

Monthly

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
National Center for Health Statistics
Rockville, Maryland 20852



(HSM) 73-1126
VOL. 21, NO. 6
SUPPLEMENT
SEPTEMBER 19, 1972

VITAL STATISTICS REPORT

Hospital Discharge Survey Data

FROM THE

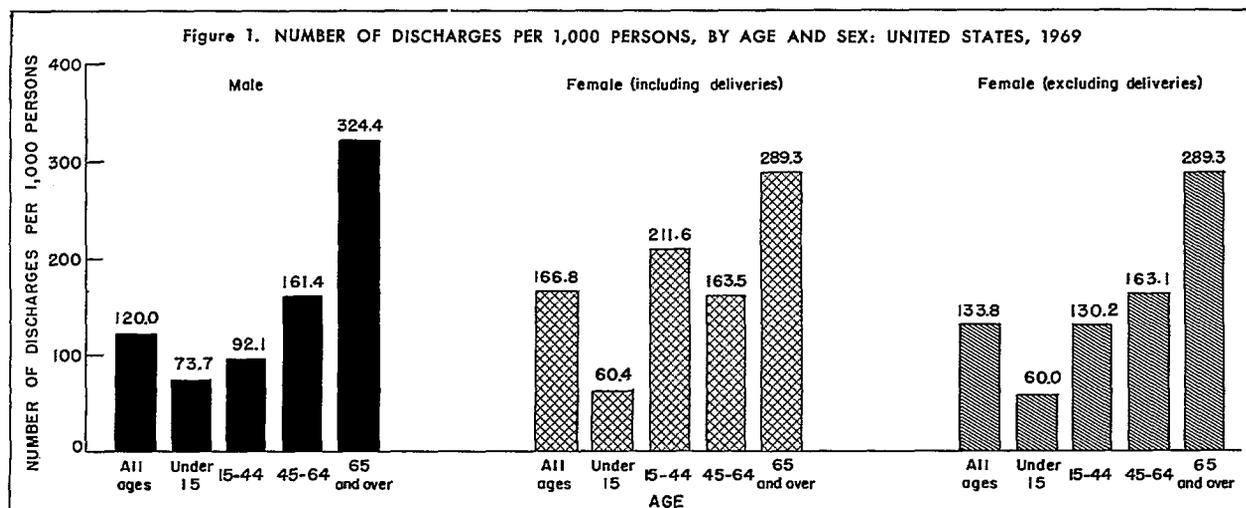
NATIONAL CENTER FOR HEALTH STATISTICS

Utilization of Short-Stay Hospitals—Summary of Nonmedical Statistics: United States, 1969

Estimates are presented in this report on the utilization of short-stay hospitals in the United States by the civilian, noninstitutional population during 1969. "Utilization," as referred to in this report, is expressed as the number and rate of patient discharges, number of patient days of care, and average length of hospital stay throughout the calendar year. Data are based upon information collected by the National Hospital Discharge Survey from the medical records of a sample of patients discharged from a sample of short-stay hospitals. The intent of the Survey is to report the hospital experience of the general population. Therefore, the data exclude all Federal hospitals, hospitals in which the average length of stay is thirty days or more, emergency room and outpatient services, and the hospital experience of the institutionalized population (e.g., prison hospitals, university hospitals for use of

students only, etc.). These hospitals, patients, and services excluded from the Survey possess characteristics unlike those included, and statistics on their utilization are thus more meaningful if reported separately by other sources or surveys. In addition, newborn infants are not included in this report. (Newborn infants born outside of the hospital and subsequently admitted are considered pediatric admissions, and are included within the "under 15 years" age group.) Therefore, the data presented in this report represent care of inpatients in short-stay hospitals of the Nation.

An estimated 28.5 million inpatients were discharged from short-stay hospitals in 1969 (table 1). The corresponding annual discharge rate per 1,000 persons in the civilian, noninstitutional population was 144.5. These estimates are substantially the same as those for 1968, during which period an es-



MONTHLY VITAL STATISTICS REPORT

Table 1. Number and rate of patients discharged from short-stay hospitals, number of days of care, and average length of stay, by region, sex, and age: United States, 1969

Sex and age	Number of discharges in thousands					Rate of discharges per 1,000 population				
	All regions	North-east	North Central	South	West	All regions	North-east	North Central	South	West
<u>Both sexes¹</u>										
All ages-----	28,534	6,311	8,943	8,935	4,345	144.5	132.2	162.0	145.2	131.8
Under 15 years-----	3,980	847	1,352	1,225	556	67.3	63.1	81.4	64.6	54.8
15-44 years-----	12,221	2,658	3,758	3,877	1,929	155.1	143.2	172.9	154.3	144.1
45-64 years-----	6,639	1,523	2,019	2,078	1,019	162.7	140.2	175.9	175.2	154.2
65 years and over---	5,694	1,283	1,814	1,755	841	304.9	263.7	337.1	314.4	296.2
<u>Male</u>										
All ages-----	11,400	2,507	3,557	3,606	1,730	120.0	109.9	132.7	122.6	108.4
Under 15 years-----	2,219	480	760	670	309	73.7	70.1	89.8	69.5	59.9
15-44 years-----	3,450	718	1,044	1,136	552	92.1	81.4	99.5	96.4	86.9
45-64 years-----	3,137	733	934	1,001	469	161.4	143.4	169.2	179.0	146.2
65 years and over---	2,594	576	818	799	400	324.4	284.4	352.4	331.7	323.3
<u>Females including deliveries</u>										
All ages-----	17,089	3,793	5,370	5,318	2,608	166.8	152.3	189.2	165.6	153.3
Under 15 years-----	1,753	365	589	554	246	60.4	55.4	72.4	59.4	49.3
15-44 years-----	8,755	1,936	2,707	2,738	1,375	211.6	198.6	241.0	205.0	195.4
45-64 years-----	3,493	788	1,082	1,075	549	163.5	137.1	181.6	171.5	161.5
65 years and over---	3,088	705	992	952	439	289.3	248.4	324.1	300.0	274.1
<u>Females excluding deliveries</u>										
All ages-----	13,702	2,977	4,313	4,333	2,078	133.8	119.5	151.9	134.9	122.1
Under 15 years-----	1,741	363	585	548	245	60.0	55.1	71.9	58.8	49.2
15-44 years-----	5,387	1,124	1,657	1,760	847	130.2	115.3	147.5	131.8	120.4
45-64 years-----	3,486	786	1,079	1,073	548	163.1	136.8	181.1	171.3	161.2
65 years and over---	3,088	705	992	952	439	289.3	248.4	324.1	300.0	274.1

¹Includes data for which sex was not stated.

timated 28.1 million discharges yielded an annual discharge rate of 143.7. Rates of utilization by age and sex also remained at their 1968 levels. This finding applies even to the 65 years and over age group, which had shown an increase in utilization following passage of Medicare legislation in 1966. Rates for the elderly thus appear to be stabilizing. It is, however, interesting to note that the rate for the 65 years and over age group for 1969 of 304.9 dis-

charges per 1,000 population is substantially greater than that reported in 1965 of 263.9, the first full year of data collection for the Survey (see *Vital and Health Statistics*, Series 13, No. 3).

Discharge rates increased with age for patients of both sexes (excluding deliveries) (figure 1). This relationship is not unusual, and reflects the increased morbidity accompanying the aging process. The overall rate for females excluding deliveries was slightly

MONTHLY VITAL STATISTICS REPORT

Table 1. Number and rate of patients discharged from short-stay hospitals, number of days of care, and average length of stay, by region, sex, and age: United States, 1969—Con.

Number of days of care in thousands					Average length of stay in days				
All regions	North-east	North Central	South	West	All regions	North-east	North Central	South	West
239,057	60,871	77,558	69,654	30,973	8.4	9.6	8.7	7.8	7.1
19,998	4,675	6,837	6,164	2,322	5.0	5.5	5.1	5.0	4.2
72,771	17,626	22,944	22,472	9,729	6.0	6.6	6.1	5.8	5.0
66,454	17,514	21,051	19,226	8,663	10.0	11.5	10.4	9.3	8.5
79,834	21,058	26,726	21,793	10,258	14.0	16.4	14.7	12.4	12.2
103,213	26,653	32,708	29,970	13,882	9.1	10.6	9.2	8.3	8.0
11,408	2,719	3,868	3,488	1,333	5.1	5.7	5.1	5.2	4.3
24,579	6,018	7,424	7,661	3,475	7.1	8.4	7.1	6.7	6.3
31,911	8,721	9,762	9,225	4,203	10.2	11.9	10.5	9.2	9.0
35,315	9,195	11,653	9,596	4,871	13.6	16.0	14.2	12.0	12.2
135,280	34,085	44,645	39,499	17,051	7.9	9.0	8.3	7.4	6.5
8,535	1,933	2,950	2,666	986	4.9	5.3	5.0	4.8	4.0
47,963	11,570	15,433	14,717	6,243	5.5	6.0	5.7	5.4	4.5
34,438	8,746	11,268	9,973	4,451	9.9	11.1	10.4	9.3	8.1
44,344	11,837	14,993	12,142	5,371	14.4	16.8	15.1	12.8	12.2
120,878	30,118	39,696	35,814	15,249	8.8	10.1	9.2	8.3	7.3
8,479	1,921	2,931	2,644	983	4.9	5.3	5.0	4.8	4.0
33,651	7,622	10,520	11,062	4,447	6.2	6.8	6.4	6.3	5.3
34,405	8,739	11,252	9,966	4,448	9.9	11.1	10.4	9.3	8.1
44,344	11,837	14,993	12,142	5,371	14.4	16.8	15.1	12.8	12.2

higher than that for males—133.8 discharges per 1,000 population for females as compared to 120.0 for males. Within age groups, however, differences in utilization among males and females were apparent. Males under 15 years of age and 65 years and over had higher discharge rates than did their female counterparts, while the rate for females aged 15-44 years was higher than that for males. Males and females aged 45-64 years had virtually identical levels

of utilization. Furthermore, it is apparent from table 1 that practically all deliveries occurred among females aged 15-44 years.

The 28.5 million inpatients discharged during 1969 experienced an estimated 239 million days of care during this same period. As with discharges, the days of care showed no actual change from their 1968 estimate of 237 million. The average length of stay, consequently, remained practically unchanged—

MONTHLY VITAL STATISTICS REPORT

Table 2. Number and percent distribution of patients discharged from short-stay hospitals, days of care, and average length of stay, by age and color: United States, 1969

Color and age	Discharges		Days of care		Average length of stay in days
	Number in thousands	Percent distribution	Number in thousands	Percent distribution	
Total-----	28,534	100.0	239,057	100.0	8.4
Under 15 years-----	3,980	13.9	19,998	8.4	5.0
15-44 years-----	12,221	42.8	72,771	30.4	6.0
45-64 years-----	6,639	23.3	66,454	27.8	10.0
65 years and over-----	5,694	20.0	79,834	33.4	14.0
White-----	21,684	100.0	181,654	100.0	8.4
Under 15 years-----	2,951	13.6	14,055	7.7	4.8
15-44 years-----	8,874	40.9	51,468	28.3	5.8
45-64 years-----	5,279	24.3	52,224	28.7	9.9
65 years and over-----	4,581	21.1	63,907	35.2	14.0
All others-----	2,979	100.0	26,623	100.0	8.9
Under 15 years-----	461	15.5	3,381	12.7	7.3
15-44 years-----	1,655	55.5	11,213	42.1	6.8
45-64 years-----	508	17.1	6,378	24.0	12.6
65 years and over-----	355	11.9	5,651	21.2	15.9
Color not stated-----	3,871	100.0	30,779	100.0	8.0
Under 15 years-----	569	14.7	2,562	8.3	4.5
15-44 years-----	1,693	43.7	10,090	32.8	6.0
45-64 years-----	851	22.0	7,852	25.5	9.2
65 years and over-----	758	19.6	10,275	33.4	13.6

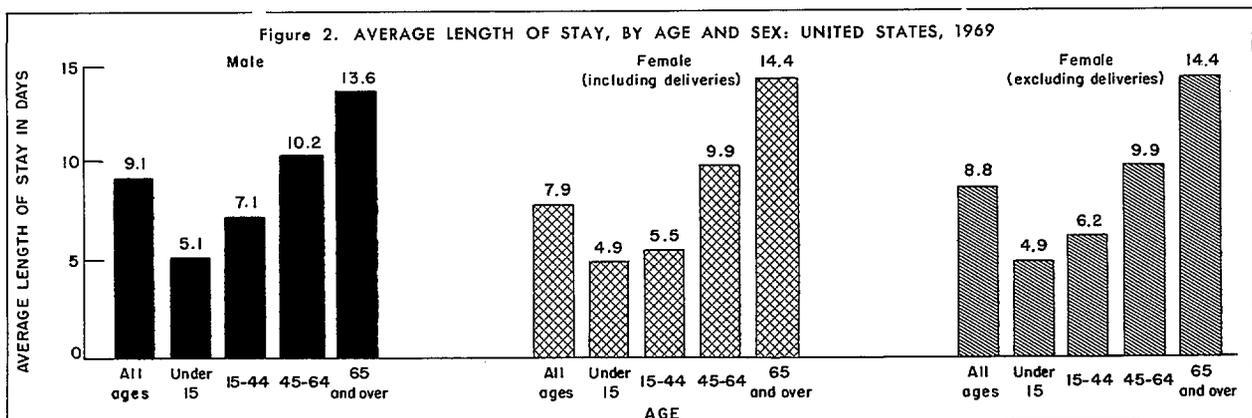


Table 3. Number and percent distribution of patients discharged from short-stay hospitals, days of care, and average length of stay, by selected patient and hospital characteristic: United States, 1969

Characteristic	Discharges		Days of care		Average length of stay in days
	Number in thousands	Percent distribution	Number in thousands	Percent distribution	
Total-----	28,534	100.0	239,057	100.0	8.4
<u>Marital Status</u>					
Married-----	16,260	66.2	131,000	59.8	8.1
Divorced-----	765	3.1	7,583	3.5	9.9
Separated-----	479	2.0	4,880	2.2	10.2
Widowed-----	2,952	12.0	41,893	19.1	14.2
Never married-----	3,501	14.3	27,629	12.6	7.9
Marital status not stated-----	595	2.4	6,074	2.8	10.2
<u>Discharge status</u>					
Discharged alive-----	27,506	96.4	224,468	93.9	8.2
Discharged dead-----	867	3.0	12,910	5.4	14.9
Discharge status not stated-----	160	0.6	1,678	0.7	10.5
<u>Bed size</u>					
6-99 beds-----	5,984	21.0	42,304	17.7	7.1
100-199 beds-----	6,493	22.8	49,811	20.8	7.7
200-299 beds-----	4,478	15.7	40,711	17.0	9.1
300-499 beds-----	7,017	24.6	60,713	25.4	8.7
500 beds or more-----	4,562	16.0	45,518	19.0	10.0
<u>Type of ownership</u>					
Voluntary nonprofit-----	20,535	72.0	175,773	73.5	8.6
Government-----	6,118	21.4	50,042	20.9	8.2
Proprietary-----	1,880	6.6	13,241	5.5	7.0

¹Includes only patients 15 years of age and over.

8.4 days per patient discharged in 1969 and 8.5 days in 1968. The average length of stay was slightly longer for males than for females in all age groups except those patients 65 years and over, for which the stay was 0.8 days longer for females than for males (figure 2). Among females aged 15-44 years, the longer length of stay for those excluding deliveries is due to the fact that hospitalization for delivery usually involves a comparatively short stay.

Discharge data by geographic region are also displayed in table 1. The overall rate of discharges

per 1,000 civilian, noninstitutional population was highest in the North Central Region (162.0) and lowest in the West (131.8). The North Central Region experienced both the highest number of discharges and days of care. Average length of stay was longest, however, in the Northeast Region, which at 9.6 days was 0.9 days longer than that of the North Central Region, 1.8 days longer than the South, and 2.5 days longer than the West. The relatively long length of stay in the Northeast is largely attributable to the

lengthy periods of hospitalization by patients aged 65 years and over. Differences in the utilization of hospitals by geographic region are not amenable to easy interpretation, but are affected by a variety of interrelated factors. These factors include the distribution and subsequent availability of facilities throughout the Nation, the geographic distribution of the population by age and sex groups, socioeconomic factors such as programs of health education and the availability of various health insurance plans, and possible regional differences in a person's realization or knowledge of his own condition and his attitudes toward disease, illness, and the medical profession.

The number and percent distribution of discharges, days of care, and average length of stay by color and age are shown in table 2. Color was not stated on medical abstract summary sheets which represented approximately 3.9 million discharges, or 13.6 percent of the total discharges in 1969. The number and percentage of discharges with color not stated is greater than the corresponding figures for the "all other" category. Therefore, caution must be exercised in drawing any inferences from the data. For the same reason, utilization rates by color have not been computed. However, approximately 88 percent of the discharges for which color was stated were in the "white" category, and it can therefore be presumed that about the same proportion of white patients would be found among those for whom color was not stated. The following discussion is based upon discharges for which color was stated.

Patients in the white category outnumbered those in the "all other" category by approximately 7 to 1. For all white patients, about 1 in 5 were 65 years and over, while the elderly accounted for only 1 in 8 patients in the "all other" category. The percent of discharges and days of care was lower for white patients than for "all others" in the under 15 years and 15-44 years age categories, but higher for the 45-64 and 65 years and over groups. The overall average length of stay was 0.5 days longer for patients in the "all other" category than for white patients. Length of stay was also longer for "all other" patients than for whites for all age groups. Although rates were not computed by color, differences in utilization according to race have been shown to exist, reflecting differences in economic and social status (see *Vital and Health Statistics*, Series 10, No. 56).

Table 3 presents data on discharges and days of care by marital status, discharge status, bed size

of hospital, and type of ownership. Married patients accounted for the majority of discharges and days of care. The next largest number of discharges was for patients never married; however, the never married group experienced fewer days of care than did the widowed patients. The long average length of stay of 14.2 days for widowed patients is most likely the result of a disproportionate number of elderly patients in this group, as compared to other marital status groups. Length of hospital stay, in addition, is also influenced by the living arrangements of the patient. Divorced, separated, and widowed patients may tend to live alone, thus having no one at home to provide post-hospital home care. This would result in a longer period of hospitalization for convalescence. Although data in table 3 are not conclusive, they support such an interpretation.

An estimated 27.5 million inpatients, or 96.4 percent of all patients discharged, were discharged from the hospital alive. Patients discharged dead experienced an average of 14.9 days stay, compared to 8.2 days for those discharged alive. Patients whose hospitalizations terminate with death are very likely to have been admitted with conditions characterized by a severe degree of morbidity. Their longer stay is therefore not unexpected. In addition, data on discharge status are affected by the administrative procedures employed in the hospitals. For example, a patient might be discharged from one hospital and transferred to another in which death occurs. The discharge status of this patient would consequently depend on which medical record was sampled, that of the former hospital or the latter.

Length of stay varied directly with the bed size of hospital, and ranged from 7.1 days for those hospitals having 6-99 beds to 10.0 days for those of 500 beds or more. The largest percentage of discharges and days of care occurred in hospitals of 300-499 beds.

Voluntary nonprofit hospitals, including those operated by church groups and by other nonprofit organizations, accounted for 72.0 percent of all discharges in 1969; the corresponding data were 21.4 percent for those operated by State and local governments, and 6.6 percent for those owned privately and operated on a profit basis. The distribution of days of care was similar to that of the discharges. Length of stay was longest in voluntary nonprofit hospitals and shortest in proprietary ones.

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 are included in the Survey, they are excluded from this report. Information for this report was obtained from a national sample of approximately 400 hospitals which furnished data on slightly over 208,000 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 and those for days of care are shown in table II.

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.

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 episode 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 1,000 persons in the population.

Days of care denotes the unit of measure for lodging facilities provided and services rendered to an inpatient between two successive dates (admission and discharge). A stay of less than 1 day (admission and discharge on the same calendar day) is counted as 1 day in the summations of inpatient days.

Average length of stay is the total number of inpatient days accumulated by patients at time of

discharge from short-stay hospitals during a specified calendar year divided by the number of patients discharged.

Color is designated in this report as either "white" or "all other." Mexicans and Puerto Ricans are considered white unless specifically identified as a member of another color category. The "all other" group includes Negroes, American Indians, Asian Indians, Chinese, Japanese, Aleuts, Eskimos, Hawaiians, Filipinos, Koreans, and Malaysians. Color was not stated on 13.6 percent of the medical abstracts.

Deliveries include deliveries with and without mention of complications.

Discharge status is the condition (i.e., either alive or dead) of a patient when discharged.

Table I. APPROXIMATE STANDARD ERRORS OF ESTIMATED NUMBERS OF DISCHARGES

Size of estimate	Standard error
6,000-----	1,290
10,000-----	1,680
50,000-----	4,080
100,000-----	6,290
500,000-----	21,300
1,000,000-----	39,300
5,000,000-----	182,500
10,000,000-----	361,000
30,000,000-----	1,077,000

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

Size of estimate	Standard error
500,000-----	104,900
1,000,000-----	148,800
5,000,000-----	341,500
10,000,000-----	497,000
50,000,000-----	1,350,000
100,000,000-----	2,260,000
200,000,000-----	4,000,000
300,000,000-----	5,730,000

MONTHLY VITAL STATISTICS REPORT

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
Health Services and Mental Health Administration
5600 Fishers Lane
Rockville, Maryland 20852
OFFICIAL BUSINESS
Penalty for Private Use \$300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF HEW

H.E.W. 396

