

# Monthly

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## VITAL STATISTICS REPORT

*Hospital Discharge Survey Data*

FROM THE

NATIONAL CENTER FOR HEALTH STATISTICS

### Utilization of Short-Stay Hospitals—Summary of Nonmedical Statistics: United States, 1971

The Hospital Discharge Survey has collected data on short-stay hospital utilization continuously since the beginning of 1965. The estimates from the survey for 1971 are based on a sample of the hospital records of inpatients discharged from a national sample of non-Federal short-stay hospitals. Data were abstracted from about 200,000 hospital records of inpatients discharged from 379 hospitals that participated in the survey.

Estimates are shown in this report on the utilization of non-Federal short-stay hospitals by inpatients, excluding newborn infants, discharged during 1971. Data are presented on the number and rate of discharges and of days of care, and average length of stay of patients discharged, by age, sex, and color; and by geographic region, bed size, and type of ownership (control) of hospitals.

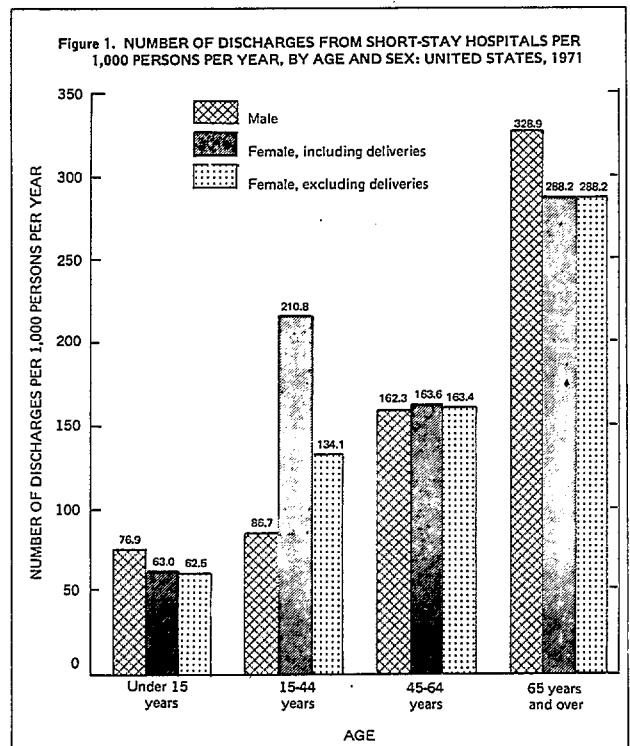
An estimated 29.5 million inpatients were discharged from non-Federal short-stay hospitals in 1971. About 231.0 million days of care were utilized by these patients and their average length of stay was 7.8 days (table 1).

The annual rate of discharges for 1971 was 145.8 per 1,000 persons in the civilian, noninstitutional population, or about the same as the rate of 146.2 for 1970. The rate for days of care per 1,000 population was 1,143.1 in 1971, a decrease from 1,172.7 in 1970. Average length of stay declined from 8.0 days in 1970 to 7.8 days in 1971 (see *Monthly Vital Statistics Report*, Vol. 21, No. 9, Supplement).

The patterns of hospital utilization by age and sex for 1971 were similar to those observed in the data collected by the survey for previous years. Rates of discharge for 1971 increased with age for all patients except for females including deliveries (fig. 1). The inclusion of deliveries (3.3 million) resulted in a higher discharge rate for females aged 15-44 years than for those aged 45-64 years. Rates of days of

care and average length of stay increased consistently with age for all discharges and by sex (table 1).

Hospitalization was terminated by death for an estimated 833,000 of the 29,459,000 patients discharged in 1971. Of the patients who died, 63.4 percent were 65 years of age and over. There were 28.3 deaths per 1,000 patients discharged. Deaths per 1,000 patients discharged varied considerably by age: 5.2 deaths for patients under 45 years; 32.1 deaths for patients 45-64 years; and 88.2 deaths for patients 65



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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, 1971

[Excludes newborn infants and Federal hospitals]

Age	Both sexes <sup>1</sup>	Male	Female	
			Including deliveries	Excluding deliveries
Number of discharges in thousands				
All ages-----	29,459	11,644	17,767	14,431
Under 15 years-----	4,029	2,249	1,773	1,759
15-44 years-----	12,605	3,467	9,118	5,801
45-64 years-----	6,840	3,232	3,596	3,590
65 years and over-----	5,986	2,696	3,280	3,280
Rate of discharges per 1,000 population				
All ages-----	145.8	119.6	169.6	137.7
Under 15 years-----	70.2	76.9	63.0	62.5
15-44 years-----	151.4	86.7	210.8	134.1
45-64 years-----	163.3	162.3	163.6	163.4
65 years and over-----	305.7	328.9	288.2	288.2
Number of days of care in thousands				
All ages-----	231,017	97,723	132,906	119,374
Under 15 years-----	18,773	10,565	8,183	8,131
15-44 years-----	72,359	23,866	48,339	34,887
45-64 years-----	64,304	30,595	33,606	33,580
65 years and over-----	75,581	32,696	42,778	42,778
Rate of days of care per 1,000 population				
All ages-----	1,143.1	1,004.0	1,268.7	1,139.5
Under 15 years-----	327.2	361.5	290.8	288.9
15-44 years-----	869.2	596.8	1,117.4	806.5
45-64 years-----	1,535.0	1,536.5	1,529.0	1,527.8
65 years and over-----	3,860.3	3,987.8	3,759.0	3,759.0
Average length of stay in days				
All ages-----	7.8	8.4	7.5	8.3
Under 15 years-----	4.7	4.7	4.6	4.6
15-44 years-----	5.7	6.9	5.3	6.0
45-64 years-----	9.4	9.5	9.3	9.4
65 years and over-----	12.6	12.1	13.0	13.0

<sup>1</sup>Figures include data for sex not stated.

years and over. The average length of stay was 7.7 days for patients discharged alive and 12.4 days for patients discharged dead.

An estimated 22.5 million of the inpatients discharged from short-stay hospitals during 1971 were

identified by color as white and 3.3 million as of all other color groups (table 2). However, color was not reported for 3.7 million patients discharged. In all likelihood, these patients were distributed by color in approximately the same proportions as the patients

for whom color was reported. This is suggested by the age and sex distributions of these patients and their average length of stay by age and sex. However, because of the large number of patients for whom color was not stated, rates were not computed by color and caution should be used in drawing conclusions from these data.

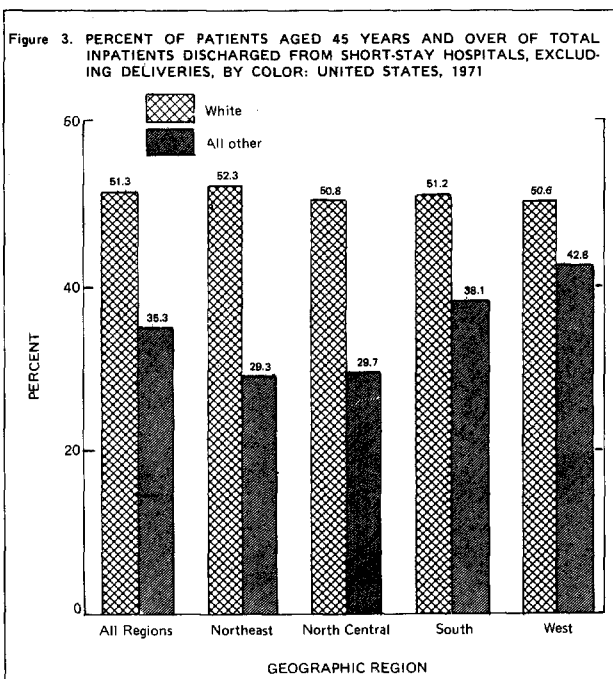
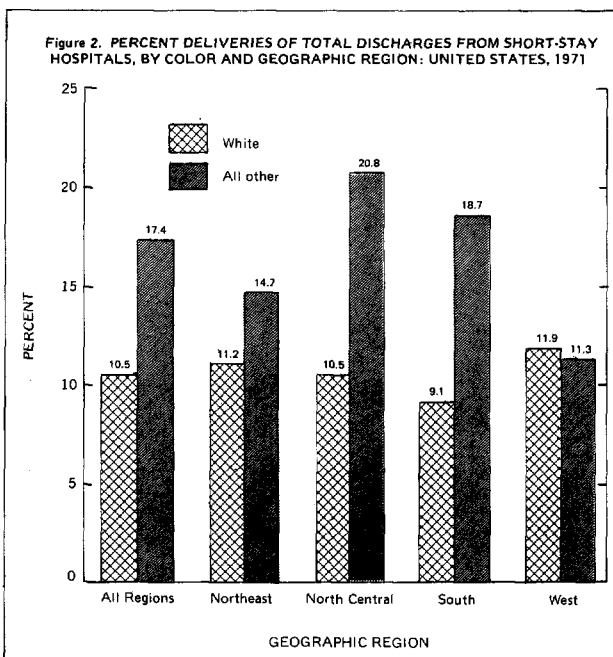
There were differences in hospital utilization by color. Some of the obvious variations were that average length of stay for white patients was shorter than that for all other patients in each age group and that the proportion of patients aged 45 years and over was larger for white patients (46.0 percent) than that for all other patients (29.2 percent). Deliveries accounted for a smaller percentage of white patients than of all other patients hospitalized, 10.5 percent and 17.4 percent, respectively (fig. 2). Deliveries represented a smaller proportion of the total discharges for white patients than for all other patients in all regions except the West. Excluding deliveries about half of the white patients hospitalized were 45 years of age or over in every geographic region (fig. 3). On the other hand, the percent of all other patients 45 years of age and over ranged from only 29.3 in the Northeast Region to 42.8 percent in the West Region.

Data on hospital utilization in 1971 by geographic region and age are presented in table 3. The estimated number of discharges ranged from 4,241,000 in the West Region to 9,171,000 in the North Central Region. In terms of number of discharges, the large regional differences were due primarily to variations in population size. This ranged from an estimated 34,586,000 persons in the civilian, noninstitutional population residing in the West Region to 62,376,000 in the South Region. Nevertheless, measured by rates of discharge and average length of stay, there were considerable variations in hospital utilization among the regions.

The discharge rates per 1,000 population in 1971 ranged from an estimated 122.6 in the West Region to 162.9 in the North Central Region. By age group, the lowest and highest rates of discharge were in the same regions. There were also substantial differences among the regions in average length of stay. This ranged from 6.5 days in the West Region to 9.0 days in the Northeast Region. Average duration of hospitalization for each age group was also shortest in the West Region and longest in the Northeast Region.

The number and percent distribution of discharges and days of care for 1971 are shown by bed size and type of ownership (control) of hospital in table 4. Patients of the larger bed-size hospitals utilized larger percentages of the total days of care than they represented as percentages of total discharges. Accordingly, average length of stay increased con-

sistently from 6.5 days in hospitals with less than 100 beds to 9.1 days in hospitals with 500 beds or more. Average length of stay for each age group also increased with size of hospital (table 5).



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Table 2. Number of inpatients discharged from short-stay hospitals and average length of stay, by color, age, and sex: United States, 1971

[Excludes newborn infants and Federal hospitals]

Color and age	Both sexes <sup>1</sup>	Male	Female		Both sexes <sup>1</sup>	Male	Female	
			Including deliveries	Excluding deliveries			Including deliveries	Excluding deliveries
<b>TOTAL</b>	Number of discharges in thousands				Average length of stay in days			
All ages-----	29,459	11,644	17,767	14,431	7.8	8.4	7.5	8.3
Under 15 years-----	4,029	2,249	1,773	1,759	4.7	4.7	4.6	4.6
15-44 years-----	12,605	3,467	9,118	5,801	5.7	6.9	5.3	6.0
45-64 years-----	6,840	3,232	3,596	3,590	9.4	9.5	9.3	9.4
65 years and over-----	5,986	2,696	3,280	3,280	12.6	12.1	13.0	13.0
<b>WHITE</b>								
All ages-----	22,451	9,011	13,435	11,086	7.9	8.3	7.5	8.3
Under 15 years-----	2,974	1,652	1,322	1,317	4.4	4.4	4.4	4.4
15-44 years-----	9,159	2,585	6,571	4,231	5.6	6.6	5.2	5.9
45-64 years-----	5,430	2,568	2,861	2,858	9.3	9.3	9.2	9.2
65 years and over-----	4,888	2,206	2,680	2,680	12.6	12.1	13.0	13.0
<b>ALL OTHER</b>								
All ages-----	3,338	1,198	2,138	1,558	8.1	9.6	7.4	8.6
Under 15 years-----	551	321	230	222	6.5	6.4	6.5	6.6
15-44 years-----	1,812	422	1,389	819	6.3	8.4	5.6	6.7
45-64 years-----	570	266	303	302	11.5	11.8	11.1	11.2
65 years and over-----	405	189	215	215	14.1	14.2	14.1	14.1
<b>COLOR NOT STATED</b>								
All ages-----	3,670	1,435	2,195	1,786	7.5	7.8	7.3	8.0
Under 15 years-----	504	276	221	221	4.2	4.4	4.1	4.1
15-44 years-----	1,633	460	1,157	751	5.9	6.9	5.4	6.1
45-64 years-----	840	397	432	431	8.9	8.7	9.0	9.0
65 years and over-----	693	302	384	384	12.1	11.2	12.8	12.8

<sup>1</sup>Figures include data for sex not stated.

Table 3. Number and rate of inpatients discharged from short-stay hospitals and average length of stay, by geographic region and age: United States, 1971

[Excludes newborn infants and Federal hospitals]

Age	All regions	Northeast	North Central	South	West
Number of discharges in thousands					
All ages-----	29,459	6,912	9,171	9,136	4,241
Under 15 years-----	4,029	851	1,385	1,225	538
15-44 years-----	12,605	3,006	3,838	3,887	1,873
45-64 years-----	6,840	1,665	2,133	2,046	996
65 years and over-----	5,986	1,390	1,815	1,949	833
Rate of discharges per 1,000 population					
All ages-----	145.8	141.6	162.9	146.5	122.6
Under 15 years-----	70.2	64.4	85.1	69.8	54.4
15-44 years-----	151.4	152.5	166.3	150.7	127.7
45-64 years-----	163.3	153.3	186.4	162.3	142.6
65 years and over-----	305.7	276.2	328.4	325.3	274.8
Average length of stay in days					
All ages-----	7.8	9.0	8.0	7.4	6.5
Under 15 years-----	4.7	5.2	4.6	4.8	3.6
15-44 years-----	5.7	6.1	6.0	5.7	4.7
45-64 years-----	9.4	11.0	9.6	8.7	7.7
65 years and over-----	12.6	15.2	13.0	11.3	10.6

Table 4. Number and percent distribution of inpatients discharged from short-stay hospitals and of days of care, by bed size and type of ownership of hospitals: United States, 1971

[Excludes newborn infants and Federal hospitals]

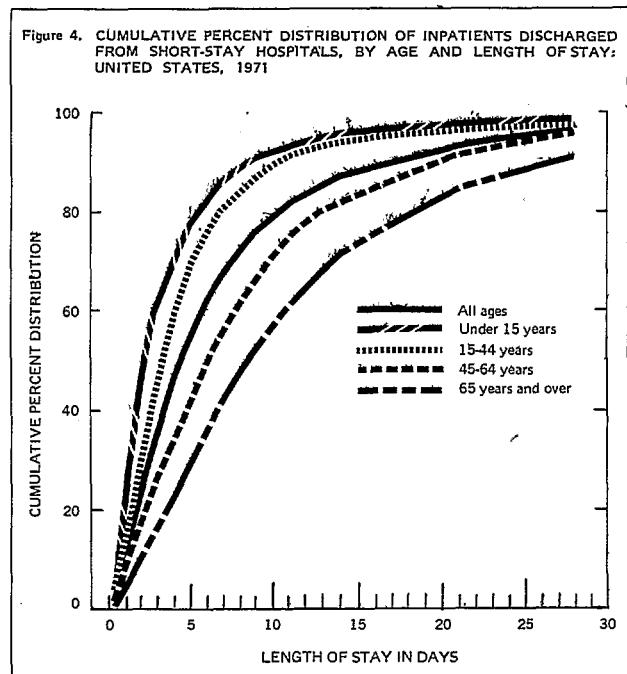
Bed size and type of ownership	Discharges		Days of care	
	Number in thousands	Percent distribution	Number in thousands	Percent distribution
All hospitals-----	29,459	100.0	231,017	100.0
BED SIZE				
6-99 beds-----	5,829	19.8	37,792	16.4
100-199 beds-----	6,054	20.6	44,274	19.2
200-299 beds-----	5,186	17.6	40,775	17.7
300-499 beds-----	6,877	23.3	58,165	25.2
500 beds or more-----	5,513	18.7	50,012	21.6
TYPE OF OWNERSHIP				
Voluntary nonprofit-----	21,589	73.3	173,457	75.1
Government-----	6,629	22.5	49,024	21.2
Proprietary-----	1,241	4.2	8,535	3.7

Since 1965, the first year of the Hospital Discharge Survey, changes occurred in the proportions of the total patients who were discharged from the different bed-size hospital groups, especially hospitals with less than 100 beds and those with 500 beds or more (*Vital and Health Statistics*, Series 13, No. 4). There was a definitive downward trend in hospitals with less than 100 beds which cared for 25.2 percent of the patients in 1965 but only 19.8 percent in 1971, and in hospitals, with 500 beds or more there was an upward trend from 12.5 percent of the discharges in 1965 to 18.7 percent in 1971.

Almost three-fourths (73.3 percent) of the discharges in 1971 were from voluntary nonprofit hospitals. Government hospitals (State and local) accounted for 22.5 percent of the discharges and proprietary hospitals, for only 4.2 percent. Survey data for 1965-71 indicate that of the total discharges, excluding newborn infants, the percent of patients in voluntary nonprofit hospitals increased from 70.4 in 1965 to 73.3 in 1971, and in government hospitals the percent of patients discharged increased from 20.0 in 1965 to 22.5 in 1971. In contrast, proprietary hospitals incurred a sharp decline from caring for 9.7 percent of the patients discharged from short-stay hospitals in 1965 to 4.2 percent in 1971.

Length of stay by age is shown as a cumulative percent distribution for the patients discharged during 1971 in figure 4. For all patients hospitalized, the median length of stay was 4.3 days. Length of stay increased with age. The median lengths of stay were

2.2 days for patients under 15 years of age, 3.3 days for those 15-44 years, 6.1 days for those 45-64 years, and 8.4 days for patients 65 years of age and over. The median lengths of stay for inpatients in these age groups were substantially shorter than the corresponding average lengths of stay of 4.7 days, 5.7 days, 9.4 days, and 12.6 days, respectively (table 1).



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Table 5. Average length of stay of inpatients discharged from short-stay hospitals, by bed size and type of ownership of hospitals and age: United States, 1971

[Excludes newborn infants and Federal hospitals]

Bed size and type of ownership	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
	Average length of stay in days				
All hospitals-----	7.8	4.7	5.7	9.4	12.6
BED SIZE					
6-99 beds-----	6.5	3.8	4.3	6.9	10.7
100-199 beds-----	7.3	4.3	5.1	8.5	12.3
200-299 beds-----	7.9	4.3	5.6	10.1	13.2
300-499 beds-----	8.5	4.6	6.4	10.2	13.7
500 beds or more-----	9.1	6.4	7.0	11.1	14.3
TYPE OF OWNERSHIP					
Voluntary nonprofit-----	8.0	4.6	5.9	9.6	13.0
Government-----	7.4	5.1	5.5	9.0	11.7
Proprietary-----	6.9	3.6	4.8	7.9	11.7

Over two-thirds (67.9 percent) of all patients hospitalized in short-stay hospitals were discharged in 7 days or less. Of the patients discharged within a week, for those under 15 years of age, the percent was 86.2 and the percent discharged decreased with each older age group to 42.4 percent for patients 65 years and over.

## 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 200,000 abstracts of medical records of patients discharged from a national sample of 379 short-stay hospitals that participated in the survey in 1971.

**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-----	12,500
500,000-----	22,000
1,000,000-----	38,000
5,000,000-----	160,000
10,000,000-----	310,000
20,000,000-----	610,000
30,000,000-----	900,000

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

Size of estimate	Standard error
1,000,000-----	122,000
5,000,000-----	270,000
10,000,000-----	400,000
50,000,000-----	1,125,000
100,000,000-----	1,920,000
200,000,000-----	3,420,000
300,000,000-----	5,100,000

**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 inpatients 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. The number of discharges does not correspond to persons hospitalized since some patients were hospitalized more than once during the calendar year. "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 by patients at time of discharge during a specified year divided by the number of patients discharged.

*Color of patient* is designated as either "white" or "all other." Mexican and Puerto Ricans are considered white unless specifically identified as a member of another color category.