NATIONAL CENTER For HEALTH STATISTICS | Series 13 Number 4

VITAL and HEALTH STATISTICS
DATA FROM THE NATIONAL HEALTH SURVEY

Patients Discharged From Short-Stay Hospitals

by size and type of ownership

United States - 1965

Statistics are presented on the utilization of short-stay hospitals, based on data abstracted by the Hospital Discharge Survey from a national sample of records of discharged patients. Hospital discharges, days of care, and average length of stay are tabulated by age, sex, color, marital status, and discharge status according to size of hospital and type of ownership. Total discharges, days of care, average daily census, and percent occupancy are classified by size of hospital and type of ownership.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Health Services and Mental Health Administration

Washington, D.C. December 1968

Public Health Service Publication No. 1000-Series 13-No. 4

NATIONAL CENTER FOR HEALTH STATISTICS

DIVISION OF HEALTH RESOURCES STATISTICS

COOPERATION OF THE BUREAU OF THE CENSUS

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.

Public Health Service Publication No. 1000-Series 13-No. 4

Library of Congress Catalog Card Number 68-62243

CONTENTS

IN THIS REPORT statistics are presented on short-stay hospitals and on patients discharged from these hospitals, according to size (determined by number of beds) and type of ownership of the hospital and to age, sex, color, marital status, and discharge status of the patient.

Of the estimated 29.1 million patients discharged during 1965, 62 percent (18.2 million) were from hospitals with 100-499 beds. The smallest hospitals (those with less than 100 beds) accounted for 25 percent of the discharges, while the largest (those with 500 beds or more) accounted for nearly 13 percent. The average length of stay ranged from 6.6 days in hospitals with less than 100 beds to nearly 11 days in hospitals maintaining 500 beds or more.

In comparison with other bed-size groups, proportionately more persons discharged from hospitals with 500 beds or more experienced longer lengths of stay. For example, over 40 percent of the patients in hospitals with 500 beds or more were hospitalized more than 7 days as compared with 31 percent in hospitals with 100-499 beds and 25 percent in hospitals with 6-99 beds. Over 11 percent of the patients in hospitals with 500 beds or more were hospitalized more than 21 days as compared with 6 percent in hospitals with 100-499 beds and 4 percent in hospitals with 6-99 beds. The longer lengths of stay for patients in hospitals with 500 beds or more were probably due in part to the "severity" of cases treated in these hospitals. In general, the larger hospitals have facilities that enable them to provide more definitive diagnostic and treatment services.

The proportion of patients with certain personal characteristics varied according to size of hospital. The proportion of unmarried persons and of persons discharged because of death were both higher in hospitals with 500 beds or more than in hospitals with 6-99 and 100-499 beds. The percent distribution of discharged patients by age and by sex within major bed-size groups showed little difference.

Voluntary nonprofit hospitals accounted for seven-tenths of all discharges from short-stay hospitals; government (primarily State and local) hospitals, two-tenths; and proprietary hospitals, one-tenth. The average length of stay for patients discharged from proprietary hospitals was 6 days compared with 8 days for those discharged from voluntary nonprofit and government hospitals.

SYMBOLS

Data not available	---
Category not applicable	...
Quantity zero	-
Quantity more than 0 but less than 0.05	0.0
Figure does not meet standards of reliability or precision	*

PATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS

BY SIZE AND TYPE OF OWNERSHIP

Michael J. Witkin, *Division of Health Resources Statistics*

INTRODUCTION

Purpose of This Report

This report is the third in a series of reports based on data collected for 1965 by the Hospital Discharge Survey (HDS), one of the newest surveys conducted by the National Center for Health Statistics (NCHS). The report is based on information transcribed from the hospital medical records of a sample of patients discharged from short-stay hospitals (i.e., hospitals in which the average length of stay is less than 30 days) in the United States.

The year 1965 is especially noteworthy since it represents the first full year that data have been available from HDS. In addition to this report, two others have been published which present statistics derived from data collected for 1965. The first[1] presented a general summary of the characteristics of the discharged patients as well as characteristics of the hospitals; the second[2] presented more detailed characteristics of discharged patients than were presented in the first report.

The main purpose of the present report is to study, again in more detail, the characteristics of patients discharged in relation to the type of ownership and the size of the hospital which provided the care. More specifically, this report presents statistics on short-stay hospitals and on patients discharged from these hospitals according to size (determined by number of beds) and type of ownership of the hospital and to age, sex, color, marital status, and discharge status of the patient.

Sources and Qualifications of Data

All short-stay hospitals, exclusive of military and Veterans Administration hospitals, and hospital departments of long-term and custodial institutions are represented in the survey. Within these hospitals, all discharges are represented except those of well-newborn infants (see appendix II for definition).

The principal source of information in the survey is the patient's medical record. Within the sample hospitals, information pertaining to the characteristics of a sample of discharged patients and their hospitalization is recorded on abstract forms which are shipped to NCHS for processing. A facsimile of the front side of this form, which covers the nonmedical data presented in this report, is shown in appendix I. For a more detailed description of data collection and data processing procedures, see appendix I.

In general, data recorded on the abstract form and presented in this report are limited to key items of information about the discharged patient and his hospitalization that are usually available from the summary or "face sheet" of the patient's medical record. Information on the characteristics of the hospital is available from

the Master Facility Inventory (MFI),[3] a listing of short-stay hospitals in the United States maintained by NCHS, and from interviews with personnel in the sample hospitals.

The HDS sample was selected in two stages. In the first stage, a sample of 315 hospitals was selected from the approximately 7,000 short-stay hospitals in the United States, exclusive of military and Veterans Administration hospitals, contained in the MFI. In the second stage, a sample of discharges was selected within the sample hospitals. A more detailed description of the sample selection appears in appendix I.

Since the estimates in this report are based on a sample of about 100,000 discharges from about 300 hospitals participating in the survey rather than on all discharges (about 29 million) from all in-scope hospitals, they are subject to sampling error, a measurement of the precision of an estimate. The sampling errors for most of the estimates shown in the report are relatively small. However, care should be exercised in interpretation when estimates are based on small numbers and when the estimates are classified by size and type of ownership. Tables and graphs of approximate sampling errors as well as instructions for their use are given in the section "Reliability of Estimates" in appendix I.

Appendix II contains definitions of terms relating to hospitalization, such as "hospital" and "discharge," as well as definitions of demographic terms used in this report. Since many of these terms have specialized meanings in the Hospital Discharge Survey, familiarity with these definitions will aid in interpreting the data.

DISTRIBUTION OF HOSPITALS AND HOSPITAL BEDS

The distribution of hospitals and hospital beds is a valuable aid to a more complete understanding of hospital utilization associated with bed size and ownership. Classification of the hospitals by bed size is based on the number of inpatient beds (excluding bassinets) regularly available, while "type of ownership" refers to the organization that controls and operates the hospital.

An estimated 6,800 hospitals fulfilled both of the HDS definitions of hospital and short-stay hospital. (See appendix II for definitions.) These hospitals maintained over 800,000 beds (excluding bassinets) during 1965 (table A). Most of the hospitals were relatively small. Nearly two-thirds had less than 100 beds, and more than 82 percent had less than 200 beds. Only 3 percent of the hospitals had 500 beds or more.

One-quarter of the hospital beds were situated in hospitals with less than 100 beds, and over one-half were in hospitals with 200 beds or more (table A). Eighteen percent of the beds were found in the largest hospitals (those with 500 beds or more).

Over one-half of the short-stay hospitals and two-thirds of the beds were classified as "voluntary nonprofit" (table A). Proprietary hospitals—those run by corporations, partnerships, or individuals for profit—accounted for a small proportion of all hospitals (17 percent) and of hospital beds (9 percent). Government (Federal, State, and local) hospitals accounted for 27 percent of the hospitals and 24 percent of the hos-

Table A. Number and percent distribution of hospitals and hospital beds, by size of hospital and type of ownership: United States, 1965

Size of hospital and type of ownership	Hospitals	Beds
	Number	
Total	6,837	800,898
	Percent distribution	
All sizes	100.0	100.0
6-99 beds	64.8	23.8
100-199 beds	17.7	20.8
200-499 beds	14.7	37.2
500 beds or more	2.8	18.2
All types	100.0	100.0
Voluntary nonprofit	55.9	67.8
Church	16.1	26.4
Other nonprofit	39.8	41.4
Government	27.2	23.7
Proprietary	16.9	8.6

pital beds. Since military and Veterans Administration hospitals are outside the scope of the survey, it should be noted that nearly all the government hospitals are operated by State and local governments.

DISTRIBUTION OF DISCHARGES

Size and Ownership

Of the estimated 29.1 million discharges that occurred during 1965, 62 percent (18.2 million) were from hospitals with 100-499 beds. The smaller hospitals (those with less than 100 beds) accounted for 25 percent of the discharges, while hospitals with 500 beds or more accounted for 13 percent (table 1).

Voluntary nonprofit hospitals, which include church and other nonprofit hospitals, accounted for 20.5 million, or 70 percent, of all discharges from short-stay hospitals. Government (primarily State and local) hospitals discharged 5.8 million patients (20 percent) and proprietary hospitals discharged 2.8 million (10 percent).

For voluntary hospitals, nearly three-fifths of the 20.5 million discharges were concentrated in hospitals with 200 beds or more. The largest voluntary hospitals (those with 500 beds or more) accounted for almost one-tenth of the discharges (table 1).

On the other hand, most of the 2.8 million discharges from proprietary hospitals occurred in the smaller hospitals, with two-thirds of these occurring in hospitals with less than 100 beds. This was to be expected since most proprietary hospitals contain less than 100 beds.

Discharges from government hospitals were concentrated in the smallest and largest hospitals. About 32 percent of the 5.8 million discharges occurred in hospitals with less than 100 beds, and 28 percent occurred in hospitals with 500 beds or more (table 1).

Personal Characteristics by Size of Hospital

The age and sex distribution of discharged patients was similar for hospitals in each of the three major bed-size groups (table 2). However, there were notable differences for the characteristics of color, marital status, and discharge status.

The proportion of nonwhite patients was approximately five times greater in hospitals with 500 beds or more than in hospitals with less than 100 beds. Based on a 93-percent response on this item for discharges from hospitals in each of these two bed-size groups, nonwhite patients represented about 25 percent of all discharges from the largest hospitals (those with 500 beds or more) as compared with 5 percent of discharges from hospitals with 6-99 beds. The large proportion of discharges (about 15 percent) from hospitals with 100-499 beds for which color was not determined precludes a valid comparison of this group with the other size groups.

Proportionately more unmarried patients 15 years of age and over were discharged from hospitals with 500 beds or more than from hospitals in the smaller bed-size groups (30 percent compared with 24 percent in each of the smaller groups).

Approximately 2.8 percent of the discharges in 1965 (all hospitals combined) represented deaths in hospitals. Table 2 shows that the percent discharged because of death was slightly higher in hospitals with 500 beds or more (3.7 percent).

Personal Characteristics by Type of Ownership

The distribution of discharges by sex was similar for hospitals in each of the three major ownership groups. However, there were notable differences for the characteristics of age, color, and marital status (table 3).

Persons 65 years of age and over constituted a higher proportion of discharges (almost 18 percent) from government (primarily State and local) hospitals than from hospitals under other types of control. They represented 13 percent of discharges from proprietary hospitals and 16 percent of discharges from voluntary hospitals.

The proportion of nonwhite patients was highest in government hospitals and lowest in proprietary hospitals. At a minimum, nonwhite patients represented 19 percent and white patients 69 percent of all discharges from government hospitals (color was not reported for 12 percent of these discharges). In proprietary hospitals, non-

white patients represented less than 3 percent and white patients almost 93 percent of all discharges (color was not reported for less than 5 percent of these discharges).

DAYS OF CARE AND LENGTH OF STAY

The days of care as shown in this report refer to those experienced by patients discharged during 1965, not to the days of care provided by all short-stay hospitals during 1965. For example, the data include days of care provided during 1964 to persons discharged during 1965, but exclude days of care for patients admitted to short-stay hospitals during 1965 and discharged during 1966. However, since these two factors would tend to cancel each other in short-stay hospitals, the days of care as shown in this report are assumed to represent days of care provided during 1965 as well as total hospital days accumulated by patients during the year.

Size and Ownership

Of the estimated 228 million days of care, about 62 percent were provided by hospitals with 100-499 beds. Seventeen percent of the days were provided by hospitals with 500 beds or more, and 21 percent were provided by hospitals with less than 100 beds (table 4). The average length of stay ranged from 6.6 days in hospitals with less than 100 beds to nearly 11 days in hospitals maintaining 500 beds or more.

Voluntary nonprofit hospitals provided over 71 percent of all days of care (163 of 228 million); government (primarily State and local) hospitals accounted for 21 percent, and proprietary hospitals for about 8 percent of the total inpatient days (table 4).

The distribution of days of care by bed size was similar to that of discharges for voluntary hospitals as well as for proprietary hospitals (fig. 1). In government hospitals, however, proportionately more days of care than discharges occurred in hospitals with 500 beds or more. The largest government hospitals accounted for 28 percent of the discharges but provided 40 percent of the days of care in government hospitals.

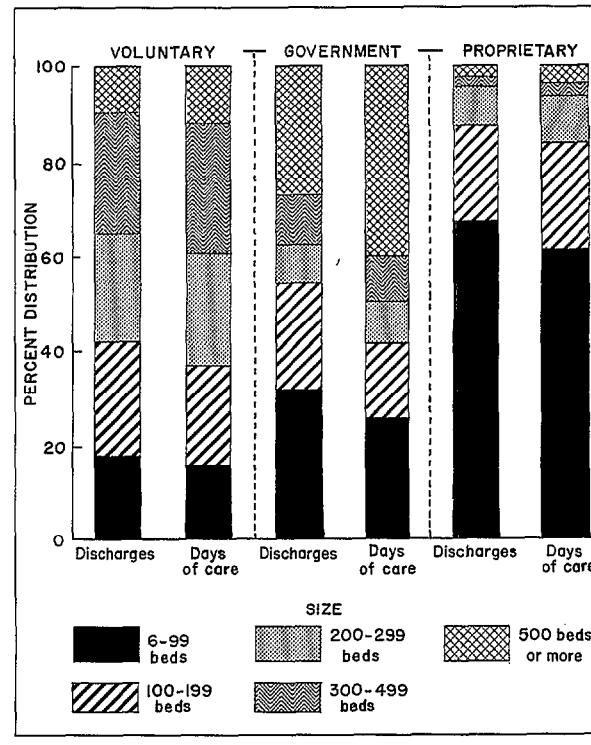

Figure 1. Percent distribution of discharges and days of care, by size of hospital according to type of ownership.

The majority of days of care in voluntary hospitals, the largest ownership group, were provided by the larger hospitals, with over three-fifths of the days attributed to hospitals with 200 beds or more. In contrast, most of the days of care in proprietary hospitals, the smallest ownership group, were provided by the smaller hospitals with three-fifths of the days provided by hospitals with less than 100 beds (fig. 1). This was to be expected since proprietary hospitals account for a disproportionate share of small hospitals while the opposite is true of voluntary nonprofit hospitals.

More days of care in government hospitals were provided in the smallest and largest hospitals than in the other groups. Twenty-five percent of the days of care were in hospitals with less than 100 beds, and 40 percent occurred in hospitals with 500 beds or more (fig. 1).

The percent of patients remaining in the hospital (those not discharged) after specified num-

bers of days had elapsed is classified by size of hospital in figure 2. Proportionately more persons discharged from hospitals with 500 beds or more experienced longer lengths of stay. For example, over 40 percent of patients in hospitals with 500 beds or more had lengths of stay that exceeded 7 days (percent remaining in the hospital after 7 days had elapsed) as compared with 31 percent in hospitals with 100-499 beds and 25 percent in hospitals with 6-99 beds. Over 11 percent of patients in hospitals with 500 beds or more had lengths of stay that exceeded 21 days as compared with 6 percent in hospitals with 100-499 beds and 4 percent in hospitals with 6-99 beds.

The median length of stay, that equaled or exceeded by 50 percent of the patients discharged within a group, ranged from 4 days in hospitals with 6-99 beds to 6 days in hospitals with 500 beds or more (table 5).

The longer lengths of stay for patients in hospitals with 500 beds or more were probably due in part to the severity of cases treated in these hospitals. In general, the larger hospitals have

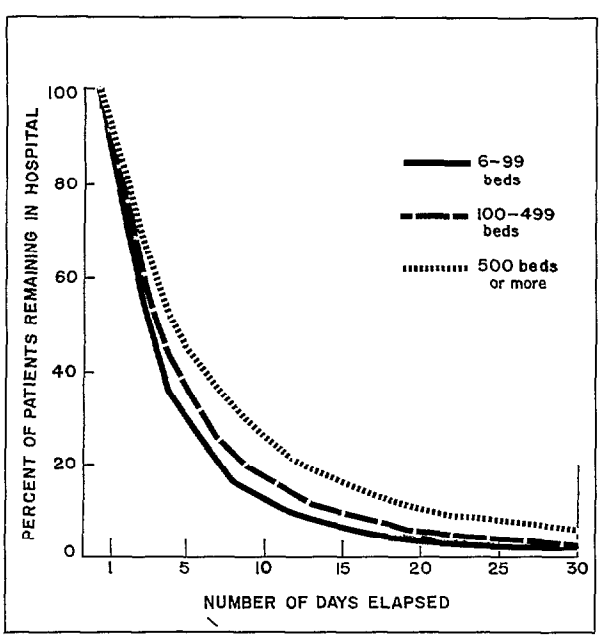

Figure 2. Percent of patients remaining in hospital (not discharged) after specified number of days had elapsed, by size of hospital.

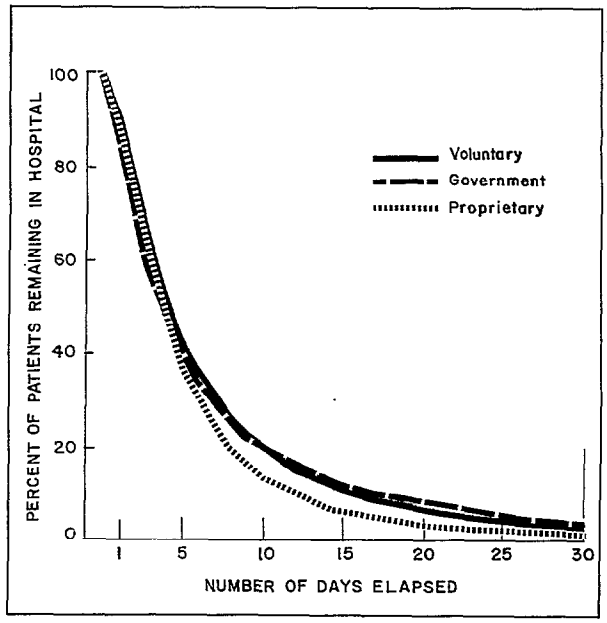

Figure 3. Percent of patients remaining in hospital (not discharged) after specified number of days had elapsed, by type of ownership.

facilities that enable them to provide more definitive diagnostic and treatment services.

The percent of patients remaining in the hospital (not discharged) after specified numbers of days had elapsed is classified by type of ownership in figure 3. The proportion of patients remaining after comparable numbers of days of hospitalization differed only slightly between hospitals grouped by major ownership class. As shown in table 6, the median lengths of stay for each ownership class were also similar.

Personal Characteristics by Size of Hospital

The most noteworthy differences in the percent distribution of days of care by age within bed-size classes were evident for persons 65 years of age and over. These persons received 31 percent of the days of care provided in hospitals with 6-99 beds as compared with 26 and 22 percent of the days provided in hospitals with 100-499 and 500 beds or more, respectively (table 7). An explanation for these differences

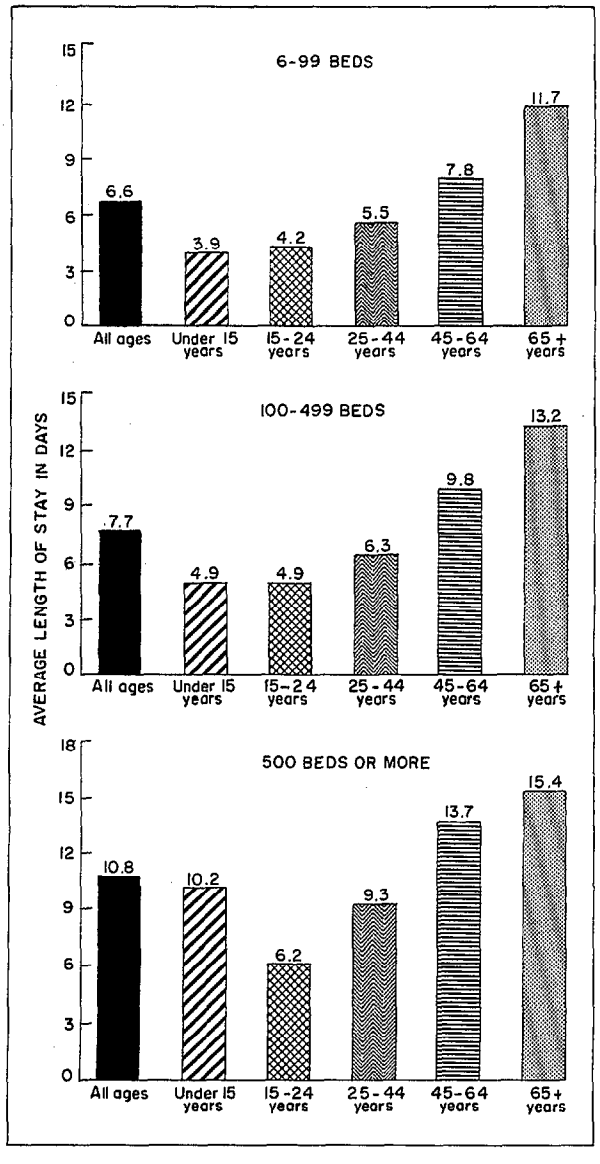

Figure 4. Average length of stay in days, by age and size of hospital.

could not be determined from the data currently available from the Hospital Discharge Survey.

In the smallest hospitals, females accounted for 62 percent of the days of care (table 7). Their proportion of total days declined generally as hospital size increased (58 percent in hospitals with 100-499 beds and 53 percent in hospitals with 500 beds or more).

The proportion of days of care experienced by nonwhite patients in hospitals with 500 beds or more was higher than in hospitals with 6-99 beds. Comparisons of the proportion of days of care accumulated by nonwhite persons within the other size groups should be made with care due to the relatively large proportion (14 percent) of days of care in hospitals with 100-499 beds for which color was not determined.

The average length of stay for each age group increased with size of hospital (fig. 4). The differentials in age-specific average length of stay between bed-size groups were greatest for persons under 15 years of age. The average length of stay for this age group ranged from 3.9 days in hospitals with 6-99 beds to 10.2 days in hospitals with 500 beds or more.

The average length of stay was the same for males and for females in hospitals with less than 100 beds (6.6 days). It increased with size of

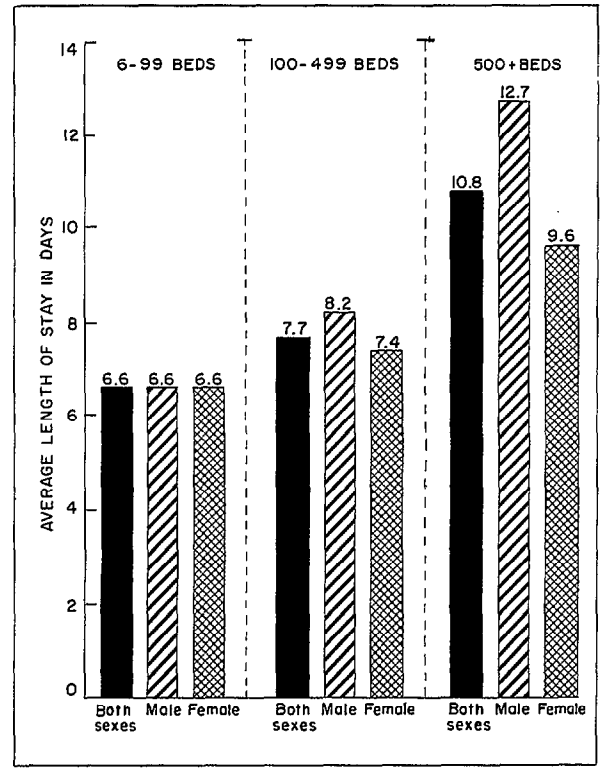

Figure 5. Average length of stay in days, by sex and size of hospital.

hospital (based on major bed-size grouping) for both males and females (fig. 5). However, on the average males stayed longer than females in the larger hospitals; the differential was widest in the 500 or more bed-size group (12.7 days for males and 9.6 days for females).

The average length of stay was higher for both white and nonwhite patients in hospitals with 500 beds or more as compared with hospitals with 6-99 beds (table 8).

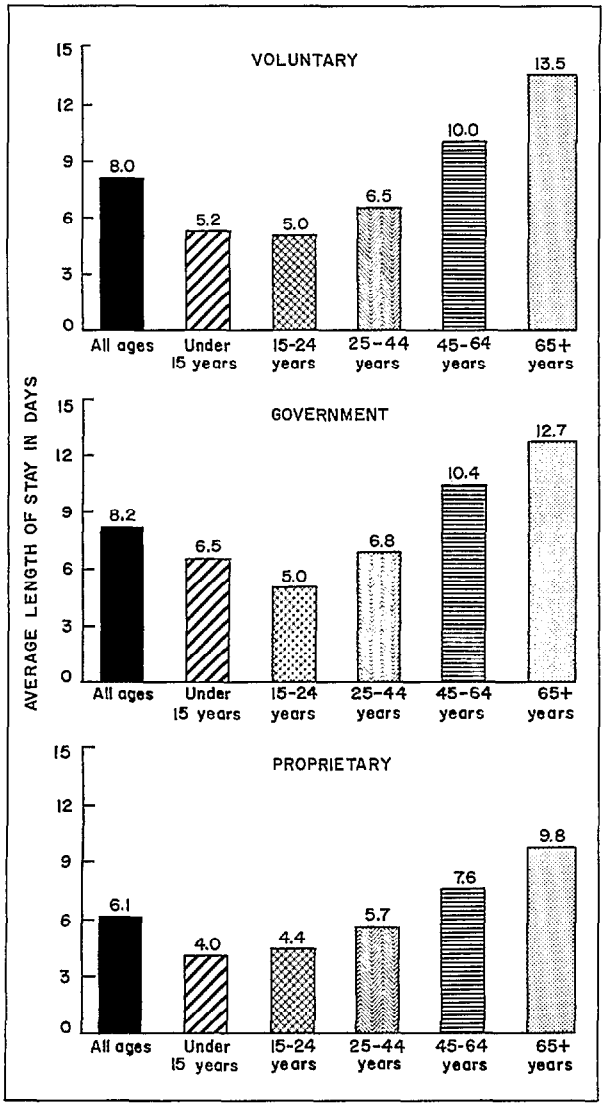

Figure 6. Average length of stay in days, by age and type of ownership.

For persons discharged alive, the average length of stay varied directly by size of hospital, ranging from a low of 6.3 days in hospitals with 6-99 beds to 10.7 days in hospitals with 500 beds or more.

Patient Characteristics by Type of Ownership

The number and percent distribution of days of care by personal characteristics and type of ownership are given in table 9. Noteworthy differences in the percent distribution of days of care by age for the various ownership classes were evident for patients 65 years and over. Within proprietary hospitals, only one-fifth of the days of care were provided to patients 65 years and over as compared with over one-fourth in each of the other ownership groups. Government hospitals provided proportionately more days of care to males, unmarried persons, and nonwhite persons than any of the other ownership groups.

The average length of stay in proprietary hospitals for all age groups tended to be lower than in either voluntary or government hospitals (fig. 6). The average length of stay in each owner-

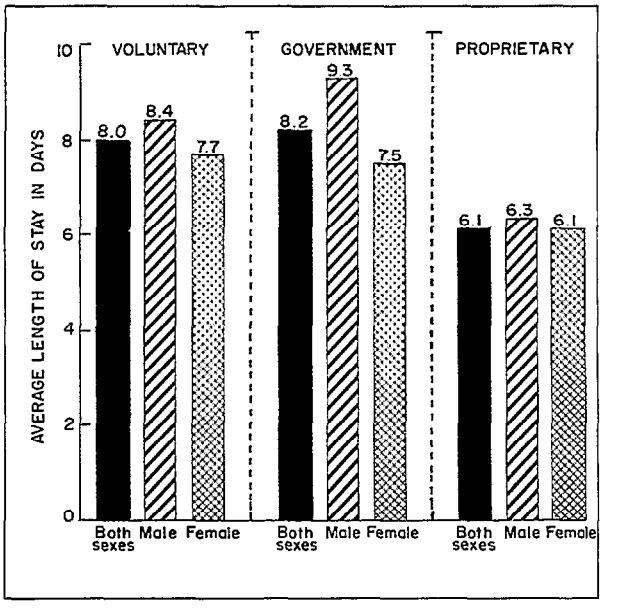

Figure 7. Average length of stay in days, by sex and type of ownership.

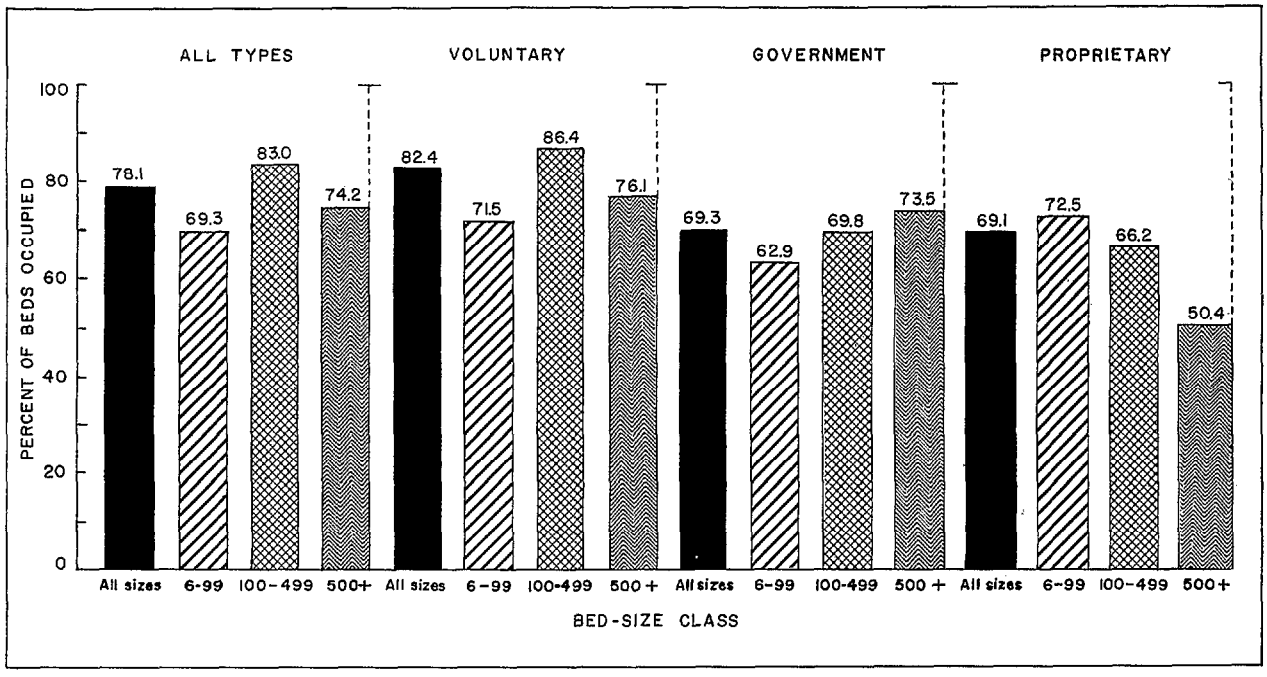

Figure 8. Percent of beds occupied, by type of ownership and size of hospital.

ship group tended to be highest at the oldest ages.

The average length of stay for both males and females was lowest in proprietary hospitals. The average length of stay for males in government hospitals was slightly higher than in voluntary hospitals. For females, the average length of stay in government and in voluntary hospitals did not differ (fig. 7).

For both white and nonwhite and for married and unmarried persons, the average length of stay was lowest in proprietary hospitals (table 10).

AVERAGE DAILY CENSUS AND PERCENT OF BEDS OCCUPIED

The average daily census is the average number of patients occupying hospital beds on any given day during a specified period of time. In this report, the term refers to the estimated number of patients occupying beds in short-stay hospitals on an average day during 1965. As mentioned earlier, total days of care accumulated by patients *discharged* during 1965 are assumed to approximate total days of care *provided* by short-stay hospitals within the calendar year 1965.

If the average daily census is divided by the number of beds maintained for inpatient use (excluding bassinets) and the quotient expressed as a percent, the percent of beds occupied or the occupancy rate is obtained. In other words, the occupancy rate is equal to the ratio of the number of days of care provided to the number that would have been provided if every bed had been occupied each day throughout 1965.

Table 11 gives the average daily census and percent of beds occupied by size of hospital and type of ownership, while figure 8 shows occupancy rates by type of ownership and size of hospital. The occupancy rate for all hospitals was 78 percent. It was highest (83 percent) for hospitals with 100-499 beds and lowest (69 percent) for those with less than 100 beds (fig. 8).

The occupancy rate was 82 percent for voluntary hospitals. This was higher than the rate for the other ownership groups. In government hospitals covered in the survey and in proprietary hospitals, the occupancy rate was 69 percent. There were also some variations in occupancy rates by size of hospitals within the ownership classes.

REFERENCES

[1]National Center for Health Statistics: Utilization of short-stay hospitals, summary of nonmedical statistics, United States, 1965. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 13-No. 2. Public Health Service. Washington. U.S. Government Printing Office, Aug. 1967.

[2]National Center for Health Statistics: Utilization of short-stay hospitals by characteristics of discharged patients, United States, 1965. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 13-No. 2. Public Health Service. Washington. U.S. Government Printing Office, Dec. 1967.

[3]National Center for Health Statistics: Development and maintenance of a national inventory of hospitals and institutions. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 1-No. 3. Public Health Service. Washington. U.S. Government Printing Office, Feb. 1965

———— o o o ————

DETAILED TABLES

Table 1. Number and percent distribution of discharges, by size of hospital and type of ownership: United States, 1965

Size of hospital	All types	Voluntary nonprofit			Government	Proprietary
		Total	Church	Other nonprofit		
	Number of discharges in thousands					
All sizes	29,120	20,478	8,195	12,282	5,829	2,814
6-99 beds	7,303	3,560	494	3,066	1,853	1,890
100-199 beds	6,796	4,927	2,557	2,370	1,297	572
200-299 beds	5,441	4,730	1,992	2,739	471	240
300-499 beds	5,921	5,259	2,296	2,963	608	55
500 beds or more	3,659	2,001	857	1,144	1,600	57
	Percent distribution (by size of hospital)					
All sizes	100.0	100.0	100.0	100.0	100.0	100.0
6-99 beds	25.1	17.4	6.0	25.0	31.8	67.2
100-199 beds	23.3	24.1	31.2	19.3	22.3	20.3
200-299 beds	18.7	23.1	24.3	22.3	8.1	8.5
300-499 beds	20.3	25.7	28.0	24.1	10.4	1.9
500 beds or more	12.6	9.8	10.5	9.3	27.5	2.0
	Percent distribution (by type of ownership)					
All sizes	100.0	70.3	28.1	42.2	20.0	9.7
6-99 beds	100.0	48.8	6.8	42.0	25.4	25.9
100-199 beds	100.0	72.5	37.6	34.9	19.1	8.4
200-299 beds	100.0	86.9	36.6	50.3	8.7	4.4
300-499 beds	100.0	88.8	38.8	50.0	10.3	0.9
500 beds or more	100.0	54.7	23.4	31.3	43.7	1.6

Table 2. Number and percent distribution of discharges, by selected patient characteristics according to size of hospital: United States, 1965

Characteristic	All sizes	6-99 beds	100-499 beds	500 beds or more
	Number of discharges in thousands			
Total	29,120	7,303	18,159	3,659
Age				
Under 15 years	4,601	1,069	3,001	531
15-24 years	4,948	1,344	2,938	666
25-44 years	8,138	1,976	5,122	1,040
45-64 years	6,690	1,595	4,246	849
65 years and over	4,601	1,262	2,783	556
Not stated	142	57	68	17
Sex				
Male	11,361	2,786	7,130	1,446
Female	17,709	4,504	10,997	2,208
Not stated	50	13	32	6
Color				
White	23,016	6,381	14,133	2,502
Nonwhite	2,598	365	1,323	910
Not stated	3,506	556	2,703	247
Marital status[1]				
Married	17,712	4,518	11,107	2,086
Unmarried	6,066	1,474	3,654	938
Not stated	600	186	327	87
Discharge status				
Alive	28,266	7,092	17,661	3,513
Dead	818	205	478	135
Not stated	35	5	19	11
	Percent distribution			
Total	100.0	100.0	100.0	100.0
Age				
Under 15 years	15.8	14.6	16.5	14.5
15-24 years	17.0	18.4	16.2	18.2
25-44 years	27.9	27.1	28.2	28.4
45-64 years	23.0	21.8	23.4	23.2
65 years and over	15.8	17.3	15.3	15.2
Not stated	0.5	0.8	0.4	0.5
Sex				
Male	39.0	38.1	39.3	39.5
Female	60.8	61.7	60.6	60.3
Not stated	0.2	0.2	0.2	0.2
Color				
White	79.0	87.4	77.8	68.4
Nonwhite	8.9	5.0	7.3	24.9
Not stated	12.0	7.6	14.9	6.7
Marital status[1]				
Married	72.7	73.1	73.6	67.1
Unmarried	24.9	23.9	24.2	30.1
Not stated	2.5	3.0	2.2	2.8
Discharge status				
Alive	97.1	97.1	97.3	96.0
Dead	2.8	2.8	2.6	3.7
Not stated	0.1	0.1	0.1	0.3

[1] Of persons 15 years of age and over.

Table 3. Number and percent distribution of discharges, by selected patient characteristics according to type of ownership: United States, 1965

Characteristic	All types	Voluntary nonprofit			Government	Proprietary
		Total	Church	Other nonprofit		
	Number of discharges in thousands					
Total	29,120	20,478	8,195	12,282	5,829	2,814
Age						
Under 15 years	4,601	3,279	1,408	1,872	850	471
15-24 years	4,948	3,354	1,332	2,022	1,130	464
25-44 years	8,138	5,754	2,345	3,409	1,503	881
45-64 years	6,690	4,804	1,818	2,986	1,252	633
65 years and over	4,601	3,213	1,255	1,958	1,038	350
Not stated	142	73	38	35	55	14
Sex						
Male	11,361	7,895	3,174	4,721	2,355	1,111
Female	17,709	12,545	5,006	7,538	3,465	1,699
Not stated	50	38	16	23	9	3
Color						
White	23,016	16,404	5,843	10,561	4,005	2,608
Nonwhite	2,598	1,394	485	909	1,132	73
Not stated	3,506	2,680	1,868	812	692	133
Marital status[1]						
Married	17,712	12,667	4,929	7,739	3,296	1,748
Unmarried	6,066	4,151	1,666	2,485	1,394	521
Not stated	600	307	156	152	232	60
Discharge status						
Alive	28,266	19,915	7,981	11,933	5,597	2,754
Dead	818	536	198	338	224	58
Not stated	35	27	16	11	7	1
	Percent distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Age						
Under 15 years	15.8	16.0	17.2	15.2	14.6	16.8
15-24 years	17.0	16.4	16.2	16.5	19.4	16.5
25-44 years	27.9	28.1	28.6	27.8	25.8	31.3
45-64 years	23.0	23.5	22.2	24.3	21.5	22.5
65 years and over	15.8	15.7	15.3	15.9	17.8	12.5
Not stated	0.5	0.4	0.5	0.3	0.9	0.5
Sex						
Male	39.0	38.6	38.7	38.4	40.4	39.5
Female	60.8	61.3	61.1	61.4	59.4	60.4
Not stated	0.2	0.2	0.2	0.2	0.2	0.1
Color						
White	79.0	80.1	71.3	86.0	68.7	92.7
Nonwhite	8.9	6.8	5.9	7.4	19.4	2.6
Not stated	12.0	13.1	22.8	6.6	11.9	4.7
Marital status[1]						
Married	72.7	74.0	73.0	74.6	67.0	75.1
Unmarried	24.9	24.2	24.7	23.9	28.3	22.4
Not stated	2.5	1.8	2.3	1.5	4.7	2.6
Discharge status						
Alive	97.1	97.3	97.4	97.2	96.0	97.9
Dead	2.8	2.6	2.4	2.8	3.8	2.1
Not stated	0.1	0.1	0.2	0.1	0.1	0.0

[1]Of persons 15 years of age and over.

Table 4. Number and percent distribution of days of care and average length of stay, by size of hospital and type of ownership: United States, 1965

Size of hospital	All types	Voluntary nonprofit			Government	Proprietary
		Total	Church	Other nonprofit		
	Number of days of care in thousands					
All sizes	228,398	163,213	63,251	99,962	47,884	17,300
6-99 beds	48,166	25,369	3,685	21,683	12,139	10,658
100-199 beds	46,196	34,762	17,325	17,437	7,572	3,862
200-299 beds	44,406	38,390	16,283	22,108	4,289	1,727
300-499 beds	50,087	45,080	18,536	26,544	4,571	436
500 beds or more	39,543	19,613	7,423	12,190	19,314	617
	Percent distribution (by size of hospital)					
All sizes	100.0	100.0	100.0	100.0	100.0	100.0
6-99 beds	21.1	15.5	5.8	21.7	25.4	61.6
100-199 beds	20.2	21.3	27.4	17.4	15.8	22.3
200-299 beds	19.4	23.5	25.7	22.1	9.0	10.0
300-499 beds	21.9	27.6	29.3	26.6	9.5	2.5
500 beds or more	17.3	12.0	11.7	12.2	40.3	3.6
	Percent distribution (by type of ownership)					
All sizes	100.0	71.5	27.7	43.8	21.0	7.6
6-99 beds	100.0	52.7	7.7	45.0	25.2	22.1
100-199 beds	100.0	75.2	37.5	37.7	16.4	8.4
200-299 beds	100.0	86.5	36.7	49.8	9.7	3.9
300-499 beds	100.0	90.0	37.0	53.0	9.1	0.9
500 beds or more	100.0	49.6	18.8	30.8	48.8	1.6
	Average length of stay in days					
All sizes	7.8	8.0	7.7	8.1	8.2	6.1
6-99 beds	6.6	7.1	7.5	7.1	6.6	5.6
100-199 beds	6.8	7.1	6.8	7.4	5.8	6.8
200-299 beds	8.2	8.1	8.2	8.1	9.1	7.2
300-499 beds	8.5	8.6	8.1	9.0	7.5	8.0
500 beds or more	10.8	9.8	8.7	10.7	12.1	10.7

Table 5. Number of discharges, percent distribution by length of stay, and median stay in days, by size of hospital: United States, 1965

Length of stay	All sizes	6-99 beds	100-499 beds	500 beds or more
	Number of discharges in thousands			
Total	29,120	7,303	18,159	3,659
	Percent distribution			
Total	100.0	100.0	100.0	100.0
Less than 1 day	2.1	2.6	1.9	2.4
1 day	8.3	11.1	7.7	6.0
2 days	13.3	14.4	13.4	11.0
3 days	12.8	14.4	12.5	11.1
4 days	11.4	11.8	11.6	9.4
5 days	9.5	9.5	9.8	8.2
6 days	6.7	6.6	6.8	6.4
7 days	5.3	5.1	5.4	5.0
8 days	4.6	4.3	4.6	4.9
9 days	3.6	3.3	3.6	4.0
10-19 days	15.3	12.3	15.7	19.0
20-29 days	4.0	2.5	4.2	6.4
30 days and over	3.1	2.1	2.9	6.1
Median length of stay in days	5	4	5	6

Table 6. Number of discharges, percent distribution by length of stay, and median stay in days, by type of ownership: United States, 1965

Length of stay	All types	Voluntary nonprofit	Govern-ment	Pro-prietary
	Number of discharges in thousands			
Total	29,120	20,478	5,829	2,814
	Percent distribution			
Total	100.0	100.0	100.0	100.0
Less than 1 day	2.1	1.8	3.2	2.3
1 day	8.3	7.6	10.9	8.1
2 days	13.3	12.9	14.1	15.2
3 days	12.8	12.4	13.3	14.6
4 days	11.4	11.5	10.4	12.3
5 days	9.5	9.8	8.1	10.5
6 days	6.7	6.8	6.1	6.8
7 days	5.3	5.5	4.6	5.4
8 days	4.6	4.7	4.0	4.7
9 days	3.6	3.8	3.2	3.3
10-19 days	15.3	15.9	13.9	13.1
20-29 days	4.0	4.2	4.3	2.3
30 days and over	3.1	3.1	4.0	1.2
Median length of stay in days	5	5	4	4

Table 7. Number and percent distribution of days of care, by selected patient characteristics according to size of hospital: United States, 1965

Characteristic	All sizes	6-99 beds	100-499 beds	500 beds or more
	Number of days of care in thousand			
Total	228,398	48,166	140,689	39,543
Age				
Under 15 years	24,410	4,190	14,805	5,416
15-24 years	24,294	5,631	14,540	4,122
25-44 years	52,848	10,792	32,407	9,650
45-64 years	65,791	12,434	41,739	11,619
65 years and over	60,035	14,808	36,684	8,543
Not stated	1,019	311	515	193
Sex				
Male	95,514	18,458	58,697	18,359
Female	132,405	29,622	81,673	21,110
Not stated	478	86	319	74
Color				
White	178,803	41,763	110,479	26,561
Nonwhite	23,130	2,443	10,762	9,926
Not stated	26,464	3,960	19,448	3,056
Marital status[1]				
Married	134,876	28,625	85,234	21,017
Unmarried	62,872	13,509	37,505	11,858
Not stated	5,220	1,531	2,630	1,059
Discharge status				
Alive	216,050	44,798	133,796	37,456
Dead	12,056	3,330	6,714	2,012
Not stated	292	38	178	75
	Percent distribution			
Total	100.0	100.0	100.0	100.0
Age				
Under 15 years	10.7	8.7	10.5	13.7
15-24 years	10.6	11.7	10.3	10.4
25-44 years	23.1	22.4	23.0	24.4
45-64 years	28.8	25.8	29.7	29.4
65 years and over	26.3	30.7	26.1	21.6
Not stated	0.4	0.6	0.4	0.5
Sex				
Male	41.8	38.3	41.7	46.4
Female	58.0	61.5	58.1	53.4
Not stated	0.2	0.2	0.2	0.2
Color				
White	78.3	86.7	78.5	67.2
Nonwhite	10.1	5.1	7.6	25.1
Not stated	11.6	8.2	13.8	7.7
Marital status[1]				
Married	66.5	65.6	68.0	61.9
Unmarried	31.0	30.9	29.9	34.9
Not stated	2.6	3.5	2.1	3.1
Discharge status				
Alive	94.6	93.0	95.1	94.7
Dead	5.3	6.9	4.8	5.1
Not stated	0.1	0.1	0.1	0.2

[1]Of persons 15 years of age and over.

Table 8. Average length of stay in days, by selected patient characteristics and size of hospital: United States, 1965

Characteristic	All sizes	6-99 beds	100-499 beds	500 beds or more
	Average length of stay in days			
Total	7.8	6.6	7.7	10.8
Age				
Under 15 years	5.3	3.9	4.9	10.2
15-24 years	4.9	4.2	4.9	6.2
25-44 years	6.5	5.5	6.3	9.3
45-64 years	9.8	7.8	9.8	13.7
65 years and over	13.0	11.7	13.2	15.4
Not stated	7.2	5.5	7.5	11.5
Sex				
Male	8.4	6.6	8.2	12.7
Female	7.5	6.6	7.4	9.6
Not stated	9.5	6.6	10.0	13.3
Color				
White	7.8	6.5	7.8	10.6
Nonwhite	8.9	6.7	8.1	10.9
Not stated	7.5	7.1	7.2	12.4
Marital status[1]				
Married	7.6	6.3	7.7	10.1
Unmarried	10.4	9.2	10.3	12.6
Not stated	8.7	8.2	8.0	12.2
Discharge status				
Alive	7.6	6.3	7.6	10.7
Dead	14.7	16.2	14.0	14.9
Not stated	8.2	7.1	9.2	7.1

[1]Of persons 15 years of age and over.

Table 9. Number and percent distribution of days of care, by selected patient characteristics according to type of ownership: United States, 1965

Characteristic	All types	Voluntary nonprofit			Government	Proprietary
		Total	Church	Other nonprofit		
	Number of days of care in thousands					
Total	228,398	163,213	63,251	99,962	47,884	17,300
Age						
Under 15 years	24,410	17,045	7,311	9,733	5,497	1,869
15-24 years	24,294	16,626	6,404	10,222	5,613	2,056
25-44 years	52,848	37,600	14,972	22,628	10,234	5,015
45-64 years	65,791	47,940	17,946	29,993	13,011	4,841
65 years and over	60,035	43,462	16,353	27,109	13,153	3,420
Not stated	1,019	542	265	277	378	99
Sex						
Male	95,514	66,553	25,294	41,260	21,992	6,968
Female	132,405	96,279	37,765	58,514	25,816	10,310
Not stated	478	381	193	188	76	21
Color						
White	178,803	131,968	46,411	85,557	31,009	15,826
Nonwhite	23,130	11,885	3,691	8,194	10,712	533
Not stated	26,464	19,360	13,150	6,210	6,163	941
Marital status[1]						
Married	134,876	99,072	36,892	62,179	24,791	11,014
Unmarried	62,872	43,962	17,460	26,502	14,951	3,959
Not stated	5,220	2,593	1,323	1,270	2,268	359
Discharge status						
Alive	216,050	154,480	60,478	94,002	44,890	16,680
Dead	12,056	8,500	2,600	5,900	2,946	611
Not stated	292	234	173	60	49	9
	Percent distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Age						
Under 15 years	10.7	10.4	11.6	9.7	11.5	10.8
15-24 years	10.6	10.2	10.1	10.2	11.7	11.9
25-44 years	23.1	23.0	23.7	22.6	21.4	29.0
45-64 years	28.8	29.4	28.4	30.0	27.2	28.0
65 years and over	26.3	26.6	25.9	27.1	27.5	19.8
Not stated	0.4	0.3	0.4	0.3	0.8	0.6
Sex						
Male	41.8	40.8	40.0	41.3	45.9	40.3
Female	58.0	59.0	59.7	58.5	53.9	59.6
Not stated	0.2	0.2	0.3	0.2	0.2	0.1
Color						
White	78.3	80.9	73.4	85.6	64.8	91.5
Nonwhite	10.1	7.3	5.8	8.2	22.4	3.1
Not stated	11.6	11.9	20.8	6.2	12.9	5.4
Marital status[1]						
Married	66.5	68.0	66.3	69.1	59.0	71.8
Unmarried	31.0	30.2	31.4	29.5	35.6	25.8
Not stated	2.6	1.8	2.4	1.4	5.4	2.3
Discharge status						
Alive	94.6	94.6	95.6	94.0	93.7	96.4
Dead	5.3	5.2	4.1	5.9	6.2	3.5
Not stated	0.1	0.1	0.3	0.1	0.1	0.1

[1]Of persons 15 years of age and over.

Table 10. Average length of stay in days, by selected patient characteristics and type of ownership: United States, 1965

Characteristic	All types	Voluntary nonprofit			Government	Proprietary
		Total	Church	Other nonprofit		
	Average length of stay in days					
Total	7.8	8.0	7.7	8.1	8.2	6.1
Age						
Under 15 years	5.3	5.2	5.2	5.2	6.5	4.0
15-24 years	4.9	5.0	4.8	5.1	5.0	4.4
25-44 years	6.5	6.5	6.4	6.6	6.8	5.7
45-64 years	9.8	10.0	9.9	10.0	10.4	7.6
65 years and over	13.0	13.5	13.0	13.8	12.7	9.8
Not stated	7.2	7.4	7.0	7.8	6.8	7.2
Sex						
Male	8.4	8.4	8.0	8.7	9.3	6.3
Female	7.5	7.7	7.5	7.8	7.5	6.1
Not stated	9.5	10.0	12.4	8.4	8.6	6.5
Color						
White	7.8	8.0	7.9	8.1	7.7	6.1
Nonwhite	8.9	8.5	7.6	9.0	9.5	7.3
Not stated	7.5	7.2	7.0	7.6	8.9	7.1
Marital status[1]						
Married	7.6	7.8	7.5	8.0	7.5	6.3
Unmarried	10.4	10.6	10.5	10.7	10.7	7.6
Not stated	8.7	8.4	8.5	8.4	9.8	6.0
Discharge status						
Alive	7.6	7.8	7.6	7.9	8.0	6.1
Dead	14.7	15.9	13.1	17.5	13.1	10.5
Not stated	8.2	8.7	11.0	5.5	6.8	6.6

[1]Of persons 15 years of age and over.

Table 11. Average daily census and percent of beds occupied, by size of hospital and type of ownership: United States, 1965

Size of hospital	All types	Voluntary nonprofit			Government	Proprietary
		Total	Church	Other nonprofit		
	Average daily census in thousands					
All sizes	626	447	173	274	131	47
6-99 beds	132	70	10	59	33	29
100-199 beds	127	95	47	48	21	11
200-299 beds	122	105	45	61	12	5
300-499 beds	137	124	51	73	13	1
500 beds or more	108	54	20	33	53	2
	Percent of beds occupied					
All sizes	78.1	82.4	82.1	82.5	69.3	69.1
6-99 beds	69.3	71.5	72.9	71.2	62.9	72.5
100-199 beds	75.9	79.7	86.9	73.7	66.0	67.0
200-299 beds	84.2	87.3	84.5	89.5	69.0	68.6
300-499 beds	89.5	91.5	84.1	97.5	77.8	53.4
500 beds or more	74.2	76.1	69.1	81.1	73.5	50.4

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 discharged from noninstitutional hospitals having six beds or more for inpatient use, located in the 50 States and the District of Columbia, and having an average length of stay of less than 30 days

Newborn infants are in scope only if at least one of the following conditions has been specified in the medical record:

1. Immaturity or prematurity.
2. Any disease, condition, syndrome, disorder, injury, malformation, or birth defect.
3. Any operation or surgical procedure other than routine circumcision.
4. Birth occurred under nonsterile conditions.

All other infants are considered well-newborn infants and are out-of-scope of the survey.

Sampling frame and size of sample.—The sampling frame for hospitals in the Hospital Discharge Survey 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. (See reference 3, p. 9.)

The universe for the Hospital Discharge Survey consisted of 6,965 hospitals, excluding military and Veterans Administration hospitals, contained in the MFI in 1963. The distributions of short-stay hospitals by size and region in the universe (MFI) and in the sample of the Hospital Discharge Survey are shown in table I. Some of the sample hospitals participated in the survey during all of 1965, whereas other hospitals participated for only 6 months because they were not inducted into the survey until the latter half of 1965. Hospitals participating for 12 months and for 6 months are distributed separately in table I.

The sample of hospitals for 1965 as originally drawn consisted of 315 hospitals. Of these hospitals, 8 refused to participate; 5 did not submit any abstracts during the year; and 6 were out-of-scope either because the hospital had gone out of business or because it failed to meet the definition of a short-stay hospital. (See appendix II for the definition of hospital used in the Hospital Discharge Survey.) Thus, there were 296 in-scope participating hospitals in the survey during 1965.

Sample design.—All hospitals of 1,000 beds or more in the universe (excluding VA and military hospitals) were selected with certainty in the sample. All hospitals of fewer than 1,000 beds were stratified, with the primary strata being the 24 size-by-region classes, as 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.

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 assure 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 technique, usually on the basis of the terminal digit(s) of the patient's medical record number—a number assigned when the patient was 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 kth discharge thereafter.

Data collection.—Depending on the study procedure agreed on with the hospital administrator, the sample selection and the transcription of information from the

Table I. Distribution of short-stay hospitals in the universe (MFI) and in the Hospital Discharge Survey sample, by size, geographic region, and number of months of participation in the survey: Hospital Discharge Survey, 1965

Size of hospital and number of months of participation in survey	Region				
	All regions	North-east	North Central	South	West
All sizes					
Universe	6,965	1,107	1,979	2,620	1,259
Total sample	315	85	93	91	46
6 months participation	150	38	46	44	22
12 months participation	165	47	47	47	24
6-49 beds					
Universe	3,113	199	830	1,438	646
Total sample	39	5	11	15	8
6 months participation	20	2	6	8	4
12 months participation	19	3	5	7	4
50-99 beds					
Universe	1,623	288	442	587	306
Total sample	44	8	12	16	8
6 months participation	22	4	6	8	4
12 months participation	22	4	6	8	4
100-199 beds					
Universe	1,144	277	378	332	157
Total sample	63	16	20	19	8
6 months participation	32	8	10	10	4
12 months participation	31	8	10	9	4
200-299 beds					
Universe	552	182	151	134	85
Total sample	55	19	16	12	8
6 months participation	28	10	8	6	4
12 months participation	27	9	8	6	4
300-499 beds					
Universe	386	110	129	96	51
Total sample	59	16	19	16	8
6 months participation	30	8	10	8	4
12 months participation	29	8	9	8	4
500-999 beds					
Universe	129	42	46	28	13
Total sample	37	12	12	8	5
6 months participation	18	6	6	4	2
12 months participation	19	6	6	4	3
1,000 beds or more					
Universe	18	9	3	5	1
Total sample	18	9	3	5	1
6 months participation	-	-	-	-	-
12 months participation	18	9	3	5	1

hospital records to the abstract form were performed either by the hospital staff or by representatives of the National Center for Health Statistics, or by both. In more than three-quarters of the hospitals, this work was performed by a member of the hospital staff in the medical records department. In nearly all the remaining hospitals, the work was performed by the Bureau of the Census, acting for the Center.

During 1965, all survey hospitals except one used an optical mark page reader form to abstract data from the hospital records. A copy of the front side of this form, covering the nonmedical data presented in this report, is shown in figure I. The reverse side of the form was used to record discharge diagnoses and surgical operations and procedures. The use of this form enabled the coded information to be converted directly to computer tape by an optical mark page reader machine.

Data processing.—Shipments of completed abstract forms for each sample hospital were transmitted to the Center for processing. Every shipment of abstracts was reviewed; each abstract form was edited; and, as necessary, problems were referred to the hospitals for clarification and correction.

Estimation.—Statistics produced by the Hospital Discharge Survey are derived by a complex estimating procedure. The basic unit of estimation is the sample patient 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 appendixes of two earlier publications.[1,2]

General Qualifications

Abstracts rejected in the computer inspection run.—For 1965, 100,387 abstracts were received from the 296 hospitals that participated in the survey. In a computer inspection run, approximately 6 percent of these abstracts were rejected for one or more of the following reasons: (1) poor marking on the abstract form, (2) impossible code, and (3) missing entry.

The majority of rejects were corrected by reviewing and editing the information on the abstract forms. However, where it was impossible to correct the code of a rejected item, that item was coded and tabulated as "not stated." The latter procedure applied to all items except "date of admission" and "date of discharge," which were not permitted to be coded as "not stated." In instances where these data could not be obtained from the abstract form, the monthly sample listing sheet transmitted by the sample hospital was used as an additional source of information. If the dates could not be established from the sample listing sheets, the abstract form was sent back to the hospital.

Rounding of numbers.—Estimates relating to discharges and days of care have been rounded to the nearest thousand. For this reason detailed figures within tables do not always add to totals. Percents and rates were calculated on the basis of original, unrounded figures and will not necessarily agree with rates and percents which might be calculated from rounded data.

Reliability of Estimates

Since the estimates presented in this report are based on a sample of discharges from a sample of short-stay hospitals, they will differ somewhat from the results that would have been obtained had they been based on all discharges from all short-stay hospitals. As in any survey, the results are also subject to measurement errors which include errors due to hospital nonresponse, missing abstracts, information incompletely or inaccurately reported on abstract forms, and processing errors. Measurement errors were discussed in previous sections of this appendix.

The standard error is primarily a measure of the variability that occurs by chance 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 chances are about 68 out of 100 that the value obtained in a complete enumeration is contained in the interval represented by the estimate plus and minus one standard error of the estimate; 95 out of 100 for two standard errors; and 99 out of 100 for 2½ standard errors.

The standard error of one statistic is generally different from that of another even when the two come from the same survey. In order to derive standard errors that would be applicable to a wide variety of statistics and that could be prepared at a moderate cost, a number of approximations were required. As a result, the charts and tables shown in this section of appendix I provide general standard errors for a wide variety of estimates rather than the specific error for any statistic.

The relative standard error of an estimate is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percentage of the estimate. Relative standard errors of the estimated numbers of discharges and days of care shown in this report can be determined from figures II and III, respectively. Approximate standard errors of estimated percentages and averages can be determined from tables II-VI.

Rules for determining the approximate relative standard errors and standard errors of estimates presented in this report are as follows:

General rule.—Standard errors and relative standard errors shown in the tables and figures are appli-

CONFIDENTIAL- This information is collected under authority of Public Law 652 of the 84th Congress (70 Stat. 489; 42 U.S.C. 242.c.). All information which would permit identification of an individual or an establishment will be held strictly 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).

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

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

PHS-4734-2
8-64

1. HOSPITAL NUMBER

ABSTRACT OF PATIENT RECORD- Hospital Discharge Survey

2. PATIENT NUMBER

3. MEDICAL RECORD NUMBER

4.a. DATE OF BIRTH

MONTH: J F M A M J J A S O N D

DAY: TENS 0 1 2 3; UNITS 0 1 2 3 4 5 6 7 8 9

YEAR: 1800 1900; TENS 0 1 2 3 4 5 6 7 8 9; UNITS 0 1 2 3 4 5 6 7 8 9

Complete 4b and 4c if date of birth is not given.

4.b. AGE

TENS 0 1 2 3 4 5 6 7 8 9

UNITS 0 1 2 3 4 5 6 7 8 9

4.c. AGE IS STATED IN

YEARS MONTHS DAYS

5. SEX

MALE FEMALE

6. COLOR

WHITE "NONWHITE"
NEGRO NOT STATED
OTHER NONWHITE

7. MARITAL STATUS

MARRIED DIVORCED
SINGLE SEPARATED
WIDOWED NOT STATED

8. DATE OF ADMISSION

MONTH: J F M A M J J A S O N D

DAY: TENS 0 1 2 3; UNITS 0 1 2 3 4 5 6 7 8 9

YEAR: 0 1 2 3 4 5 6 7 8 9

9. DATE OF DISCHARGE

MONTH: J F M A M J J A S O N D

DAY: TENS 0 1 2 3; UNITS 0 1 2 3 4 5 6 7 8 9

YEAR: 0 1 2 3 4 5 6 7 8 9

10. DISCHARGE STATUS

ALIVE DEAD

IBM H91234

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

cable to estimates of discharges, days of care, and average lengths of stay for patient characteristics (age, sex, marital status, and discharge status) cross-classified by one of three hospital groupings as follows: (1) by size (e.g., 6-99 beds), (2) by type of ownership (e.g., voluntary), or (3) by hospitals summed over all size and ownership groups (all hospitals). The particular figure or table to which one refers to obtain a sampling error is contingent upon both the type of estimate (e.g., discharges, etc.) and the hospital grouping with which the patient charactertistic is cross-classified.

Sampling errors for the estimates involving the patient characteristic "color" are not shown in the tables and figures but are expressed as a multiple of the standard error shown for the group "all hospitals." The same is true for the sampling errors of estimates classified by size and type of ownership simultaneously.

Rule 1. *Estimated numbers of discharges:* Relative standard errors of estimated numbers of discharges are obtained from the curves shown in figure II. Sampling errors of discharges classified by color and hospital grouping are three times larger than the sampling errors shown for estimates of comparable frequency in the curve for all hospitals.

Sampling errors for numbers of discharges classified by size and type of ownership simultaneously are seven times larger than the sampling errors for estimates of comparable frequency shown for all hospitals.

Figure II. Approximate relative standard errors of estimated numbers of patients discharged for patient characteristics (excluding color)

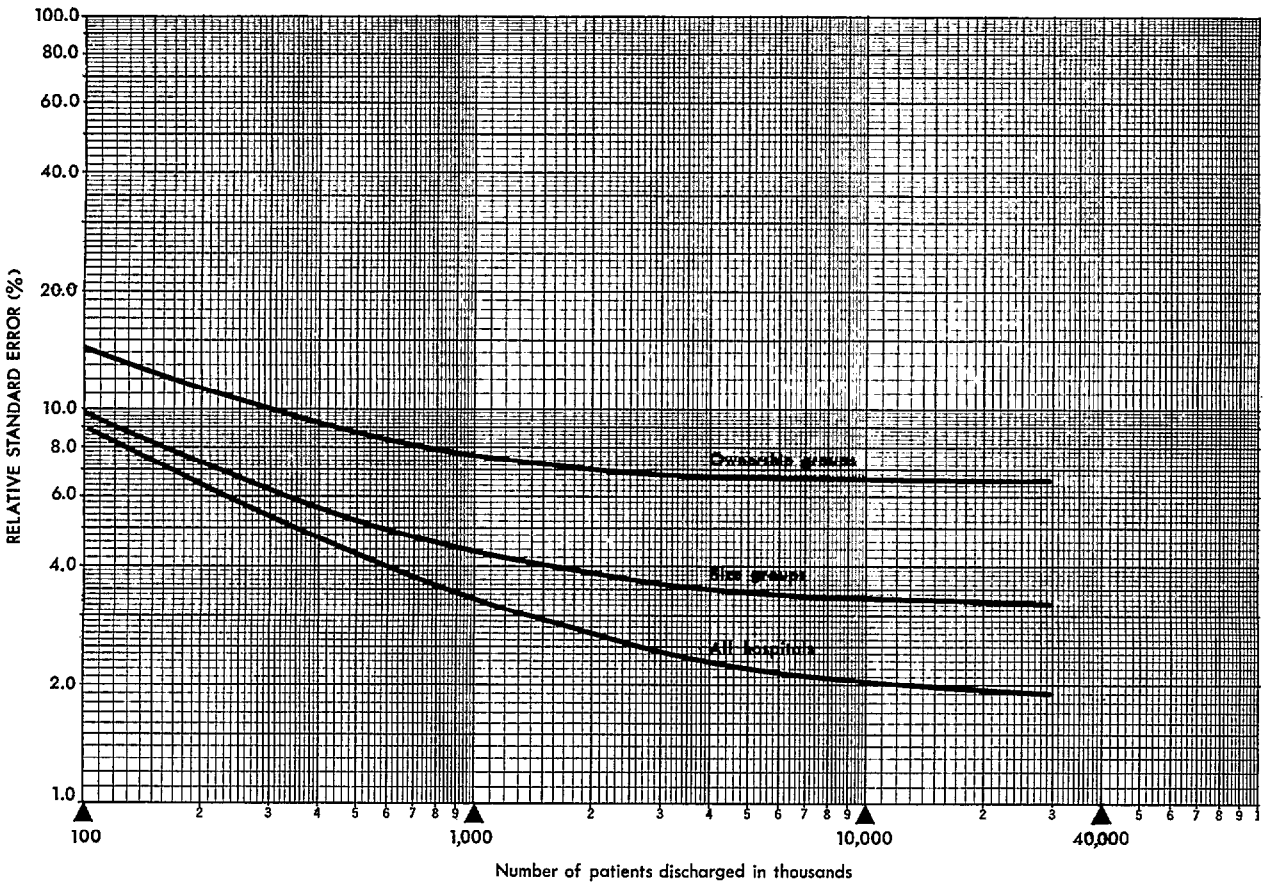

Illustration of use of figure II: As shown in table 2, an estimated 2,938,000 patients aged 15-24 years were discharged from hospitals with 100-499 beds. The relative standard error of this estimate as read from the line "Size groups" is approximately 3.6 percent; the standard error of 2,938,000 is 105,768 (3.6 percent of 2,938,000).

Rule 2. *Estimated numbers of days of care:* Relative standard errors of estimated numbers of days of care are obtained from the curves in figure III. Sampling errors of days of care by color and ownership or size of hospital are three times larger than those shown for estimates of comparable frequency for all hospitals. Sampling errors for days of care classified by size and type of ownership are seven times larger than the standard errors for estimates of comparable frequency shown for all hospitals.

Rule 3. *Estimated percentages of discharges in a percent distribution:* Tables II and III show approximate standard errors of estimated percentages of discharges when the characteristic used to form the numerator of the percentage is a subclass of the denominator. Sampling errors of percentages of discharges classified by color and ownership and by color and size are three and four times larger, respectively, than the standard errors for comparable percentage estimates shown in table II. Sampling errors of percentages of discharges classified by size and type of ownership simultaneously are 10 times larger than the sampling errors for comparable percentage estimates shown in table II.

Rule 4. *Estimated percentages of days of care in a percent distribution:* Table IV shows approximate standard errors of estimated percentages of days of care when the

Figure III. Approximate relative standard errors of estimated number of days of care for patient characteristics (excluding color)

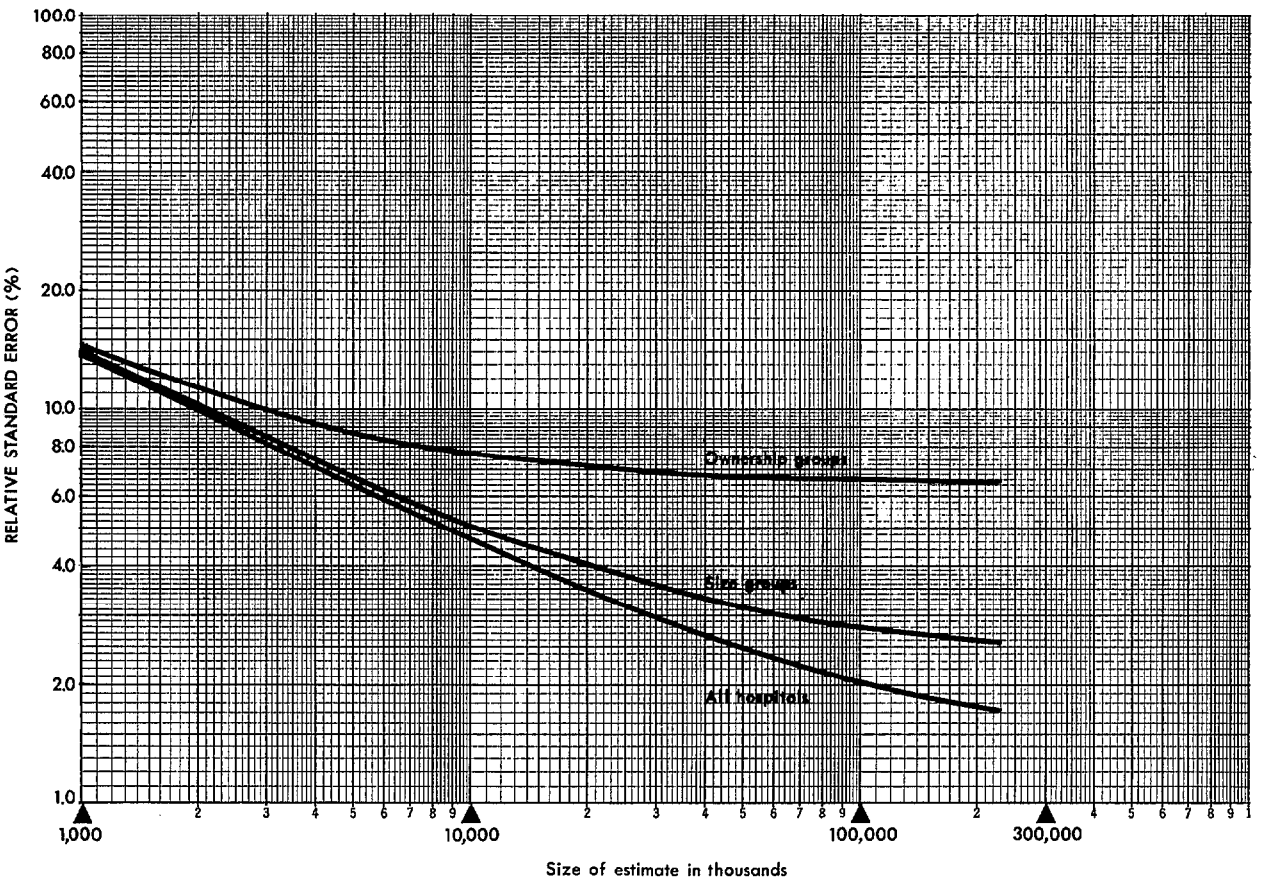

Illustration of use of figure III: As shown in table 7, 10,792,000 days of care were provided to patients aged 25-44 years in hospitals of 6-99 beds. The relative standard error of this estimate as read from the line "Size groups" is approximately 4.9 percent; the standard error is 528,808 (4.9 percent of 10,792,000).

Table II. Approximate standard errors of percentages shown in this report for discharges: patient characteristics (excluding color) classified by size of hospital and for all hospitals

Number of discharges (base of percent)	Estimated percent					
	2 or 98	4 or 96	10 or 90	20 or 80	30 or 70	50
	Standard error expressed in percentage points					
500,000------	0.6	0.8	1.2	1.7	1.9	2.1
1,000,000------	0.4	0.6	0.9	1.2	1.3	1.5
2,000,000------	0.3	0.4	0.6	0.8	0.9	1.0
4,000,000------	0.2	0.3	0.4	0.6	0.7	0.7
8,000,000------	0.1	0.2	0.3	0.4	0.5	0.5
15,000,000------	0.1	0.1	0.2	0.3	0.3	0.4
30,000,000------	0.1	0.1	0.2	0.2	0.2	0.3

Illustration of the use of table II: Table 2 shows that 23.2 percent of the 3,659,000 patients discharged from hospitals with 500 beds or more were aged 45-64 years. Linear interpolation between the values shown in table II will yield an approximate standard error of 0.7 percent for an estimate of 23 percent with a base of 3,659,000.

Table III. Approximate standard errors of percentages shown in this report for discharges: patient characteristics (excluding color) classified by type of ownership

Number of discharges (base of percent)	Estimated percent					
	2 or 98	4 or 96	10 or 90	20 or 80	30 or 70	50
	Standard error expressed in percentage points					
500,000------	0.8	1.1	1.8	2.3	2.7	2.9
1,000,000------	0.6	0.8	1.2	1.7	1.9	2.1
2,000,000------	0.4	0.6	0.9	1.2	1.3	1.5
4,000,000------	0.3	0.4	0.6	0.8	0.9	1.0
8,000,000------	0.2	0.3	0.4	0.6	0.7	0.7
15,000,000------	0.1	0.2	0.3	0.4	0.5	0.5
30,000,000------	0.1	0.1	0.2	0.3	0.3	0.4

Illustration of the use of table III: Table 3 shows that 38.6 percent of the 20,478,000 patients discharged from voluntary nonprofit hospitals were males. Linear interpolation between the values shown in table III will yield an approximate standard error of 0.4 percent for an estimate of approximately 39 percent with a base of 20,478,000.

Table IV. Approximate standard errors of percentages shown in this report for days of care: patient characteristics (excluding color) classified by size of hospital, type of ownership, and for all hospitals

Number of days of care (base of percent)	Estimated percent					
	2 or 98	4 or 96	10 or 90	20 or 80	30 or 70	50
	Standard error expressed in percentage points					
20,000,000-----	0.4	0.6	0.9	1.3	1.4	1.6
40,000,000-----	0.3	0.4	0.7	0.9	1.0	1.1
60,000,000-----	0.3	0.4	0.5	0.7	0.8	0.9
80,000,000-----	0.2	0.3	0.4	0.6	0.7	0.8
100,000,000-----	0.2	0.3	0.4	0.6	0.6	0.7
200,000,000-----	0.1	0.2	0.3	0.4	0.5	0.5
230,000,000-----	0.1	0.2	0.3	0.4	0.5	0.5

Illustration of the use of table IV: Table 7 shows that 26.1 percent of the 140,689,000 patients discharged from hospitals of 100-499 beds were aged 65 years and over. Linear interpolation between the values shown in table IV will yield an approximate standard error of 0.5 percent for an estimate of about 26 percent with a base of 140,689,000.

Table V. Approximate standard errors of average length of stay shown in this report: patient characteristics (excluding color) classified by size of hospital and for all hospitals

Number of discharges (base of percent)	Average length of stay (in days)					
	4	6	8	10	12	14
	Standard error expressed in days					
500,000------	0.3	0.3	0.4	0.5	0.5	0.6
1,000,000------	0.2	0.3	0.3	0.3	0.4	0.4
2,000,000------	0.1	0.2	0.2	0.3	0.3	0.4
4,000,000------	0.1	0.2	0.2	0.2	0.3	0.3
8,000,000------	0.1	0.1	0.2	0.2	0.3	0.3
16,000,000------	0.1	0.1	0.2	0.2	0.3	0.3

Illustration of the use of table V: Table 8 shows that the average length of stay was 8.2 days for the estimated 7,130,000 males discharged from hospitals of 100-499 beds (table 2). From table V it is seen that the approximate standard error is 0.2 days for an estimated average 8.2 days with a base of approximately 7,130,000.

characteristic used to form the numerator is a subclass of the denominator. Sampling errors of percentages of days of care classified by color and size and by color and ownership are three times larger than the standard errors shown for comparable percentage estimates in table IV. Approximate standard errors of percentages of days of care classified by size and type of ownership simultaneously are about 10 times larger than the standard errors for comparable percentage estimates shown in table IV.

Rule 5. *Difference between two sample estimates:* The standard errors and relative standard errors shown in this appendix are not directly applicable to differences between two sample estimates. The standard error of a difference is approximately the square root of the sum of squares of each standard error considered separately. This formula is a close approximation to the actual standard error for the difference between separate and uncorrelated characteristics, although it is only a rough approximation in most other cases.

Rule 6. *Estimates of average length of stay:* Approximate standard errors of average length of stay are shown in tables V and VI. Standard errors of average lengths of stay for values not shown in tables V and VI can be calculated as in the following example:

Suppose the standard error ($\sigma_{R'}$) of the average length of stay for persons discharged alive from voluntary nonprofit hospitals is desired.

Let $$R' = \frac{\text{Number of days of care}}{\text{Number of discharges}} = \frac{X'}{Y'} = \frac{154,480,000}{19,915,000} = 7.8 \text{ days}$$

The relative standard error ($V_{x'}$) of 154,480,000 (from ownership curve in figure III) is 6.6 percent, or .066; $V_{x'}^2 = (.066)^2$. The relative standard error ($V_{y'}$) of 19,915,000 (from ownership curve in figure II) is 6.5 percent, or .065; $V_{y'}^2 = (.065)^2$.

$$V_{R'}^2 = V_{x'}^2 + V_{y'}^2 - 2r\, V_{x'}\, V_{y'}$$

$$= (.066)^2 + (.065)^2 - 1.5(.066 \times .065)$$

$$= .004356 + .004225 - .006435 = .002146.$$

$$V_{R'} = \sqrt{.002146} = .046.$$

$$\sigma_{R'} = R' \times V_{R'} = 7.8 \times .046 = 0.4 \text{ days.}$$

Table VI. Approximate standard errors of average length of stay shown in this report: patient characteristics (excluding color) classified by type of ownership

Number of discharges (base of average)	Average length of stay (in days)					
	4	6	8	10	12	14
	Standard error expressed in days					
500,000------	0.3	0.4	0.5	0.6	0.7	0.8
1,000,000------	0.2	0.3	0.4	0.6	0.6	0.8
2,000,000------	0.2	0.3	0.4	0.5	0.6	0.7
4,000,000------	0.2	0.3	0.4	0.5	0.6	0.7
8,000,000------	0.2	0.3	0.4	0.5	0.6	0.7
16,000,000------	0.2	0.3	0.4	0.5	0.6	0.6

Illustration of the use of table VI: Table 10 shows that the average length of stay was 6.5 days for the estimated 5,754,000 persons aged 25-44 years discharged from voluntary nonprofit hospitals (table 3). From table VI it is seen that the approximate standard error is 0.3 days for an estimated average of 6.5 days with a base of approximately 5,754,000.

—o o o—

APPENDIX II

DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

Terms Relating to Hospitalization

Hospital.—In this survey an establishment is a hospital if it meets all of the following conditions:

1. It maintains at least six beds for use by inpatients.
2. It provides inpatient medical care under the supervision of a duly licensed doctor of medicine or doctor of osteopathy.
3. It provides nursing service 24 hours a day under the supervision of a registered nurse.
4. It maintains medical records for each patient admitted and for newborn infants.

Short-stay hospital.—A short-stay hospital is one in which the average stay is under 30 days.

Bed.—A bed is one set up and staffed for continuous (24-hour) use by inpatients. Beds in emergency rooms, labor rooms, postanesthesia or postoperative recovery rooms, or other such facilities, which are regularly maintained and utilized for only a portion of the patient's stay and are primarily for special procedures and not for lodging, are *not* termed (inpatient) beds. Cribs and bassinets maintained for use by other than newborn infants are considered beds.

Patient and inpatient.—A patient is a person admitted to a hospital who occupies a hospital bed for observation, care, diagnosis, or treatment. "Patient" and "inpatient" are used synonymously.

Well-newborn infants.—Well-newborn infants are those who satisfy all of the following criteria:

1. The birth was at term or was not otherwise specified and there was *no* mention of immaturity or prematurity
2. No diagnosis of any disease, condition, disorder, syndrome, injury, malformation, or defect was made by the physician attending the birth
3. No operation (other than a routine circumcision) was performed
4. The birth occurred under sterile conditions

Discharge.—Discharge refers to the formal release of an inpatient by a hospital. Newborn infants, however, who satisfy the criteria for well-newborn (see definition) are not counted as being discharged.

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

Day of care.—This is the unit of measure denoting lodging facilities provided and services rendered to one inpatient between 2 successive days.

Length of stay.—The length of stay is the number of days a patient is hospitalized exclusive of the day of discharge. When a patient is admitted and discharged in the same day, the length of stay is less than 1 day.

Average length of stay.—The average length of stay is the aggregate days of care divided by the number of discharges. In computing the average length of stay, a stay of less than 1 day is counted as 1 day.

Median length of stay.—This is the length of stay equaled or exceeded by 50 percent of the discharges.

Percent of beds occupied.—This is the ratio of the number of days of care provided to the number that would have been provided if every bed had been occupied each day of the year.

Hospital ownership.—Hospital ownership is a classification of hospitals according to the type of organization that controls and operates the hospital. The classification is based on responses provided by the sample hospitals.

Demographic Terms

Age.—Age refers to the age at last birthday at time of admission to hospital. Whenever possible, information is obtained on the date of birth.

Color.—In this report, the population is divided into white and nonwhite persons. Mexicans and Puerto Ricans are considered white unless specifically identified as a member of a nonwhite race. The nonwhite group includes the Negro, American Indian, Asian Indian, Chinese, Japanese, Aleut, Eskimo, Hawaiian, Filipino, Korean, and Malayan races.

Marital status.—Marital status applies only to persons 15 years of age and over. "Married" includes persons who are married or separated. "Unmarried" includes persons who are single, widowed, or divorced.

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

———o o o———

☆ U. S. GOVERNMENT PRINTING OFFICE — 1970 — 435-557 P. O. 6

OUTLINE OF REPORT SERIES FOR VITAL AND HEALTH STATISTICS

Public Health Service Publication No. 1000

Series 1. *Programs and collection procedures.*—Reports which describe the general programs of the National Center for Health Statistics and its offices and divisions, data collection methods used, definitions, and other material necessary for understanding the data.

Series 2. *Data evaluation and methods research.*—Studies of new statistical methodology including: experimental tests of new survey methods, studies of vital statistics collection methods, new analytical techniques, objective evaluations of reliability of collected data, contributions to statistical theory.

Series 3. *Analytical studies.*—Reports presenting analytical or interpretive studies based on vital and health statistics, carrying the analysis further than the expository types of reports in the other series.

Series 4. *Documents and committee reports.*—Final reports of major committees concerned with vital and health statistics, and documents such as recommended model vital registration laws and revised birth and death certificates.

Series 10. *Data from the Health Interview Survey.*—Statistics on illness, accidental injuries, disability, use of hospital, medical, dental, and other services, and other health-related topics, based on data collected in a continuing national household interview survey.

Series 11. *Data from the Health Examination Survey.*—Data from direct examination, testing, and measurement of national samples of the population provide the basis for two types of reports: (1) estimates of the medically defined prevalence of specific diseases in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics; and (2) analysis of relationships among the various measurements without reference to an explicit finite universe of persons.

Series 12. *Data from the Institutional Population Surveys.*—Statistics relating to the health characteristics of persons in institutions, and on medical, nursing, and personal care received, based on national samples of establishments providing these services and samples of the residents or patients.

Series 13. *Data from the Hospital Discharge Survey.*—Statistics relating to discharged patients in short-stay hospitals, based on a sample of patient records in a national sample of hospitals.

Series 14. *Data on health resources: manpower and facilities.*—Statistics on the numbers, geographic distribution, and characteristics of health resources including physicians, dentists, nurses, other health manpower occupations, hospitals, nursing homes, and outpatient and other inpatient facilities.

Series 20. *Data on mortality.*—Various statistics on mortality other than as included in annual or monthly reports—special analyses by cause of death, age, and other demographic variables, also geographic and time series analyses.

Series 21. *Data on natality, marriage, and divorce.*—Various statistics on natality, marriage, and divorce other than as included in annual or monthly reports—special analyses by demographic variables, also geographic and time series analyses, studies of fertility.

Series 22. *Data from the National Natality and Mortality Surveys.*—Statistics on characteristics of births and deaths not available from the vital records, based on sample surveys stemming from these records, including such topics as mortality by socioeconomic class, medical experience in the last year of life, characteristics of pregnancy, etc.

For a list of titles of reports published in these series, write to:

Office of Information
National Center for Health Statistics
U.S. Public Health Service
Washington, D.C. 20201