

Monthly

Miss Haywood
(Please return)

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VITAL STATISTICS REPORT

Hospital Discharge Survey Data

FROM THE

NATIONAL CENTER FOR HEALTH STATISTICS

Alice: Somebody goofed on Table 2. Please call it to the attention of the appropriate person T.P.W.

Surgery in Short-Stay Hospitals: United States, 1968

This report presents summary estimates on the frequency of surgical operations among inpatients discharged from short-stay hospitals in the United States. During 1968 more females than males were hospitalized in short-stay hospitals. Once hospitalized, a relatively higher proportion of males than females had at least one surgical operation (table 1). This and other findings have resulted from the 1968 national sample of short-stay hospitals. (See Technical Notes for definition of short-stay hospitals and other terms used in this report.)

This report consists of two kinds of data: (a) those concerned with the number of discharged patients with and without surgery and their characteristics and the hospitals in which they stayed; and (b) those pertaining to the number of operations by type and body site and by age and sex (table 2).

Patients and surgery.—Over 59 percent, or 16,801,000, of the patients discharged were females and over 39 percent, or 11,204,000, were males. Of all discharged patients, 39 percent had at least one

Figure 1. National average percentage of operated patients discharged from short-stay hospitals with regional percent deviations for all surgery and for obstetrical surgery: United States, 1968

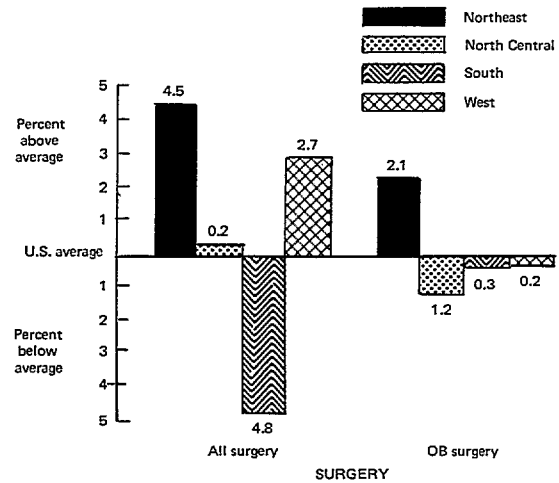


Table A. Number and percent of operated discharges from short-stay hospitals and average number of operations per operated patient, including and excluding obstetrical surgery, by sex: United States, 1968

Sex	Including obstetrical surgery			Excluding obstetrical surgery		
	Number of discharges in thousands	Percent of discharges	Average number of operations	Number of discharges in thousands	Percent of discharges	Average number of operations
Both sexes ¹ ---	10,942	100.0	1.3	10,230	100.0	1.4
Male-----	4,528	41.4	1.3	4,528	44.3	1.3
Female-----	6,393	58.4	1.4	5,680	55.5	1.4

¹Includes data for which sex was not stated.

MONTHLY VITAL STATISTICS REPORT

Table B. Number, percent, and rate of obstetrical discharges for females 15-44 years of age from short-stay hospitals, by region: United States, 1968

Region	Number of females 15-44 years in thousands (1)	Obstetrical discharges from short-stay hospitals			
		Number of obstetrical discharges in thousands (2)	Rate of obstetrical discharges per 10,000 females $\frac{(2)}{(1)} \times 10,000$ (3)	Number of discharges with obstetrical surgery in thousands (4)	Proportion of obstetrical patients with obstetrical surgery $\frac{(4)}{(2)} \times 100$ (5)
United States-----	40,639	4,183	1,029.3	713	17.0
Northeast-----	9,703	1,032	1,063.3	197	19.1
North Central-----	11,067	1,288	1,163.9	204	15.8
South-----	13,031	1,229	942.8	205	16.7
West-----	6,838	634	927.9	107	16.8

operation during their episode of hospitalization (table 1). More specifically, out of a total of 14.6 million operations, 10.9 million patients averaged 1.3 operations per discharged operated patient. Of these, 58.4 percent were females with an average of 1.4 operations each and 41.4 percent were males with an average of 1.3 operations each. Even when obstetrical surgery is excluded, more females (55.5 percent) than males (44.3 percent) averaged at least one operation (table A). A higher percentage of males (40.4) than females (33.8) is found only when the percentage of operated hospitalized males, relative to total male discharges, is compared with that of nonobstetrical operated females, relative to total females discharged (table 1).

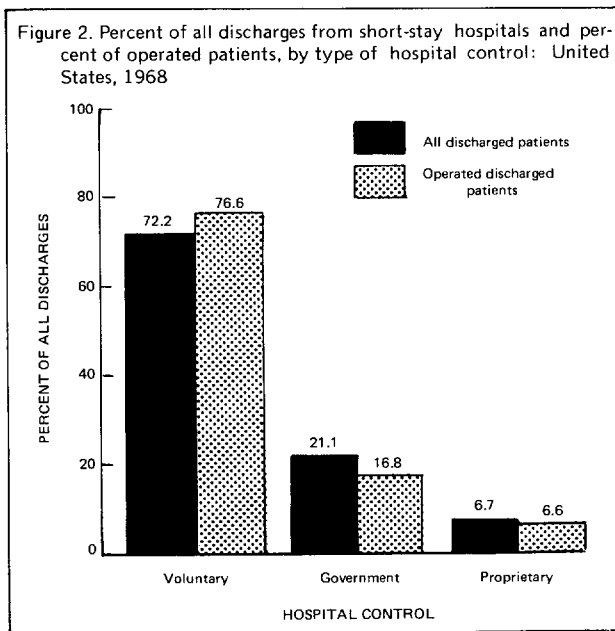
Geographic region.—Hospitals in the Northeast and South Regions showed the largest difference in percentages of their respective patients discharged with surgery. Hospitals in the Northeast had the highest percentage (43.5) of patients discharged with at least one surgical operation, while the South had the highest percentage (65.8) of patients discharged without surgery (table 1). Surgery was performed on 4.5 percent more discharged patients in the Northeast than the national average (39.0 percent). On the other hand, surgery was performed on 4.8 percent less discharged patients in the South than the national average (fig. 1).

In the area of total obstetrical discharges, the widest ranges were again found between the South and Northeast Regions. For the South the percentage of obstetrical (OB) discharges was 13.8 percent of its total discharges; for the Northeast, 16.4 percent; for the North Central, 14.9 percent; and for the West, 14.9 percent (table 1).

Table C. Percent distribution of females 15-44 years of age and percent distribution of discharges with obstetrical surgery from short-stay hospitals, by region: United States, 1968

Region	Females, 15-44 years	Discharges with obstetrical surgery
United States--	100.0	100.0
Northeast-----	23.9	27.6
North Central-----	27.2	28.6
South-----	32.1	28.8
West-----	16.8	15.9

Since females 15-44 years of age accounted for 99.4 percent, or 4,156,000, of all obstetrical discharges in the United States, OB rates were computed using this age-sex category and tables B and C reflect these computations. With 32.1 percent of the female population 15-44 years of age in the United States, the South had 4.9 percent more in the childbearing ages than did the North Central (the second highest region), and thus the greatest potential for obstetrical cases (tables B and C). But the discharge rate in the South for OB patients was only 942.8 per 10,000 females 15-44 years of age, whereas the discharge rate in the North Central was 1,163.9 (table B). Once hospitalized, obstetrical surgery was performed on slightly more (16.7 percent) OB patients in the South than in



the North Central (15.8 percent); but the percentages for both regions were below that for the Nation as a whole (table B).

The greatest variation around the national average for percentages of OB patients who received OB surgery was found between the North Central and Northeast Regions, which showed a range of 3.3 percentage points.

The Northeast Region, with the highest percentage (19.1) of its OB patients receiving OB surgery (table B), had the third highest percentage of women 15-44

years of age (table C) and the second highest OB discharge rate (1,063.3, table B). This would indicate not only that women in this region utilized hospital facilities for OB conditions more frequently than did those in the South or West, but that their hospital stay for OB care was more likely to be accompanied by OB surgery than in any other region.

The West Region had the lowest percentage of women in the childbearing ages (16.8) and the lowest rate of OB discharges (927.9). Its percentage of obstetrical surgery (16.8) for OB discharges was very similar to that in the South (16.7). This was 0.2 percent less than the national average in the West and 0.3 percent less in the South.

Hospital size and surgery.—Surgery was performed on only 28.8 percent of discharged patients from hospitals that maintained less than 100 beds. On the other hand, surgery was performed on over 40 percent of discharged patients from hospitals that maintained 100 beds or more (table 1). This probably reflects the fact that some operations required either equipment or skills available only in larger institutions.

Hospital control and surgery.—A little over 72 percent of all short-stay-hospital patients were discharged from voluntary hospitals. This was over 3 1/3 times as many as those discharged from government hospitals, and almost 11 times as many as those discharged from proprietary hospitals (fig. 2). Over 76 percent of first-listed surgery was performed in voluntary hospitals. This was almost 5 times as much as in government hospitals and nearly 12 times as much as in proprietary hospitals (fig. 2).

Figure 3. Percent of total discharges, obstetrical discharges, and discharges with obstetrical surgery from short-stay hospitals, by hospital control: United States, 1968

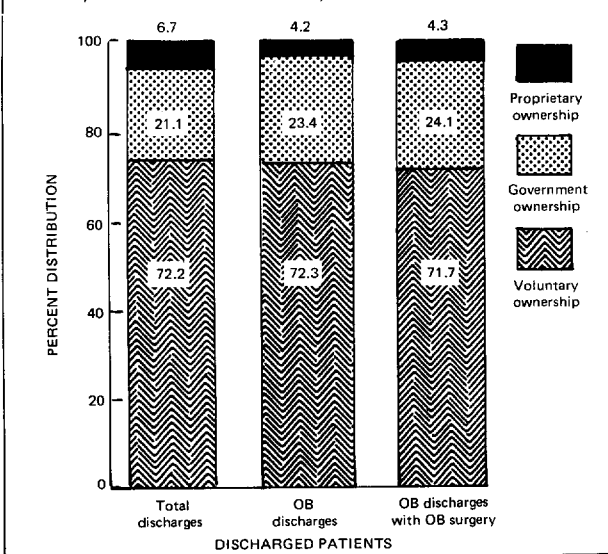
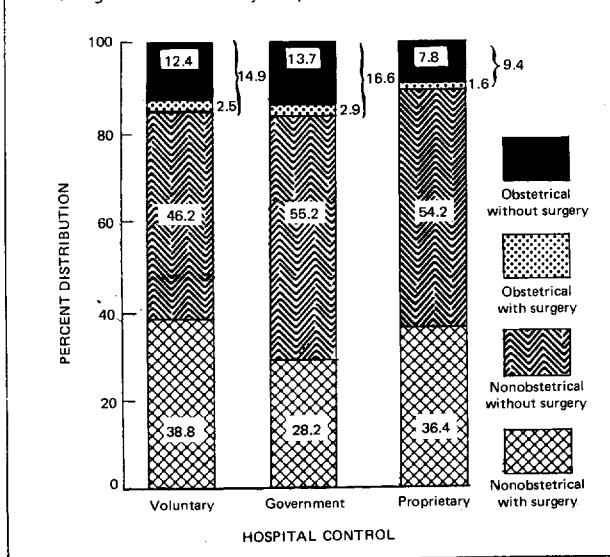


Figure 4. Percent of obstetrical patients with obstetrical surgery and percent of patients with and without nonobstetrical surgery discharged from short-stay hospitals: United States, 1968



Voluntary hospitals had the highest percentage (41.4) of *patients* discharged with surgery; proprietary hospitals, the second highest (38.0); and government hospitals, the lowest (31.1, table 1).

Of the total obstetrical case load for the United States (4,183,000), voluntary hospitals handled 72.3 percent of the cases; government hospitals, 23.4 percent; and proprietary hospitals, 4.2 percent (fig. 3). Considering all hospital types, proprietary hospitals not only had the smallest proportion of obstetrical cases in the country (4.2 percent) and the smallest percentage of OB cases with obstetrical surgery (4.3 percent, fig. 3), but, relative to their own total discharges, performed the smallest percentage of OB surgery (1.6 percent, table 1, fig. 4). Government hospitals, on the other hand, had the highest proportion of OB cases in the United States (23.4) and the highest percentage with surgery (24.1, fig. 3), but devoted a higher percentage of their total case load to obstetrical surgery (2.9) than either proprietary or voluntary hospitals (fig. 4).

Although most patients without surgery were discharged from all types of hospitals, 68.9 percent were discharged from government-controlled hospitals compared with 62.0 percent for proprietary hospitals and 58.6 percent for voluntary hospitals (table 1).

Operations by body site.—When *all-listed operations* are considered, the rate of operations for females per 100,000 population was higher (8,628) than that for males (6,229, table 3).

The body sites which contributed most to this higher rate were the uterus, cervix, and supporting structures. As a result, these sites were responsible for gynecological surgery having the second highest rate of operations for the total population and the highest rate for a single sex category. Following gynecological surgery was orthopedic surgery for females, with a rate of 880. Orthopedic surgery also ranked high for males, with a rate of 1,071, but the

Table D. Sex ratio of operations performed in short-stay hospitals, by selected body sites: United States, 1968

Operations by selected body sites	Ratio
Ratio of females to males:	
Breast-----	17.8
Thyroid, parathyroid, and other endocrine glands-----	4.4
Liver and biliary tract-----	2.3
Ratio of males to females:	
Repair of hernia-----	3.3
Pancreas, spleen, and intra- abdominal blood vessels-----	2.0
Bronchus and lung-----	2.1

highest rate of all-listed surgery (637) was for genitourinary surgery of the male reproductive organs. The operational specialty with the highest rate of discharges for all-listed operations for both sexes combined was gastrointestinal and abdominal surgery (1,576). The rate on this type of surgery was higher (1,700) for males than for females (1,454, table 2).

Comparisons between the sexes in rates of operations for particular body sites revealed that females had almost 18 times as high a rate of operations performed on the breast than did males; almost 4½ times as high on the thyroid, parathyroid, and other endocrine glands; and 2½ times as high on the liver and biliary tract (table D). On the other hand, hernial repair surgery for males was performed at a rate 3 1/3 times that for females. Surgery associated with the pancreas, spleen and intra-abdominal blood vessels, and with the bronchus and lungs was performed at twice the rate for females (table D).

Table E. Rate and age ratio of operations performed in short-stay hospitals, by selected body sites: United States, 1968

Operations by selected body sites	Rate		Ratio
	15 years and over	Under 15 years	Under 15 years to 15 years and over
Pharynx, tonsils, and adenoids-----	174.3	1,485.1	8.5
Orbit, eyeball, and ocular muscles-----	33.9	135.0	4.0
Ear-----	91.6	269.3	2.9
Appendix-----	149.3	194.8	1.3

MONTHLY VITAL STATISTICS REPORT

Table 1. Number¹ and percent¹ distribution of patients discharged from short-stay hospitals, with and without surgery and nonobstetrical and obstetrical surgery, by age, sex, geographic region, hospital size, and hospital control: United States, 1968

[Excludes newborns]

Characteristic	Total discharges		Discharges with surgery						Discharges without surgery					
			Total		Nonobstetrical ²		Obstetrical		Total		Nonobstetrical		Obstetrical	
	Number in thousands	Per-cent	Number in thousands	Per-cent	Number in thousands	Per-cent	Number in thousands	Per-cent	Number in thousands	Per-cent	Number in thousands	Per-cent	Number in thousands	Per-cent
AGE														
All ages ³ -----	28,070	100.0	10,942	39.0	10,230	36.4	713	2.5	17,128	61.0	13,658	48.7	3,470	12.4
Under 15 years-----	3,988	100.0	1,998	50.1	1,996	50.0	3	0.1	1,990	49.9	1,975	49.5	15	0.4
15-44 years-----	12,036	100.0	4,718	39.2	4,011	33.3	706	5.9	7,319	60.8	3,869	32.1	3,450	28.7
45-64 years-----	6,517	100.0	2,661	40.5	2,637	40.5	4	0.1	3,876	59.5	3,871	59.4	5	0.1
65 years and over-----	5,520	100.0	1,583	28.7	1,583	28.7	...	...	3,937	71.3	3,937	71.3	...	...
SEX														
Both sexes ⁴ -----	28,070	100.0	10,942	39.0	10,230	36.4	713	2.5	17,128	61.0	13,658	48.7	3,470	12.4
Male-----	11,204	100.0	4,528	40.4	4,528	40.4	713	6.3	6,676	59.6	6,676	59.6	...	...
Female-----	16,866	100.0	6,393	38.1	5,680	33.8	...	...	10,408	62.0	6,938	41.3	3,470	20.7
GEOGRAPHICAL REGION														
All regions-----	28,070	100.0	10,942	39.0	10,230	36.4	713	2.5	17,128	61.0	13,658	48.7	3,470	12.4
Northeast-----	6,279	100.0	2,732	43.5	2,535	40.4	197	3.1	3,546	56.5	2,712	43.2	835	13.3
North Central-----	8,679	100.0	3,403	39.2	3,199	36.9	204	2.4	5,275	60.8	4,191	48.3	1,084	12.5
South-----	8,872	100.0	3,038	34.2	2,833	31.9	205	2.3	5,833	65.8	4,809	54.2	1,024	11.5
West-----	4,241	100.0	1,768	41.7	1,661	39.2	107	2.5	2,473	58.3	1,945	45.9	528	12.4
HOSPITAL SIZE														
All sizes-----	28,070	100.0	10,942	39.0	10,230	36.4	713	2.5	17,128	61.0	13,658	48.7	3,470	12.4
6-99 beds-----	6,208	100.0	1,798	28.8	1,682	27.1	106	1.7	4,420	71.2	3,706	59.7	714	11.5
100-499 beds-----	17,541	100.0	7,301	41.6	6,849	39.0	451	2.6	10,240	58.4	8,080	46.1	2,160	12.3
500 beds or more-----	4,322	100.0	1,854	42.9	1,699	39.3	156	3.6	2,467	57.1	1,872	43.3	596	13.8
HOSPITAL CONTROL														
All types-----	28,070	100.0	10,942	39.0	10,230	36.4	713	2.5	17,128	61.0	13,658	48.7	3,470	12.4
Voluntary-----	20,264	100.0	8,382	41.4	7,871	38.8	511	2.5	11,882	58.6	9,368	46.2	2,514	12.4
Government-----	5,916	100.0	1,842	31.1	1,670	28.2	171	2.9	4,074	68.9	3,265	55.2	809	13.7
Proprietary-----	1,890	100.0	718	38.0	688	36.4	31	1.6	1,171	62.0	1,025	54.2	147	7.8

¹Computations are based on unrounded figures, but rounded figures do not always add to totals.

²Includes obstetrical patients with nonobstetrical surgery.

³Includes discharge data for which age was not stated.

⁴Includes discharge data for which sex was not stated.

NOTE: Symbol ... used in table denotes category not applicable.

Although most surgery was performed on those 15 years of age and over, for some types of operations the rates were higher for those under 15 years of age (table E). Leading the list for this younger age group was otorhinolaryngological surgery where the pharynx, tonsils, and adenoids accounted for most of this type surgery and at a rate 8½ times higher than that for the older age group. Another contributing factor for this higher rate of otorhinolaryngological surgery for those under 15 years of age was that this age group's third highest rate of operations was due to the number performed on the ear. These operations were performed

at approximately 3 times the rate (table E) for older patients.

Operations associated with the orbit, eyeball, and ocular muscles ranked second for those under 15 years of age or at 4 times the rate of older groups. The fourth highest rate of operations for the younger age group was for first-listed appendectomies¹ which were performed at 1 1/3 times the rate of those for patients 15 years of age and over.

¹If the estimated number of all-listed appendectomies were used, it would include those done in conjunction with other surgery.

MONTHLY VITAL STATISTICS REPORT

Table 2. Number and rate per 100,000 population of all-listed operations for inpatients discharged from short-stay hospitals, by specialty and body site, and by age and sex: United States, 1968

[Excludes newborn infants and all Federal hospitals]

Specialty and body site, ICDA ¹ codes	Number (in Thousands)				Rate			
	All ages				All ages			
	Both sexes ²	Male	Female	15+ years	Both sexes ²	Male	Female	15+ years
All operations-----	14,624	5,855	8,742	12,254	7,487	6,229	8,628	9,020
Excluding obstetrical procedures-----	13,888	5,855	8,006	11,520	7,110	6,229	7,901	8,480
Neurosurgery-----01-06	211	116	95	184	108	123	94	135
Skull, brain, and cerebral meninges-----01-02	79	49	30	61	41	53	29	44
Spinal cord, nerve roots, and spinal meninges-----03	27	16	11	25	14	17	11	18
Peripheral and sympathetic nerves or ganglia-----05-06	105	50	54	99	54	53	54	73
Ophthalmology-----10-18	527	247	278	411	270	263	274	303
Orbit, eyeball, and ocular muscles-----10-11	126	61	65	46	65	65	64	34
Eyeids and conjunctiva-----12-13	90	43	46	76	46	46	46	56
Cornea, iris, ciliary body, sclera, choroid, retina, and lacrimal apparatus-----14-16,18	88	48	39	73	45	51	39	53
Lens-----17	223	95	127	216	114	101	125	159
Otorhinolaryngology-----20-22,27	1,810	939	867	728	927	999	856	536
Ear-----20	285	161	122	124	146	172	121	92
Nose and accessory sinuses-----21	325	173	151	292	166	184	149	215
Larynx and trachea-----22	81	51	29	74	41	55	29	54
Pharynx, tonsils, and adenoids-----22	1,120	553	564	237	573	588	557	175
Oral and buccal surgery-----24-26	380	164	215	328	195	174	212	242
Teeth and gums-----24	311	128	182	276	159	136	180	203
Salivary glands, buccal cavity, tongue, and palate-----25-26	69	37	33	52	35	39	32	38
Thoracic surgery-----30-35	288	170	117	261	147	181	116	192
Heart, pericardium, and intrathoracic vessels-----30-32	112	64	48	92	57	68	48	68
Bronchus and lung-----33,35	64	42	22	63	33	45	21	47
Chest wall, pleura, and mediastinum-----34	111	64	47	106	57	68	46	78
Gastrointestinal and abdominal surgery-----28,40-57	3,078	1,598	1,473	2,728	1,576	1,700	1,454	2,008
Repair of hernia-----40	710	535	174	550	363	569	172	405
Abdominal wall and peritoneum-----41-42	426	142	284	390	218	151	280	287
Esophagus, stomach, and duodenum combined with stomach-----28,44	270	164	105	257	138	175	103	189
Appendix ³ -----45	319	178	140	204	163	189	138	150
Intestines-----46-47	317	134	182	304	162	142	180	224
Rectum-----48	120	64	55	115	61	68	55	85
Anus-----49	389	210	179	386	199	223	176	284
Liver and biliary tract-----51-53	470	134	334	466	240	143	330	343
Pancreas, spleen, and intra-abdominal blood vessels-----55-57	59	38	21	56	30	40	20	41
Genitourinary surgery-----60-69	1,203	902	299	956	616	960	295	704
Kidney-----60	73	36	37	67	37	38	37	49
Ureter-----62	100	53	47	88	51	56	46	65
Urinary bladder-----63	163	94	68	154	83	100	67	113
Urethra-----64	268	120	147	186	137	127	145	137
Prostate and seminal vesicles-----66	233	233	...	233	120	248	...	172
Testis, tunica vaginalis, spermatic cord, and scrotum-----67	172	172	...	105	88	182	...	78
Epididymis and vas deferens-----68	76	76	...	75	39	81	...	55
Penis-----69	119	119	...	47	61	126	...	35
Gynecological surgery-----70-75	2,658	...	2,658	2,645	1,361	...	2,623	1,947
Ovary-----70	385	...	385	381	197	...	380	280
Fallopian tube-----71	154	...	154	153	79	...	152	113
Uterus, cervix, and supporting structures-----72-73	1,788	...	1,788	1,785	915	...	1,764	1,314
Vagina, vulva, and perineum-----74-75	331	...	331	325	170	...	327	240
Obstetrical procedures-----76.6-78.9	736	...	736	734	377	...	727	540
Orthopedic surgery-----80-87	1,903	1,006	892	1,624	974	1,071	880	1,195
Bone-----80-82	1,029	523	503	834	527	557	497	614
Joint structures-----83-84	537	306	230	504	275	325	227	371
Muscles, tendons, fascia, and bursa-----85-86	268	136	132	220	137	144	130	162
Amputation and disarticulation of extremities-----87	69	42	27	65	35	45	27	48
Other general and specialized surgery-----	1,829	713	1,112	1,655	937	758	1,097	1,218
Thyroid, parathyroid, and other endocrine glands-----08-09	88	15	72	84	45	16	71	62
Breast, male and female-----38	416	20	395	413	213	21	390	304
Peripheral blood vessels and lymphatic system-----88	286	120	165	273	146	127	163	201
Skin and subcutaneous tissue-----89	1,040	558	480	885	532	593	473	652

¹National Center for Health Statistics: International Classification of Diseases, Adapted for Indexing Hospital Records by Diseases and Operations. PHS Pub. No. 719 (Rev.). Public Health Service, Washington, U.S. Government Printing Office, Dec. 1962.

²Includes discharge data for which sex was not stated.

³Limited to estimated number of first-listed appendectomies to exclude majority that were performed incidental to other abdominal surgery.

NOTE: Symbol ... used in table denotes category not applicable.

Technical Notes

SOURCE OF DATA. The Hospital Discharge Survey collects data on patients discharged from noninstitutional short-stay hospitals located in the 50 States and the District of Columbia. All Federal hospitals are excluded. Although newborn infants are included in the survey, they are excluded in this report. Information for this report was obtained from a national sample of approximately 400 hospitals which furnished data on slightly over 210,000 medical abstracts of hospital discharges.

SAMPLING ERRORS. The estimates presented are subject to sampling error since a sample rather than the entire population has been surveyed. The standard errors appropriate for the estimates of the number of discharges are shown in table I.

ROUNDING. Due to rounding, detailed figures within tables may not add to totals. However, all rounded numbers are obtained from computations done on unrounded numbers.

DEFINITIONS. *Short-stay hospitals* are general and short-term special hospitals that have six beds or more for inpatient use and an average stay of less than 30 days.

A *patient or inpatient* is a person who has been formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment. Newborn infants who are defined as those admitted to the hospital by birth only are not included in this report.

A *discharge* is 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. Total discharges could include more than one period of hospitalization for any one patient, but no distinction is made between one and more than one hospital episodes per patient. "Discharges" and "patients (or inpatients) discharged" are used synonymously.

Discharge rate is the ratio of the number of hospital discharges during a specified year to the number of persons in the civilian, noninstitutional population as of July 1 of the specific year. Rates in this report are given for 100,000 persons in the population, unless otherwise stated.

Operation(s) is 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. A maximum of three 3-digit codes are assigned per sample discharge, based on the operations and treatments section of the *International Classification of Diseases*, Adapted (ICDA) and Hospital Discharge Survey directives.

All-listed operations are the aggregate of individually coded operations, procedures, and special treatments exclusive of spinal puncture, endoscopy, radiography, shock therapy, and certain other treatments not generally considered as surgery.

First-listed operation is the operation listed first on the patient's medical abstract.

Operated patient is a patient for whom at least one operation or procedure is performed during one period of hospitalization.

Obstetrical procedures or obstetrical surgery is used synonymously in this report and includes operations inducing or assisting delivery, operations after delivery or abortion, and cesarean section and other obstetrical operations. Hysterectomies and sterilizations by division or ligation of fallopian tubes are excluded as obstetrical procedures. Excluded from the survey completely are procedures involving low forceps and episiotomies, which, for the purposes of this report, are not considered surgery.

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, revised edition, 1962. The groupings by surgical specialty that are used in this report are similar to but somewhat broader than the major classes (numbered 1-15) of the ICDA section "Classification of Operations and Treatments." Not used in this report is ICDA class No. 16—Certain Nonsurgical Procedures.

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, "repair of hernia" and "amputation and disarticulation of extremities."

TABLE I. APPROXIMATE STANDARD ERROR OF ESTIMATED NUMBER OF DISCHARGES

Size of estimate	Standard error
10,000-----	1,830
50,000-----	4,710
100,000-----	7,610
500,000-----	28,850
1,000,000-----	55,000
5,000,000-----	263,500
10,000,000-----	524,000
30,000,000-----	1,566,000

MONTHLY VITAL STATISTICS REPORT

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Rockville, Maryland 20852
OFFICIAL BUSINESS
Penalty for Private Use \$300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF HEW

