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VITAL STATISTICS REPORT

Hospital Discharge Survey Data

FROM THE
NATIONAL CENTER FOR HEALTH STATISTICS

U. S. DEPARTMENT OF
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PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
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Utilization of Short-Stay Hospitals—Summary of Nonmedical Statistics: United States, 1970

Estimates are provided in this report on the utilization of non-Federal short-stay hospitals by inpatients, excluding newborn infants, during 1970. The data are based on information abstracted for the Hospital Discharge Survey from a sample of about 205,000 hospital records of patients discharged from a national sample of 395 hospitals which participated in the survey. Data are presented on the number and rate of discharges and of days of care; on average length of stay of patients discharged, by age, sex, and color of patients; and by geographic region, bed size, and type of ownership (control) of the hospitals.

There were an estimated 29.2 million inpatients, other than newborn infants, discharged from the non-Federal short-stay hospitals in the United States during 1970. These patients were provided 234.0 million days of care (table 1).

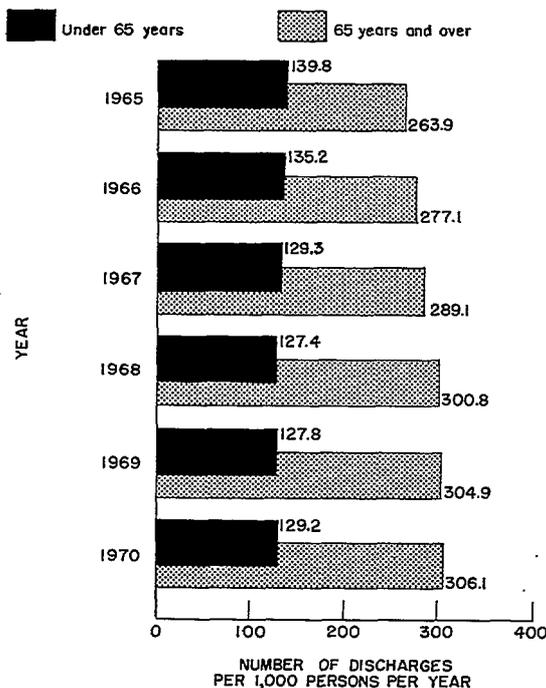
The annual rate of discharges for 1970 was 146.2 per 1,000 persons in the civilian, noninstitutional population, or about the same as the rate of 144.5 for 1969 (see *Monthly Vital Statistics Report*, Vol. 21, No. 6, Supplement). The rate of days of care per 1,000 population was 1,172.7 in 1970, a decrease from 1,210.9 in 1969. This decrease is indicated by a drop in the average length of stay from 8.4 days in 1969 to 8.0 days in 1970.

Although annual rates of discharge for all persons changed slightly from year to year during 1965-70, discharge rates for those under age 65 decreased by 8 percent concurrently with a 16-percent increase for those 65 and over. Under Medicare, which became effective July 1, 1966, discharge rates for the aged increased rapidly until 1968 and leveled off in the following 2 years (fig. 1). Accompanying the increase in the discharge rates for persons 65 and over, the rates for persons under 65 decreased from 1965 to 1967 and remained at about the same level from 1968 to 1970. Average length of stay for the aged was about a day longer under Medicare from 1967 to 1969

than in 1965 (pre-Medicare) and for under 65 was slightly higher during this period than in 1965 (fig. 2). For both age groups, the average lengths of stay in 1970 decreased to the averages for 1965.

As in previous years, annual rates of discharges and of days of care for 1970 increased with each successive age group. From the under age 15 years group to the age group 65 years and over, the discharge rate increased by 4½ times, from 68.0 per 1,000 population to 306.1, and the days of care rate

Figure 1. NUMBER OF DISCHARGES PER 1,000 PERSONS PER YEAR FOR INPATIENTS UNDER 65 YEARS AND 65 YEARS AND OVER DISCHARGED FROM SHORT-STAY HOSPITALS: UNITED STATES, 1965-70



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Table 1. Number and rate of inpatients discharged from short-stay hospitals, number and rate of days of care, and average length of stay, by age and sex: United States, 1970

[Excludes newborn infants and Federal hospitals]

Age	Both sexes ¹	Male	Female	
			Including deliveries	Excluding deliveries
Number of discharges in thousands				
All ages-----	29,185	11,433	17,696	14,117
Under 15 years-----	3,923	2,196	1,718	1,700
15-44 years-----	12,672	3,479	9,170	5,615
45-64 years-----	6,707	3,106	3,588	3,582
65 years and over-----	5,883	2,651	3,220	3,220
Rate of discharges per 1,000 population				
All ages-----	146.2	119.1	170.8	136.3
Under 15 years-----	68.0	74.7	60.7	60.0
15-44 years-----	156.1	89.8	216.1	132.4
45-64 years-----	161.7	157.3	165.1	164.8
65 years and over-----	306.1	327.7	289.4	289.4
Number of days of care in thousands				
All ages-----	234,042	99,183	134,385	119,709
Under 15 years-----	19,211	10,873	8,271	8,147
15-44 years-----	73,371	24,821	48,382	33,859
45-64 years-----	64,293	30,336	33,863	33,834
65 years and over-----	77,167	33,153	43,870	43,870
Rate of days of care per 1,000 population				
All ages-----	1,172.7	1,033.4	1,297.2	1,155.5
Under 15 years-----	332.9	369.9	292.1	287.7
15-44 years-----	903.9	640.5	1,140.5	798.1
45-64 years-----	1,550.0	1,536.3	1,558.2	1,556.9
65 years and over-----	4,015.4	4,097.5	3,942.6	3,942.6
Average length of stay in days				
All ages-----	8.0	8.7	7.6	8.5
Under 15 years-----	4.9	5.0	4.8	4.8
15-44 years-----	5.8	7.1	5.3	6.0
45-64 years-----	9.6	9.8	9.4	9.4
65 years and over-----	13.1	12.5	13.6	13.6

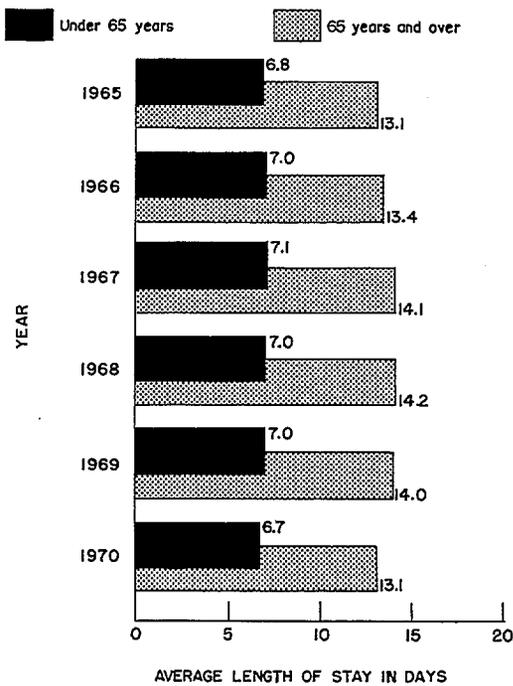
¹Figures include data for sex not stated.

increased by 12 times, from 332.9 for the youngest age group to 4,015.4 for the oldest age group. Average length of stay ranged from 4.9 days for patients under 15 to 13.1 days for patients 65 and over.

Hospital utilization varied considerably by sex. The 1970 rate of discharges per 1,000 population was 170.8 for females compared with 119.1 for males,

or 43 percent higher, and the rate of days of care for females was 1,297.2 compared with 1,033.4 for males, or 26 percent higher (table 1). Exclusive of deliveries, the discharge rate for females was only 14 percent higher and the days of care rate 12 percent higher than for males. Rates of discharge and of days of care for males under 15 and 65 and over

Figure 2. AVERAGE LENGTH OF STAY FOR INPATIENTS UNDER 65 YEARS AND 65 YEARS AND OVER DISCHARGED FROM SHORT-STAY HOSPITALS: UNITED STATES, 1965-70



were higher than for females. The average length of stay for males (8.7 days) was longer than for females including deliveries (7.6 days) and excluding deliveries (8.5 days). On the average, males of all age groups except 65 and older were hospitalized longer than females. Figure 3 shows the differences in the discharge rates by age and sex.

There were about 863,000 deaths (29.6 per 1,000 discharges) among the 29.2 million inpatients, excluding newborn infants, discharged in 1970. The deaths per 1,000 discharges by age and sex are shown in table A. Almost two-thirds (65 percent) of the patients who died were age 65 and over. The number of deaths per 1,000 patients discharged increased from 5.4 deaths for under 45 years to 94.9 for age 65 and older. Deaths per 1,000 males discharged were 39.8 compared with 23.0 for females. Exclusive of deliveries, which accounted for a small number of the total deaths, there were 28.8 deaths per 1,000 females discharged.

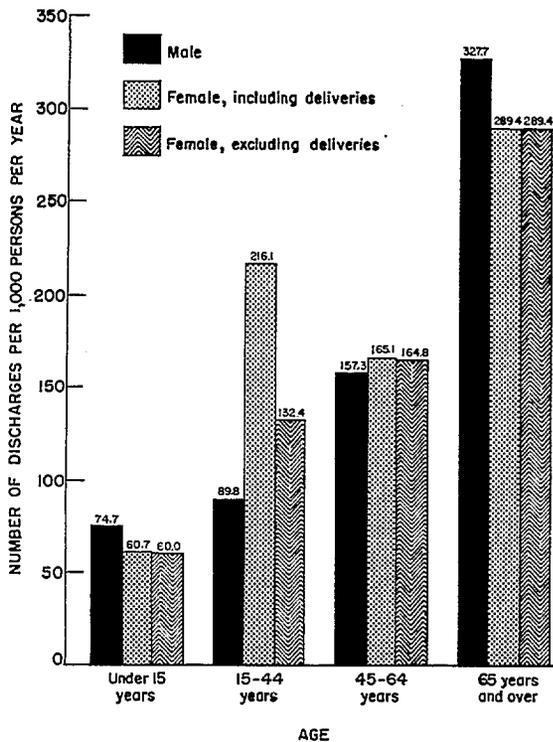
Table A. Number of deaths per 1,000 discharges from short-stay hospitals, by age and sex: United States, 1970

[Excludes newborn infants and Federal hospitals]

Age	Total ¹	Male	Female
All ages-----	29.6	39.8	23.0
Under 45 years-----	5.4	8.7	3.7
45-64 years-----	32.0	38.2	26.8
65+ years-----	94.9	108.4	84.1

¹Figures include data for sex not stated.

Figure 3. NUMBER OF DISCHARGES FROM SHORT-STAY HOSPITALS PER 1,000 PERSONS PER YEAR BY AGE AND SEX: UNITED STATES, 1970



An estimated 22.0 million inpatients discharged from short-stay hospitals were white and 3.1 million patients were identified as of all other color groups (table 2). However, color of patients was not reported for an estimated 4.1 million patients discharged. The distributions of discharges and of average length of stay of patients with color not stated, by age, were more like those for white than for all other patients. This suggests that this group probably includes about the same proportions of patients of each color as the proportions for whom color was stated. Nevertheless, because of the large number of patients with color unknown, rates were not computed by color and caution should be used in drawing conclusions from these data.

White patients outnumbered all other patients with color stated by 7 to 1. A higher proportion of white patients (45 percent) than of all other patients

Table 2. Number and percent distribution of inpatients discharged from short-stay hospitals, days of care, and average length of stay, by color and age: United States, 1970

[Excludes newborn infants and Federal hospitals]

Color and age	Discharges		Days of care		Average length of stay in days
	Number in thousands	Percent distribution	Number in thousands	Percent distribution	
Total ¹ -----	29,185	100.0	234,042	100.0	8.0
Under 15 years-----	3,923	13.4	19,211	8.2	4.9
15-44 years-----	12,672	43.4	73,371	31.3	5.8
45-64 years-----	6,707	23.0	64,293	27.5	9.6
65 years and over-----	5,883	20.2	77,167	33.0	13.1
White-----	22,010	100.0	177,002	100.0	8.0
Under 15 years-----	2,913	13.2	13,704	7.7	4.7
15-44 years-----	9,104	41.4	51,775	29.3	5.7
45-64 years-----	5,286	24.0	49,759	28.1	9.4
65 years and over-----	4,707	21.4	61,764	34.9	13.1
All other-----	3,090	100.0	25,807	100.0	8.4
Under 15 years-----	472	15.3	3,117	12.1	6.6
15-44 years-----	1,711	55.4	10,849	42.0	6.3
45-64 years-----	532	17.2	6,388	24.8	12.0
65 years and over-----	374	12.1	5,453	21.1	14.6

¹Figures include data for an estimated 4,084,000 inpatients discharged for whom color was not stated.

(29 percent) were age 45 and older. Deliveries accounted for only 11 percent of the white patients hospitalized compared with 19 percent of all others. The average length of stay for white patients of all age groups was of shorter duration than for all other patients.

Large variations were evident in hospital utilization by geographic region. The number and rate of discharges and average length of stay are presented by region and age in table 3. The number of discharges per 1,000 population ranged from 128.5 in the West Region to 164.6 in the North Central Region, a difference of 28 percent. Average length of stay ranged from 6.7 days in the West to 9.1 days in the Northeast, a difference of 36 percent.

Discharge rates per 1,000 population for 1970 were slightly higher or about the same as for 1969 in all regions except the West, where there was a small decrease. In all regions, the estimated average lengths of stay were shorter in 1970 than in 1969.

Estimates of the rates of discharge and of average lengths of stay for 1970 compared with 1969 are shown in table B.

The number of discharges from short-stay hospitals were distributed almost evenly among the five bed-size groups of hospitals presented in table 4. The percent of total discharges ranged from 18.4 percent in hospitals with 200-299 beds and in hospitals with 500 beds or more to 21.7 percent in hospitals with 300-399 beds. Average length of stay increased with size of hospital from 6.8 days in hospitals with fewer than 100 beds to 9.3 days in hospitals with 500 beds or more.

Hospitals with 200-299 beds and 500 beds or more accounted for larger proportions of the total discharges in 1970 than in 1969. In all bed-size groups, the average length of stay decreased from 1969 to 1970. The percent distributions of discharges and the average lengths of stay for 1969-70, by size of hospital, are shown in table C.

Table 3. Number and rate of inpatients discharged from short-stay hospitals, and average length of stay, by geographic region and age: United States, 1970

[Excludes newborn infants and Federal hospitals]

Age	All regions	Northeast	North Central	South	West
Number of discharges in thousands					
All ages-----	29,185	6,637	9,202	8,983	4,363
Under 15 years-----	3,923	842	1,348	1,183	549
15-44 years-----	12,672	2,880	3,943	3,897	1,953
45-64 years-----	6,707	1,596	2,056	2,018	1,037
65 years and over-----	5,883	1,320	1,855	1,885	823
Rate of discharges per 1,000 population					
All ages-----	146.2	137.2	164.6	146.4	128.5
Under 15 years-----	68.0	63.3	82.1	65.5	55.4
15-44 years-----	156.1	149.1	174.5	155.5	137.4
45-64 years-----	161.7	147.6	180.4	162.8	151.0
65 years and over-----	306.1	265.9	339.1	323.9	277.5
Average length of stay in days					
All ages-----	8.0	9.1	8.3	7.6	6.7
Under 15 years-----	4.9	5.4	4.9	5.1	3.7
15-44 years-----	5.8	6.2	6.1	5.6	4.9
45-64 years-----	9.6	11.0	9.9	9.0	8.0
65 years and over-----	13.1	15.7	13.5	11.7	11.3

Table B. Rate of discharges from short-stay hospitals and average length of stay, by geographic region: United States, 1969 and 1970

[Excludes newborn infants and Federal hospitals]

Geographic region	Rate of discharges per 1,000 population		Average length of stay in days	
	1970	1969	1970	1969
All regions-----	146.2	144.5	8.0	8.4
Northeast-----	137.2	132.2	9.1	9.6
North Central-----	164.6	162.0	8.3	8.7
South-----	146.4	145.2	7.6	7.8
West-----	128.5	131.8	6.7	7.1

Voluntary nonprofit hospitals (church and other nonprofit operated) provided care to 72.3 percent of all patients hospitalized in short-stay hospitals.

Government hospitals (controlled by State and local governments) accounted for 22.3 percent, and proprietary hospitals (operated for profit) cared for 5.3

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Table 4. Number and percent distribution of inpatients discharged from short-stay hospitals and of days of care, and average length of stay, by bed size and type of ownership of hospital: United States, 1970

[Excludes newborn infants and Federal hospitals]

Bed size and type of ownership	Discharges		Days of care		Average length of stay in days
	Number in thousands	Percent distribution	Number in thousands	Percent distribution	
All hospitals-----	29,185	100.0	234,042	100.0	8.0
BED SIZE					
6-99 beds-----	5,921	20.3	40,002	17.1	6.8
100-199 beds-----	6,179	21.2	46,995	20.1	7.6
200-299 beds-----	5,384	18.4	44,044	18.8	8.2
300-499 beds-----	6,330	21.7	53,195	22.7	8.4
500 beds or more-----	5,371	18.4	49,806	21.3	9.3
TYPE OF OWNERSHIP					
Voluntary nonprofit-----	21,105	72.3	173,363	74.1	8.2
Government-----	6,521	22.3	50,132	21.4	7.7
Proprietary-----	1,559	5.3	10,547	4.5	6.8

Table C. Percent distribution of discharges from short-stay hospitals and average length of stay, by size of hospital: United States, 1969 and 1970

[Excludes newborn infants and Federal hospitals]

Size of hospital	Percent distribution of inpatients discharged		Average length of stay in days	
	1970	1969	1970	1969
All hospitals-----	100.0	100.0	8.0	8.4
6-99 beds-----	20.3	21.0	6.8	7.1
100-199 beds-----	21.2	22.8	7.6	7.7
200-299 beds-----	18.4	15.7	8.2	9.1
300-499 beds-----	21.7	24.6	8.4	8.7
500 beds or more-----	18.4	16.0	9.3	10.0

percent (table 4). In 1969, the percent distribution of the discharges by ownership of hospital was 72.0 percent, 21.4 percent, and 6.6 percent, respectively. Average length of stay in 1970 was 8.2 days in voluntary

nonprofit hospitals, 7.7 days in government hospitals, and 6.8 days in proprietary hospitals compared with 8.6 days, 8.2 days, and 7.0 days, respectively, for 1969.

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. This report excludes data for newborn infants and discharges from Federal hospitals. Information in this report is based on a sample of about 205,000 abstracts of medical records of patients discharged from a national sample of 395 short-stay hospitals which participated in the survey in 1970.

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 and those for days of care are shown in table II.

TABLE I. APPROXIMATE STANDARD ERRORS OF ESTIMATED NUMBERS OF DISCHARGES

Size of estimate	Standard error
200,000-----	17,000
500,000-----	28,000
1,000,000-----	41,000
2,000,000-----	62,000
6,000,000-----	136,000
10,000,000-----	206,000
20,000,000-----	376,000
30,000,000-----	546,000

TABLE II. APPROXIMATE STANDARD ERRORS OF ESTIMATED NUMBERS OF DAYS OF CARE

Size of estimate	Standard error
2,000,000-----	180,000
6,000,000-----	320,000
10,000,000-----	424,000
20,000,000-----	634,000
60,000,000-----	1,308,000
100,000,000-----	1,920,000
200,000,000-----	3,420,000
250,000,000-----	4,150,000

ROUNDING. Due to rounding, detailed figures within tables may not add to totals. Rates, percents, and average lengths of stay presented were computed from 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 length of 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.

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. "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.

Days of care denotes the total number of inpatient days accumulated at time of discharge by patients discharged from short-stay hospitals. A stay of less than 1 day (inpatient admission and discharge on the same day) is counted as 1 day in the summation of total days of care.

Rate of days of care is the ratio of the number of inpatient days accumulated by patients discharged during a specified year to the number of persons in the civilian, noninstitutional population as of July 1 of the specific year.

Average length of stay is the total number of inpatient days accumulated at time of discharge by patients discharged during a specified year divided by the number of patients discharged.

Color of patient is designated as either "white" or "all other." The "all other" group includes Negro, American Indian, Chinese, Asian Indian, and any other race.

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