

Surgical Operations in Short-Stay Hospitals

United States - 1968

Statistics are presented on the volume and classes of surgical operations and procedures performed in short-stay hospitals, based on data abstracted from a national sample of records of inpatients discharged in 1968. Estimates of discharges with surgery and all-listed operations classified by surgical specialty and body site are distributed by size and regional location of the hospital and by age and sex of the discharged patient.

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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.

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SYMBOLS

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SURGICAL OPERATIONS IN SHORT-STAY HOSPITALS

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INTRODUCTION

In 1968, nearly two out of five patients treated in our Nation's short-stay hospitals had one or more surgical operations or procedures. It is estimated that the surgically treated patient underwent on the average 1.3 operations during each recorded hospital episode. These, and other such findings, are presented in this second report on surgical operations in short-stay hospitals as based on data collected through the Hospital Discharge Survey.

The Hospital Discharge Survey (HDS) is a continuous nationwide survey conducted by the National Center for Health Statistics. The data cover calendar year 1968. Presented are statistics on the frequency of surgical operations among patients discharged from short-stay hospitals and the volume of all-listed operations classified by surgical specialty and body site.

The data are based on information transcribed from nonfederal, general, and special short-stay hospitals in the United States. Previous reports based on data collected in the Hospital Discharge Survey, published in *Vital and Health Statistics*, Series 13, Numbers 1-6 and 8-10, presented measurements of hospital utilization according to the demographic characteristics of discharged patients and the size, control, and location of the hospitals. In Series 13, Number 12, utilization of short-stay hospitals by diagnosis of the discharged patient for data year 1968 will be presented.

SUMMARY OF FINDINGS

Out of the universe of 6,965 hospitals, 413 hospitals participated during all or part of the 1968 data year and approximately 210,000 abstracts of sample discharges were received and processed. A detailed description of the sample design, data collection procedures, and the estimation process may be found in appendix I.

An estimated 28.1 million inpatients were discharged from the Nation's short-stay hospitals during 1968. Thirty-nine percent of these patients had one or more surgical operations or procedures as defined herein.

The highest proportions of patients treated surgically in 1968 were in the Northeast and West Regions. Fifty-one percent of the nonobstetrical inpatients discharged from short-stay hospitals having 300-499 beds had one or more surgical operations.

More than one-half of the inpatients under the age of 15 years were treated surgically, with an average of 1.2 operations per surgical patient in that age group. Only 37 percent of the adult patients (15 and over) had an operation. However, adult patients accounted for 84 percent of the estimated volume of operations and procedures performed for inpatients discharged in 1968.

Tonsillectomy with or without adenoidectomy was the most frequently reported surgical operation; it was followed by repair of inguinal hernia and hysterectomy.

Appendix II contains definitions of terms relating to hospitalization and surgery that are used in this report. Since several of the terms have specialized meanings in the Hospital Discharge Survey, familiarity with these definitions will aid in interpreting the data.

Discharges With Surgery

Of the estimated 28.1 million patients (excluding newborn infants) discharged from short-stay hospitals during 1968, 10.9 million (or 39 percent) had one or more surgical operations or procedures (table A). This varies only slightly from the 37 percent of the discharged patients treated surgically in 1967.^a More than 23.8 million of the discharged patients were admitted for conditions other than complications of pregnancy, childbirth, and the puerperium or deliveries. Forty-three percent of these patients had one or more surgical operations or procedures.

Patient Characteristics

Over 50 percent of the patients under the age of 15 years (excluding newborn infants) were treated surgically, tonsillectomy being the most common operation. Over 37 percent of the adult patients had one or more surgical operations, with the lowest proportion being for persons 65 years of age and over (table A). Including obstetrical discharges, the proportion of operated patients varied only slightly between males and females 15 years of age and over. Excluding obstetrical discharges, 43 percent of the adult females were treated surgically compared to 38 percent of the adult male patients.

Geographic Region

The Northeast and West Regions had the higher proportions (44 and 42 percent) of discharged patients with surgery, while the North Central had 39 percent and the South, 34 percent. The higher proportions of operated patients in the Northeast and West are coupled with relatively lower discharge rates (132 and 131 per 1,000 civilian, noninstitutional population in the Northeast and West, respectively, compared with 159 per 1,000 in the North Central and 146 in the South).¹

^aUnpublished data from the Hospital Discharge Survey, Division of Health Resources Statistics, National Center for Health Statistics.

Bed Size of Hospital

Only 29 percent of the inpatients discharged from hospitals maintaining fewer than 100 beds had one or more surgical operations or procedures. Hospitals with 300 to 499 beds reported the highest proportion of surgical patients, approximately 45 percent (table A).

SELECTED OPERATIONS

In table B, 15 selected operations are shown with sex-specific rates for discharges of all ages. Similar data are presented in table C for adult patients.

In the aggregate, the number of discharges with the 15 selected operations accounted for 43 percent of all nonobstetrical discharges with surgery (4.4 out of 10.1 million). The most frequently reported operation for all patients discharged was tonsillectomy, with repair of inguinal hernia and hysterectomy second and third, respectively.

Hysterectomy was the leading operation among adult females and accounted for over 10 percent of the nonobstetrical female discharges with surgery. The number of hysterectomies per 100,000 adult females in the civilian, noninstitutional population was 680 in 1968 as compared with 738 in 1965² and 674 in 1967.^a

Female discharges of all ages had approximately six times more thyroidectomies and three times more excisions of varicose veins than did male patients. Over 75 percent of the cholecystectomies were performed for adult female patients.

Inguinal herniorraphies were eight times more frequently performed for male than female discharges of all ages. Male patients also accounted for over 60 percent of the gastrectomies and 54 percent of the hemorrhoidectomies performed for all patient discharges. There was only small variation between the sexes in the estimated number of such operations as tonsillectomy, appendectomy, enterectomy, and reduction of fracture with internal fixation, as shown in table B.

Estimates and sex-specific rates of discharges following operations that are most frequent among children are shown in table D.

Table A. Number and percent of inpatients discharged from short-stay hospitals with surgery, by type of discharge, age and sex of patient, geographic region, and bed size of hospital: United States, 1968

[Excludes newborn infants and Federal hospitals]

Characteristic	All discharges			Nonobstetric discharges ¹		
	Total	Number with surgery	Percent with surgery	Total	Number with surgery	Percent with surgery
Total ² -----	In thousands 28,070	10,942	39.0	In thousands 23,887	10,230	42.8
<u>Age</u>						
Under 15 years-----	3,988	1,998	50.1	3,970	1,996	50.3
15-44 years-----	12,036	4,718	39.2	7,880	4,011	50.9
45-64 years-----	6,517	2,641	40.5	6,508	2,637	40.5
65 years and over-----	5,520	1,583	28.7	5,520	1,583	28.7
<u>Sex and age</u>						
Male, all ages-----	11,204	4,528	40.4	11,204	4,528	40.4
Male, 15 years and over---	8,961	3,380	37.7	8,961	3,380	37.7
Female, all ages-----	16,801	6,393	38.1	12,619	5,680	45.0
Female, 15 years and over--	15,059	5,546	36.8	10,894	4,733	43.4
<u>Geographic region</u>						
Northeast-----	6,279	2,732	43.5	5,247	2,535	48.3
North Central-----	8,679	3,403	39.2	7,391	3,199	43.3
South-----	8,872	3,038	34.2	7,643	2,833	37.1
West-----	4,241	1,768	41.7	3,607	1,661	46.1
<u>Bed size of hospital</u>						
Less than 100 beds-----	6,208	1,788	28.8	5,388	1,682	29.3
100-199 beds-----	6,302	2,338	37.1	5,352	2,190	40.9
200-299 beds-----	4,942	2,148	43.5	4,227	2,023	47.9
300-499 beds-----	6,296	2,815	44.7	5,351	2,636	49.3
500 beds or more-----	4,322	1,854	42.9	3,570	1,699	47.6

¹Excludes discharges with first-listed or only diagnosis classified to ICDA class XI, Deliveries and Complications of Pregnancy, Childbirth, and Puerperium.

²Includes discharges for which the patient characteristic was not stated.

Table B. Number and rate of inpatients discharged from short-stay hospitals with selected surgical operations, by sex: United States, 1968

[Excludes newborn infants and Federal hospitals]

Operation and ICDA-HDS codes ¹	Number of discharges of patients in thousands			Rate of discharges per 100,000 population	
	Both sexes ²	Male	Female	Male	Female
Thyroidectomy-----08.1-08.2	74	11	63	11.2	61.9
Extraction of lens-----17.3-17.5	213	89	123	94.8	121.4
Tonsillectomy with or without adenoidectomy-----27.1-27.2	1,056	517	537	549.5	529.8
Mastectomy-----38.1-38.3	272	16	255	17.5	251.2
Repair of inguinal hernia-----40.0-40.1	521	463	58	492.7	56.8
Gastrectomy-----44.2-44.3	67	41	26	44.0	25.6
Appendectomy ³ -----45.1	318	177	139	188.3	137.6
Enterectomy; colectomy-----46.3-46.5	97	40	57	42.1	56.3
Hemorrhoidectomy-----49.3	230	125	105	133.4	103.2
Cholecystectomy-----53.5	339	81	257	86.3	253.4
Prostatectomy-----66.1-66.3	212	212	...	225.1	...
Hysterectomy-----72.3-72.6	491	...	491	...	484.1
Reduction of fracture with internal fixation-----82.2	239	108	129	115.4	127.3
Excision of intervertebral cartilage-----83.4	108	66	41	70.5	40.7
Excision and ligation of varicose veins---88.4	119	28	91	29.5	89.8

¹See reference 3.²Includes discharges for which sex of patient was not stated.³Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

While children (excluding newborn infants) accounted for only 14 percent of all the inpatients discharged from short-stay hospitals in 1968, over 50 percent of them had one or more surgical operations or procedures. Four out of five of the tonsillectomies and more than one-fourth of the inguinal hernia repairs were performed for patients under the age of 15 years.

Nearly 74 percent of the prostatectomies performed were for patients 65 years of age and over (tables B and E). One out of every five males in this age group who had an operation had a prostatectomy. About 43 percent of the reductions of fractures with internal fixation and over 70 percent of the lens extractions were restricted to the aged patient.

Table C. Number and rate of inpatients 15 years of age and over discharged from short-stay hospitals with selected surgical operations, by sex: United States, 1968

[Excludes Federal hospitals]

Operation and ICDA-HDS codes ¹	Number of discharges of patients in thousands			Rate of discharges per 100,000 population	
	Both sexes ²	Male	Female	Male	Female
Thyroidectomy-----08.1-08.2	73	11	62	16.5	86.1
Extraction of lens-----17.3-17.5	211	88	121	138.3	167.9
Tonsillectomy with or without adenoidectomy-----27.1-27.2	221	83	137	130.6	189.2
Mastectomy-----38.1-38.3	270	15	254	23.5	352.0
Repair of inguinal hernia-----40.0-40.1	386	347	40	543.9	55.3
Gastrectomy-----44.2-44.3	70	41	26	64.2	36.0
Appendectomy ³ -----45.1	203	111	91	174.3	126.1
Enterectomy; colectomy-----46.3-46.5	96	39	57	60.8	78.6
Hemorrhoidectomy-----49.3	230	125	105	196.1	144.9
Cholecystectomy-----53.5	338	81	256	127.1	354.7
Prostatectomy-----66.1-66.3	211	211	...	331.6	...
Hysterectomy-----72.3-72.6	490	...	490	...	679.5
Reduction of fracture with internal fixation-----82.2	221	97	122	152.7	169.8
Excision of intervertebral cartilage-----83.4	107	66	41	103.3	57.0
Excision and ligation of varicose veins---88.4	119	28	91	43.2	125.9

¹See reference 3.

²Includes discharges for which sex of patient was not stated.

³Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

Table D. Number and rate of inpatients under 15 years of age discharged from short-stay hospitals with selected surgical operations, by sex: United States, 1968

[Excludes newborn infants and Federal hospitals]

Operation and ICDA-HDS codes ¹	Number of discharges in thousands			Rate of discharges per 100,000 population	
	Both sexes ²	Male	Female	Male	Female
Tonsillectomy with or without adenoidectomy-----27.1-27.2	835	433	400	1,430.5	1,369.7
Operations on tympanum-----20.4	135	84	51	277.5	174.6
Reduction of fracture without internal fixation-----82.0-82.1	123	79	44	261.0	150.7
Appendectomy ³ -----45.1	115	66	48	218.0	164.4
Repair of inguinal hernia-----40.0-40.1	135	117	18	386.5	61.6

¹See reference 3.

²Includes discharges for which sex of patient was not stated.

³Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

Table E. Number and rate of inpatients 65 years of age and over discharged from short-stay hospitals with selected surgical operations, by sex: United States, 1968

[Excludes Federal hospitals]

Operation and ICDA-HDS codes ¹	Number of discharges in thousands			Rate of discharges per 100,000 population	
	Both sexes ²	Male	Female	Male	Female
Extraction of lens-----17.3-17.5	151	57	93	720.9	890.3
Prostatectomy-----66.1-66.3	156	156	...	1,972.9	...
Reduction of fracture with internal fixation-----82.2	103	23	80	290.9	765.8
Repair of inguinal hernia-----40.0-40.1	91	79	12	999.1	114.9
Cholecystectomy-----53.5	80	25	54	316.2	516.9

¹See reference 3.

²Includes discharges for which sex of patient was not stated.

SURGICAL OPERATIONS BY SPECIALTY AND BODY SITE

An estimated 14.6 million surgical operations and procedures were reported for the 10.9 million discharges with surgery. The estimate is based on the processing of up to three 3-digit codes for operations and treatments of the International Classification of Diseases, Adapted (ICDA),³ per sample discharge. It includes biopsies, exploratory laparotomies, and certain other diagnostic procedures coded separately, but it excludes routine obstetrical procedures, endoscopies, and certain other nonsurgical procedures. (See appendix I for further details on medical coding and presentation of estimates.)

Estimates of the total number of operations performed, including and excluding obstetrical procedures, are distributed by selected patient characteristics, hospital size, and geographic region in table F. Estimates of the volume and rate of all-listed operations classified by specialty and body site are presented in tables 1-6.

Patient Characteristics

Sixty percent of all the operations reported for inpatients discharged from short-stay hospitals in 1968 were performed on females (table F). In relation to the civilian, noninstitutional population, the rate of all-listed operations for females exceeds that for males by 38 percent. Much of this excess is accounted for by gynecological surgery, which comprised 30 percent of the volume of operations performed for

females (2.5 out of 8.7 million operations).

More than 83 percent of the volume of operations was reported for patients over the age of 15 years. The lowest volume of operations (15.5 percent) was reported for patients 65 years and over.

Geographic Region

In 1968 the West Region, which had the lowest share (16.6 percent) of the civilian, noninstitutional population, also reported the smallest proportion of the number of inpatients discharged from the Nation's nonfederal short-stay hospitals (table G). Comparisons between the regions in the rates of all-listed operations grouped by specialty reveal the South and West Regions generally lower than the rates for the other two regions of the United States.

Bed Size of Hospital

Of the surgical operations classified by specialty reported in table 5, all except thoracic surgery showed a higher number of operations reported by hospitals of 300-499 beds. One-half or more of the operations classified as neurosurgery, ophthalmology, and thoracic surgery were reported by hospitals maintaining 300 beds or more for inpatients. Smaller hospitals (less than 200 beds) accounted for half of the number of operations on the pharynx, tonsils, and adenoids, 41 percent of the hernia repairs, and 52 percent of the operations on the appendix. While hospitals of the largest bed size (500 beds or more) reported 17 percent of the total volume of oper-

Table F. Number and percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by age and sex of patient, geographic region, and bed size of hospital: United States, 1968

[Excludes newborn infants and Federal hospitals]

Characteristic	Operations including obstetrical procedures		Operations excluding obstetrical procedures	
	Number in thousands	Percent distribution	Number in thousands	Percent distribution
Total ¹ -----	14,624	100.0	13,888	100.0
<u>Age</u>				
Under 15 years -----	2,367	16.2	2,364	17.0
15-44 years -----	6,340	43.4	5,611	40.4
45-64 years -----	3,765	25.7	3,760	27.1
65 years and over -----	2,149	14.7	2,149	15.5
<u>Sex and age</u>				
Male, all ages -----	5,855	40.0	5,855	42.2
Male, 15 years and over -----	4,470	30.6	4,470	32.2
Female, all ages -----	8,742	59.8	8,006	57.7
Female, 15 years and over -----	7,763	53.1	7,030	50.6
<u>Geographic region</u>				
Northeast -----	3,665	25.1	3,461	24.9
North Central -----	4,560	31.2	4,350	31.3
South -----	4,068	27.8	3,857	27.8
West -----	2,330	16.0	2,219	16.0
<u>Bed size of hospital</u>				
Less than 100 beds -----	2,293	15.7	2,186	15.7
100-199 beds -----	3,086	21.1	2,934	21.1
200-299 beds -----	2,905	19.9	2,776	20.0
300-499 beds -----	3,813	26.1	3,626	26.1
500 beds or more -----	2,527	17.3	2,366	17.0

¹Includes operations for which the patient characteristic was not stated.

ations for patients discharged from the Nation's nonfederal short-stay hospitals in 1968, they accounted for 40 percent of the operations on the skull, brain, and cerebral meninges, 46 percent

of the operations on the heart, pericardium, and intrathoracic vessels, and 32 percent of all operations on the pancreas, spleen, and intra-abdominal blood vessels.

Table G. Percent distribution of the population, of inpatients discharged, of inpatients discharged with surgery, and of all-listed operations by geographic region: United States, 1968

Measure	All regions	North-east	North Central	South	West
	Percent distribution				
Civilian, noninstitutional population-----	100.0	24.3	28.0	31.0	16.6
Hospital discharges (inpatients) ¹ -----	100.0	22.4	30.9	31.6	15.1
Discharges with surgery ¹ -----	100.0	25.0	31.1	27.8	16.2
All-listed operations ¹ -----	100.0	25.1	31.2	27.8	16.0

¹Excludes newborn infants.

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Table 1. Number of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site, age, and sex: United States, 1968

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	All ages			15 years and over
	Both sexes ²	Male	Female	
Number of all-listed operations in thousands				
All operations-----	14,624	5,855	8,742	12,254
Operations excluding obstetrical procedures--	13,888	5,855	8,006	11,520
Neurosurgery-----01-06	211	116	95	184
Skull, brain, and cerebral meninges-----01-02	79	49	30	61
Spinal cord, nerve roots, and spinal meninges---03	27	16	11	25
Peripheral and sympathetic nerves or ganglia--05-06	105	50	54	99
Ophthalmology-----10-18	527	247	278	411
Orbit, eyeball, and ocular muscles-----10-11	126	61	65	46
Eyelids and conjunctiva-----12-13	90	43	46	76
Cornea, iris, ciliary body, sclera, choroid, retina, and lacrimal apparatus-----14-16,18	88	48	39	73
Lens-----17	223	95	127	216
Otorhinolaryngology-----20-22,27	1,810	939	867	728
Ear-----20	285	161	122	124
Nose and accessory sinuses-----21	325	173	151	292
Larynx and trachea-----22	81	51	29	74
Pharynx, tonsils, and adenoids-----27	1,120	553	564	237
Oral and buccal surgery-----24-26	380	164	215	328
Teeth and gums-----24	311	128	182	276
Salivary glands, buccal cavity, tongue, and palate-----25-26	69	37	33	52
Thoracic surgery-----30-35	288	170	117	261
Heart, pericardium, and intrathoracic vessels-----30-32	112	64	48	92
Bronchus and lung-----33,35	64	42	22	63
Chest wall, pleura, and mediastinum-----34	111	64	47	106
Gastrointestinal and abdominal surgery-28,40-57	3,078	1,598	1,473	2,728
Repair of hernia-----40	710	535	174	550
Abdominal wall and peritoneum-----41-42	426	142	284	390
Esophagus, stomach, and duodenum combined with stomach-----28,44	270	164	105	257
Appendix ³ -----45	319	178	140	204
Intestines-----46-47	317	134	182	304
Rectum-----48	120	64	55	115
Anus-----49	389	210	179	386
Liver and biliary tract-----51-53	470	134	334	466
Pancreas, spleen, and intra-abdominal blood vessels-----55-57	59	38	21	56

See footnotes at end of table.

Table 1. Number of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site, age, and sex: United States, 1968—Con.

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	All ages			15 years and over
	Both sexes ²	Male	Female	
Number of all-listed operations in thousands				
Genitourinary surgery-----60-69	1,203	902	299	956
Kidney-----60	73	36	37	67
Ureter-----62	100	53	47	88
Urinary bladder-----63	163	94	68	154
Urethra-----64	268	120	147	186
Prostate and seminal vesicles-----66	233	233	...	233
Testis, tunica vaginalis, spermatic cord, and scrotum-----67	172	172	...	105
Epididymis and vas deferens-----68	76	76	...	75
Penis-----69	119	119	...	47
Gynecological surgery-----70-75	2,658	...	2,658	2,645
Ovary-----70	385	...	385	381
Fallopian tube-----71	154	...	154	153
Uterus, cervix, and supporting structures-----72-73	1,788	...	1,788	1,785
Vagina, vulva, and perineum-----74-75	331	...	331	325
Obstetrical procedures-----76.6-78.9	736	...	736	734
Orthopedic surgery-----80-87	1,903	1,006	892	1,624
Bone-----80-82	1,029	523	503	834
Joint structures-----83-84	537	306	230	504
Muscles, tendons, fascia, and bursa-----85-86	268	136	132	220
Amputation and disarticulation of extremities-----87	69	42	27	65
Other general and specialized surgery-----	1,829	713	1,112	1,655
Thyroid, parathyroid, and other endocrine glands-----08-09	88	15	72	84
Breast, male and female-----38	416	20	395	413
Peripheral blood vessels and lymphatic system-----88	286	120	165	273
Skin and subcutaneous tissue-----89	1,040	558	480	885

¹See reference 3.

²Includes discharge data for which sex of patient was not stated.

³Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

Table 2. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site, age, and sex: United States, 1968

[Excludes newborn infants and Federal Hospitals]

Specialty and body site with ICDA ¹ codes	All ages			15 years and over
	Both sexes ²	Male	Female	
	Rate of all-listed operations per 100,000 population			
All operations-----	7,487	6,229	8,628	9,020
Operations excluding obstetrical procedures---	7,110	6,229	7,901	8,480
Neurosurgery-----01-06	108	123	94	135
Skull, brain, and cerebral meninges-----01-02	41	53	29	45
Spinal cord, nerve roots, and spinal meninges-----03	14	17	11	18
Peripheral and sympathetic nerves or ganglia---05-06	54	53	54	73
Ophthalmology-----10-18	270	263	274	303
Orbit, eyeball, and ocular muscles-----10-11	65	65	64	34
Eyelids and conjunctiva-----12-13	46	46	46	56
Cornea, iris, ciliary body, sclera, choroid, retina, and lacrimal apparatus-----14-16,18	45	51	39	53
Lens-----17	114	101	125	159
Otorhinolaryngology-----20-22,27	927	999	856	536
Ear-----20	146	172	121	92
Nose and accessory sinuses-----21	166	184	149	215
Larynx and trachea-----22	41	54	29	54
Pharynx, tonsils, and adenoids-----27	573	588	557	175
Oral and buccal surgery-----24-26	195	174	212	242
Teeth and gums-----24	159	136	180	203
Salivary glands, buccal cavity, tongue and palate-----25-26	35	39	32	38
Thoracic surgery-----30-35	147	181	116	192
Heart, pericardium, and intrathoracic vessels--30-32	57	68	48	68
Bronchus and lung-----33,35	33	45	21	47
Chest wall, pleura, and mediastinum-----34	57	68	46	78
Gastrointestinal and abdominal surgery--28,40-57	1,576	1,700	1,453	2,008
Repair of hernia-----40	363	569	172	405
Abdominal wall and peritoneum-----41-42	218	151	280	287
Esophagus, stomach, and duodenum combined with stomach-----28,44	138	175	103	189
Appendix ³ -----45	163	189	138	150
Intestines-----46-47	162	142	180	224
Rectum-----48	61	68	55	85
Anus-----49	199	223	176	284
Liver and biliary tract-----51-53	240	143	330	343
Pancreas, spleen, and intra-abdominal blood vessels-----55-57	30	40	20	41

See footnotes at end of table.

ERRATA

Please substitute this page for page 14 in your copy of Vital and Health Statistics, Series 13, No. 11, "Surgical Operations in Short-Stay Hospitals, United States, 1968"

Table 2. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site, age, and sex: United States, 1968—Con.

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	All ages			15 years and over
	Both sexes ²	Male	Female	
	Rate of all-listed operations per 100,000 population			
Genitourinary surgery-----60-69	616	960	295	704
Kidney-----60	37	38	37	49
Ureter-----62	51	56	46	65
Urinary bladder-----63	83	100	67	113
Urethra-----64	137	128	146	137
Prostate and seminal vesicles-----66	120	248	...	172
Testis, tunica vaginalis, spermatic cord, and scrotum-----67	88	182	...	78
Epididymis and vas deferens-----68	39	81	...	55
Penis-----69	61	126	...	35
Gynecological surgery-----70-75	1,361	...	2,623	1,947
Ovary-----70	197	...	380	280
Fallopian tube-----71	79	...	152	113
Uterus, cervix, and supporting structures-----72-73	915	...	1,764	1,314
Vagina, vulva, and perineum-----74-75	170	...	327	240
Obstetrical procedures-----76,6-78.9	377	...	727	540
Orthopedic surgery-----80-87	974	1,071	880	1,195
Bone-----80-82	527	557	497	614
Joint structures-----83-84	275	325	227	371
Muscles, tendons, fascia, and bursa-----85-86	137	144	130	162
Amputation and disarticulation of extremities-----87	35	45	27	48
Other general and specialized surgery-----	937	758	1,097	1,218
Thyroid, parathyroid, and other endocrine glands-----08-09	45	16	71	62
Breast, male and female-----38	213	22	390	304
Peripheral blood vessels and lymphatic system-----88	146	127	163	201
Skin and subcutaneous tissue-----89	532	593	473	652

¹See reference 3.

²Includes discharge data for which sex of patient was not stated.

³Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

Table 3. Number of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site and geographic region: United States, 1968

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	Geographic region			
	Northeast	North Central	South	West
All operations-----	Number of all-listed operations in thousands			
	3,665	4,560	4,068	2,330
Operations excluding obstetrical procedures-----	3,461	4,350	3,857	2,219
Neurosurgery-----01-06	43	63	63	42
Skull, brain, and cerebral meninges-----01-02	14	24	24	17
Spinal cord, nerve roots, and spinal meninges---03	7	6	10	4
Peripheral and sympathetic nerves or ganglia-----05-06	23	32	29	21
Ophthalmology-----10-18	120	175	133	100
Orbit, eyeball, and ocular muscles-----10-11	27	43	29	27
Eyelids and conjunctiva-----12-13	18	33	27	12
Cornea, iris, ciliary body, sclera, choroid, retina, and lacrimal apparatus-----14-16,18	18	29	22	19
Lens-----17	56	70	56	41
Otorhinolaryngology-----20-22,27	380	641	478	311
Ear-----20	63	112	70	41
Nose and accessory sinuses-----21	69	135	72	49
Larynx and trachea-----22	21	23	22	15
Pharynx, tonsils, and adenoids-----27	227	371	315	207
Oral and buccal surgery-----24-26	138	110	102	31
Teeth and gums-----24	118	88	85	20
Salivary glands, buccal cavity, tongue, and palate-----25-26	19	22	17	11
Thoracic surgery-----30-35	69	89	80	50
Heart, pericardium, and intrathoracic vessels-----30-32	23	37	32	21
Bronchus and lung-----33,35	16	18	19	11
Chest wall, pleura, and mediastinum-----34	30	34	30	18
Gastrointestinal and abdominal surgery-----28,40-57	787	951	849	491
Repair of hernia-----40	193	219	185	113
Abdominal wall and peritoneum-----41-42	102	126	139	59
Esophagus, stomach, and duodenum combined with stomach-----28,44	64	80	74	52
Appendix ² -----45	71	95	105	48
Intestines-----46-47	87	101	76	52
Rectum-----48	30	40	30	20
Anus-----49	100	117	112	60
Liver and biliary tract-----51-53	125	155	114	76
Pancreas, spleen, and intra-abdominal blood vessels-----55-57	16	17	15	11

See footnotes at end of table.

Table 3. Number of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site and geographic region: United States, 1968—Con.

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	Geographic region			
	Northeast	North Central	South	West
	Number of all-listed operations in thousands			
Genitourinary surgery-----60-69	320	382	330	172
Kidney-----60	18	22	23	10
Ureter-----62	30	29	31	11
Urinary bladder-----63	43	52	41	27
Urethra-----64	67	81	86	33
Prostate and seminal vesicles-----66	71	77	49	37
Testis, tunica vaginalis, spermatic cord, and scrotum-----67	49	56	40	26
Epididymis and vas deferens-----68	20	22	20	14
Penis-----69	23	43	39	13
Gynecological surgery-----70-75	713	771	772	401
Ovary-----70	95	110	121	59
Fallopian tube-----71	31	34	64	25
Uterus, cervix, and supporting structures-----72-73	501	530	493	264
Vagina, vulva, and perineum-----74-75	86	98	94	54
Obstetrical procedures-----76.6-78.9	204	211	211	111
Orthopedic surgery-----80-87	429	602	520	352
Bone-----80-82	239	320	287	184
Joint structures-----83-84	108	185	131	113
Muscles, tendons, fascia, and bursa-----85-86	64	77	79	48
Amputation and disarticulation of extremities---87	18	20	23	8
Other general and specialized surgery-----	462	566	530	271
Thyroid, parathyroid, and other endocrine glands-----08-09	20	24	29	15
Breast, male and female-----38	107	128	115	66
Peripheral blood vessels and lymphatic system---88	78	93	70	44
Skin and subcutaneous tissue-----89	257	320	316	146

¹See reference 3.

²Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

Table 4. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site and geographic region: United States, 1968

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	Geographic region			
	Northeast	North Central	South	West
All operations-----	Rate of all-listed operations per 100,000 population			
	7,709	8,331	6,710	7,191
Operations excluding obstetrical procedures-----	7,280	7,946	6,362	6,849
Neurosurgery-----01-06	91	115	105	129
Skull, brain, and cerebral meninges-----01-02	30	45	40	51
Spinal cord, nerve roots, and spinal meninges--03	14	12	17	12
Peripheral and sympathetic nerves or ganglia-----05-06	47	58	48	65
Ophthalmology-----10-18	252	319	220	308
Orbit, eyeball, and ocular muscles-----10-11	57	79	47	84
Eyelids and conjunctiva-----12-13	38	60	45	37
Cornea, iris, ciliary body, sclera, choroid, retina, and lacrimal apparatus-----14-16,18	38	53	36	59
Lens-----17	119	127	92	128
Otorhinolaryngology-----20-22,27	798	1,172	788	960
Ear-----20	132	204	115	125
Nose and accessory sinuses-----21	144	247	118	151
Larynx and trachea-----22	44	42	36	47
Pharynx, tonsils, and adenoids-----27	477	679	520	637
Oral and buccal surgery-----24-26	289	201	167	96
Teeth and gums-----24	249	161	140	62
Salivary glands, buccal cavity, tongue, and palate-----25-26	41	40	28	34
Thoracic surgery-----30-35	145	162	132	153
Heart, pericardium, and intrathoracic vessels-----30-32	47	67	52	64
Bronchus and lung-----33,35	35	33	31	34
Chest wall, pleura, and mediastinum-----34	63	62	49	56
Gastrointestinal and abdominal surgery-----28,40-57	1,656	1,737	1,400	1,514
Repair of hernia-----40	405	400	305	350
Abdominal wall and peritoneum-----41-42	215	231	229	181
Esophagus, stomach, and duodenum combined with stomach-----28,44	134	147	122	161
Appendix ² -----45	150	173	173	148
Intestines-----46-47	184	184	126	162
Rectum-----48	62	74	49	62
Anus-----49	210	214	185	185
Liver and biliary tract-----51-53	262	283	189	233
Pancreas, spleen, and intra-abdominal blood vessels-----55-57	33	32	24	33

See footnotes at end of table.

Table 4. Rates of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site and geographic region: United States, 1968—Con.

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	Geographic region			
	Northeast	North Central	South	West
Rate of all-listed operations per 100,000 population				
Genitourinary surgery-----60-69	673	697	544	529
Kidney-----60	37	40	39	30
Ureter-----62	62	52	51	33
Urinary bladder-----63	91	94	67	84
Urethra-----64	141	149	143	103
Prostate and seminal vesicles-----66	149	141	80	114
Testis, tunica vaginalis, spermatic cord, and scrotum-----67	104	103	66	80
Epididymis and vas deferens-----68	42	40	33	43
Penis-----69	48	79	65	42
Gynecological surgery-----70-75	1,500	1,409	1,273	1,238
Ovary-----70	200	201	200	182
Fallopian tube-----71	66	62	105	76
Uterus, cervix, and supporting structures---72-73	1,053	967	814	814
Vagina, vulva, and perineum-----74-75	181	178	154	166
Obstetrical procedures-----76.6-78.9	430	385	348	342
Orthopedic surgery-----80-87	903	1,100	858	1,086
Bone-----80-82	502	585	473	566
Joint structures-----83-84	228	339	217	348
Muscles, tendons, fascia, and bursa-----85-86	135	140	130	147
Amputation and disarticulation of extremities---87	38	36	38	26
Other general and specialized surgery-----	973	1,034	875	835
Thyroid, parathyroid, and other endocrine glands-----08-09	43	44	47	45
Breast, male and female-----38	226	234	190	203
Peripheral blood vessels and lymphatic system---88	164	171	116	136
Skin and subcutaneous tissue-----89	540	585	521	451

¹See reference 3.

²Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

Table 5. Number of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site and bed size of hospital: United States, 1968

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	Bed size of hospital					
	All sizes	Less than 100 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Number of all-listed operations in thousands						
All operations-----	14,624	2,293	3,086	2,905	3,813	2,527
Operations excluding obstetrical procedures-----	13,888	2,186	2,934	2,776	3,626	2,366
Neurosurgery-----01-06	211	13	24	44	66	65
Skull, brain, and cerebral meninges-----01-02	79	-	7	14	25	32
Spinal cord, nerve roots, and spinal meninges-----03	27	-	4	5	9	8
Peripheral and sympathetic nerves or ganglia-----05-06	105	11	12	25	32	24
Ophthalmology-----10-18	527	38	112	107	144	126
Orbit, eyeball, and ocular muscles-----10-11	126	6	29	26	36	30
Eyelids and conjunctiva-----12-13	90	16	18	17	19	19
Cornea, iris, ciliary body, sclera, choroid, retina, and lacrimal apparatus-----14-16,18	88	3	16	18	22	29
Lens-----17	223	13	49	46	67	49
Otorhinolaryngology-----20-22,27	1,810	363	385	353	470	240
Ear-----20	285	19	45	67	95	59
Nose and accessory sinuses-----21	325	63	51	57	96	57
Larynx and trachea-----22	81	4	10	15	25	27
Pharynx, tonsils, and adenoids-----27	1,120	277	279	214	254	96
Oral and buccal surgery-----24-26	380	33	85	86	120	56
Teeth and gums-----24	311	26	70	74	98	42
Salivary glands, buccal cavity, tongue, and palate-----25-26	69	7	15	12	22	13
Thoracic surgery-----30-35	288	13	42	60	74	99
Heart, pericardium, and intrathoracic vessels-----30-32	112	-	13	18	29	52
Bronchus and lung-----33,35	64	2	10	18	20	15
Chest wall, pleura, and mediastinum---34	111	11	19	24	25	32
Gastrointestinal and abdominal surgery-----28,40-57	3,078	542	672	619	757	488
Repair of hernia-----40	710	129	164	148	169	100
Abdominal wall and peritoneum-----41-42	426	75	85	82	103	80
Esophagus, stomach, and duodenum combined with stomach-----28,44	270	37	51	56	68	58
Appendix ² -----45	319	88	79	55	63	34
Intestines-----46-47	317	40	65	70	83	58
Rectum-----48	120	20	23	25	30	21
Anus-----49	389	66	87	78	109	49
Liver and biliary tract-----51-53	470	82	109	94	116	68
Pancreas, spleen, and intra-abdominal blood vessels-----55-57	59	4	8	11	16	19

See footnotes at end of table.

Table 5. Number of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site and bed size of hospital: United States, 1968—Con.

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	Bed size of hospital					
	All sizes	Less than 100 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Number of all-listed operations in thousands						
Genitourinary surgery-----60-69	1,203	137	275	245	311	235
Kidney-----60	73	5	13	13	21	21
Ureter-----62	100	6	25	20	28	20
Urinary bladder-----63	163	15	36	33	41	38
Urethra-----64	268	31	57	60	74	47
Prostate and seminal vesicles-----66	233	16	53	50	64	51
Testis, tunica vaginalis, spermatic cord, and scrotum-----67	172	27	42	36	41	26
Epididymis and vas deferens-----68	76	8	17	17	21	13
Penis-----69	119	30	32	17	21	19
Gynecological surgery-----70-75	2,658	432	567	507	711	441
Ovary-----70	385	76	79	69	95	67
Fallopian tube-----71	154	31	34	28	33	28
Uterus, cervix, and supporting structures-----72-73	1,788	280	385	346	494	282
Vagina, vulva, and perineum-----74-75	331	45	69	65	90	63
Obstetrical procedures-----76.6-78.9	736	107	152	130	187	161
Orthopedic surgery-----80-87	1,903	284	387	401	507	324
Bone-----80-82	1,029	184	218	213	253	161
Joint structures-----83-84	537	49	105	121	162	100
Muscles, tendons, fascia, and bursa-----85-86	268	40	48	58	75	46
Amputation and disarticulation of extremities-----87	69	11	16	9	17	16
Other general and specialized surgery-----	1,829	331	386	353	467	292
Thyroid, parathyroid, and other endocrine glands-----08-09	88	10	17	17	26	18
Breast, male and female-----38	416	63	89	89	114	62
Peripheral blood vessels and lymphatic system-----88	286	33	54	57	82	60
Skin and subcutaneous tissue-----89	1,040	225	226	190	245	153

¹See reference 3.

²Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

Table 6. Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by bed size of hospital, according to specialty and body site: United States, 1968

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	Bed size of hospital					
	All sizes	Less than 100 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Percent distribution						
All operations-----	100.0	15.7	21.1	19.9	26.1	17.3
Operations excluding obstetrical procedures-----	100.0	15.7	21.1	20.0	26.1	17.0
Neurosurgery-----01-06	100.0	6.0	11.4	21.0	31.1	30.6
Skull, brain, and cerebral meninges-----01-02	100.0	1.0	9.4	18.2	31.2	40.2
Spinal cord, nerve roots, and spinal meninges-----03	100.0	2.9	14.9	17.6	34.3	30.2
Peripheral and sympathetic nerves or ganglia-----05-06	100.0	10.5	11.9	24.0	30.2	23.3
Ophthalmology-----10-18	100.0	7.3	21.2	20.3	27.2	24.0
Orbit, eyeball, and ocular muscles-----10-11	100.0	4.6	22.6	20.8	28.6	23.5
Eyelids and conjunctiva-----12-13	100.0	18.1	20.3	18.8	21.2	21.6
Cornea, iris, ciliary body, sclera, choroid, retina, and lacrimal apparatus-----14-16,18	100.0	3.4	18.4	20.6	24.8	32.8
Lens-----17	100.0	5.9	21.9	20.5	29.9	21.8
Otorhinolaryngology-----20-22,27	100.0	20.0	21.3	19.5	26.0	13.2
Ear-----20	100.0	6.7	15.7	23.5	33.3	20.8
Nose and accessory sinuses-----21	100.0	19.5	15.6	17.5	29.7	17.7
Larynx and trachea-----22	100.0	4.4	12.4	18.8	31.0	33.3
Pharynx, tonsils, and adenoids-----27	100.0	24.7	24.9	19.1	22.7	8.6
Oral and buccal surgery-----24-26	100.0	8.8	22.4	22.6	31.6	14.6
Teeth and gums-----24	100.0	8.4	22.6	23.9	31.5	13.6
Salivary glands, buccal cavity, tongue, and palate-----25-26	100.0	10.2	21.5	17.1	32.2	19.1
Thoracic surgery-----30-35	100.0	4.4	14.5	21.0	25.8	34.3
Heart, pericardium, and intrathoracic vessels-----30-32	100.0	0.4	11.3	16.4	25.5	46.5
Bronchus and lung-----33,35	100.0	2.5	15.0	27.5	31.5	23.5
Chest wall, pleura, and mediastinum--34	100.0	9.7	17.3	21.9	22.8	28.3
Gastrointestinal and abdominal surgery-----28,40-57	100.0	17.6	21.8	20.1	24.6	15.9
Repair of hernia-----40	100.0	18.2	23.1	20.8	23.8	14.1
Abdominal wall and peritoneum-----41-42	100.0	17.7	20.0	19.3	24.1	18.9
Esophagus, stomach, and duodenum combined with stomach-----28,44	100.0	13.9	18.8	20.7	25.2	21.4
Appendix ² -----45	100.0	27.5	24.9	17.3	19.7	10.7
Intestines-----46-47	100.0	12.6	20.5	22.2	26.4	18.3
Rectum-----48	100.0	16.5	19.3	21.0	25.3	17.9
Anus-----49	100.0	17.1	22.3	20.0	27.9	12.7
Liver and biliary tract-----51-53	100.0	17.5	23.3	20.0	24.6	14.6
Pancreas, spleen, and intra-abdominal blood vessels-----55-57	100.0	7.2	13.8	18.9	27.5	32.7

See footnotes at end of table.

Table 6. Percent distribution of all-listed operations for inpatients discharged from short-stay hospitals by bed size of hospital, according to specialty and body site: United States, 1968—Con.

[Excludes newborn infants and Federal hospitals]

Specialty and body site with ICDA ¹ codes	Bed size of hospital					
	All sizes	Less than 100 beds	100-199 beds	200-299 beds	300-499 beds	500 beds or more
Percent distribution						
Genitourinary surgery-----60-69	100.0	11.4	22.8	20.4	25.8	19.6
Kidney-----60	100.0	6.6	18.3	17.8	28.1	29.2
Ureter-----62	100.0	5.7	25.5	19.9	28.5	20.5
Urinary bladder-----63	100.0	9.1	22.2	20.1	25.3	23.2
Urethra-----64	100.0	11.7	21.2	22.3	27.5	17.4
Prostate and seminal vesicles-----66	100.0	6.8	22.6	21.3	27.4	21.8
Testis, tunica vaginalis, spermatic cord, and scrotum-----67	100.0	15.7	24.3	21.0	23.9	15.2
Epididymis and vas deferens-----68	100.0	10.4	22.5	22.1	27.7	17.4
Penis-----69	100.0	25.2	26.6	14.5	17.5	16.2
Gynecological surgery-----70-75	100.0	16.2	21.3	19.1	26.7	16.6
Ovary-----70	100.0	19.7	20.5	17.8	24.6	17.5
Fallopian tube-----71	100.0	20.0	22.2	18.0	21.4	18.5
Uterus, cervix, and supporting structures-----72-73	100.0	15.7	21.6	19.3	27.6	15.8
Vagina, vulva, and perineum-----74-75	100.0	13.5	20.7	19.7	27.1	19.0
Obstetrical procedures-----76.6-78.9	100.0	14.5	20.7	17.6	25.4	21.8
Orthopedic surgery-----80-87	100.0	14.9	20.3	21.1	26.6	17.0
Bone-----80-82	100.0	17.8	21.2	20.7	24.6	15.7
Joint structures-----83-84	100.0	9.2	19.5	22.5	30.1	18.7
Muscles, tendons, fascia, and bursa-----85-86	100.0	14.9	18.1	21.8	28.1	17.2
Amputation and disarticulation of extremities-----87	100.0	16.1	22.8	12.7	24.4	23.9
Other general and specialized surgery-----	100.0	18.1	21.1	19.3	25.5	16.0
Thyroid, parathyroid, and other endocrine glands-----08-09	100.0	11.8	19.6	19.2	29.2	20.3
Breast, male and female-----38	100.0	15.2	21.3	21.4	27.4	14.8
Peripheral blood vessels and lymphatic system-----88	100.0	11.4	18.9	19.9	28.8	20.9
Skin and subcutaneous tissue-----89	100.0	21.7	21.7	18.3	23.6	14.7

¹See reference 3.

²Provisional estimate; limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

APPENDIX I

TECHNICAL NOTES ON METHODS

Statistical Design of the Hospital Discharge Survey

Scope of the survey.—The scope of the Hospital Discharge Survey (HDS) encompasses patients other than well newborn infants discharged from noninstitutional hospitals which have six beds or more for inpatient use, which 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.

Sampling frame and size of sample.—The sampling frame for hospitals in HDS is the Master Facility Inventory of Hospitals and Institutions (MFI). A detailed description of how the MFI was developed, its content, plans for maintaining it, and procedures for assessing the completeness of its coverage has been published in an earlier report.⁴

The universe for HDS consisted of 6,965 short-stay hospitals, excluding Federal hospitals, contained in MFI in 1963. The distributions of short-stay hospitals by size and region in MFI and the HDS sample for 1968 are shown in table I. The sample of hospitals for 1968 consisted of 465 hospitals. Of these, 413 participated during all or part of the year. (See appendix II for the definition of short-stay hospital used in HDS.)

Sample design.—All hospitals of 1,000 beds or more in the universe (excluding Federal hospitals) were selected with certainty in the sample. All hospitals of 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.

NOTE: The list of references follows the text.

The within-hospital sampling ratio for selecting 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 size class and to make sure 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 random techniques, usually on the basis of the terminal digit(s) of the patient's medical record number—a number assigned when the patient is 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.—During the major part of 1968, survey hospitals used an optical mark page reader form (abstract form) to transcribe data from the hospital records. This form, shown in figures I and II, has two sides. The front (figure I) provides for demographic data, admission dates, and discharge dates. The reverse (figure II) provides for information on discharge diagnoses and surgical operations or procedures. In the latter part of 1968 the new medical abstract form (as shown in figure III) was used. All discharge diagnoses and operations were transcribed onto the abstract form in the order in which they were listed on the face sheet of the hospital medical record. Depending on the procedure agreed upon with the hospital administrator, the sample selection and the transcription of information from

Table I. Distribution of short-stay hospitals in the universe (MFI) and in the Hospital Discharge Survey sample and number of hospitals participating in the survey, by bed size of hospital and geographic region: United States, 1968

Bed size of hospital	Geographic region				
	All regions	North-east	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-----	413	110	128	117	58
<u>6-49 beds</u>					
Universe-----	3,113	199	830	1,438	646
Total sample-----	59	7	17	23	12
Number participating-----	47	5	15	17	10
<u>50-99 beds</u>					
Universe-----	1,623	288	442	587	306
Total sample-----	66	12	18	24	12
Number participating-----	60	11	18	21	10
<u>100-199 beds</u>					
Universe-----	1,144	277	378	332	157
Total sample-----	95	24	30	29	12
Number participating-----	83	23	25	25	10
<u>200-299 beds</u>					
Universe-----	552	182	151	134	85
Total sample-----	83	29	24	18	12
Number participating-----	75	26	22	17	10
<u>300-499 beds</u>					
Universe-----	386	110	129	96	51
Total sample-----	89	24	29	24	12
Number participating-----	77	19	27	21	10
<u>500-999 beds</u>					
Universe-----	129	42	46	28	13
Total sample-----	55	18	18	12	7
Number participating-----	53	17	18	11	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 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 (22 FR 1687).

PHS-4734-2
REV. 11-66

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

Form Approved:
Budget Bureau No. 68-R620.R2-2



1. HOSPITAL NUMBER

ABSTRACT OF PATIENT RECORD- Hospital Discharge Survey

2. HDS NUMBER	0 1 2 3 4 5 6 7 8 9
3. MEDICAL RECORD NUMBER	0 1 2 3 4 5 6 7 8 9
4.a. DATE OF BIRTH Complete 4b and 4c if date of birth is not given.	JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. 0 1 2 3 4 5 6 7 8 9 TENS 0 1 2 3 4 5 6 7 8 9 UNITS 0 1 2 3 4 5 6 7 8 9 UNITS 0 1 2 3 4 5 6 7 8 9 UNITS
4.b. AGE	0 1 2 3 4 5 6 7 8 9 TENS 0 1 2 3 4 5 6 7 8 9 UNITS
4.c. AGE IS STATED IN	YEARS MONTHS DAYS
5. SEX	MALE FEMALE
6. RACE OR COLOR	WHITE NEGRO OTHER NONWHITE "NONWHITE" NOT STATED
7. MARITAL STATUS	MARRIED SINGLE WIDOWED DIVORCED SEPARATED NOT STATED
8. DATE OF ADMISSION	JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. 0 1 2 3 4 5 6 7 8 9 TENS 0 1 2 3 4 5 6 7 8 9 UNITS 0 1 2 3 4 5 6 7 8 9 UNITS
9. DATE OF DISCHARGE	JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. 0 1 2 3 4 5 6 7 8 9 TENS 0 1 2 3 4 5 6 7 8 9 UNITS 0 1 2 3 4 5 6 7 8 9 UNITS
10. DISCHARGE STATUS	ALIVE DEAD

Figure 1. Nonmedical section of optical mark page reader form.

11. FINAL DIAGNOSES: 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="10" style="text-align: center; padding: 2px;">HDS NUMBER</th> </tr> <tr> <td style="text-align: center;">0</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td> <td style="text-align: center;">5</td><td style="text-align: center;">6</td><td style="text-align: center;">7</td><td style="text-align: center;">8</td><td style="text-align: center;">9</td> </tr> </table>	HDS NUMBER										0	1	2	3	4	5	6	7	8	9
HDS NUMBER																					
0	1	2	3	4	5	6	7	8	9												
12a. WAS AN OPERATION PERFORMED ? YES NO 12b. OPERATIONS: 																					
COMPLETED BY ABSTRACTOR _____ DATE _____																					

	DIAGNOSIS CODES	↓	OPERATION CODES	↓	
F O R N C H S U S E O N L Y	0 1 2 3 4	(1)	0 1 2 3 4	(1)	5 6 7 8 9
	0 1 2 3 4	(2)	0 1 2 3 4	(2)	5 6 7 8 9
	0 1 2 3 4	(3)	0 1 2 3 4	(3)	5 6 7 8 9
	0 1 2 3 4	(4)	0 1 2 3 4		5 6 7 8 9
	0 1 2 3 4	(5)	0 1 2 3 4		5 6 7 8 9

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Figure 11. Medical section of optical mark page reader form.

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

1. Patient Identification

1. Hospital number..... _____

2. HDS number _____

3. Medical record number..... _____

4. Date of admission _____

Month Day Year

5. Date of discharge _____

Month Day Year

11. Patient Characteristics

1. Date of birth: _____
Month Day Year

2. Age (complete ONLY if date of birth not given): _____
Units { ☐ years
 ☐ months
 ☐ days

3. Sex: 1 ☐ Male 2 ☐ Female

4. Race or color: 1 ☐ White 2 ☐ Negro 3 ☐ Other nonwhite 4 ☐ "Nonwhite" 5 ☐ Not stated

5. Marital status: 1 ☐ Married 2 ☐ Single 3 ☐ Widowed 4 ☐ Divorced 5 ☐ Separated 6 ☐ Not stated

6. Discharge status: 1 ☐ Alive 2 ☐ 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 111. Medical abstract form.

the hospital records to the abstract form were performed either by the hospital staff or by representatives of the National Center for Health Statistics (NCHS) or by both. In more than three-fourths of the hospitals that participated in HDS during 1968, this work was performed by the staff of the hospital medical records department. In nearly all the remaining hospitals, the work was performed by U.S. Bureau of the Census personnel acting for NCHS.

Shipments of completed abstract forms for each sample hospital were transmitted, along with sample selection control sheets, to NCHS for processing. For data year 1968 approximately 210,000 abstracts were received from the 413 hospitals that participated in the survey during part or all of the year. Conversion to computer tape, editing, and estimation procedures were accomplished for nonmedical information (from front of sample patients' abstracts) independently and prior to the coding and computer processing of medical data.

Medical coding and editing.—The medical information recorded on the reverse side of the sample patient abstracts (for data year 1968) was coded centrally by NCHS staff. A maximum of five diagnostic codes and three codes for surgical operations were assigned per sample abstract. Following conversion to computer

tape and collation with nonmedical sample data, 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 detailed 3- and 4-digit codes of the ICDA³ exclusive of the following sections:

Supplementary Classification of External Cause of Injury (E802-E998)

Classification of Causes of Stillbirths (Y30-Y39)

Part of Classification of Liveborn Infants According to Type of Birth (Y20, Y22-Y23, Y26-Y27).

The basic system for coding surgical operations and procedures was modified in certain areas by directives of the Hospital Discharge Survey to accommodate incomplete terminology on the source documents, i.e., lack of specificity of the body site involved, surgical method or approach, or other details prescribed by the ICDA. HDS modifications that are pertinent to estimates presented in this report are as follows:

<i>ICDA Code</i>	<i>HDS Modification</i>
17.3 - Extraction of lens, extracapsular	
17.4 - Extraction of lens, intracapsular	
-----	-----
	Add 17.5 - Extraction of lens, not otherwise specified
30.4 - Catheterization of the right heart	Redefined 30.4 - Catheterization of the heart
30.5 - Catheterization of the left heart	30.5 not used
72.3 - Hysterectomy, partial or subtotal	Redefined 72.3 - Hysterectomy, partial or subtotal (not otherwise specified)
82 - Reduction of fracture and fracture-dislocation of bones	-----
82.0 - Closed reduction of shaft of long bone	Redefined 82.0 - Reduction (closed or not otherwise specified) of fracture in 82 without mention of fixation
82.1 - Open reduction of fracture of shaft of long bone without internal fixation	Redefined 82.1 - Reduction (open) of fracture in 82 without mention of fixation
82.2 - Open reduction of fracture of shaft of long bone with internal fixation	Redefined 82.2 - Reduction (closed or open) of fracture in 82 with mention of fixation
-----	82.3-82.8 not used
84.0 - Arthroplasty of hip without mechanical device	Redefined 84.0 - Arthroplasty of hip
84.1 - Arthroplasty of hip with mechanical device	84.1 not used

NOTE: The list of references follows the text.

Presentation of Estimates

Grouping of operations.—Estimates of the number, rate, and distribution of operations by surgical specialty and body site are based on the classification of operations reported on sample patient abstracts in the 3-digit detail provided by the ICDA. The groupings by surgical specialty that are used in this report are classes numbered 1-15 of the ICDA section "Classification of Operations and Treatments." (ICDA class No. 16—Certain Nonsurgical Procedures—was not used in this report.) A comparison of the two systems of grouping operations by 2-digit codes is as follows:

<i>HDS specialty group</i>	<i>ICDA class</i>
Neurosurgery (01-06)-----	No. 1 (01-06)
Ophthalmology (10-18)-----	3 (10-18)
Otorhinolaryngology (20-22,27)-----	4 (20-22)
Oral and buccal surgery (24-26)-----	5 (24-28)
Thoracic surgery (30-35)-----	6 (30-32) & 7 (33-35)
Gastrointestinal and abdominal surgery (28,40-57)-----	9 (40-57)
Genitourinary surgery (60-69)-	10 (60-69)
Gynecological surgery (70-75)-	11 (70-75)
Obstetrical procedures (76-78) ¹ -----	12 (76-78)
Orthopedic surgery (80-87)-----	13 (80-87)
Other general and specialized surgery (08-09,38,88,89)-----	2 (08-09), 8 (38), 14 (88), & 15 (89)

¹3-digit codes 76.0-76.5 are not used in this report.

Subgroupings of operations are shown for most of the surgical specialties. These are described in terms of the body site involved with two minor exceptions, namely, "repair of hernia" and "amputation and disarticulation of extremities."

Patient characteristics not stated.—Estimates of surgical operations distributed by sex or age are exclusive of a negligible number of operations for which the personal characteristic was not reported. In the detailed tables presenting frequencies and rates, "not stated" cases are included in the totals.

Rounding numbers.—Estimates of the number of surgical operations have been rounded to the nearest thousand for tabular presentation. Rates and percents were calculated on the basis of unrounded figures.

Population figures.—The base population used in computing rates are unpublished estimates for the

U.S. civilian, noninstitutional population as of July 1, 1968, provided by the U.S. Bureau of the Census. These estimates are consistent with estimates of the civilian, resident population published by the Bureau of the Census in *Current Population Reports*, Series P-25, but they are not to be considered official population estimates.

The population data used to compute rates in this report are as follows:

Group	Both sexes	Male	Female
Population in thousands			
Total-----	195,324	93,999	101,325
<u>Age</u>			
Under 15 years-----	59,473	30,270	29,204
15-44 years-----	77,261	36,622	40,639
45-64 years-----	40,237	19,201	21,036
65 years and over--	18,353	7,907	10,446
<u>Geographic regions</u>			
Northeast-----	47,546	---	---
North Central-----	54,739	---	---
South-----	60,632	---	---
West-----	32,406	---	---

Reliability of Estimates

Estimation.—Statistics produced by the Hospital Discharge Survey 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: (1) inflation by reciprocals of the probabilities of sample selection, (2) adjustment for nonresponse, and (3) ratio adjustments to fixed totals. These components of estimation are described in the appendices of two earlier publications.^{5,6}

Measurement errors.—As in any survey, the results are subject to nonsampling or measurement errors, which include errors due to hospital non-response, missing abstracts, information incompletely

NOTE: The list of references follows the text.

Table II. Relative standard errors in percent of the estimated number of operations, by age, sex, bed size of hospital, geographic region, and specialty and body site: Hospital Discharge Survey, 1968

Specialty and body site with ICDA ¹ codes	All dis- charges	Age	Sex		Bed size of hospital					Geographic region			
		15 years and over	Male	Fe- male	Less than 100 beds	100- 199 beds	200- 299 beds	300- 499 beds	500 beds or more	North- east	North Central	South	West
Standard error as a percent of the estimated number of operations													
All operations-----	2.5	2.5	2.5	2.6	9.8	8.9	11.0	8.2	8.1	4.0	4.3	5.2	7.0
Operations excluding obstetrical procedures-----	2.5	2.6	2.5	2.6	10.0	8.9	11.0	8.2	8.1	4.0	4.3	5.2	7.1
Neurosurgery-----01-06	4.9	5.0	5.4	6.4	24.0	16.3	14.2	11.1	9.1	9.4	8.1	9.6	12.9
Skull, brain, and cerebral meninges-----01-02	7.0	7.3	7.7	10.7	47.1	25.1	18.0	15.5	10.5	15.9	12.1	14.3	13.9
Spinal cord, nerve roots, and spinal meninges-----03	9.5	9.9	11.2	14.6	...	23.2	26.1	17.7	17.7	17.9	18.6	16.8	25.4
Peripheral and sympathetic nerves or ganglia-----05-06	6.2	6.3	7.1	8.1	27.5	18.1	17.4	12.2	11.3	11.0	10.8	10.6	18.9
Ophthalmology-----10-18	5.0	5.5	5.0	6.0	30.4	15.1	14.8	10.0	9.4	8.3	9.4	8.7	13.7
Orbit, eyeball, and ocular muscles-10-11	6.5	8.2	7.8	7.8	23.9	16.9	20.7	12.9	13.3	13.5	11.3	13.0	14.4
Eyelids and conjunctiva-----12-13	12.0	13.1	8.4	18.7	47.3	18.5	16.2	14.5	12.5	12.3	19.5	10.6	21.8
Cornea, iris, ciliary body, sclera, choroid, retina, and lacrimal apparatus-----14-16,18	8.1	9.2	9.2	10.2	43.0	22.2	23.4	16.0	12.1	15.4	13.9	12.5	23.2
Lens-----17	5.8	5.9	6.6	6.5	29.2	17.0	16.7	11.2	12.2	9.5	10.9	10.8	16.4
Otorhinolaryngology-----20-22,27	4.9	7.8	4.7	5.6	18.2	11.9	13.0	10.6	10.7	6.8	11.3	7.5	7.9
Ear-----20	6.8	8.2	7.6	6.9	35.6	17.9	15.8	14.8	13.3	14.7	12.7	10.7	13.3
Nose and accessory sinuses-----21	16.0	16.4	11.3	22.4	48.8	17.8	15.7	11.1	11.3	9.7	17.4	7.9	13.6
Larynx and trachea-----22	6.5	6.8	7.3	9.6	20.3	20.5	17.6	13.3	12.7	13.3	13.2	11.7	13.4
Pharynx, tonsils, and adenoids-----27	4.4	5.1	4.5	4.7	11.2	12.3	13.9	11.4	12.1	7.6	8.6	9.2	8.4
Oral and buccal surgery-----24-26	5.7	6.0	5.6	6.6	17.7	14.6	15.5	12.0	12.0	9.7	10.3	12.0	11.4
Teeth and gums-----24	6.6	6.8	6.9	7.4	20.9	16.4	16.8	13.5	13.5	10.8	12.2	13.9	15.8
Salivary glands, buccal cavity, tongue, and palate-----25-26	6.9	8.1	8.2	9.4	20.7	21.7	15.9	12.2	14.9	11.8	15.2	11.9	14.4
Thoracic surgery-----30-35	5.4	5.6	5.6	6.8	16.5	21.0	14.1	12.1	9.2	8.6	7.6	12.4	15.4
Heart, pericardium, and intrathoracic vessels-----30-32	11.5	12.7	11.6	13.3	49.3	45.9	35.7	18.2	11.9	14.8	15.9	25.9	31.9
Bronchus and lung-----33,35	8.1	8.2	8.2	12.4	38.2	19.5	17.6	17.5	16.5	12.7	12.2	19.4	21.4
Chest wall, pleura, and mediastinum---34	4.7	4.8	5.8	6.7	17.5	13.0	13.9	11.8	9.8	9.1	7.9	9.1	12.2
Gastrointestinal and abdominal surgery-----28,40-57	2.9	3.0	3.0	3.1	11.0	9.1	11.8	8.3	8.2	4.6	4.3	7.1	7.6
Repair of hernia-----40	3.1	3.4	3.2	4.6	10.3	9.6	12.1	8.9	9.2	5.4	4.7	7.4	7.9
Abdominal wall and peritoneum-----41-42	4.5	4.5	5.2	5.0	19.2	10.4	12.5	10.2	8.6	6.0	6.4	10.8	10.7
Esophagus, stomach, and duodenum combined with stomach-----28,44	5.6	5.8	6.1	7.1	30.9	12.3	13.7	9.5	10.0	7.7	7.9	16.1	10.1
Appendix-----45	4.3	4.6	4.6	5.6	11.1	11.6	13.4	10.8	10.6	7.1	8.2	8.9	8.1
Intestines-----46-47	4.2	4.3	5.1	4.8	14.4	10.8	14.4	10.3	9.4	7.7	6.5	8.7	12.9
Rectum-----48	5.2	5.3	6.4	6.8	14.8	14.8	14.1	12.2	12.3	9.6	8.3	10.7	15.3
Anus-----49	4.7	4.7	5.5	5.2	12.9	12.2	15.5	10.3	14.8	8.8	8.5	9.2	12.1
Liver and biliary tract-----51-53	3.4	3.4	5.0	3.6	11.1	10.3	13.2	8.9	9.3	5.8	5.3	7.8	9.7
Pancreas, spleen, and intra-abdominal blood vessels-----55-57	6.5	6.7	7.4	9.9	21.7	18.8	19.7	13.2	12.0	12.6	11.0	12.9	16.8
Genitourinary surgery-----60-69	3.2	3.5	3.3	4.9	14.2	9.9	11.0	9.3	8.9	5.8	5.5	6.4	9.1
Kidney-----60	7.0	7.2	9.1	8.9	25.7	17.0	19.6	15.8	13.6	13.7	11.4	13.8	19.2
Ureter-----62	6.4	6.6	7.4	8.4	29.4	16.2	14.9	13.8	13.7	12.4	9.6	13.2	18.5
Urinary bladder-----63	4.8	4.9	5.5	7.6	23.9	12.8	12.9	11.2	11.1	9.4	6.9	10.4	13.9
Urethra-----64	5.6	6.3	6.7	6.5	27.3	13.5	14.9	11.4	12.8	9.8	9.8	11.5	14.5
Prostate and seminal vesicles-----66	4.5	4.5	4.5	...	20.8	13.7	12.5	10.7	10.2	7.4	7.9	9.3	14.4
Testis, tunica vaginalis, spermatic cord, and scrotum-----67	4.3	5.0	4.3	...	12.3	11.0	14.1	12.3	10.6	7.9	7.6	8.9	11.2
Epididymis and vas deferens-----68	7.1	7.1	7.1	...	18.2	17.5	17.3	16.4	15.5	11.8	13.9	15.0	16.3
Penis-----69	9.5	7.5	9.5	...	22.0	28.4	17.0	13.5	10.8	10.3	12.9	11.0	13.0
Gynecological surgery-----70-75	3.2	3.2	...	3.2	10.2	10.5	11.7	9.7	10.4	5.9	5.5	6.5	9.2
Ovary-----70	4.3	4.3	...	4.3	13.8	10.6	13.0	10.8	13.3	7.5	6.8	9.1	12.1
Fallopian tube-----71	5.8	5.8	...	5.8	16.0	16.3	16.3	13.0	12.8	11.8	11.7	9.7	14.4
Uterus, cervix, and supporting structures-----72-73	3.3	3.3	...	3.3	10.0	10.6	11.8	9.9	10.2	6.1	5.8	6.6	9.0
Vagina, vulva, and perineum-----74-75	4.4	4.5	...	4.4	16.0	12.6	13.2	10.8	11.1	8.3	6.9	9.4	12.3
Obstetrical procedures-----76.6-78.9	4.3	4.3	...	4.3	12.5	14.1	13.4	11.4	10.4	8.1	8.2	8.8	9.4
Orthopedic surgery-----80-87	3.2	3.3	3.4	3.4	10.8	10.6	12.1	8.9	8.7	6.7	5.2	6.2	8.9
Bone-----80-82	3.2	3.2	3.6	3.5	10.6	9.6	12.2	8.9	8.1	7.2	5.0	5.9	8.4
Joint structures-----83-84	4.9	5.0	5.2	5.5	18.5	15.7	13.4	10.8	12.0	9.3	8.1	9.6	13.0
Muscles, tendons, fascia, and bursa-----85-86	4.4	4.5	5.0	5.4	15.5	12.3	14.7	10.2	9.9	7.8	7.2	8.6	13.1
Amputation and disarticulation of extremities-----87	6.1	6.2	7.4	8.7	19.2	14.2	17.3	14.3	12.0	12.6	10.7	10.6	17.5
Other general and specialized surgery-----	3.1	3.1	3.1	3.4	13.3	9.0	10.9	8.2	8.4	4.1	7.0	5.5	6.9
Thyroid, parathyroid, and other endocrine glands-----08-09	5.8	5.8	11.5	6.2	23.5	14.6	15.8	12.4	13.2	13.3	9.3	10.7	14.0
Breast, male and female-----38	3.8	3.8	11.5	3.8	14.1	9.6	12.5	9.6	10.9	6.1	6.6	8.2	9.7
Peripheral blood vessels and lymphatic system-----88	3.9	4.0	5.0	4.4	13.6	12.2	12.8	9.7	10.0	6.4	6.9	8.3	11.5
Skin and subcutaneous tissue-----89	3.9	3.9	3.4	5.0	15.6	9.5	11.0	8.5	8.4	4.7	10.1	5.6	6.3

¹See reference 3.

or inaccurately recorded on abstract forms, and processing errors.

Sampling errors.—The standard error is primarily a measure of the variability that occurs by change because a sample rather than the entire universe is surveyed. In this report the standard error also reflects part of the measurement error, but it does not measure any systematic biases in the data. The relative standard error of an estimate is obtained by dividing the standard error of the estimate itself and is expressed as a percentage of the estimate. Table II presents the relative standard error for the estimated number of operations by specialty and body site as given in the detailed tables 1-6 of this report. The rel-

ative standard errors given in table III are for the corresponding estimates of discharges by selected operations shown in tables B-E. For example, the estimated number of extraction of lens operations performed for all patients is 213,416. The relative standard error for this statistic is 5.9 percent. The chances are 68 out of 100 that the value that would be obtained in a complete enumeration is contained in the interval $213,416 \pm 5.9$ percent of 213,416, i.e., between 200,824 and 226,008 extraction of lens operations; 95 out of 100 for the interval $213,416 \pm 5.9$ percent of 213,416 multiplied by 2; 99 out of 100 for the interval $213,416 \pm 5.9$ percent multiplied by 2.5.

Table III. Relative standard errors in percent of the estimated number of discharges, by age
Hospital Discharge Survey, 1968

Operation and ICDA-HDS codes	All ages			15 years and over			Under 15 years			65 years and over		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Standard error as a percent of the estimated number of operations												
Thyroidectomy-----08.1-08.2	6.0	13.6	6.4	6.1	13.6	6.1	...	...	...	...	...	...
Extraction of lens-----17.3-17.5	5.9	6.6	6.6	5.9	6.6	6.6	...	...	...	...	...	...
Operations on tympanum-----20.4	...	...	...	...	...	...	...	...	...	...	...	...
Tonsillectomy with or without adenoidectomy-----27.1-27.2	4.5	4.6	4.8	5.3	6.7	5.1	4.7	4.8	5.1	...	...	...
Mastectomy-----38.1-38.3	4.6	16.1	4.5	4.6	16.8	4.1	...	...	...	...	...	...
Repair of inguinal hernia-----40.0-40.1	3.2	3.3	6.0	3.5	3.6	7.1	5.2	5.4	10.5	5.5	5.7	12.9
Gastrectomy-----44.2-44.3	7.4	8.7	9.3	7.4	8.8	9.1	...	...	...	...	...	...
Appendectomy-----45.1	4.3	4.6	5.6	4.6	5.2	6.1	5.5	6.0	7.5	...	...	...
Enterectomy; colectomy-----46.3-46.5	5.1	7.6	6.3	5.1	7.8	6.1	...	...	...	...	...	...
Hemorrhoidectomy-----49.3	4.8	5.8	5.4	4.8	5.8	5.1	...	...	...	...	...	...
Cholecystectomy-----53.5	3.6	5.7	3.8	3.7	5.7	3.1	...	...	...	5.9	9.1	6.6
Prostatectomy-----66.1-66.3	4.7	4.7	...	4.7	4.7	...	...	...	...	5.2	5.2	...
Hysterectomy-----72.3-72.6	4.0	...	4.0	4.0	...	4.1	...	...	...	...	...	...
Reduction of fracture without internal fixation-----82.0-82.1	...	...	...	...	...	...	6.1	6.6	8.4	...	...	...
Reduction of fracture with internal fixation-----82.2	4.0	5.0	4.8	4.1	5.1	4.1	...	...	...	5.7	10.4	6.1
Excision of intervertebral cartilage-----83.4	6.6	7.4	8.0	6.6	7.5	8.1	...	...	...	...	...	...
Excision and ligation of varicose veins-----88.4	5.4	9.0	5.8	5.4	9.1	5.1	...	...	...	...	...	...

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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 length of stay of less than 30 days, excluding Federal hospitals and hospital units of institutions. "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 1968, including multiple discharges of the same individual (if any) from one short-stay hospital or more.

Discharge.—The formal release of an inpatient by a hospital, i.e., the termination of a period of hospitalization by death or disposition to place of residence, nursing home, or another hospital. In this report the number of discharges from short-stay hospitals during 1968 (alive or dead) is exclusive of hospital newborn infants. "Discharges" and "patients (or inpatients) discharged" are used synonymously.

Episode (hospital).—A continuous period of inpatient stay in one hospital from date of admission to (but not including) date of discharge. In this survey the number of hospital episodes (inpatient) in short-stay hospitals is equivalent to the number of discharges.

Terms Relating to Surgery

Discharges with surgery.—The estimated number of operated patients (see definition) discharged from nonfederal short-stay hospitals during 1968.

Operation(s).—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," etc., are transcribed in the order listed. A maximum of three 3-digit codes are

assigned per sample discharge, based on the operations and treatments section of the ICDA³ and the Hospital Discharge Survey directives. (See "Medical Coding and Editing" in appendix I for further details.) "Operations" and "surgical operations" are used synonymously.

All-listed operations.—In terms of the classification system used and the processing of not more than three codes per sample discharge, the estimated number of surgical operations and procedures performed for inpatients discharged from nonfederal short-stay hospitals during 1968. The aggregate of individually coded operations, procedures, and special treatments in code positions 1-3 exclusive of spinal puncture, endoscopy, radiography, shock therapy, and certain other treatments not generally considered as surgery.

Operated patients.—Inpatients for whom at least one operation or procedure is performed during one period of hospitalization exclusive of spinal puncture, endoscopy, radiography, shock therapy, and certain other treatments not generally considered as surgery. "Surgically treated patients" and "operated patients" are used synonymously.

Obstetrical procedures.—Includes procedures or operations inducing or assisting delivery by surgical means; repair of obstetrical lacerations and other operations performed after delivery or abortion; and obstetrical operations without delivery, excluding operations for termination of pregnancy. Includes caesarean section but excludes any accompanying division or ligation of fallopian tubes, sterilization, or hysterectomy (classified to gynecological surgery).

Volume of operations.—The estimated number of all-listed operations (see definition) performed for inpatients discharged from nonfederal short-stay hospitals during 1968.

Demographic Terms

Age.—Age of discharged patients (excluding newborn infants) refers to the age at last birthday prior to admission to the hospital inpatient service.

NOTE: The list of references follows the text.

Adults.—Persons 15 years of age and over.

Children.—Persons under 15 years of age.

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

Geographic region.—For the purpose of classifying hospitals by geographic area, the States are grouped into four regions. They correspond to those used by the U.S. Bureau of the Census and are as follows:

<i>Region</i>	<i>States Included</i>
Northeast-----	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania

North Central -- Minnesota, Iowa, Missouri, North
Dakota, South Dakota, Nebraska,
Kansas, Michigan, Ohio, Illinois,
Indiana, and Wisconsin

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

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

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