-----24.4	104	31	33	24	15
Incision, drainage, and excision of lymphatic structure-----25.0-25.2	52	14	18	11	8
Operations on valves of heart-----29.2-29.4	16	13	5	13	5
Other vascular and cardiac surgery-----residual	365	77	137	90	62
Thoracic surgery-----32-35	190	48	56	57	30
Lung lobectomy-----34.2-34.4	28	8	7	8	14
Other thoracic surgery-----residual	163	40	48	49	26
Abdominal surgery-----38-48	2,446	675	727	670	374
Repair of diaphragm and diaphragmatic hernia-----38.0-38.1	29	6	5	10	8
Repair of inguinal hernia-----38.2-38.3	488	150	148	122	68
Appendectomy ² -----41.1	318	74	97	95	52

See footnotes at end of table.

Table 3. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation and geographic region: United States, 1971—Con.

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
Number of all-listed operations in thousands					
Cholecystectomy-----43.5	373	107	121	95	50
Splenectomy-----45.1	28	7	10	7	14
Gastric resection, partial or complete-----46.2-46.3	63	19	14	20	10
Vagotomy-----46.8	62	16	15	17	15
Resection of small intestine or colon-----47.4-47.6	108	34	35	26	13
Ileostomy, colostomy, and other enterostomy-----47.7-47.9	59	23	18	11	8
Other abdominal surgery-----residual	918	240	263	267	148
Proctological surgery-----50-52	514	147	161	136	69
Local excision and destruction of lesion of rectum and anus-----50.2;51.2	128	36	42	32	17
Hemorrhoidectomy-----51.3	213	55	69	62	27
Other proctological surgery-----residual	173	56	51	42	25
Urological surgery-----54-61	1,237	312	417	352	155
Nephrotomy and pyelotomy-----54.0-54.1	31	8	11	7	5
Nephrectomy-----54.4-54.5	35	7	11	9	7
Passage of catheter to kidney-----55.7	62	17	18	21	6
Local excision and destruction of lesion of bladder-----56.1-56.2	73	22	21	17	12
Removal of calculus and drainage of bladder without incision-----56.8	17	14	6	14	12
Meatotomy (Urethral)-----57.1	52	12	19	17	5
Excision or destruction of lesion of urethra-----57.2	22	5	10	5	13
Dilation of urethra-----57.5	167	37	69	49	12
Prostatectomy-----58.1-58.3	207	57	69	49	32
Excision of hydrocele and hematocele-----59.1	69	21	22	16	10
Orchiopexy (includes orchidopexy)-----59.7	22	6	9	6	*
Vasectomy-----60.1	65	14	24	21	5
Circumcision-----61.2	100	24	33	36	6
Other urological surgery-----residual	313	75	96	93	49
Breast surgery-----65	285	83	94	73	35
Partial mastectomy-----65.2	173	56	50	49	18
Complete, radical mastectomy-----65.3-65.6	81	21	29	18	12
Other breast surgery-----residual	31	6	14	6	5
Gynecological surgery-----67-72	2,786	772	847	777	390
Local excision or destruction of lesion of ovary-----67.1	65	19	19	16	11
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	327	93	92	91	52
Ligation and division of fallopian tubes, (bilateral)-----68.5	213	59	53	70	32
Hysterectomy-----69.1-69.5	570	128	162	181	98
Local excision and destruction of other lesions of uterus, cervix, and supporting structures-----70.2	96	38	30	23	6
Dilation and curettage of uterus, diagnostic-----70.3	769	248	256	177	88
Trachelectomy-----70.4	123	23	46	39	15
Colporrhaphy-----71.3	29	7	8	10	5
Plastic repair of cystocele and/or rectocele-----71.4	166	38	53	47	28
Other gynecological surgery-----residual	427	118	128	125	56

See footnotes at end of table.

Table 3. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation and geographic region: United States, 1971—Con.

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
		Number of all-listed operations in thousands			
Obstetrical procedures ³ -----74-78	972	339	226	242	165
Cesarean section-----77.0	194	60	54	51	29
Dilation and curettage after delivery or abortion----78.1	261	73	83	74	31
Repair of laceration-----78.2-78.3	189	37	50	65	37
Other obstetrical procedures-----residual	329	169	39	51	69
Orthopedic surgery-----80-90	1,957	467	642	524	324
Excision of bone, partial-----80.4	107	22	41	27	16
Closed reduction of fracture without fixation-----82.0	311	80	101	82	49
Open reduction of fracture without fixation-----82.1	63	14	20	21	7
Reduction of fracture with fixation-----82.2	263	62	83	71	47
Excision of intervertebral cartilage (prolapsed disk)-----86.4	123	26	39	40	18
Arthroplasty of hip-----87.0	28	7	11	14	6
Repair and plastic operations on joints of foot and toes-----87.2	57	10	30	9	9
Spinal fusion-----87.4	36	7	10	10	9
Arthrodesis and stabilization of joints (except spine)-----87.5-87.6	26	5	8	9	5
Closed reduction of dislocation of joint-----87.7	28	7	9	8	14
Operations on muscles, tendons, fascia and bursa---88-89	274	73	79	80	41
Other orthopedic surgery-----residual	640	153	211	162	113
Plastic surgery-----92-94	943	229	286	292	136
Incision of skin and subcutaneous tissue-----92.0	91	26	25	26	14
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	411	109	114	139	49
Suture of skin or mucous membrane-----92.5	187	44	54	55	34
Plastic operations on lip and mouth-----93.1	15	13	14	14	13
Skin graft except lip and mouth-----93.2-93.6	126	26	39	39	23
Other plastic surgery-----residual	113	21	48	30	14
Oral and maxillofacial surgery-----95-98	145	37	46	40	23
Glossectomy-----96.2	6	12	12	*	*
Other oral and maxillofacial surgery-----residual	139	35	44	39	22
Dental surgery-----99	341	148	107	71	14
Extraction of tooth, forceps extraction-----99.3	150	59	52	31	9
Surgical removal of tooth-----99.4	106	52	28	25	12
Alveoloplasty-----99.7	51	27	15	8	*
Other dental surgery-----residual	35	11	13	8	3
Biopsy-----A1-A2	756	219	243	186	108

¹Caution should be exercised in the use of this figure since the relative standard error of the estimated number of operations exceeds 25 percent. See appendix I on the reliability of estimates.

²Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

³Codes 75.0-75.6 and 75.9 are not used by HDS.

Table 4. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by operation and geographic region: United States, 1971

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
		Rate of all-listed operations per 100,000 population			
All operations-----	7,805.3	8,614.8	8,848.3	6,814.3	6,752.1
Operations excluding obstetrical procedures-----	7,324.2	7,921.2	8,446.4	6,426.5	6,273.8
Neurosurgery-----10-05	105.2	102.3	121.6	95.5	100.2
Ophthalmology-----06-14	278.0	273.8	331.8	232.2	278.9
Resection and recession of eye muscle-----10.5-10.6	33.2	34.2	41.7	24.4	33.6
Reattachment of retina-----13.4-13.5	10.8	9.3	19.2	*	14.7
Extraction of lens-----14.4-14.6	120.3	124.9	137.7	99.9	122.1
Other eye surgery-----residual	113.7	105.5	133.1	105.6	108.5
Otorhinolaryngology-----16-21	885.8	810.1	1,152.5	755.2	793.7
Myringotomy-----17.0	87.6	72.4	116.7	74.7	85.3
Stapedectomy with ossicular reconstruction-----17.4	14.4	23.1	15.8	8.1	¹ 10.9
Tympanoplasty-----17.6-17.7	25.8	23.8	31.0	25.0	21.4
Excision of lesion of nose-----19.0	20.2	22.4	25.2	17.0	14.6
Section of nasal septum-----19.1	37.8	47.8	58.2	22.5	18.2
Laryngectomy-----20.1-20.2	13.1	15.6	18.6	9.2	17.4
Tracheotomy or tracheostomy, emergency-----20.5	19.1	24.2	17.8	14.6	21.8
Tonsillectomy without adenoidectomy-----21.1	112.1	106.1	137.5	84.6	129.1
Tonsillectomy with adenoidectomy-----21.2	366.2	292.1	466.7	343.7	347.4
Adenoidectomy without tonsillectomy-----21.3	25.8	27.8	37.8	17.2	18.8
Other operations on ears, nose and throat-----residual	163.8	154.8	227.3	138.5	118.8
Operations on thyroid, parathyroid, thymus and adrenals-----22-23	40.1	41.9	49.1	33.7	34.7
Thyroidectomy-----22.1-22.2	31.8	33.5	35.1	27.9	30.9
Other operations on thyroid, parathyroid, thymus and adrenals-----residual	8.4	¹ 8.5	14.0	15.7	*
Vascular and cardiac surgery-----24-30	275.6	268.7	351.8	213.5	273.0
Incision of peripheral vessels-----24.0	9.8	13.5	9.0	7.3	¹ 10.3
Excision and ligation of varicose veins-----24.4	51.5	64.3	58.3	39.0	44.6
Incision, drainage, and excision of lymphatic structure-----25.0-25.2	25.5	28.3	32.8	17.4	24.4
Operations on valves of heart-----29.2-29.4	8.1	15.9	8.6	15.0	15.8
Other vascular and cardiac surgery-----residual	180.7	156.7	243.1	144.8	177.9
Thoracic surgery-----32-35	94.1	98.5	98.7	91.1	85.9
Lung lobectomy-----34.2-34.4	13.7	17.2	13.2	13.1	¹ 10.7
Other thoracic surgery-----residual	80.4	81.3	85.5	78.0	75.3
Abdominal surgery-----38-48	1,210.1	1,382.3	1,290.6	1,073.5	1,082.4
Repair of diaphragm and diaphragmatic hernia-----38.0-38.1	14.2	11.5	9.7	16.0	22.0
Repair of inguinal hernia-----38.2-38.3	241.5	306.8	263.6	196.0	195.3
Appendectomy ² -----41.1	157.3	152.1	171.5	151.8	151.6

See footnotes at end of table.

Table 4. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by operation and geographic region: United States, 1971—Con.

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
Rate of all-listed operations per 100,000 population					
Cholecystectomy-----43.5	184.6	219.6	215.6	152.0	143.6
Splenectomy-----45.1	13.9	14.0	17.2	11.7	12.3
Gastric resection, partial or complete-----46.2-46.3	31.1	38.0	25.4	32.2	28.8
Vagotomy-----46.8	30.8	33.0	26.7	26.5	42.1
Resection of small intestine or colon-----47.4-47.6	53.2	68.9	62.7	41.3	36.9
Ileostomy, colostomy, and other enterostomy-----47.7-47.9	29.2	46.3	31.3	17.2	23.2
Other abdominal surgery-----residual	454.3	492.3	466.8	428.7	426.6
Proctological surgery-----50-52	254.2	301.1	286.4	218.2	200.2
Local excision and destruction of lesion of rectum and anus-----50.2;51.2	63.1	74.2	74.2	51.5	50.3
Hemorrhoidectomy-----51.3	105.4	113.2	122.4	98.8	78.6
Other proctological surgery-----residual	85.7	113.7	89.9	67.9	71.3
Urological surgery-----54-61	611.9	638.2	741.3	564.8	449.1
Nephrotomy and pyelotomy-----54.0-54.1	15.3	16.5	19.3	11.4	14.2
Nephrectomy-----54.4-54.5	17.2	14.8	18.7	15.2	21.7
Passage of catheter to kidney-----55.7	30.7	35.8	32.1	32.9	17.3
Local excision and destruction of lesion of bladder-----56.1-56.2	36.0	44.2	38.1	27.7	36.1
Removal of calculus and drainage of bladder without incision-----56.8	8.4	8.5	11.2	17.0	16.3
Meatotomy (Urethral)-----57.1	25.9	25.6	32.9	26.9	13.5
Excision or destruction of lesion of urethra-----57.2	11.1	10.2	17.0	8.1	18.3
Dilation of urethra-----57.5	82.7	76.1	122.5	79.3	33.4
Prostatectomy-----58.1-58.3	102.5	116.5	123.0	79.0	91.9
Excision of hydrocele and hematocele-----59.1	34.3	43.9	38.7	26.4	27.7
Orchiopexy (includes orchidopexy)-----59.7	11.0	12.8	15.3	9.5	*
Vasectomy-----60.1	32.3	29.0	43.0	34.4	15.7
Circumcision-----61.2	49.6	50.1	59.4	58.2	17.7
Other urological surgery-----residual	154.7	154.3	170.0	148.9	141.1
Breast surgery-----65	141.0	170.9	167.1	116.8	100.0
Partial mastectomy-----65.2	85.7	114.2	89.4	78.3	52.9
Complete, radical mastectomy-----65.3-65.6	40.0	44.0	52.2	29.4	33.4
Other breast surgery-----residual	15.4	12.8	25.5	9.2	13.7
Gynecological surgery-----67-72	1,378.6	1,581.1	1,504.3	1,246.5	1,126.6
Local excision or destruction of lesion of ovary-----67.1	32.2	39.1	33.6	26.0	31.5
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	161.7	189.6	163.2	145.3	149.4
Ligation and division of fallopian tubes, (bilateral)-----68.5	105.5	121.0	93.8	111.8	91.2
Hysterectomy-----69.1-69.5	282.0	263.0	288.3	290.1	284.2
Local excision and destruction of other lesions of uterus, cervix, and supporting structures-----70.2	47.7	77.3	53.1	36.9	16.6
Dilation and curettage of uterus, diagnostic-----70.3	380.5	508.5	454.2	283.9	254.0
Trachelectomy-----70.4	61.1	46.9	82.5	62.4	43.9
Colporrhaphy-----71.3	14.5	14.8	13.4	15.3	14.4
Plastic repair of cystocele and/or rectocele-----71.4	82.3	78.7	94.7	75.2	80.0
Other gynecological surgery-----residual	211.2	242.2	227.6	199.7	161.4

See footnotes at end of table.

Table 4. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by operation and geographic region: United States, 1971—Con.

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
		Rate of all-listed operations per 100,000 population			
Obstetrical procedures ³ -----74-78	481.1	693.5	401.9	387.8	478.3
Cesarean section-----77.0	95.9	122.1	96.3	82.5	82.7
Dilation and curettage after delivery or abortion----78.1	129.1	149.2	147.9	118.8	88.9
Repair of laceration-----78.2-78.3	93.3	75.8	88.3	104.4	106.2
Other obstetrical procedures-----residual	162.7	346.4	69.4	82.2	200.0
Orthopedic surgery-----80-90	968.1	956.3	1,139.7	840.4	935.9
Excision of bone, partial-----80.4	52.8	45.1	72.7	43.8	47.5
Closed reduction of fracture without fixation-----82.0	154.1	163.9	178.8	130.7	142.2
Open reduction of fracture without fixation-----82.1	31.3	29.5	36.4	33.7	21.2
Reduction of fracture with fixation-----82.2	130.1	127.5	147.0	114.1	134.9
Excision of intervertebral cartilage (prolapsed disk)-----86.4	60.9	52.7	69.1	64.7	51.9
Arthroplasty of hip-----87.0	13.7	14.8	18.8	16.1	17.7
Repair and plastic operations on joints of foot and toes-----87.2	28.3	20.5	53.0	13.8	25.5
Spinal fusion-----87.4	17.9	14.5	17.8	16.7	25.2
Arthrodesis and stabilization of joints (except spine)-----87.5-87.6	13.1	9.4	15.1	14.0	13.2
Closed reduction of dislocation of joint-----87.7	13.9	14.6	16.2	13.2	10.2
Operations on muscles, tendons, fascia and bursa---88-89	135.6	150.4	140.7	128.9	118.4
Other orthopedic surgery-----residual	316.5	313.5	374.2	260.5	328.1
Plastic surgery-----92-94	466.8	469.3	507.6	468.5	394.0
Incision of skin and subcutaneous tissue-----92.0	45.2	52.8	45.3	42.2	39.4
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	203.4	223.3	202.2	222.9	142.1
Suture of skin or mucous membrane-----92.5	92.3	90.5	96.4	87.5	97.1
Plastic operations on lip and mouth-----93.1	7.4	16.8	17.7	16.6	19.1
Skin graft except lip and mouth-----93.2-93.6	62.5	52.3	70.0	61.9	65.8
Other plastic surgery-----residual	56.0	43.6	86.0	47.3	40.4
Oral and maxillofacial surgery-----95-98	72.0	75.3	81.8	64.2	65.3
Glossectomy-----96.2	3.0	13.5	13.6	*	*
Other oral and maxillofacial surgery-----residual	69.0	71.8	78.3	62.1	62.5
Dental surgery-----99	168.8	303.3	190.4	114.4	41.6
Extraction of tooth, forceps extraction-----99.3	74.2	120.3	91.8	49.2	25.3
Surgical removal of tooth-----99.4	52.4	105.5	49.0	39.9	15.2
Alveoloplasty-----99.7	25.0	55.1	26.4	12.7	*
Other dental surgery-----residual	17.3	22.3	23.3	12.6	8.8
Biopsy-----A1-A2	373.9	448.0	431.7	298.0	312.4

¹ Caution should be exercised in the use of this figure since the relative standard error of the estimated number of operations exceeds 25 percent. See appendix I on the reliability of estimates.

² Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

³ Codes 75.0-75.6 and 75.9 are not used by HDS.

Table 5. Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by geographic region, according to operation: United States, 1971

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
Percent distribution					
All operations-----	100.0	26.7	31.6	26.9	14.8
Operations excluding obstetrical procedures-----	100.0	26.1	32.1	27.1	14.7
Neurosurgery-----01-05	100.0	23.5	32.2	28.0	16.3
Ophthalmology-----06-14	100.0	23.8	33.3	25.8	17.2
Resection and recession of eye muscle-----10.5-10.6	100.0	24.9	35.1	22.7	17.4
Reattachment of retina-----13.4-13.5	100.0	20.7	49.5	*	23.3
Extraction of lens-----14.4-14.6	100.0	25.1	31.9	25.6	17.4
Other eye surgery-----residual	100.0	22.4	32.6	28.7	16.3
Otorhinolaryngology-----16-21	100.0	22.1	36.3	26.3	15.3
Myringotomy-----17.0	100.0	19.9	37.1	26.3	16.7
Stapedectomy with ossicular reconstruction-----17.4	100.0	38.8	30.7	17.5	¹ 13.0
Tympanoplasty-----17.6-17.7	100.0	22.3	33.5	30.0	14.2
Excision of lesion of nose-----19.0	100.0	26.9	34.8	26.0	12.4
Section of nasal septum-----19.1	100.0	30.5	42.9	18.4	8.2
Laryngectomy-----20.1-20.2	100.0	28.8	39.7	21.8	¹ 9.6
Tracheotomy or tracheostomy, emergency-----20.5	100.0	30.7	26.0	23.7	19.6
Tonsillectomy without adenoidectomy-----21.1	100.0	22.9	34.2	23.3	19.7
Tonsillectomy with adenoidectomy-----21.2	100.0	19.3	35.5	29.0	16.2
Adenoidectomy without tonsillectomy-----21.3	100.0	26.1	40.9	20.6	12.5
Other operations on ears, nose and throat-----residual	100.0	22.8	38.7	26.1	12.4
Operations on thyroid, parathyroid, thymus and adrenals-----22.3	100.0	25.2	34.1	25.9	14.8
Thyroidectomy-----22.1-22.2	100.0	25.4	30.8	27.1	16.7
Other operations on thyroid, parathyroid, thymus and adrenals-----residual	100.0	¹ 24.6	46.6	¹ 21.2	*
Vascular and cardiac surgery-----24-30	100.0	23.6	35.6	23.9	17.0
Incision of peripheral vessels-----24.0	100.0	33.3	25.6	23.1	¹ 18.1
Excision and ligation of varicose veins-----24.4	100.0	30.2	31.6	23.4	14.8
Incision, drainage, and excision of lymphatic structure-----25.0-25.2	100.0	26.8	35.8	21.0	16.4
Operations on valves of heart-----29.2-29.4	100.0	¹ 17.6	29.6	¹ 19.2	33.5
Other vascular and cardiac surgery-----residual	100.0	20.9	37.5	24.7	16.8
Thoracic surgery-----32-35	100.0	25.3	29.2	29.9	15.6
Lung lobectomy-----34.2-34.4	100.0	30.3	26.9	29.4	¹ 13.3
Other thoracic surgery-----residual	100.0	24.4	29.6	30.0	16.0
Abdominal surgery-----38-48	100.0	27.6	29.7	27.4	15.3
Repair of diaphragm and diaphragmatic hernia-----38.0-38.1	100.0	19.5	19.0	34.9	26.6
Repair of inguinal hernia-----38.2-38.3	100.0	30.7	30.4	25.1	13.8
Appendectomy-----41.1	100.0	23.4	30.4	29.8	16.5

See footnotes at end of table.

Table 5. Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by geographic region, according to operation: United States, 1971—Con.

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
Percent distribution					
Cholecystectomy-----43.5	100.0	28.7	32.5	25.4	13.3
Splenectomy-----45.1	100.0	24.3	34.5	26.0	¹ 15.1
Gastric resection, partial or complete-----46.2-46.3	100.0	29.5	22.8	31.9	15.8
Vagotomy-----46.8	100.0	25.9	24.2	26.5	23.4
Resection of small intestine or colon-----47.4-47.6	100.0	31.3	32.9	24.0	11.9
Ileostomy, colostomy, and other enterostomy---47.7-47.9	100.0	38.3	29.9	18.2	13.6
Other abdominal surgery-----residual	100.0	26.2	28.6	29.1	16.1
Proctological surgery-----50-52	100.0	28.6	31.4	26.5	13.5
Local excision and destruction of lesion of rectum and anus-----50.2; 51.2	100.0	28.4	32.7	25.2	13.6
Hemorrhoidectomy-----51.3	100.0	25.9	32.4	28.9	12.8
Other proctological surgery-----residual	100.0	32.1	29.2	24.5	14.2
Urological surgery-----54-61	100.0	25.2	33.8	28.5	12.6
Nephrotomy and pyelotomy-----54.0-54.1	100.0	26.0	35.1	22.9	15.9
Nephrectomy-----54.4-54.5	100.0	20.8	30.4	27.3	21.6
Passage of catheter to kidney-----55.7	100.0	28.2	29.1	33.0	9.7
Local excision and destruction of lesion of bladder-----56.1-56.2	100.0	29.7	29.5	23.8	17.1
Removal of calculus and drainage of bladder without incision-----56.8	100.0	¹ 24.5	37.0	¹ 25.8	¹ 12.8
Meatotomy (Urethral)-----57.1	100.0	23.8	35.3	32.0	8.9
Excision or destruction of lesion of urethra-----57.2	100.0	22.2	42.6	22.5	¹ 12.7
Dilation of urethra-----57.5	100.0	22.2	41.3	29.6	6.9
Prostatectomy-----58.1-58.3	100.0	27.4	33.4	23.8	15.3
Excision of hydrocele and hematocele-----59.1	100.0	30.9	31.4	23.8	13.8
Orchiopexy (includes orchidopexy)-----59.7	100.0	28.1	38.8	26.5	*
Vasectomy-----60.1	100.0	21.7	37.1	32.9	8.3
Circumcision-----61.2	100.0	24.4	33.3	36.2	6.1
Other urological surgery-----residual	100.0	24.1	30.6	29.7	15.6
Breast surgery-----65	100.0	29.3	33.0	25.6	12.1
Partial mastectomy-----65.2	100.0	32.2	29.1	28.2	10.6
Complete, radical mastectomy-----65.3-65.6	100.0	26.6	36.4	22.7	14.3
Other breast surgery-----residual	100.0	20.1	46.2	18.4	15.3
Gynecological surgery-----67-72	100.0	27.7	30.4	27.9	14.0
Local excision or destruction of lesion of ovary---67.1	100.0	29.3	29.1	24.9	16.7
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	100.0	28.3	28.1	27.7	15.8
Ligation and division of fallopian tubes, (bilateral)-----68.5	100.0	27.7	24.8	32.7	14.8
Hysterectomy-----69.1-69.5	100.0	22.5	28.5	31.7	17.2
Local excision and destruction of other lesions of uterus, cervix, and supporting structures-----70.2	100.0	39.2	31.0	23.9	5.9
Dilation and curettage of uterus, diagnostic-----70.3	100.0	32.3	33.3	23.0	11.4
Trachelectomy-----70.4	100.0	18.5	37.6	31.5	12.3
Colporrhaphy-----71.3	100.0	24.7	25.7	32.6	17.0
Plastic repair of cystocele and/or rectocele-----71.4	100.0	23.1	32.1	28.2	16.6
Other gynecological surgery-----residual	100.0	27.7	30.0	29.2	13.1

See footnotes at end of table.

Table 5. Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by geographic region, according to operation: United States, 1971--Con.

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

Surgical class, operation, and ICDA codes	United States	Geographic region			
		North-east	North Central	South	West
Percent distribution					
Obstetrical procedures ³ -----74-78	100.0	34.8	23.3	24.9	17.0
Cesarean section-----77.0	100.0	30.7	28.0	26.5	14.8
Dilation and curettage after delivery or abortion----78.1	100.0	27.9	31.9	28.4	11.8
Repair of laceration-----78.2-78.3	100.0	19.6	26.4	34.5	19.5
Other obstetrical procedures-----residual	100.0	51.4	11.9	15.6	21.1
Orthopedic surgery-----80-90	100.0	23.9	32.8	26.8	16.5
Excision of bone, partial-----80.4	100.0	20.6	38.4	25.6	15.4
Closed reduction of fracture without fixation-----82.0	100.0	25.7	32.3	26.2	15.8
Open reduction of fracture without fixation-----82.1	100.0	22.8	32.4	33.2	11.6
Reduction of fracture with fixation-----82.2	100.0	23.7	31.5	27.1	17.8
Excision of intervertebral cartilage (prolapsed disk)-----86.4	100.0	20.9	31.7	32.8	14.6
Arthroplasty of hip-----87.0	100.0	26.0	38.2	¹ 13.8	22.0
Repair and plastic operations on joints of foot and toes-----87.2	100.0	17.5	52.1	15.1	15.4
Spinal fusion-----87.4	100.0	19.5	27.7	28.8	24.0
Arthrodesis and stabilization of joints (except spine)-----87.5-87.6	100.0	17.4	32.1	33.2	17.3
Closed reduction of dislocation of joint-----87.7	100.0	25.5	32.5	29.5	12.6
Operations on muscles, tendons, fascia and bursa----88-89	100.0	26.8	28.9	29.3	14.9
Other orthopedic surgery-----residual	100.0	23.9	32.9	25.4	17.7
Plastic surgery-----92-94	100.0	24.3	30.3	31.0	14.4
Incision of skin and subcutaneous tissue-----92.0	100.0	28.3	27.9	28.8	14.9
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	100.0	26.5	27.7	33.8	12.0
Suture of skin or mucous membrane-----92.5	100.0	23.7	29.1	29.3	18.0
Plastic operations on lip and mouth-----93.1	100.0	¹ 22.2	¹ 29.0	¹ 27.6	¹ 21.2
Skin graft except lip and mouth-----93.2-93.6	100.0	20.2	31.2	30.6	18.0
Other plastic surgery-----residual	100.0	18.8	42.8	26.1	12.3
Oral and maxillofacial surgery-----95-98	100.0	25.3	31.7	27.5	.5
Glossectomy-----96.2	100.0	¹ 28.3	¹ 33.5	*	*
Other oral and maxillofacial surgery-----residual	100.0	25.1	31.6	27.8	.5
Dental surgery-----99	100.0	43.4	31.4	20.9	.2
Extraction of tooth, forceps extraction-----99.3	100.0	39.2	34.5	20.5	.8
Surgical removal of tooth-----99.4	100.0	48.7	26.1	23.5	.7
Alveoloplasty-----99.7	100.0	53.3	29.4	15.7	*
Other dental surgery-----residual	100.0	31.2	37.5	22.5	.7
Biopsy-----A1-A2	100.0	28.9	32.2	24.6	.3

¹Caution should be exercised in the use of this figure since the relative standard error of the estimated number of operations exceeds 25 percent. See appendix I on the reliability of estimates.

²Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

³Codes 75.0-75.6 and 75.9 are not used by HDS.

Table 6. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation and bed size of hospital: United States, 1971

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

Surgical class, operation, and ICDA codes	All sizes	Bed size of hospital				
		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-----	15,774	1,939	2,953	3,066	4,316	3,499
Operations excluding obstetrical procedures-----	14,802	1,829	2,786	2,895	4,071	3,221
Neurosurgery-----01-05	213	8	21	33	74	78
Ophthalmology-----06-14	562	40	110	106	158	149
Resection and recession of eye muscle-----10.5-10.6	67	¹ / ₃	13	16	19	16
Reattachment of retina-----13.4-13.5	22	-	¹ / ₃	¹ / ₂	6	11
Extraction of lens-----14.4-14.6	243	15	52	49	69	58
Other eye surgery-----residual	230	22	42	38	64	64
Otorhinolaryngology-----16-21	1,790	261	327	368	541	292
Myringotomy-----17.0	177	12	28	41	64	32
Stapedectomy with ossicular reconstruction-----17.4	29	*	6	¹ / ₅	11	6
Tympanoplasty-----17.6-17.7	52	12	5	8	23	14
Excision of lesion of nose-----19.0	41	¹ / ₃	6	7	15	9
Section of nasal septum-----19.1	76	13	16	¹ / ₈	21	18
Laryngectomy-----20.1-20.2	26	*	¹ / ₂	¹ / ₄	11	8
Tracheotomy or tracheostomy, emergency-----20.5	39	¹ / ₂	¹ / ₃	9	11	12
Tonsillectomy without adenoidectomy-----21.1	227	42	43	50	62	29
Tonsillectomy with adenoidectomy-----21.2	740	140	167	161	196	75
Adenoidectomy without tonsillectomy-----21.3	52	¹ / ₂	11	8	19	12
Other operations on ears, nose and throat-----residual	331	44	38	66	107	76
Operations on thyroid, parathyroid, thymus and adrenals-----22-23	81	6	11	15	25	23
Thyroidectomy-----22.1-22.2	64	¹ / ₅	11	13	19	17
Other operations on thyroid, parathyroid, thymus and adrenals-----residual	17	*	*	¹ / ₂	6	7
Vascular and cardiac surgery-----24-30	557	26	68	97	155	212
Incision of peripheral vessels-----24.0	20	*	¹ / ₃	¹ / ₅	6	¹ / ₅
Excision and ligation of varicose veins-----24.4	104	12	22	22	31	18
Incision, drainage, and excision of lymphatic structure-----25.0-25.2	52	¹ / ₅	8	13	14	12
Operations on valves of heart-----29.2-29.4	16	-	*	¹ / ₃	¹ / ₄	8
Other vascular cardiac surgery-----residual	365	8	33	55	100	169
Thoracic surgery-----32-35	190	14	21	35	54	66
Lung lobectomy-----34.2-34.4	28	*	¹ / ₄	¹ / ₃	8	12
Other thoracic surgery-----residual	163	13	18	32	46	55
Abdominal surgery-----38-48	2,446	378	511	481	609	466
Repair of diaphragm and diaphragmatic hernia-----38.0-38.1	29	¹ / ₃	6	6	8	6
Repair of inguinal hernia-----38.2-38.3	488	80	108	95	124	81
Appendectomy ² -----41.1	318	76	79	61	62	40

See footnotes at end of table.

Table 6. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation and bed size of hospital: United States, 1971--Con.

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

Surgical class, operation, and ICDA codes	All sizes	Bed size of hospital				
		6-99 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Number of all-listed operations in thousands						
Cholecystectomy-----43.5	373	60	76	75	98	64
Splenectomy-----45.1	28	2	3	5	9	10
Gastric resection, partial or complete-----46.2-46.3	63	7	13	13	15	15
Vagotomy-----46.8	62	8	12	11	17	14
Resection of small intestine or colon-----47.4-47.6	108	11	18	22	30	26
Ileostomy, colostomy, and other enterostomy-----47.7-47.9	59	6	11	12	17	13
Other abdominal surgery-----residual	918	126	186	181	228	197
Proctological surgery-----50-52	514	73	98	100	156	88
Local excision and destruction of lesion of rectum and anus-----50.2; 51.2	128	18	21	24	41	24
Hemorrhoidectomy-----51.3	213	35	44	41	59	34
Other proctological surgery-----residual	173	20	33	35	56	30
Urological surgery-----54-61	1,237	104	248	262	348	275
Nephrotomy and pyelotomy-----54.0-54.1	31	*	6	8	8	8
Nephrectomy-----54.4-54.5	35	1/4	4	9	8	12
Passage of catheter to kidney-----55.7	62	1/3	11	13	20	16
Local excision and destruction of lesion of bladder-----56.1-56.2	73	1/2	14	17	22	17
Removal of calculus and drainage of bladder without incision-----56.8	17	1/2	1/3	1/5	1/4	1/4
Meatotomy (Urethral)-----57.1	52	1/3	8	12	18	12
Excision or destruction of lesion of urethra-----57.2	22	1/2	1/3	8	7	1/3
Dilation of urethra-----57.5	167	10	33	40	51	34
Prostatectomy-----58.1-58.3	207	9	49	42	62	46
Excision of hydrocele and hematocele-----59.1	69	8	13	15	20	13
Orchiopexy (includes orchidopexy)-----59.7	22	1/2	1/4	1/4	7	1/5
Vasectomy-----60.1	65	7	22	12	13	12
Circumcision-----61.2	100	22	19	17	23	19
Other urological surgery-----residual	313	31	60	63	85	74
Breast surgery-----65	285	31	56	65	75	57
Partial mastectomy-----65.2	173	16	38	43	44	32
Complete, radical mastectomy-----65.3-65.6	81	9	15	17	24	16
Other breast surgery-----residual	31	6	1/4	1/4	7	10
Gynecological surgery-----67-72	2,786	363	561	535	740	587
Local excision or destruction of lesion of ovary-----67.1	65	11	13	14	16	11
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	327	45	66	65	83	68
Ligation and division of fallopian tubes, (bilateral)-----68.5	213	29	46	32	49	58
Hysterectomy-----69.1-69.5	570	77	110	108	150	124
Local excision and destruction of other lesions of uterus, cervix, and supporting structures-----70.2	96	16	21	19	27	13
Dilation and curettage of uterus, diagnostic-----70.3	769	95	158	144	220	152
Trachelectomy-----70.4	123	15	35	30	27	16
Colporrhaphy-----71.3	29	1/3	1/4	1/4	8	9
Plastic repair of cystocele and/or rectocele-----71.4	166	21	30	36	47	32
Other gynecological surgery-----residual	427	52	76	81	113	104

See footnotes at end of table.

Table 6. Number of all-listed operations for inpatients discharged from short-stay hospitals, by operation and bed size of hospital: United States, 1971--Con.

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

Surgical class, operation, and ICDA codes	All sizes	Bed size of hospital				
		6-99 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Number of all-listed operations in thousands						
Obstetrical procedures ³ -----74-78	972	111	168	171	245	278
Cesarean section-----77.0	194	23	31	37	53	49
Dilation and curettage after delivery or abortion-----78.1	261	39	51	49	59	62
Repair of laceration-----78.2-78.3	189	29	32	32	45	51
Other obstetrical procedures-----residual	329	19	53	54	88	115
Orthopedic surgery-----80-90	1,957	242	359	386	535	435
Excision of bone, partial-----80.4	107	14	19	19	30	24
Closed reduction of fracture without fixation-----82.0	311	68	76	65	63	40
Open reduction of fracture without fixation-----82.1	63	8	11	12	19	14
Reduction of fracture with fixation-----82.2	263	35	53	54	66	54
Excision of intervertebral cartilage (prolapsed disk)-----86.4	123	¹ / ₂	¹ / ₆	² / ₂	⁴ / ₇	³ / ₃₆
Arthroplasty of hip-----87.0	28	*	² / ₁₂	⁴ / ₁₄	¹ / ₁₀	¹ / ₁₂
Repair and plastic operations on joints of foot and toes-----87.2	57	19	7	9	15	7
Spinal fusion-----87.4	36	*	7	8	10	11
Arthrodesis and stabilization of joints (except spine)-----87.5-87.6	26	¹ / ₂	¹ / ₄	¹ / ₁₄	⁸ / ₈	⁹ / ₉
Closed reduction of dislocation of joint-----87.7	28	6	¹ / ₁₄	¹ / ₁₅	⁷ / ₇	⁵ / ₅
Operations on muscles, tendons, fascia and bursa-----88-89	274	33	53	53	74	61
Other orthopedic surgery-----residual	640	52	108	131	186	163
Plastic surgery-----92-94	943	182	177	179	226	180
Incision of skin and subcutaneous tissue-----92.0	91	15	18	20	19	19
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	411	68	83	75	105	80
Suture of skin or mucous membrane-----92.5	187	54	33	38	37	25
Plastic operations on lip and mouth-----93.1	15	² / ₂	¹ / ₁₂	³ / ₁₃	⁵ / ₅	² / ₂
Skin graft except lip and mouth-----93.2-93.6	126	15	23	24	33	30
Other plastic surgery-----residual	113	27	18	18	27	23
Oral and maxillofacial surgery-----95-98	145	11	24	26	47	38
Glossectomy-----96.2	6	-	*	¹ / ₂	¹ / ₂	*
Other oral and maxillofacial surgery-----residual	139	11	24	24	44	37
Dental surgery-----99	341	19	70	79	102	70
Extraction of tooth, forceps extraction-----99.3	150	13	34	38	37	28
Surgical removal of tooth-----99.4	106	*	21	24	36	24
Alveoloplasty-----99.7	51	¹ / ₂	¹ / ₁₂	¹ / ₁₂	¹ / ₁₅	¹ / ₁₀
Other dental surgery-----residual	35	¹ / ₃	¹ / ₁₄	⁶ / ₆	¹ / ₁₄	⁸ / ₈
Biopsy-----A1-A2	756	70	123	130	228	205

¹Caution should be exercised in the use of this figure since the relative standard error of the estimated number of operations exceeds 25 percent. See appendix I on the reliability of estimates.

²Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

³Codes 75.0-75.6 and 75.9 are not used by HDS.

Table 7. Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by bed size of hospital, according to operation: United States, 1971

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

Surgical class, operation, and ICDA codes	All sizes	Bed size of hospital				
		6-99 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Percent distribution						
All operations-----	100.0	12.3	18.7	19.4	27.4	22.2
Operations excluding obstetrical procedures-----	100.0	12.4	18.8	19.6	27.5	21.8
Neurosurgery-----01-05	100.0	3.5	9.8	15.3	34.6	36.7
Ophthalmology-----06-14	100.0	7.1	19.6	18.8	28.0	26.5
Resection and recession of eye muscle-----10.5-10.6	100.0	¹ 4.3	19.2	23.9	28.5	24.1
Reattachment of retina-----13.4-13.5	100.0	-	¹ 14.4	¹ 8.2	28.3	49.1
Extraction of lens-----14.4-14.6	100.0	6.0	21.5	20.4	28.2	23.9
Other eye surgery-----residual	100.0	9.7	18.1	16.7	27.7	27.8
Otorhinolaryngology-----16-21	100.0	14.6	18.3	20.6	30.2	16.3
Myringotomy-----17.0	100.0	6.6	16.0	23.3	36.0	18.2
Stapedectomy with ossicular reconstruction-----17.4	100.0	*	21.2	¹ 17.0	38.9	20.1
Tympanoplasty-----17.6-17.7	100.0	¹ 3.0	19.6	16.2	44.6	26.6
Excision of lesion of nose-----19.0	100.0	7.9	15.9	17.8	37.0	21.4
Section of nasal septum-----19.1	100.0	17.4	20.9	¹ 11.0	27.3	23.4
Laryngectomy-----20.1-20.2	100.0	¹ *	¹ 9.2	¹ 13.9	42.7	30.9
Tracheotomy or tracheostomy, emergency-----20.5	100.0	5.4	18.5	24.0	29.7	32.5
Tonsillectomy without adenoidectomy-----21.1	100.0	18.5	19.2	21.9	27.4	13.0
Tonsillectomy with adenoidectomy-----21.2	100.0	18.9	22.6	21.8	26.5	10.2
Adenoidectomy without tonsillectomy-----21.3	100.0	¹ 4.4	21.3	15.7	35.7	22.9
Other operations on ears, nose and throat-----residual	100.0	13.2	11.5	20.0	32.4	22.9
Operations on thyroid, parathyroid, thymus and adrenals-----22-23	100.0	8.0	13.8	18.4	31.0	28.8
Thyroidectomy-----22.1-22.2	100.0	¹ 8.0	16.4	19.5	30.2	25.9
Other operations on thyroid, parathyroid, thymus, and adrenals-----residual	100.0	*	*	¹ 14.1	33.9	39.8
Vascular and cardiac surgery-----24-30	100.0	4.7	12.2	17.4	27.8	38.0
Incision of peripheral vessels-----24.0	100.0	*	¹ 15.2	¹ 25.5	31.2	¹ 23.8
Excision and ligation of varicose veins-----24.4	100.0	11.6	20.8	21.0	29.4	17.2
Incision, drainage, and excision of lymphatic structure-----25.0-25.2	100.0	¹ 9.5	15.7	¹ 24.6	26.7	23.4
Operations on valves of heart-----29.2-29.4	100.0	-	*	¹ 15.9	¹ 26.9	48.3
Other vascular and cardiac surgery-----residual	100.0	2.2	9.2	15.0	27.3	46.4
Thoracic surgery-----32-35	100.0	7.2	11.1	18.5	28.3	35.0
Lung lobectomy-----34.2-34.4	100.0	*	¹ 12.8	¹ 11.5	29.0	42.7
Other thoracic surgery-----residual	100.0	7.7	10.8	19.7	28.2	33.6
Abdominal surgery-----38-48	100.0	15.5	20.9	19.7	24.9	19.1
Repair of diaphragm and diaphragmatic hernia-----38.0-38.1	100.0	¹ 10.4	20.8	19.5	29.3	20.0
Repair of inguinal hernia-----38.2-38.3	100.0	16.5	22.1	19.4	25.4	16.7
Appendectomy-----41.1	100.0	23.8	24.8	19.3	19.4	12.7

See footnotes at end of table.

Table 7. Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by bed size of hospital, according to operation: United States, 1971--Con.

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

Surgical class, operation, and ICDA codes	All sizes	Bed size of hospital				
		6-99 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Percent distribution						
Cholecystectomy-----43.5	100.0	16.0	20.3	20.2	26.3	17.1
Splenectomy-----45.1	100.0	17.2	10.5	16.6	30.8	34.9
Gastric resection, partial or complete-----46.2-46.3	100.0	10.9	20.5	20.7	24.5	23.4
Vagotomy-----46.8	100.0	13.5	18.8	17.7	27.5	22.6
Resection of small intestine or colon-----47.4-47.6	100.0	10.2	16.6	20.7	28.2	24.3
Ileostomy, colostomy, and other enterostomy-----47.7-47.9	100.0	9.5	18.5	20.7	28.7	22.5
Other abdominal surgery-----residual	100.0	13.7	20.3	19.7	24.8	21.5
Proctological surgery-----50-52	100.0	14.2	19.0	19.5	30.3	17.0
Local excision and destruction of lesion of rectum and anus-----50.2; 51.2	100.0	13.9	16.3	18.9	31.9	18.9
Hemorrhoidectomy-----51.3	100.0	16.6	20.4	19.4	27.8	15.8
Other proctological surgery-----residual	100.0	11.3	19.3	20.0	32.2	17.2
Urological surgery-----54-61	100.0	8.4	20.0	21.2	28.1	22.3
Nephrotomy and pyelotomy-----54.0-54.1	100.0	*	18.6	24.7	25.8	27.3
Nephrectomy-----54.4-54.5	100.0	¹ 4.5	¹ 12.9	25.4	23.0	35.1
Passage of catheter to kidney-----55.7	100.0	¹ 4.5	17.2	20.4	31.5	26.4
Local excision and destruction of lesion of bladder-----56.1-56.2	100.0	¹ 3.2	19.4	23.3	30.2	24.0
Removal of calculus and drainage of bladder without incision-----56.8	100.0	¹ 9.4	¹ 15.6	¹ 29.3	¹ 24.5	¹ 21.3
Meatotomy (Urethral)-----57.1	100.0	15.6	16.2	22.6	33.5	22.2
Excision or destruction of lesion of urethra-----57.2	100.0	8.9	14.8	33.3	30.1	12.8
Dilation of urethra-----57.5	100.0	6.0	19.5	23.7	30.4	20.3
Prostatectomy-----58.1-58.3	100.0	4.3	23.4	20.0	29.8	22.4
Excision of hydrocele and hematocele-----59.1	100.0	12.0	19.4	21.0	29.4	18.2
Orchiopexy (includes orchidopexy)-----59.7	100.0	¹ 10.2	¹ 16.7	¹ 17.5	32.2	¹ 23.4
Vasectomy-----60.1	100.0	11.0	33.0	18.6	19.7	17.7
Circumcision-----61.2	100.0	21.9	18.7	16.8	23.4	19.2
Other urological surgery-----residual	100.0	10.0	19.2	20.1	27.2	23.6
Breast surgery-----65	100.0	10.9	19.8	22.6	26.5	20.2
Partial mastectomy-----65.2	100.0	9.3	21.9	24.9	25.5	18.4
Complete, radical mastectomy-----65.3-65.6	100.0	10.8	18.1	21.6	29.7	19.7
Other breast surgery-----residual	100.0	20.3	¹ 12.2	¹ 12.9	23.3	31.3
Gynecological surgery-----67-72	100.0	13.0	20.1	19.2	26.6	21.1
Local excision or destruction of lesion of ovary-----67.1	100.0	16.7	20.5	21.8	24.4	16.6
Oophorectomy; Salpingo-oophorectomy-----67.2-67.5	100.0	13.7	20.1	20.0	25.5	20.8
Ligation and division of fallopian tubes, (bilateral)-----68.5	100.0	13.4	21.4	15.1	22.9	27.1
Hysterectomy-----69.1-69.5	100.0	13.5	19.3	19.0	26.3	21.8
Local excision and destruction of other lesions of uterus, cervix, and supporting structures-----70.2	100.0	16.3	22.2	20.1	28.4	13.0
Dilation and curettage of uterus, diagnostic-----70.3	100.0	12.3	20.6	18.8	28.6	19.7
Trachelectomy-----70.4	100.0	12.5	28.7	24.1	21.6	13.2
Colporrhaphy-----71.3	100.0	¹ 11.4	¹ 15.2	¹ 14.8	26.9	31.8
Plastic repair of cystocele and/or rectocele-----71.4	100.0	12.5	18.3	21.4	28.4	19.3
Other gynecological surgery-----residual	100.0	12.1	17.9	19.1	26.6	24.3

See footnotes at end of table.

Table 7. Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by bed size of hospital, according to operation: United States, 1971—Con.

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

Surgical class, operation, and ICDA codes	All sizes	Bed size of hospital				
		6-99 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Percent distribution						
Obstetrical procedures ³ -----74-78	100.0	11.4	17.2	17.6	25.2	28.6
Cesarean section-----77.0	100.0	12.1	16.0	19.3	27.3	25.3
Dilation and curettage after delivery or abortion---78.1	100.0	15.0	19.7	18.7	22.8	23.8
Repair of laceration-----78.2-78.3	100.0	15.3	17.0	16.7	23.8	27.2
Other obstetrical procedures-----residual	100.0	5.8	16.1	16.4	26.6	35.1
Orthopedic surgery-----80-90	100.0	12.4	18.3	19.7	27.3	22.2
Excision of bone, partial-----80.4	100.0	13.3	18.1	17.6	28.4	22.6
Closed reduction of fracture without fixation-----82.0	100.0	22.0	24.2	20.9	20.1	12.8
Open reduction of fracture without fixation-----82.1	100.0	12.4	17.5	18.5	30.1	21.5
Reduction of fracture with fixation-----82.2	100.0	13.4	20.3	20.4	25.2	20.6
Excision of intervertebral cartilage (prolapsed disk)-----86.4	100.0	¹ 1.3	13.2	¹ 18.3	38.2	29.0
Arthroplasty of hip-----87.0	100.0	*	¹ 5.4	¹ 12.7	35.1	41.6
Repair and plastic operations on joints of foot and toes-----87.2	100.0	32.7	12.4	16.0	26.3	12.6
Spinal fusion-----87.4	100.0	*	18.1	21.2	28.2	29.7
Arthrodesis and stabilization of joints (except spine)-----87.5-87.6	100.0	¹ 7.7	¹ 14.0	¹ 16.1	28.5	¹ 33.7
Closed reduction of dislocation of joint-----87.7	100.0	22.3	¹ 14.6	¹ 17.5	26.4	¹ 19.2
Operations on muscles, tendons, fascia and bursa---88-89	100.0	12.0	19.2	19.5	26.9	22.3
Other orthopedic surgery-----residual	100.0	8.2	16.8	20.5	29.1	25.5
Plastic surgery-----92-94	100.0	19.3	18.8	18.9	24.0	19.0
Incision of skin and subcutaneous tissue-----92.0	100.0	16.3	19.5	22.1	21.1	21.0
Excision of lesion of skin and subcutaneous tissue-----92.1-92.2	100.0	16.7	20.1	18.3	25.4	19.5
Suture of skin or mucous membrane-----92.5	100.0	¹ 29.1	¹ 17.7	¹ 20.4	¹ 19.6	¹ 13.2
Plastic operations on lip and mouth-----93.1	100.0	¹ 16.6	¹ 16.0	¹ 18.9	¹ 33.7	¹ 14.8
Skin graft except lip and mouth-----93.2-93.6	100.0	11.8	18.5	19.4	26.4	23.9
Other plastic surgery-----residual	100.0	23.9	15.7	15.7	24.1	20.6
Oral and maxillofacial surgery-----95-98	100.0	7.6	16.6	17.9	32.0	25.9
Glossectomy-----96.2	100.0	-	*	¹ 34.2	¹ 36.0	*
Other oral and maxillofacial surgery-----residual	100.0	7.8	16.9	17.2	31.8	26.3
Dental surgery-----99	100.0	5.7	20.5	23.3	30.0	20.7
Extraction of tooth, forceps extraction-----99.3	100.0	8.7	22.4	25.2	25.0	18.8
Surgical removal of tooth-----99.4	100.0	*	19.5	22.3	34.5	22.5
Alveoloplasty-----99.7	100.0	¹ 4.2	22.9	23.8	29.1	20.0
Other dental surgery-----residual	100.0	¹ 7.9	¹ 11.9	17.1	39.1	24.0
Biopsy-----A1-A2	100.0	9.3	16.3	17.1	30.2	27.1

¹ Caution should be exercised in the use of this figure since the relative standard error of the estimated number of operations exceeds 25 percent. See appendix I on the reliability of estimates.

² Limited to estimated number of appendectomies excluding those performed incidental to other abdominal surgery.

³ Codes 75.0-75.6 and 75.9 are not used by HDS.

APPENDIX I

TECHNICAL NOTES ON METHODS

Statistical Design of the Hospital Discharge Survey

Scope of the survey.—The scope of the HDS encompasses patients discharged from noninstitutional hospitals, exclusive of military and Veterans Administration (VA) hospitals, that have six beds or more for inpatient use, are located in the 50 States and the District of Columbia, and in which the average length of stay for all patients is less than 30 days. Although all discharges of inpatients from these hospitals are within the scope of this survey, discharges of newborn infants and discharges from Federal hospitals are excluded from this report.

Sampling frame and size of sample.—The sampling frame (universe) for hospitals in the HDS is the Master Facility Inventory of Hospitals and Institutions (MFI). A detailed description of how the MFI was developed, its contents, plans for maintaining it, and procedures for assessing the completeness of its coverage has been published.⁵

The universe for the survey consisted of 6,965 short-stay hospitals, excluding military and Veterans Administration hospitals, contained in the MFI in 1963. The distribution of the hospitals by size and geographic region in the MFI and the HDS sample for 1971 is shown in table I.

The sample of hospitals for 1971 consisted of 465 hospitals. Of these hospitals, 60 refused to participate and 26 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 379 hospitals participated in the survey during 1971. Approximately 200,000 abstracts of medical records were received from the 379 hospitals.

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 being the 24 size-by-region classes shown in table I. Within each of these 24 primary strata, the allocation of the hospitals was made through a controlled selection technique so that hospitals in the sample would be properly distributed with regard to 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 all hospitals.

In nearly all hospitals, the daily listing sheet of discharges was the frame from which the subsamples of discharges were selected within the sample hospitals. The sample discharges were selected by a random technique, usually on the basis of the terminal digit 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 NCHS or by both. In more than three-fourths of the hospitals that participated in the HDS during 1971, this work was performed by the medical records department of the hospital. In nearly all 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 shown in figure I. The abstract form provides for recording demographic data, admission and discharge dates, discharge status, and information on discharge diagnoses and surgical operations or procedures. All discharge diagnoses and operations were listed on the abstract form in the order in which they were entered on the face sheet of the hospital medical record.

Shipments of completed abstract forms for each sample hospital were transmitted, along with sample selection control sheets, to NCHS for processing. Every

Table I. Distribution of short-stay hospitals in the universe (MFI) and in the Hospital Discharge Survey sample, and the number of hospitals that participated in the survey, by bed size of hospital and geographic region: United States, 1971

Bed size of hospital	United States	Geographic region			
		Northeast	North Central	South	West
<u>All sizes</u>		Number of hospitals			
Universe-----	6,965	1,107	1,979	2,620	1,259
Total sample-----	465	123	139	135	68
Number participating-----	379	108	121	102	48
<u>6-49 beds</u>					
Universe-----	3,113	199	830	1,438	646
Total sample-----	59	7	17	23	12
Number participating-----	35	5	13	11	6
<u>50-99 beds</u>					
Universe-----	1,623	288	442	587	306
Total sample-----	66	12	18	24	12
Number participating-----	56	10	17	20	9
<u>100-199 beds</u>					
Universe-----	1,144	277	378	332	157
Total sample-----	95	24	30	29	12
Number participating-----	80	23	26	24	7
<u>200-299 beds</u>					
Universe-----	552	182	151	134	85
Total sample-----	83	29	24	18	12
Number participating-----	68	27	21	12	8
<u>300-499 beds</u>					
Universe-----	386	110	129	96	51
Total sample-----	89	24	29	24	12
Number participating-----	75	19	25	21	10
<u>500-999 beds</u>					
Universe-----	129	42	46	28	13
Total sample-----	55	18	18	12	7
Number participating-----	47	15	16	9	7
<u>1,000 beds or more</u>					
Universe-----	18	9	3	5	1
Total sample-----	18	9	3	5	1
Number participating-----	18	9	3	5	1

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.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Health Services and Mental Health Administration
National Center for Health Statistics
MEDICAL ABSTRACT - HOSPITAL DISCHARGE SURVEY

I. Patient Identification

1. Hospital number..... _____	4. Date of admission _____ Month Day Year
2. HDS number _____	5. Date of discharge _____ Month Day Year
3. Medical record number..... _____	

II. Patient Characteristics

1. Date of birth: _____ Month Day Year	2. Age (complete ONLY if date of birth not given): _____ Units { 1 <input type="checkbox"/> years 2 <input type="checkbox"/> months 3 <input type="checkbox"/> days
3. Sex: 1 <input type="checkbox"/> Male 2 <input type="checkbox"/> Female	
4. Race or color: 1 <input type="checkbox"/> White 2 <input type="checkbox"/> Negro 3 <input type="checkbox"/> Other nonwhite 4 <input type="checkbox"/> "Nonwhite" 5 <input type="checkbox"/> Not stated	
5. Marital status: 1 <input type="checkbox"/> Married 2 <input type="checkbox"/> Single 3 <input type="checkbox"/> Widowed 4 <input type="checkbox"/> Divorced 5 <input type="checkbox"/> Separated 6 <input type="checkbox"/> Not stated	
6. Discharge status: 1 <input type="checkbox"/> Alive 2 <input type="checkbox"/> Dead	

III. Diagnoses and Operations

1. Final diagnoses: _____

 see reverse side

2. Operations: _____

 see reverse side

Completed by _____ Date _____

FOR NCHS USE ONLY

Diagnoses _____

Operations _____

Figure I. Medical Abstract Form.

shipment of abstracts was reviewed and each abstract form was checked for completeness.

Medical coding and edit.—The medical information recorded on the sample patient abstracts for data year 1971 were coded centrally by NCHS staff. A maximum of five diagnostic codes and three codes for surgical operations and procedures were assigned for each sample abstract. Following the 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 sex and/or age of patient was incompatible with the recorded medical information, priority was given to the latter in the editing decision.

The basic system used for coding the medical terminology on HDS sample patient abstracts is the ICDA exclusive of the following sections:

- Accidents, poisonings, and violence
(External cause)-----E800-E999
- Fetal death-----Y30
- Part of classification of Certain Causes of Perinatal Morbidity and Mortality concerned with diseases, difficult labor, and other conditions of the mothers of newborn infants-(760-771)

The basic system for coding surgical operations and procedures was modified 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 approach, or of other details prescribed by the ICDA. HDS modifications that are pertinent to estimates presented in this report are shown on the following page.

Presentation of Estimates

Grouping of operations.—Estimates of the number, rate, and distribution of operations by surgical class are based on the classification of operations reported on sample patient abstracts in the 3-digit detail provided by the ICDA. The groupings that are used in this report are specialties numbered 1-17 of the ICDA section Surgical Operations, Diagnostic and Other Therapeutic Procedures. Specific operations or procedures, the most detailed groupings of surgical operations shown in this report, are subsets of the major groups or classes. In developing the tabular list of operations, an effort was made to maximize specificity of the operations consistent with clarity of characterization and with the frequency of their occurrence within the context of the HDS for 1971.

Patient characteristics "not stated."—Age of patient and sex of patient were not stated on the hospital records of sample hospitals (the face sheet of patient's medical record) for less than one-fourth of 1 percent of the discharges. If age was not stated, it was imputed by assigning the patient an age consistent with the ages

of other patients with the same diagnostic code. If the dates of admission or discharge were not given, and if 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. Other missing demographic items were coded and tabulated as "not stated." Color was not stated for 12.5 percent of all discharges. For this reason, rates by color were not computed and caution should be used in drawing conclusions from the data by color. In the detailed tables presenting frequencies and rates, the totals include the not stated cases.

Rounding of numbers.—Estimates of the numbers of inpatient discharges, discharges with surgery, and all-listed operations have been 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 presented in the report were calculated on the basis of unrounded figures and will not necessarily agree with rates and other calculations that may be calculated from the rounded data.

Population estimates.—The population estimates used in computing rates for 1971 HDS data are unpublished estimates for the U.S. civilian, noninstitutionalized population as of July 1, 1971, provided by the U.S. Bureau of the Census.

The population estimates for the United States by age and sex and by geographic region, presented in table II, are consistent with the population estimates

Table II. Civilian, noninstitutionalized population used to compute rates shown in this publication, by age, sex, and geographic region: United States, July 1, 1971

Characteristic	Both sexes.	Male	Female
Population in thousands ¹			
Total-----	202,090	97,330	104,760
<u>Age</u>			
Under 15 years-----	57,368	29,227	28,141
15-44 years-----	83,252	39,992	43,259
45-64 years-----	41,891	19,912	21,979
65 years and over--	19,579	8,199	11,380
<u>Geographic region</u>			
Northeast-----	48,818
North Central-----	56,310
South-----	62,376
West-----	34,586

¹These estimates of the U.S. civilian, non-institutionalized population are consistent with the population estimates published by the U.S. Bureau of the Census in Current Population Reports, Series P-25.

01.1-Transsphenoid surgical approach to brain stem
 14.4-Extraction of lens, extracapsular
 14.5-Extraction of lens, intracapsular

22.6-Excision of branchial cleft cyst
 30.6-Open heart technique
 30.7-Open heart technique with cardiopulmonary bypass
 56.7-Urethrovesical suspension
 65.7-Repair or plastic operations on breast

65.9-Other operations on breast
 74-78-Obstetrical procedures
 77.0-Cesarean section, classical

82-84-Reduction of fracture and fracture dislocation of bones
 82.0-Closed reduction of separated upper femoral epiphysis
 82.1-Open reduction of separated upper femoral epiphysis with or without internal fixation
 82.2-Closed reduction of intertrochanteric fracture
 87.0-Arthroplasty of hip without mechanical device
 87.1-Arthroplasty of hip with mechanical (prosthetic) device
 94.2-Plastic operation of nose
 94.4-Augmentation mammoplasty
 98-Reduction of fracture and fracture-dislocation of jawbone
 98.0-Closed reduction, malar, zygoma and zygomatic arch
 98.1-Open reduction, malar, zygoma and zygomatic arch
 A4-A5-Diagnostic endoscopy
 A8-A9-Diagnostic radiography
 R1-Radiotherapy and related therapies
 R4-Physical medicine and rehabilitation
 R9-Other surgical procedures

01.1 not used; included in 01.7-Hypophysectomy

Add 14.6-Extraction of lens or cataract, not otherwise specified
 22.6 not used; included in 21.6-Pharyngectomy and destruction of lesion of pharynx
 Redefined 30.6-Open heart surgery (with cardiopulmonary bypass) not otherwise specified
 30.7 not used; included in 30.6
 56.7 not used; included in 57.4-Repair and plastic operations on urethra

Add 65.8-Augmentation mammoplasty
 Redefined 65.9-Other operations on breast (includes reduction or amputative mammoplasty)
 75.0-75.6, 75.9 not used
 Redefined 77.0-Cesarean section, all types
 77.1-77.2, 77.8-77.9 not used
 82.3-82.9, 83-84 not used
 Redefined 82.0-Reduction (closed or not otherwise specified) of fracture in 82-84 without mention of fixation
 Redefined 82.1-Reduction (open) of fracture in 82-84 without mention of fixation
 Redefined 82.2-Reduction (closed or open) of fracture in 82-84 with mention of fixation
 Redefined 87.0-Arthroplasty of hip with or without mechanical device
 87.1 not used; included in 87.0
 94.2 not used; included in 19.3-Rhinoplasty and repair of nose
 94.4 not used; see code 65.8
 98.2-98.6 not used
 Redefined 98.0-Reduction (closed), malar, zygoma, zygomatic arch, maxilla, mandible, alveolus
 Redefined 98.1-Reduction (open), malar, zygoma, zygomatic arch, maxilla, mandible, alveolus
 A4-A5 not used
 A8-A9 not used
 R1 not used
 R4 not used
 R9 not used

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

Reliability of Estimates

Estimation.—Statistics produced by the HDS are derived by a complex estimating procedure. The basic unit of estimation is the sample inpatient discharge abstract. The estimating procedure used to produce essentially unbiased national estimates in the HDS has three principal components: inflation by reciprocals of the probabilities of sample selection, adjustment for nonresponse, and ratio adjustment to fixed totals. These components of estimation are described in appendix I of two earlier publications.^{6,7}

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

essing errors. Some of these errors were discussed earlier in this report.

Sampling errors.—The standard error is primarily a measure of variability that occurs by chance because a sample rather than the entire universe is surveyed. In this report, the standard error also reflects part of the measurement error, but does not measure any systematic biases in the data. The relative standard error of the estimate is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percentage of the estimate.

The chances are about 68 out of 100 that the value obtained in a complete enumeration is contained in the interval represented by the estimate plus or minus one standard error of the estimate; 95 out of 100 for two standard errors; and 99 out of 100 for 2½ standard errors. Applying the illustration at the bottom of figure II, the chances are about 68 out of 100 that the value that would be obtained in a complete enumeration is contained in the interval 107,000 ± 8.3 percent of 107,000 (between 98,119 and 115,881); 95 out of 100 for the interval 107,000 ± 8.3 percent of 107,000 multiplied by 2;

Figure II. Approximate relative standard errors of the estimated numbers of discharges or operations for inpatients discharged from all short-stay hospitals, and for discharges by geographic region and bed size of hospital.

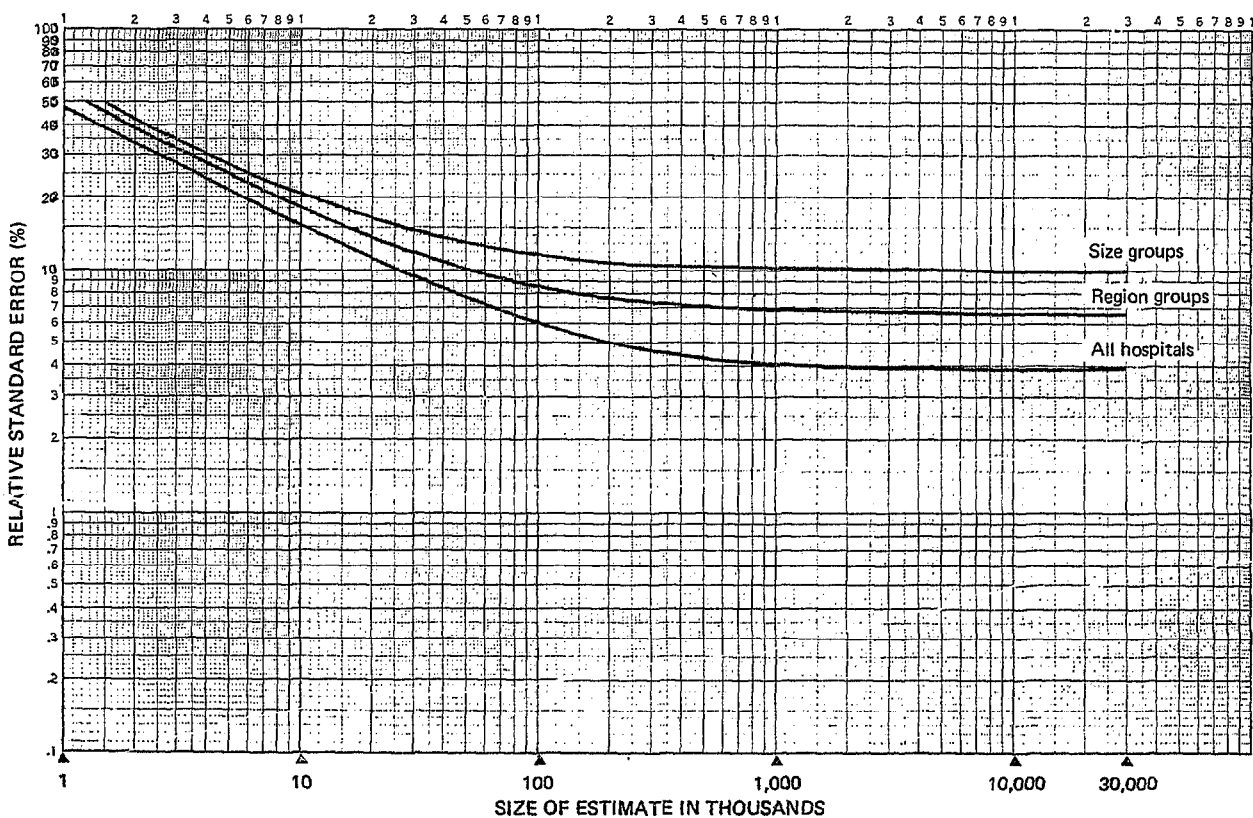


Illustration of use of figure II: As shown in table 3, an estimated 107,000 cholecystectomies were performed during 1971 for inpatient discharges from short-stay hospitals within the Northeast Region. The relative standard error of this estimate as read from the curve "Region groups" is approximately 8.3 percent: the standard error of 107,000 is 8,881 (8.3 percent of 107,000).

Table III. Approximate standard errors of percentages shown in this report for discharges or operations; Patient characteristics cross-classified by geographic region and bed size of hospital and for all hospitals

Number of discharges or operations (base of percent in thousands)	Estimated percent					
	2 or 98	4 or 96	10 or 90	20 or 80	30 or 70	50
	Standard error expressed in percentage points					
100-----	0.7	0.9	1.4	1.9	2.2	2.4
200-----	0.5	0.7	1.0	1.4	1.6	1.7
600-----	0.3	0.4	0.6	0.8	0.9	1.0
1,000-----	0.2	0.3	0.5	0.6	0.7	0.8
2,000-----	0.2	0.2	0.3	0.4	0.5	0.5
6,000-----	0.1	0.1	0.2	0.2	0.3	0.3
10,000-----	0.1	0.1	0.1	0.2	0.2	0.2
20,000-----	0.1	0.1	0.1	0.1	0.2	0.2
30,000-----	0.1	0.1	0.1	0.1	0.1	0.1

NOTE: Illustration of use of table III—Table 7 shows that 22.6 percent of the 740,000 tonsillectomies (with adenoidectomy) reported in table 6 were performed in hospitals of 100-199 beds. Linear interpolation between the values shown in table III yields an approximate standard error of 0.8 percent for an estimate of 22.6 percent with a base of 740,000.

99 out of 100 for the interval $107,000 \pm 8.3$ percent of 107,000 multiplied by 2.5.

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

The relative standard errors (figure II) and approximate standard errors of percentages (table III) that have been prepared for this report are applicable to estimates of discharges and number of operations for all hospitals and by type of surgery or specific procedure cross-tabulated by age, sex, color, geographic region, and size of hospital. The curve in figure II to which one refers to obtain a sampling error is contingent on whether the type of estimate (for example, operations) relates to all hospitals, a geographic region, or a hospital size group. The approximate standard errors of estimated percentages in table III, when the characteristic used to form the numerator of the percentage is a subclass of the denominator, are applicable to all percentages presented in this report.



APPENDIX II

DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

Terms Relating to Hospitalization

Short-stay hospitals.—General and short-term special hospitals having six beds or more for inpatient use and an average (mean) length of stay of less than 30 days. Federal hospitals and hospital units of institutions are not included. The terms "hospitals" and "short-stay hospitals" are used synonymously.

Inpatient.—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 inpatients refers to the number of discharges during 1971, including multiple discharges (if any) of the same individual from one short-stay hospital or more. Newborn infants admitted by birth to the hospital from which they are discharged are excluded in this report. The terms "inpatient" and "patient" are used synonymously.

Discharge.—The formal release of an inpatient by a hospital, that is, the termination of a period of hospitalization by death or by disposition to place of residence, nursing home, or another hospital. In this report, the number of discharges from short-stay hospitals (alive or dead) is exclusive of newborn infants. The terms "discharges," "inpatient discharges," and "patients (or inpatients) discharged" are used synonymously.

Terms Relating to Surgery

Discharges with surgery.—The estimated number of surgically treated patients discharged from non-Federal short-stay hospitals during 1971.

Operation.—One or more surgical operations, procedures, or special treatments that are assigned by the physician to the medical record of patients discharged from the inpatient service of short-stay hospitals. In this survey, 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 are assigned per sample discharge according to the ICDA and Hospital Discharge Survey directives. (See "Medical coding and edit" in appendix I for further

details.) "Operations," "surgical operations," and "surgical procedures" are used synonymously.

All-listed operations.—In terms of the classification system used and the coding of not more than three operations per sample discharge, the estimated number of surgical operations and procedures performed for inpatient discharges from non-Federal short-stay hospitals during 1971. Refers to the aggregate of individually coded operations, procedures, and special treatments in code positions 1-3 exclusive of certain obstetrical procedures, diagnostic endoscopy and radiography, radiotherapy, and certain other treatments not generally considered as surgery.

Surgically treated patients.—Inpatients for whom at least one operation or procedure is performed during one period of hospitalization, exclusive of certain obstetrical procedures, diagnostic endoscopy and radiography, radiotherapy, and certain other treatments not generally considered as surgery.

Volume of operations.—The estimated number of all-listed operations performed for inpatient discharges from non-Federal short-stay hospitals during 1971.

Surgery rate.—The ratio of the number of all-listed operations during 1971 to the number of persons in the civilian, noninstitutionalized population as of July 1, 1971.

Obstetrical procedures.—Certain procedures in ICDA surgery class 12, HDS includes antepartum obstetrical operations, operations inducing or assisting delivery, Cesarean section, and operations after delivery or abortion, but excludes certain routine procedures. (See "Medical coding and edit" in appendix I for further details.)

Demographic Terms

Age.—Refers to age at last birthday prior to admission to the hospital inpatient service.

The elderly.—Persons 65 years of age and over.

Color.—In this report, patients are classified into two groups, "white" and "all other," based on information available on the hospital records (face sheet of the inpatient's medical record) of sample hospitals. "White" includes Mexican and Puerto Rican unless patient is specifically identified as other than white.

United States.— The 50 States and the District of Columbia.

Geographic region.—In this report, hospitals are classified by location according to the four geographic regions of the United States which correspond to those of the U.S. Bureau of the Census. The States included in each region are as follows:

<i>Region</i>	<i>States Included</i>
Northeast -----	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania
North Central ---	Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas

South----- Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas

West----- Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, Hawaii

Bed size of hospital.—Measured by the number of beds, cribs, and pediatric bassinets regularly maintained (set up and staffed for use) for inpatients; 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 hospitals.



VITAL AND HEALTH STATISTICS PUBLICATION SERIES

Originally Public Health Service Publication No. 1000

- Series 1. Programs and collection procedures.*—Reports which describe the general programs of the National Center for Health Statistics and its offices and divisions, data collection methods used, definitions, and other material necessary for understanding the data.
- Series 2. Data evaluation and methods research.*—Studies of new statistical methodology including: experimental tests of new survey methods, studies of vital statistics collection methods, new analytical techniques, objective evaluations of reliability of collected data, contributions to statistical theory.
- Series 3. Analytical studies.*—Reports presenting analytical or interpretive studies based on vital and health statistics, carrying the analysis further than the expository types of reports in the other series.
- Series 4. Documents and committee reports.*—Final reports of major committees concerned with vital and health statistics, and documents such as recommended model vital registration laws and revised birth and death certificates.
- Series 10. Data from the Health Interview Survey.*—Statistics on illness, accidental injuries, disability, use of hospital, medical, dental, and other services, and other health-related topics, based on data collected in a continuing national household interview survey.
- Series 11. Data from the Health Examination Survey.*—Data from direct examination, testing, and measurement of national samples of the civilian, noninstitutional population provide the basis for two types of reports: (1) estimates of the medically defined prevalence of specific diseases in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics; and (2) analysis of relationships among the various measurements without reference to an explicit finite universe of persons.
- Series 12. Data from the Institutional Population Surveys.*—Statistics relating to the health characteristics of persons in institutions, and their medical, nursing, and personal care received, based on national samples of establishments providing these services and samples of the residents or patients.
- Series 13. Data from the Hospital Discharge Survey.*—Statistics relating to discharged patients in short-stay hospitals, based on a sample of patient records in a national sample of hospitals.
- Series 14. Data on health resources: manpower and facilities.*—Statistics on the numbers, geographic distribution, and characteristics of health resources including physicians, dentists, nurses, other health occupations, hospitals, nursing homes, and outpatient facilities.
- Series 20. Data on mortality.*—Various statistics on mortality other than as included in regular annual or monthly reports—special analyses by cause of death, age, and other demographic variables, also geographic and time series analyses.
- Series 21. Data on natality, marriage, and divorce.*—Various statistics on natality, marriage, and divorce other than as included in regular annual or monthly reports—special analyses by demographic variables, also geographic and time series analyses, studies of fertility.
- Series 22. Data from the National Natality and Mortality Surveys.*—Statistics on characteristics of births and deaths not available from the vital records, based on sample surveys stemming from these records, including such topics as mortality by socioeconomic class, hospital experience in the last year of life, medical care during pregnancy, health insurance coverage, etc.

For a list of titles of reports published in these series, write to:

Office of Information
National Center for Health Statistics
Public Health Service, HRA
Rockville, Md. 20852