NATIONAL CENTER For HEALTH STATISTICS | Series 13 Number 5

VITAL and HEALTH STATISTICS
DATA FROM THE NATIONAL HEALTH SURVEY

Regional Utilization of Short-Stay Hospitals

United States-1965

Statistics are presented on the utilization of short-stay hospitals based on data collected from a national sample of hospitals and concerning a sample of patients discharged from each of these hospitals. For the four major geographic regions (Northeast, North Central, South, and West), discharges, days of care, and average length of stay are distributed according to characteristics of hospitals, and patients. Rates of discharges, days of care, and daily hospital bed usage are distributed by characteristics of hospitals and by selected characteristics of patients. Rates of bed occupancy are distributed according to characteristics of hospitals.

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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.

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IN THIS REPORT information concerning discharged patients, days of care, and average length of stay is shown for the four major geographic regions, according to hospital characteristics and according to patient characteristics.

There were approximately 7,000 short-stay hospitals and 801,000 short-stay hospital beds in the United States during 1965. More than one-third of the hospitals and almost one-third of the beds were in the South Region; these were larger proportions than those in any of the other regions. Patient discharges and days of care rendered were considerably more numerous in the North Central and South than in the Northeast and West Regions. The average length of stay was highest in the Northeast and progressively lower in the North Central, South, and West.

SYMBOLS

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REGIONAL UTILIZATION OF SHORT-STAY HOSPITALS

Raymond O. Gagnon, *Division of Health Resources Statistics*

INTRODUCTION

This is the fourth report to be published on the findings of the first full year of the Hospital Discharge Survey, conducted by the Division of Health Resources Statistics of the National Center for Health Statistics. The Hospital Discharge Survey is a part of the National Health Survey program which provides comprehensive and current health statistics on the Nation's population.[1]

HOSPITALS AND HOSPITAL BEDS

There were an estimated 7,000 short-stay hospitals in the United States during 1965, with an estimated 801,000 beds.

More than one-third of the short-stay hospitals were in the South, a large proportion compared with other regions. Of the short-stay hospitals in each region, voluntary (nonprofit) hospitals were considerably more numerous than either government (Federal, State, and local) or proprietary hospitals and were considerably larger as well when the average number of beds per hospital is taken into account. The average number of beds for a group of hospitals can be obtained by dividing the number of beds in that group by the number of hospitals (tables 1 and 2).

The average number of beds per hospital, regardless of ownership, was higher in the Northeast than in the other regions. The Northeast averaged about 178 beds per hospital compared with 131 beds per hospital in the North Central, 98 beds in the South, and 83 beds in the West. For each of the three types of hospital ownership the average number of beds was also greater in the Northeast; however, the difference was more noticeable for government hospitals than for voluntary or proprietary hospitals. In the Northeast the average number of beds per government hospital (309) was about three times greater than in the North Central (97) and South (104) and about fives times greater than in the West (63).

Although the West had about as many hospitals as the Northeast and North Central, most of these hospitals (77 percent) were small, and as a result there were half as many beds in the West as there were in the northern regions. The South also had a high proportion of small hospitals (71 percent), but there were about 1,000 more hospitals and twice as many beds in the South as in the West.

SELECTED FINDINGS

For 1965 the regional distribution of the United States population shows the greatest pro-

[1]National Center for Health Statistics: Origin, program, and operation of the U.S. National Health Survey. *Vital and Health Statistics*. PHS Pub. No. 1000-Series 1-No. 1. Public Health Service. Washington. U.S. Government Printing Office, Aug. 1963.

portion of persons (31 percent) in the South and the smallest proportion (16 percent) in the West. Similarly, 32 percent of the discharges[2] from short-stay hospitals in the United States occurred in the South and 16 percent occurred in the West Region. For days of care the percentages were somewhat similar (table A). The average length of stay for discharges in the Northeast was considerably higher than the average stay for discharges in the North Central and significantly higher than the average stay in the South and in the West.

According to hospital characteristics, the two types of utilization rates, that is, the discharge rate and the days-of-care rate per 1,000 persons, seemed to follow the same general pattern among the regions. According to patient characteristics, however, the utilization rates varied somewhat among the regions. Of the short-stay hospitals' beds, approximately 72 percent were occupied in the West as compared with

[2]"Patients discharged" and "discharges" are used interchangeably in this report. Neither term, however, is entirely correct as used. A discharge is an action by the hospital, and it is not precise to say that a discharge possesses human characteristics such as age, sex, and marital status. Certain patients were discharged more than once during the 12-month period; consequently, the number of discharges slightly exceeds the number of patients discharged.

Table A. Selected characteristics, by geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	North-east	North Central	South	West
	Percent distribution				
U.S. population	100.0	24.7	28.1	30.9	16.4
Hospitals	100.0	16.9	26.6	35.8	20.7
Beds	100.0	25.6	29.7	30.1	14.6
Discharges	100.0	22.6	29.4	32.4	15.7
Days of care	100.0	26.0	30.8	29.7	13.5
	Percent				
Beds occupied[1]	78.1	79.5	80.9	77.1	72.2
	Rate per 1,000 persons				
Discharges	153.4	140.3	160.4	160.8	147.3
Days of care	1,203.4	1,270.0	1,317.7	1,157.1	994.5
	Rate per 100,000 persons				
Daily hospital bed usage[2]	329.7	348.0	361.1	317.0	272.5
	Number of days				
Average length of stay	7.8	9.1	8.2	7.2	6.8

[1] $\frac{\text{Aggregate number of days of care in year}}{\text{Number of hospital beds x number of days in year}}$.

[2] $\frac{\text{Aggregate number of days of care x 100,000}}{\text{Number of days in year x size of population at risk}}$.

roughly 80 percent in other regions of the country.

Comparison of the regions, with respect to type of hospital ownership, shows that utilization rates for voluntary hospitals were about 35 percent greater in the Northeast and North Central than in the South and West Regions. The rates for government and proprietary hospitals, however, were higher in the latter two regions as compared with the two former. The average length of stay in voluntary hospitals varied from 9 days in the Northeast to 7 days in the West. Discharged patients from government hospitals averaged a stay of 15 days in the Northeast and about 8 days in other regions; also, persons discharged from proprietary hospitals averaged 10 days per visit in the North Central Region and 5 days in the West. The bed occupancy rate for voluntary hospitals was about 10 percent lower in the West than in other regions, while the rate for government hospitals was somewhat lower in the Northeast than in the other regions. For proprietary hospitals the occupancy rate varied considerably among the regions.

With respect to hospital size, the utilization rates for medium-sized hospitals, those having 100-499 beds, were about 20 percent lower in the South than in the other regions, and the rates for small hospitals, those having fewer than 100 beds, were greater in the South than in the other regions. The rates for large hospitals, 500 beds or more, were about 30 percent lower in the West than in the other regions. The average length of stay for hospitals in each bed-size group was consistently highest in the Northeast and progressively lower in the North Central, South, and West. As a result the average length of stay in hospitals in each of the three bed-size groups was significantly higher in the Northeast than in the West.

The utilization rates, referring to the discharge rate and the days-of-care rate, for infants under 1 year of age and for children 1-14 years were 10 to 20 percent greater in the Northeast and North Central than in the South and West Regions. For persons in succeeding age groups the rates did not follow any particular pattern. The average length of stay varied only slightly among the regions for persons in the age groups under 35 years, however, for persons 35 and over the regional variation in the average length of stay increased as age increased. If infants under 1 and children 5-14 years are excluded, the average length of stay for each age group ranged from a high in the Northeast to a progressively lower value in the North Central, South, and West.

For males and for females the utilization rates also did not follow any particular pattern, however, the average length of stay for both sexes was significantly higher in the Northeast than in the West.

HOSPITAL CHARACTERISTICS

Variation in hospital utilization among different types of hospitals is discussed in this section. Two characteristics of hospitals are considered: type of ownership and size (tables 3-6). Utilization rates are included for both characteristics.

Ownership

Type of ownership refers to the organization that controls and operates a hospital; the general types of ownership discussed in this report are voluntary (nonprofit), government, and proprietary. Voluntary hospitals include church related or operated hospitals and other nonprofit hospitals. Government-owned hospitals (excluding military and Veterans Administration hospitals) include other Federal, State, and local hospitals; proprietary hospitals include those operated for profit, either by an individual, a partnership, or a corporation.

In each region voluntary hospitals accounted for the majority of patients discharged from short-stay hospitals and provided more than half of the days of care rendered. Government hospitals accounted for 10 to 30 percent of the discharges and slightly greater proportions of the days of care, while proprietary hospitals accounted for 2 to 15 percent of the discharges and even smaller proportions of the days of care. As a result the average length of stay was slightly higher for patients discharged from government than from voluntary or proprietary hospitals. The percent of beds occupied, however, was consistently higher in voluntary hospitals than in the other two types of hospitals.

When the regions are compared, the utilization rates for voluntary hospitals were at least 35 percent higher in the Northeast and North Central than in the South and West Regions. For government and proprietary hospitals, however, the rates were higher in the latter two regions (table 3).

The average length of stay of discharged patients did not vary greatly by type of hospital ownership, but there was some variation when ownership was cross-classified by region. Patients discharged from government hospitals had an average length of stay of 15 days in the Northeast and about 8 days in the other regions. Also, persons discharged from proprietary hospitals had an average stay of 10 days in the North Central Region and 5 days in the West (fig. 1 and table 4). These variations are not definitive, however, since the estimates have relatively large sampling errors; thus, the differences are not statistically significant.

The daily hospital bed usage rate for a characteristic is equal to the days-of-care rate for the same characteristic multiplied by the proportion of 100/365 (see footnote 1 on table 4). In this report the days-of-care rate for a particular characteristic refers to the number of days of care that were rendered to every 1,000 persons during the year 1965. The daily bed usage rate for a characteristic refers to the number of persons, out of every 100,000, occupying beds in short-stay hospitals on an *average day* in 1965. In addition, if a person occupies a bed for 1 day he is considered to have received 1 day of care; therefore the bed usage rate may also refer to the number of days of care being rendered on an average day during the year. Thus, the daily hospital bed usage rate is a measure very similar to the days-of-care rate; however, it is a daily rather than an annual rate and as such is quite useful in depicting minor changes in hospital utilization from one year to the next. In view of the similarity between the two measures the daily bed usage rate will not be discussed in the text of this report, but it will be included in the detailed tables.

The percent of beds occupied, or the bed occupancy rate, is the ratio of the number of days of care to the number of days which would have been provided if every bed in every hospital had been occupied every day. In this report the ratio is expressed as a percent. The bed occupancy rate for voluntary hospitals was about 10 percent lower in the West than in other regions, while the rate for government hospitals was somewhat lower in the Northeast. The occupancy rate for proprietary hospitals was considerably lower in the North Central and West than in other regions (table 4), however, the large sampling errors for these low rates limit their reliability.

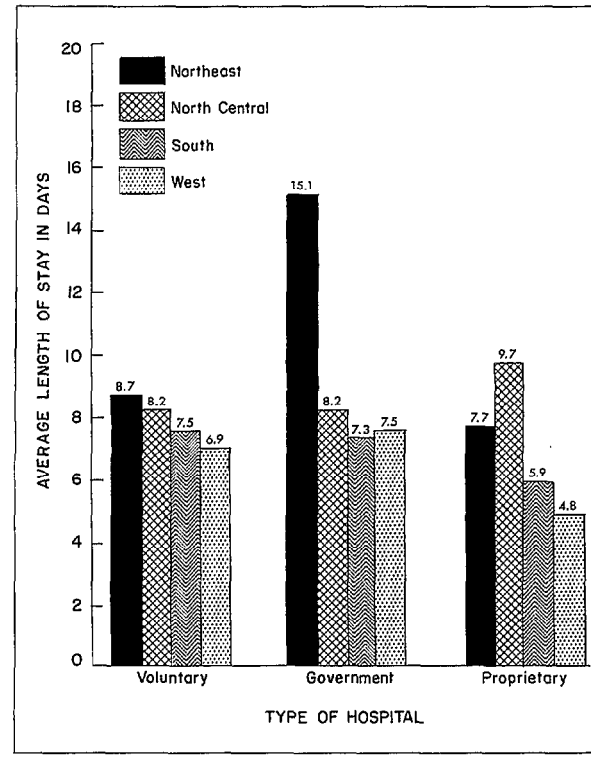

Figure 1. Average length of stay, by type of hospital ownership and geographic region.

It should be noted that sample hospitals in the survey are selected primarily according to the size of the hospital and the region in which the hospital is located. In effect, all sample hospitals of less than 1,000 beds are stratified into 24 size-by-region classes. Within each of these 24 primary strata, a controlled selection technique is used to stratify further the sample hospitals with regard to ownership and geographic division. Ownership, however, is not a primary

consideration in the stratification of sample hospitals as are size and region. Thus, statistical estimates in this report cross-classified by ownership and region tend to have relatively large sampling errors (see section in appendix I, "Sample Design").

Size

"Size" of hospital refers to the number of beds, excluding bassinets, regularly maintained by a hospital for inpatient use. With regard to the presentation of statistics in this report by size of hospital, short-stay hospitals in each region are classified in one of three general bed-size groups: less than 100 beds, 100-499 beds, and 500 beds or more.

In each region the rates of discharge and days of care were considerably greater for medium-sized hospitals (100-499 beds) than for small hospitals (less than 100 beds) or large hospitals (500 beds or more). The average length of stay of patient discharges varied directly with the size of the hospital; that is, patients discharged from large hospitals had a significantly higher average length of stay than those discharged from medium-sized and small hospitals. Also,

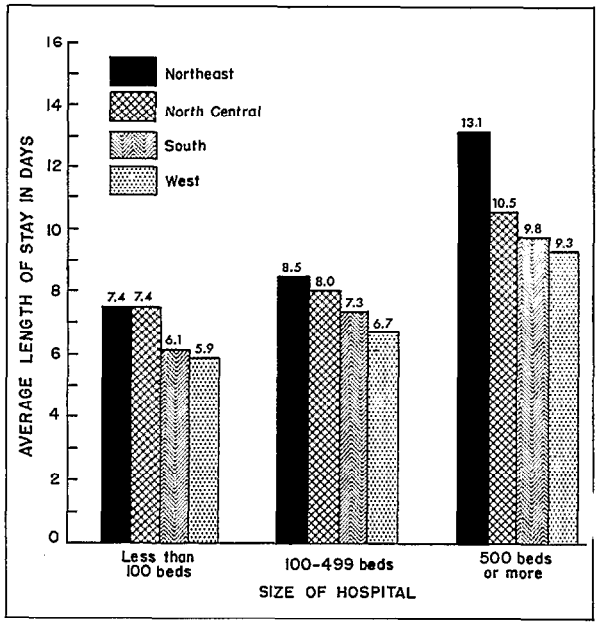

Figure 2. Average length of stay, by size of hospital and geographic region.

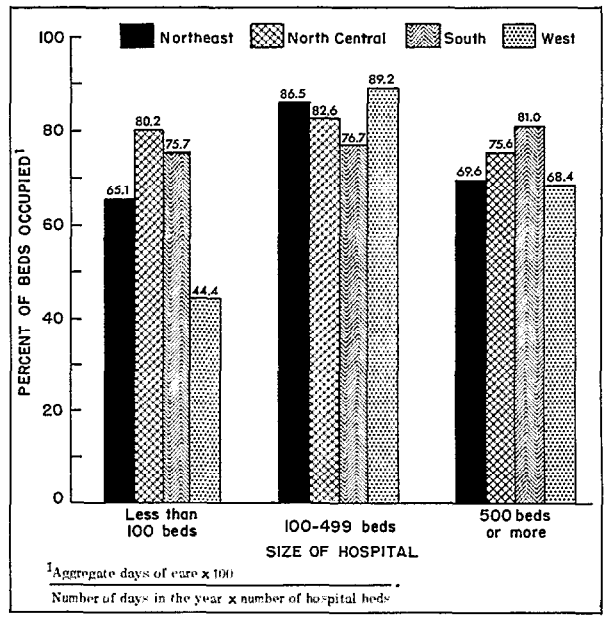

Figure 3. Percent of beds occupied, by size of hospital and geographic region.

the bed occupancy rate was generally higher in medium-sized hospitals and lower in small hospitals.

For medium-sized hospitals the utilization rates were about 20 percent lower in the South than in other regions (table 5). For small hospitals the utilization rates were considerably higher in the South than in other regions. For large hospitals the rates were about 30 percent lower in the West than in other regions. The average length of stay in large hospitals varied from 13 days in the Northeast to 9 days in the West, a significant difference (fig. 2). For medium-sized and small hospitals the average lengths of stay were also significantly higher in the Northeast than in the West Region, however, the averages did not vary by more than 1 or 2 days (appendix I, "Reliability of Estimates," rule 6).

The occupancy rate for medium-sized hospitals was about 10 percent lower in the South than in other regions, while the rate for large hospitals was about 10 percent higher in the South. Hospitals with fewer than 100 beds had an occupancy rate of only 44 percent in the West, while in other regions the rates varied from 65 to 80 percent (fig. 3 and table 6). Although the

number of beds available for inpatient use in small hospitals was proportionately as great or greater in the West, the West also had proportionately more small hospitals than other regions. This high proportion of small hospitals, together with the lower average length of stay in small hospitals in the West than in other regions, would constitute one explanation for the low occupancy rate.

PATIENT CHARACTERISTICS

Variation in hospital utilization among different types of patients is discussed in this section. Five personal characteristics of patients are considered: age, sex, color, marital status, and discharge status (tables 7-12). Rates are included for the age, sex, and marital status characteristics.

Age

In each region the utilization rates were generally higher for persons 65 years and over and for infants under 1 year, while children 1-14 years had lower rates than any other age group. The average length of stay in each region was lowest for children 1-14 years of age and highest for persons 65 years and over. For persons 15 years of age and over the days-of-care rate and the average length of stay increased with advancing age. The discharge rate for persons 15-34 years of age was conspicuously high in relation to the rates for persons 35-54 years of age. The irregularity is caused by the large number of women in the age groups 15-34 years who were hospitalized for delivery and for conditions of pregnancy, childbirth, and the puerperium.

Comparison of the regions shows utilization rates for persons under 15 to be about 20 percent greater in the Northeast and North Central than in the South and West Regions. For persons 15 years and over the utilization rates did not follow any particular pattern (tables 8 and 10). The discharge rates for persons 15 and over were lower in the Northeast than in the other regions. The days-of-care rates, however, were lower in the West than in the other regions.

The average length of stay for infants varied slightly from 9 days in the North Central Region to 8 days in the West. The average stay for persons in the age groups between 1 and 34 years also varied slightly; however, in succeeding age groups the regional variation in the average length of stay increased as age increased. If infants are excluded, the average length of stay for persons in each age group is highest in the Northeast and progressively lower in the North Central, South, and West (table 11).

Sex

In each of the four regions, more than three-fifths of the discharges from short-stay hospitals were for women while slightly less than three-fifths of the days of care were rendered to women. Consequently, in each region the average length of stay was higher for males than for females. The utilization rates, however, were substantially higher for females than for males because they included hospitalizations for delivery and related diagnoses. The difference in the rates by sex would be substantially reduced if hospitalizations for delivery and related diagnoses were excluded.

Regionally, the utilization rates for both sexes did not follow any particular pattern. The discharge rate for males and for females was about 10 percent lower in the Northeast and West than in the South and North Central Regions, while the days-of-care rate for males was 10 to 20 percent lower in the South and West Regions, and the rate for females was about 20 percent lower in the West than in other regions. The average length of stay for males and females was highest in the Northeast and progressively lower in the North Central, South, and West.

Color

It is difficult to interpret the statistics on hospital utilization by color of discharged patients because color was not ascertained for about 12 percent of the discharges in the United States (appendix I, "Factors affecting interpretation of rates"). Among the regions there was considerable variation in the reporting of color. For example, color was not stated for one out of every 25 discharges in the Northeast Region compared with four out of every 25 in the West and five out of 25 in the North Central. For these reasons, utili-

zation rates are not presented in this report for either white or nonwhite persons.

However, the statistics on discharges for which color was ascertained in the survey indicate that about nine-tenths of the discharged patients in the Northeast were white. In the South, about eight-tenths of the discharges were for white patients compared with slightly more than seven-tenths in the North Central and West Regions. For days of care the proportions are quite similar, except that nonwhite persons utilized proportionately more days of care than white persons. This is reflected in the average length of stay which is higher in each region for nonwhite persons.

In addition, the average length of stay for the white population was 1 to 2 days longer in the Northeast and North Central Regions. For the nonwhite population the average stay was more than 4 days longer in the Northeast than in the other regions.

Marital Status

In this report marital status refers to whether a patient is married or not married and includes only those patients reported as 15 years of age and older. Married persons include those who are married or separated; "not married" persons include those who are single, widowed, or divorced (fig. I in appendix I).

In each region more than 70 percent of the persons discharged who were 15 years of age and older were reported as being married and about 25 percent were not married. For the remainder of the discharges, marital status was not reported. The discharge rate was substantially higher for married persons than for those not married because it included hospitalizations for deliveries and conditions of pregnancy. The average length of stay for persons who were not married, however, was considerably higher than the average for persons who were married.

The regional utilization rates for both marital status groups did not follow any particular pattern. The discharge rates for both groups were about 10 percent lower in the Northeast than in other regions. The days-of-care rate for married persons, however, was more than 20 percent lower in the West than in other regions, and the rate for persons who were not married was about 20 percent lower in the West *and* South than in the two northern regions. As with most age groups and both sexes, the average lengths of stay for both marital status groups were higher in the Northeast and progressively lower in the North Central, South, and West. The recurrence of this particular pattern is another indication that the average length of stay is closely related to the size of the hospital, because on the average the hospitals were largest in the Northeast and progressively smaller in the North Central, South, and West.

Discharge Status

Discharge status refers to whether a patient is alive or dead upon being discharged from a hospital.

In each region about 97 percent of the patients discharged from short-stay hospitals during 1965 were discharged alive, but their average length of stay was only half as high as that of patients who were discharged because of death. Comparison by region shows that about 3 percent of the discharges in the Northeast and North Central Regions died while in the hospital, compared with 2.5 percent of the discharges in the South and West Regions. It should be noted, however, that in view of the low frequencies of patients discharged dead, and the many underlying factors which can affect these frequencies, the relative quality of medical care should not be inferred from regional differences. Patients discharged dead used about 4 percent of the days of care in the West and 5 percent or more of the days in other regions. The average length of stay for patients discharged alive varied from 9 days in the Northeast to 7 days in the South and West Regions. The average length of stay for patients discharged dead was 11 days in the West and about 15 days in each of the other regions.

LENGTH OF STAY

Of the 29 million discharges from short-stay hospitals during 1965, 32 percent occurred in the South, 29 percent occurred in the North Central, 23 percent in the Northeast, and 16 percent in the West. In all regions except the West,

about 2 percent of the discharges occurred on the day of admission and over 10 percent of the patients were discharged on the second day after admission. In the West about 3 percent of the discharges occurred on the day of admission and more than 15 percent occurred on the second day after admission (fig. 4 and table 13).

The median length of stay was between 3 and 4 days in the South and West and between 4 and 5 days in the Northeast and North Central Regions. More than 75 percent of the discharges in the West occurred within 1 week of admission compared with roughly 67 percent of the discharges in the other regions. In each of the four regions about 90 percent of the discharges occurred within 2 weeks of admission and about 97 percent, within 1 month. The number of discharges and the cumulative percent distribution of discharges by region and duration of stay are shown in table 13.

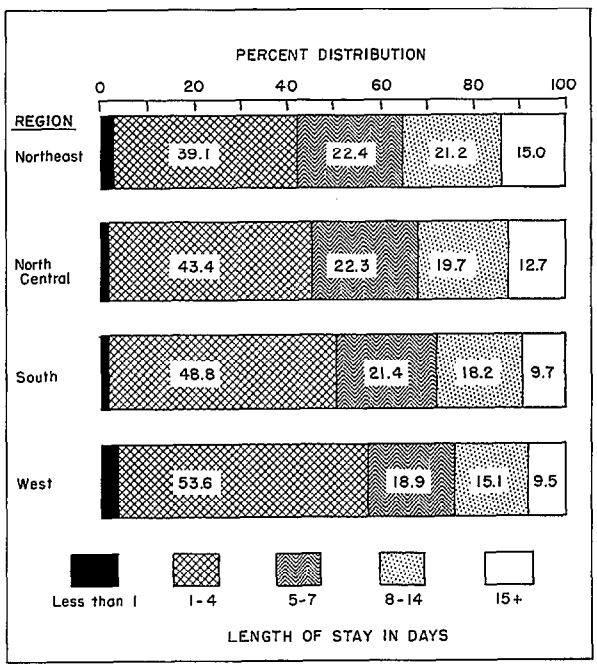

Figure 4. Percent distribution of discharges, by length of stay according to geographic region.

SOURCES AND QUALIFICATIONS OF DATA

This report includes statistics on hospital utilization in the United States and in each of four major geographic regions; the major objective of the report is the study and presentation of the data on a regional basis. The States included in each of the regions discussed are shown in appendix II.

All short-stay hospitals, excluding military and Veterans Administration hospitals and hospital departments of long-term and custodial institutions, are within the scope of the survey. All discharges from these hospitals except those of well-newborn infants are within the scope of the survey. The principal source of information in the survey is the hospital's file of patients' medical records. In each hospital participating in the survey, statistical information pertaining to the characteristics of a sample of discharged patients and their hospitalization is recorded on abstract forms which are shipped to the National Center for Health Statistics for processing. A copy of the front side of this abstract form covering the nonmedical data presented in this report is shown in appendix I. The reverse side of the form is used to record discharge diagnoses and surgical operations and procedures. Appendix I also describes in greater detail the procedures of the data collection and data processing.

In general, the 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 generally available from the "face sheet" of the patient's medical record. Information on the characteristics of the hospital is available from the Master Facility Inventory of Hospitals and Institutions.[3] Additional information is obtained in an interview conducted at the hospital at the time of its induction into the survey.

Since the estimates presented in this report are based on a subsample of about 100,000 discharges from about 300 hospitals participating in the survey, rather than on all discharges

[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.

(about 29 million) from all in-scope hospitals (about 7,000), they are subject to sampling error. Estimates of the sampling error of several types of hospital utilization statistics presented in this report are discussed in the section "Reliability of Estimates" in appendix I.

In addition to sampling errors, the statistics are subject to measurement errors. These include errors due to hospital nonresponse, missing abstracts, information incompletely or inaccurately reported on the abstract forms, and processing errors.

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 the interpretation of the data.

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DETAILED TABLES

Table 1. Number and percent distribution of short-stay hospitals and beds, by type of hospital ownership according to geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Ownership	All regions	North-east	North Central	South	West
	Number of hospitals				
All types	6,837	1,153	1,820	2,451	1,413
Voluntary	3,821	907	1,194	1,074	646
Government	1,858	94	548	738	478
Proprietary	1,158	152	78	639	289
	Percent distribution				
All types	100.0	100.0	100.0	100.0	100.0
Voluntary	55.9	78.7	65.6	43.8	45.7
Government	27.2	8.2	30.1	30.1	33.8
Proprietary	16.9	13.2	4.3	26.1	20.5
	Number of beds				
All types	800,898	204,915	237,844	240,923	117,216
Voluntary	542,875	160,750	177,961	130,682	73,482
Government	189,432	29,081	53,269	76,760	30,322
Proprietary	68,591	15,084	6,614	33,481	13,412
	Percent distribution				
All types	100.0	100.0	100.0	100.0	100.0
Voluntary	67.8	78.4	74.8	54.2	62.7
Government	23.7	14.2	22.4	31.9	25.9
Proprietary	8.6	7.4	2.8	13.9	11.4

Table 2. Number and percent distribution of short-stay hospitals and beds, by size of hospital according to geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Size	All regions	North-east	North Central	South	West
	Number of hospitals				
All sizes	6,837	1,153	1,820	2,451	1,413
Less than 100 beds	4,427	528	1,071	1,745	1,083
100-499 beds	2,219	572	690	650	307
500 beds or more	191	53	59	56	23
	Percent distribution				
All sizes	100.0	100.0	100.0	100.0	100.0
Less than 100 beds	64.8	45.8	58.8	71.2	76.6
100-499 beds	32.5	49.6	37.9	26.5	21.7
500 beds or more	2.8	4.6	3.2	2.3	1.6
	Number of beds				
All sizes	800,898	204,915	237,844	240,923	117,216
Less than 100 beds	190,435	27,933	48,476	77,387	36,639
100-499 beds	464,445	127,640	149,057	123,776	63,972
500 beds or more	146,018	49,342	40,311	39,760	16,605
	Percent distribution				
All sizes	100.0	100.0	100.0	100.0	100.0
Less than 100 beds	23.8	13.6	20.4	32.1	31.3
100-499 beds	58.0	62.3	62.7	51.4	54.6
500 beds or more	18.2	24.1	16.9	16.5	14.2

Table 3. Number, percent distribution, and rates of discharges and days of care, by type of hospital ownership according to geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Ownership	All regions	North-east	North Central	South	West
	Number of discharges in thousands				
All types	29,120	6,569	8,553	9,422	4,577
Voluntary	20,478	5,608	6,799	5,140	2,931
Government	5,829	454	1,626	2,712	1,036
Proprietary	2,814	506	128	1,570	610
	Percent distribution				
All types	100.0	100.0	100.0	100.0	100.0
Voluntary	70.3	85.4	79.5	54.6	64.0
Government	20.0	6.9	19.0	28.8	22.6
Proprietary	9.7	7.7	1.5	16.7	13.3
	Discharge rate per 1,000 persons				
All types	153.4	140.3	160.4	160.8	147.3
Voluntary	107.9	119.8	127.6	87.7	94.3
Government	30.7	9.7	30.5	46.3	33.3
Proprietary	14.8	10.8	2.4	26.8	19.6
	Number of days of care in thousands				
All types	228,398	59,453	70,242	67,803	30,900
Voluntary	163,213	48,701	55,644	38,688	20,180
Government	47,884	6,847	13,359	19,860	7,819
Proprietary	17,300	3,905	1,239	9,255	2,901
	Percent distribution				
All types	100.0	100.0	100.0	100.0	100.0
Voluntary	71.5	81.9	79.2	57.1	65.3
Government	21.0	11.5	19.0	29.3	25.3
Proprietary	7.6	6.6	1.8	13.6	9.4
	Days-of-care rate per 1,000 persons				
All types	1,203.4	1,270.0	1,317.7	1,157.1	994.5
Voluntary	860.0	1,040.0	1,043.9	660.2	649.5
Government	252.3	146.3	250.6	338.9	251.7
Proprietary	91.2	83.4	23.3	157.9	93.4

Table 4. Average length of stay, daily hospital bed usage rates, and percent of beds occupied, by type of hospital ownership and geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Ownership	All regions	North-east	North Central	South	West
	Average length of stay in days				
All types	7.8	9.1	8.2	7.2	6.8
Voluntary	8.0	8.7	8.2	7.5	6.9
Government	8.2	15.1	8.2	7.3	7.5
Proprietary	6.1	7.7	9.7	5.9	4.8
	Daily usage rate per 100,000 persons[1]				
All types	329.7	348.0	361.1	317.0	272.5
Voluntary	235.6	285.0	286.0	180.9	177.9
Government	69.1	40.1	68.7	92.9	68.9
Proprietary	25.0	22.9	6.4	43.3	25.6
	Percent of beds occupied[2]				
All types	78.1	79.5	80.9	77.1	72.2
Voluntary	82.4	83.0	85.7	81.1	75.2
Government	69.3	64.5	68.7	70.9	70.6
Proprietary	69.1	70.9	51.3	75.7	59.3

[1] $\frac{\text{Aggregate number of days of care} \times 100{,}000}{\text{Number of days in year} \times \text{population at risk}}$.

[2] $\frac{\text{Aggregate number of days of care in year}}{\text{Number of hospital beds} \times \text{number of days in year}}$.

Table 5. Number, percent distribution, and rates of discharges and days of care, by size of hospital according to geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Size	All regions	North-east	North Central	South	West
	Number of discharges in thousands				
All sizes	29,120	6,569	8,553	9,422	4,577
Less than 100 beds	7,303	897	1,915	3,490	1,001
100-499 beds	18,159	4,713	5,584	4,733	3,128
500 beds or more	3,659	959	1,054	1,199	447
	Percent distribution				
All sizes	100.0	100.0	100.0	100.0	100.0
Less than 100 beds	25.1	13.7	22.4	37.0	21.9
100-499 beds	62.4	71.8	65.3	50.2	68.4
500 beds or more	12.6	14.6	12.3	12.7	9.8
	Discharge rate per 1,000 persons				
All sizes	153.4	140.3	160.4	160.8	147.3
Less than 100 beds	38.5	19.2	35.9	59.6	32.2
100-499 beds	95.7	100.7	104.8	80.8	100.7
500 beds or more	19.3	20.5	19.8	20.5	14.4
	Number of days of care in thousands				
All sizes	228,398	59,453	70,242	67,803	30,900
Less than 100 beds	48,166	6,637	14,197	21,395	5,937
100-499 beds	140,689	40,289	44,927	34,652	20,820
500 beds or more	39,543	12,527	11,118	11,756	4,143
	Percent distribution				
All sizes	100.0	100.0	100.0	100.0	100.0
Less than 100 beds	21.1	11.2	20.2	31.6	19.2
100-499 beds	61.6	67.8	64.0	51.1	67.4
500 beds or more	17.3	21.1	15.8	17.3	13.4
	Days-of-care rate per 1,000 persons				
All sizes	1,203.4	1,270.0	1,317.7	1,157.1	994.5
Less than 100 beds	253.8	141.8	266.3	365.1	191.1
100-499 beds	741.3	860.7	842.8	591.3	670.1
500 beds or more	208.4	267.6	208.6	200.6	133.3

Table 6. Average length of stay, daily hospital bed usage rates, and percent of beds occupied, by size of hospital and geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Size	All regions	North-east	North Central	South	West
	Average length of stay in days				
All sizes	7.8	9.1	8.2	7.2	6.8
Less than 100 beds	6.6	7.4	7.4	6.1	5.9
100-499 beds	7.7	8.5	8.0	7.3	6.7
500 beds or more	10.8	13.1	10.5	9.8	9.3
	Daily usage rate per 100,000 persons[1]				
All sizes	329.7	348.0	361.1	317.0	272.5
Less than 100 beds	69.5	38.8	73.0	100.0	52.4
100-499 beds	203.1	238.5	230.9	162.0	183.6
500 beds or more	57.1	73.3	57.1	55.0	36.5
	Percent of beds occupied[2]				
All sizes	78.1	79.5	80.9	77.1	72.2
Less than 100 beds	69.3	65.1	80.2	75.7	44.4
100-499 beds	83.0	86.5	82.6	76.7	89.2
500 beds or more	74.2	69.6	75.6	81.0	68.4

[1] $\frac{\text{Aggregate number of days of care} \times 100{,}000}{\text{Number of days in year} \times \text{population at risk}}$.

[2] $\frac{\text{Aggregate number of days of care in year}}{\text{Number of hospital beds} \times \text{number of days in year}}$.

Table 7. Number and percent distribution of discharges, by age, sex, color, marital status, and discharge status according to geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	North-east	North Central	South	West
	Number of discharges in thousands				
All discharges	29,120	6,569	8,553	9,422	4,577
Age					
Under 1 year	877	234	261	253	129
1-4 years	1,309	308	433	382	186
5-14 years	2,415	588	730	746	351
15-24 years	4,948	1,027	1,476	1,668	776
25-34 years	4,332	989	1,204	1,449	691
35-44 years	3,806	813	1,051	1,316	627
45-54 years	3,545	810	993	1,141	600
55-64 years	3,145	738	926	990	492
65-74 years	2,537	596	787	774	380
75 years and over	2,065	436	658	634	336
Not stated	142	30	35	68	10
Median age[1]	36.5	36.5	36.4	36.3	37.4
Sex					
Male	11,361	2,575	3,308	3,686	1,793
Female	17,709	3,983	5,223	5,721	2,782
Not stated	50	11	22	15	2
Color					
White	23,016	5,778	6,264	7,518	3,456
Nonwhite	2,598	519	551	1,167	361
Not stated	3,506	271	1,737	737	760
Marital status[2]					
Married	17,712	3,897	5,123	5,903	2,789
Not married	6,066	1,399	1,825	1,927	914
Not stated	600	113	147	143	198
Discharge status					
Alive	28,266	6,345	8,281	9,179	4,461
Dead	818	219	253	233	114
Not stated	35	4	19	10	2

See footnotes at end of table.

Table 7. Number and percent distribution of discharges, by age, sex, color, marital status, and discharge status according to geographic region: United States, 1965—Con.

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	North-east	North Central	South	West
	Percent distribution				
All discharges	100.0	100.0	100.0	100.0	100.0
Age					
Under 1 year	3.0	3.6	3.0	2.7	2.8
1-4 years	4.5	4.7	5.1	4.1	4.1
5-14 years	8.3	9.0	8.5	7.9	7.7
15-24 years	17.0	15.6	17.3	17.7	17.0
25-34 years	14.9	15.1	14.1	15.4	15.1
35-44 years	13.1	12.4	12.3	14.0	13.7
45-54 years	12.2	12.3	11.6	12.1	13.1
55-64 years	10.8	11.2	10.8	10.5	10.7
65-74 years	8.7	9.1	9.2	8.2	8.3
75 years and over	7.1	6.6	7.7	6.7	7.3
Not stated	0.5	0.5	0.4	0.7	0.2
Sex					
Male	39.0	39.2	38.7	39.1	39.2
Female	60.8	60.6	61.1	60.7	60.8
Not stated	0.2	0.2	0.3	0.2	0.0
Color					
White	79.0	88.0	73.2	79.8	75.5
Nonwhite	8.9	7.9	6.4	12.4	7.9
Not stated	12.0	4.1	20.3	7.8	16.6
Marital status[2]					
Married	72.7	72.1	72.2	74.0	71.5
Not married	24.9	25.9	25.7	24.2	23.4
Not stated	2.5	2.1	2.1	1.8	5.1
Discharge status					
Alive	97.1	96.6	96.8	97.4	97.5
Dead	2.8	3.3	3.0	2.5	2.5
Not stated	0.1	0.1	0.2	0.1	0.0

[1]Includes only patients for whom age was reported.

[2]Includes only patients reported as 15 years of age and older.

Table 8. Discharge rates, by age, sex, marital status, and geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	North-east	North Central	South	West
	Discharge rate per 1,000 persons				
All discharges	153.4	140.3	160.4	160.8	147.3
Age					
Under 1 year	227.4	251.3	244.6	206.7	203.4
1-4 years	79.0	83.7	92.9	71.8	64.1
5-14 years	61.4	64.8	65.1	60.2	52.9
15-24 years	171.1	151.3	182.1	176.7	169.5
25-34 years	202.4	194.6	209.4	210.7	186.9
35-44 years	159.6	127.3	161.1	190.6	155.5
45-54 years	163.2	140.0	159.8	181.0	175.5
55-64 years	188.0	167.7	196.9	195.3	192.3
65-74 years	225.8	193.8	245.3	237.9	223.8
75 years and over	332.9	270.9	354.1	351.4	362.3
1-14 years	66.6	70.3	73.2	63.7	56.3
Under 15 years	77.0	82.6	84.0	72.9	65.5
15-44 years	176.5	154.9	183.1	190.9	170.1
45-64 years	174.0	151.9	175.8	187.4	182.7
65 years and over	263.9	220.3	285.2	278.4	272.8
Sex					
Male	123.5	114.1	127.1	130.4	118.4
Female	181.1	164.2	191.5	188.6	174.6
Marital status[1]					
Married	199.7	175.5	204.4	219.1	192.5
Not married	146.7	128.1	161.5	151.6	142.5

[1]Includes only patients reported as 15 years of age and older.

Table 9. Number and percent distribution of days of care, by age, sex, color, marital status, and discharge status according to geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	North-east	North Central	South	West
	Number of days of care in thousands				
All days of care	228,398	59,453	70,242	67,803	30,900
Age					
Under 1 year	7,445	1,984	2,412	2,075	974
1-4 years	6,050	1,541	2,111	1,743	655
5-14 years	10,915	2,705	3,356	3,563	1,291
15-24 years	24,294	5,820	7,432	7,538	3,505
25-34 years	24,726	6,012	6,958	8,211	3,545
35-44 years	28,122	7,061	7,888	9,241	3,931
45-54 years	32,662	8,534	9,698	9,722	4,709
55-64 years	33,129	9,464	10,208	9,019	4,438
65-74 years	31,049	8,563	10,101	8,329	4,056
75 years and over	28,986	7,507	9,807	7,935	3,738
Not stated	1,019	261	272	426	59
Sex					
Male	95,514	25,730	28,319	27,885	13,580
Female	132,405	33,609	41,693	39,800	17,304
Not stated	478	114	230	118	16
Color					
White	178,803	50,795	51,263	53,249	23,496
Nonwhite	23,130	6,528	4,601	9,230	2,770
Not stated	26,464	2,129	14,378	5,324	4,633
Marital status[1]					
Married	134,876	34,541	40,793	41,736	17,806
Not married	62,872	17,256	19,793	17,312	8,512
Not stated	5,220	1,165	1,505	947	1,603
Discharge status					
Alive	216,050	55,959	66,071	64,328	29,693
Dead	12,056	3,467	3,973	3,417	1,199
Not stated	292	27	198	58	9

See footnote at end of table.

Table 9. Number and percent distribution of days of care, by age, sex, color, marital status, and discharge status according to geographic region: United States, 1965—Con.

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	North-east	North Central	South	West
	Percent distribution				
All days of care	100.0	100.0	100.0	100.0	100.0
Age					
Under 1 year	3.3	3.3	3.4	3.1	3.2
1-4 years	2.6	2.6	3.0	2.6	2.1
5-14 years	4.8	4.5	4.8	5.3	4.2
15-24 years	10.6	9.8	10.6	11.1	11.3
25-34 years	10.8	10.1	9.9	12.1	11.5
35-44 years	12.3	11.9	11.2	13.6	12.7
45-54 years	14.3	14.4	13.8	14.3	15.2
55-64 years	14.5	15.9	14.5	13.3	14.4
65-74 years	13.6	14.4	14.4	12.3	13.1
75 years and over	12.7	12.6	14.0	11.7	12.1
Not stated	0.4	0.4	0.4	0.6	0.2
Sex					
Male	41.8	43.3	40.3	41.1	43.9
Female	58.0	56.5	59.4	58.7	56.0
Not stated	0.2	0.2	0.3	0.2	0.1
Color					
White	78.3	85.4	73.0	78.5	76.0
Nonwhite	10.1	11.0	6.6	13.6	9.0
Not stated	11.6	3.6	20.5	7.9	15.0
Marital status[1]					
Married	66.5	65.2	65.7	69.6	63.8
Not married	31.0	32.6	31.9	28.9	30.5
Not stated	2.6	2.2	2.4	1.6	5.7
Discharge status					
Alive	94.6	94.1	94.1	94.9	96.1
Dead	5.3	5.8	5.7	5.0	3.9
Not stated	0.1	0.0	0.3	0.1	0.0

[1]Includes only patients reported as 15 years of age and older.

Table 10. Days-of-care rates, by age, sex, marital status, and geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	North-east	North Central	South	West
	Days-of-care rate per 1,000 persons				
All days of care	1,203.4	1,270.0	1,317.7	1,157.1	994.5
Age					
Under 1 year	1,931.3	2,131.2	2,265.1	1,693.9	1,535.6
1-4 years	365.3	418.2	453.3	327.8	225.5
5-14 years	277.6	298.1	299.0	287.4	194.8
15-24 years	840.2	857.5	916.9	798.3	765.2
25-34 years	1,155.4	1,183.6	1,210.4	1,193.9	959.6
35-44 years	1,179.4	1,105.9	1,209.2	1,338.2	975.3
45-54 years	1,503.4	1,474.6	1,560.4	1,542.4	1,376.9
55-64 years	1,980.4	2,150.9	2,171.0	1,778.9	1,736.2
65-74 years	2,764.1	2,785.6	3,148.6	2,558.9	2,391.7
75 years and over	4,674.4	4,660.0	5,280.9	4,395.9	4,027.6
1-14 years	303.6	332.8	344.2	299.5	204.2
Under 15 years	408.6	455.1	465.0	389.7	287.2
15-44 years	1,040.2	1,035.2	1,093.3	1,076.0	892.4
45-64 years	1,711.0	1,766.7	1,823.4	1,647.8	1,530.6
65 years and over	3,443.6	3,430.1	3,930.4	3,214.2	2,970.3
Sex					
Male	1,038.3	1,140.5	1,087.9	986.7	896.9
Female	1,353.9	1,385.8	1,528.7	1,311.8	1,086.2
Marital status[1]					
Married	1,520.7	1,555.6	1,627.8	1,548.9	1,229.1
Not married	1,520.5	1,580.2	1,751.7	1,361.9	1,326.2

[1] Includes only patients reported as 15 years of age and older.

Table 11. Average length of stay, by age, sex, color, marital status, discharge status, and geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	Northeast	North Central	South	West
	Average length of stay in days				
All discharges	7.8	9.1	8.2	7.2	6.8
Age					
Under 1 year	8.5	8.5	9.3	8.2	7.5
1-4 years	4.6	5.0	4.9	4.6	3.5
5-14 years	4.5	4.6	4.6	4.8	3.7
15-24 years	4.9	5.7	5.0	4.5	4.5
25-34 years	5.7	6.1	5.8	5.7	5.1
35-44 years	7.4	8.7	7.5	7.0	6.3
45-54 years	9.2	10.5	9.8	8.5	7.8
55-64 years	10.5	12.8	11.0	9.1	9.0
65-74 years	12.2	14.4	12.8	10.8	10.7
75 years and over	14.0	17.2	14.9	12.5	11.1
Not stated	7.2	8.8	7.8	6.3	6.0
Sex					
Male	8.4	10.0	8.6	7.6	7.6
Female	7.5	8.4	8.0	7.0	6.2
Not stated	9.5	10.8	10.4	7.6	8.0
Color					
White	7.8	8.8	8.2	7.1	6.8
Nonwhite	8.9	12.6	8.3	7.9	7.7
Not stated	7.5	7.8	8.3	7.2	6.1
Marital status[1]					
Married	7.6	8.9	8.0	7.1	6.4
Not married	10.4	12.3	10.8	9.0	9.3
Not stated	8.7	10.3	10.3	6.6	8.1
Discharge status					
Alive	7.6	8.8	8.0	7.0	6.7
Dead	14.7	15.8	15.7	14.7	10.6
Not stated	8.2	6.5	10.4	5.8	4.0

[1]Includes only patients reported as 15 years of age and older.

Table 12. Daily hospital bed usage rates, by age, sex, marital status, and geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Characteristic	All regions	North-east	North Central	South	West
	Daily usage rate per 100,000 persons[1]				
All discharges	329.7	348.0	361.1	317.0	272.5
Age					
Under 1 year	529.1	583.9	620.6	464.1	420.7
1-4 years	100.1	114.6	124.2	89.8	61.8
5-14 years	76.1	81.7	81.9	78.7	53.4
15-24 years	230.2	234.9	251.2	218.7	209.6
25-34 years	316.6	324.3	331.6	327.1	262.9
35-44 years	323.1	303.0	331.3	366.6	267.2
45-54 years	411.9	404.0	427.5	422.6	377.2
55-64 years	542.6	589.3	594.8	487.4	475.7
65-74 years	757.3	763.2	862.6	701.1	655.3
75 years and over	1,280.7	1,276.7	1,446.8	1,204.4	1,103.5
1-14 years	83.2	91.2	94.3	82.1	55.9
Under 15 years	111.9	124.7	127.4	106.8	78.7
15-44 years	285.0	283.6	299.5	294.8	244.5
45-64 years	468.8	484.0	499.6	451.5	419.3
65 years and over	943.4	939.8	1,076.8	880.6	813.8
Sex					
Male	284.5	312.5	298.1	270.3	245.7
Female	370.9	379.7	418.8	359.4	297.6
Marital status[2]					
Married	416.6	462.2	446.0	424.4	336.7
Not married	416.6	432.9	479.9	373.1	363.3

[1] $\frac{\text{Aggregate number of days of care} \times 100{,}000}{\text{Number of days in year} \times \text{population at risk}}$.

[2] Includes only patients reported as 15 years of age and older.

Table 13. Number, percent distribution, and cumulative percent of discharges, by length of stay according to geographic region: United States, 1965

[Noninstitutional, short-stay hospitals exclusive of Veterans Administration and military hospitals]

Length of stay	All regions	North-east	North Central	South	West
	Number of discharges in thousands				
All discharges	29,120	6,569	8,553	9,422	4,577
Less than 1 day	620	156	154	169	141
1 day	2,423	470	651	833	468
2 days	3,883	706	1,087	1,360	731
3 days	3,727	637	1,028	1,335	726
4 days	3,307	755	947	1,078	526
5-7 days	6,254	1,469	1,909	2,013	863
8-14 days	5,483	1,395	1,682	1,716	690
15-21 days	1,715	470	525	488	232
22-28 days	730	223	226	191	91
29 days and over	979	287	344	239	109
	Percent distribution				
All discharges	100.0	100.0	100.0	100.0	100.0
Less than 1 day	2.1	2.4	1.8	1.8	3.1
1 day	8.3	7.2	7.6	8.8	10.2
2 days	13.3	10.7	12.7	14.4	16.0
3 days	12.8	9.7	12.0	14.2	15.9
4 days	11.4	11.5	11.1	11.4	11.5
5-7 days	21.5	22.4	22.3	21.4	18.9
8-14 days	18.8	21.2	19.7	18.2	15.1
15-21 days	5.9	7.2	6.1	5.2	5.1
22-28 days	2.5	3.4	2.6	2.0	2.0
29 days and over	3.4	4.4	4.0	2.5	2.4
	Cumulative percent				
Less than 1 day	2.1	2.4	1.8	1.8	3.1
1 day	10.5	9.5	9.4	10.6	13.3
2 days	23.8	20.3	22.1	25.1	29.3
3 days	36.6	30.0	34.1	39.2	45.1
4 days	47.9	41.5	45.2	50.7	56.6
5-7 days	69.4	63.9	67.5	72.0	75.5
8-14 days	88.2	85.1	87.2	90.2	90.6
15-21 days	94.1	92.2	93.3	95.4	95.6
22-28 days	96.6	95.6	96.0	97.5	97.6
29 days and over	100.0	100.0	100.0	100.0	100.0

APPENDIX I

TECHNICAL NOTES ON METHODS

Scope of the Survey

The scope of the Hospital Discharge Survey encompasses patients discharged from noninstitutional hospitals which have six beds or more for inpatient use, which are located within the 50 States and the District of Columbia, and in which the average length of stay for all patients is less than 30 days.

Newborn infants are in-scope only if one or more 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 footnote 3, page 8).

The universe for the Hospital Discharge Survey consisted of about 7,000 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 that participated 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, eight refused to participate, five did not submit any abstracts during the year, and six 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 a short-stay hospital used by the Hospital Discharge Survey.) Thus, there were 296 in-scope participating hospitals in the survey during 1965.

Sample Design

The survey uses a two-stage sample design. In the first stage, a stratified sample of hospitals was selected from the universe, the MFI. These hospitals were drawn with probabilities ranging from certainty for the largest hospitals to one in 40 for the smallest hospitals. 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 could be stratified further with regard to ownership and geographic division.

In the second stage of the design, a systematic sample of discharges is selected within each sample hospital. This systematic sample is selected by using a within-hospital sampling ratio that varies inversely with the probability of selection of the hospital. In effect, the smallest fraction of discharged patients is taken in the largest hospitals, and the largest fraction is taken in the smallest hospitals. This is done to compensate for the fact that hospitals are selected with probabilities proportionate to size-class and to assure that the overall probability of selecting a discharge is approximately the same in all hospitals.

In nearly all survey hospitals, the daily listing sheet of discharges is the frame from which the subsamples of discharges are selected. Sample discharges are selected by a random technique, usually on the basis of the terminal digit(s) of the patient's medical record number—a number assigned when the patient is admitted to the hospital. If the hospital's daily discharge listing does not show medical record numbers,

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

[Noninstitutional short-stay hospitals excluding Veterans Administration and military hospitals]

Size of hospital and number of months of participation in survey	All regions	North-east	North Central	South	West
	Number				
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

sample discharges are selected by starting with a randomly selected discharge and taking every k th discharge thereafter.

Data Collection

Depending on the study procedure agreed on with the hospital administrator, the sample selection and the recording of information from the hospital records to the abstract form are performed either by the hospital staff or by Bureau of the Census personnel as representatives for the National Center for Health Statistics. In more than three-quarters of the hospitals in 1965, this work was performed by a member of the hospital staff in the medical records department.

During 1965, all survey hospitals except one used the optical mark page reader form to abstract data from the 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 is used to record discharge diagnoses and surgical operations and procedures. The use of this form makes it possible for the coded information to be converted directly to computer tape by an optical mark page reader machine.

Data Processing

For 1965, 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.[4,5]

[4]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.

[5]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. 3. Public Health Service. Washington. U.S. Government Printing Office, Dec. 1967.

General Qualifications

Abstracts rejected in 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." This procedure was 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 sheet, the abstract form was sent back to the hospital.

Factors affecting interpretation of rates.—The detailed tables presenting frequencies and percents show the extent to which certain personal characteristics of the discharged patient were not reported. However, in computing rates of discharge and days of care per 1,000 population, the "not stated" cases were included in the rates for "total" but excluded from the rates for subclasses. This procedure should not alter the rates appreciably, since utilization rates were calculated only for those personal characteristics of the discharged patient for which the number of "not stated" cases represented less than 3 percent of the discharges in the United States. Rates of discharges and days of care per 1,000 persons were not computed by color since color was not stated for about 12 percent of the discharges.

Population figures.—The base populations used in computing the national rates are unpublished estimates, provided by the Bureau of the Census, for the U.S. civilian, noninstitutional population as of July 1, 1965. These estimates are consistent with estimates of the civilian resident population published by the Bureau of the Census in *Current Population Reports*, Series P-25, but they are not to be considered official population estimates. The base population estimates for each geographic region were provided by the Health Interview Survey of the National Center for Health Statistics for the sole purpose of providing denominators for the computation of regional discharge rates. These regional estimates were adjusted to conform to national census totals by age, sex, marital status, and region, as of July 1, 1965, and as such should not be considered official population estimates.

Rounding of numbers.—Estimates of discharges and days of care have been rounded to the nearest

CONFIDENTIAL- All information which would permit identification of an individual or an establishment will be held 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).

PHS-4734-2
REV. 11-66

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

Form Approved
Budget Bureau No 68-R620 R2-2

1. HOSPITAL NUMBER

ABSTRACT OF PATIENT RECORD- Hospital Discharge Survey

2. HDS NUMBER

3. MEDICAL RECORD NUMBER

4.a. DATE OF BIRTH

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

MONTH: JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

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

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

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. RACE OR COLOR: WHITE "NONWHITE" NEGRO NOT STATED OTHER NONWHITE

7. MARITAL STATUS: MARRIED DIVORCED SINGLE SEPARATED WIDOWED NOT STATED

8. DATE OF ADMISSION

MONTH: JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

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: JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

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 H95191

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

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 therefore will not necessarily agree with rates and percents which might be calculated from rounded data.

Reliability of Estimates

Since the estimates given in this report are based on a subsample of discharges within a sample of short-stay hospitals, they may differ somewhat from the results which would have been obtained had all discharges from all short-stay hospitals been used. As in any survey the results are also subject to reporting and processing errors and errors due to nonresponse.

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 does not measure any systematic biases in the data. The chances are 68 out of 100 that the value obtained in a complete enumeration is contained in a confidence interval represented by 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 could be prepared at a moderate cost, a number of approximations were required. As a result, the 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.

Rules for determining the standard errors of estimates, percentages, averages, and differences between sample estimates presented in this report are as follows:

General Rule: The standard errors shown in tables II-VI are applicable to national and regional estimates

Table II. Approximate standard errors of estimated numbers of discharges shown in this report for patient characteristics (excluding color) and for size of hospital

Number of discharges	Patient characteristics		Size of hospital for regions
	United States	Regions	
	Standard error in thousands[1]		
100,000	9	10	21
200,000	13	15	31
300,000	16	20	38
500,000	22	28	51
1,000,000	33	47	76
2,000,000	53	82	118
3,000,000	73	117	157
5,000,000	110	187	231
10,000,000	202	361	411
20,000,000	384	709	764
30,000,000	565	1,057	1,117

[1]Rounded to nearest thousand.

Illustration of the use of table II: Table 7 shows that there were 993,000 patients aged 45-54 years who were discharged from hospitals in the North Central Region. For an estimate of 993,000, table II shows that the approximate standard error is 47,000, which means that the chances are about two out of three that the results of a complete count would not differ by more than 47,000 from this estimated 993,000. It also follows that there is only about one chance in 20 that the results of a complete count would differ by as much as 94,000, that is, by about twice the number estimated from table II.

Table III. Approximate standard errors of estimated numbers of days of care shown in this report for patient characteristics (excluding color) and for size of hospital

Number of days of care	Patient characteristics		Size of hospital for regions
	United States	Regions	
	Standard error in thousands[1]		
1,000,000	141	138	140
2,000,000	200	200	213
3,000,000	246	251	278
5,000,000	321	340	401
10,000,000	466	532	692
20,000,000	691	880	1,260
30,000,000	884	1,214	1,824
50,000,000	1,234	1,870	2,950
100,000,000	2,032	3,490	5,758
200,000,000	3,550	6,718	11,374
300,000,000	5,046	9,942	16,989

[1]Rounded to nearest thousand.

Illustration of the use of table III: Table 9 shows that 9,464,000 days of care were provided to patients 55-64 years of age in the Northeast Region. For an estimate of 9,464,000, table III shows that the approximate standard error is 513,000, which means that the chances are about two out of three that the results of a complete count would not differ by more than 513,000 from this estimated 9,464,000. It also follows that there is only about one chance in 20 that the results of a complete count would differ by as much as 1,026,000, that is, by about twice the number estimated from table III.

of discharges, days of care, and average length of stay classified by patient characteristics (age, sex, marital status, and discharge status) and by size of hospital. The standard errors of regional estimates involving either the "color" of discharged patients or the "type of ownership" of hospitals are not shown in the tables, but rather are expressed as multiples of the standard errors shown for national estimates of comparable frequency.

Rule 1: *Estimated numbers of discharges:* Standard errors of discharge estimates are obtained from table II. The standard errors of regional estimates of discharges classified by "color" of discharged patients and by "type of ownership" of hospitals are about three and eight times larger, respectively, than the errors shown for national estimates of comparable frequency.

Rule 2: *Estimated numbers of days of care:* Standard errors of days-of-care estimates are obtained from table III. The standard errors of regional estimates of days of care classified by "color" of discharged patients and by "type of ownership" of hospitals are two and five times larger, respectively, than the errors shown for national estimates of comparable frequency.

Rule 3: *Estimated percentages of discharges:* Standard errors of estimated percentages of discharges are obtained from table IV. Standard errors of regional estimates of percentages of discharges classified by "size" of hospitals are about twice as large as the errors shown in table IV. For regional estimates of percentages of discharges classified by "color" of discharged patients and by "type of ownership" of hospitals, the approximate standard errors are four and nine times larger, respectively, than the errors shown in the table.

Rule 4: *Estimated percentages of days of care:* Standard errors of estimated percentages of days of care are obtained from table V. For regional estimates of percentages of days of care classified by "color" of discharged patients and by "type of ownership" of hospitals, the approximate standard errors are three and five times larger, respectively, than the errors shown in the table.

Rule 5: *Estimated average lengths of stay:* Standard errors of estimated average lengths of stay are obtained from table VI. The errors for regional estimates by "size" of hospitals are less than twice as large

Table IV. Approximate standard errors of percentages shown in this report for discharges: patient characteristics (excluding color) classified by the United States and each geographic region

Number of discharges (base of percent)	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	50
	Standard error expressed in percentage points					
300,000------	0.8	1.2	1.6	2.2	2.5	2.7
500,000------	0.6	1.0	1.3	1.7	1.9	2.1
1,000,000------	0.4	0.7	0.9	1.2	1.4	1.5
3,000,000------	0.2	0.4	0.5	0.7	0.8	0.9
6,000,000------	0.2	0.3	0.4	0.5	0.6	0.6
10,000,000------	0.1	0.2	0.3	0.4	0.4	0.5
20,000,000------	0.1	0.1	0.2	0.3	0.3	0.3
30,000,000------	0.1	0.1	0.2	0.2	0.3	0.3

Illustration of the use of table IV: Table 7 shows that 15.6 percent of the 6,569,000 patients discharged from hospitals in the Northeast were in the age group 15-24 years. Linear interpolation between the values shown in table IV will yield an approximate standard error of 0.4 percent for a statistic of 15 percent with a base of 6,569,000.

Table V. Approximate standard errors of percentages shown in this report for days of care: patient characteristics (excluding color) classified by the United States and each geographic region, and for size of hospital classified by geographic region

Number of days of care (base of percent)	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	50
	Standard error expressed in percentage points					
1,000,000-----	1.9	2.9	4.0	5.4	6.1	6.7
3,000,000-----	1.1	1.7	2.3	3.1	3.5	3.9
7,000,000-----	0.7	1.1	1.5	2.0	2.3	2.5
15,000,000-----	0.5	0.8	1.0	1.4	1.6	1.7
30,000,000-----	0.3	0.5	0.7	1.0	1.1	1.2
50,000,000-----	0.3	0.4	0.6	0.8	0.9	0.9
100,000,000-----	0.2	0.3	0.4	0.5	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	0.4	0.5

Illustration of the use of table V: Table 9 shows that 43.9 percent of the 30,900,000 days of care in hospitals in the West were provided to male patients. Linear interpolation between the values shown in table V will yield an approximate standard error of 1.2 percent for a statistic of 43 percent with a base of 30,900,000.

Table VI. Approximate standard errors of average lengths of stay shown in this report: patient characteristics (excluding color) classified by the United States and each geographic region, and for size of hospital classified by geographic region

Number of discharges (base of average)	Average length of stay in days					
	4	6	8	10	12	14
	Standard error expressed in days					
200,000------	0.5	0.6	0.6	0.7	0.8	0.8
500,000------	0.4	0.4	0.5	0.5	0.6	0.7
1,000,000------	0.2	0.3	0.4	0.4	0.4	0.5
2,000,000------	0.2	0.3	0.3	0.3	0.4	0.4
4,000,000------	0.2	0.2	0.3	0.3	0.3	0.4
8,000,000------	0.1	0.2	0.2	0.3	0.3	0.3
16,000,000------	0.1	0.2	0.2	0.2	0.3	0.3

Illustration of the use of table VI: Table 11 shows that the average length of stay was 7.1 days for the estimated 5,903,000 discharged patients in the South who were married (table 7). From table VI it is seen that the approximate standard error is 0.2 days for an estimated average of 7.1 days with a base of 5,903,000.

as the errors shown in table VI. For regional estimates of average lengths of stay classified by "color" of discharged patients and by "type of ownership" of hospitals, the approximate standard errors are two and four times larger, respectively, than the errors shown in the table.

Rule 6: *Difference between two sample estimates:* The standard errors shown in this appendix are not directly applicable to differences between sample estimates. The standard error of a difference is approximately the square root of the sum of the squares of each standard error considered separately. Although it is in fact only an approximation, this formula will represent the actual standard error quite accurately for the difference between separate and uncorrelated characteristics. In this report the difference between two sample estimates is considered significant if it exceeds twice the standard error of the difference.

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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 is licensed as a hospital by the State in which it is located if the State has a hospital licensure law.
3. It provides inpatient medical care under the supervision of a duly licensed doctor of medicine or doctor of osteopathy.
4. It provides nursing service 24 hours a day under the supervision of a registered nurse.
5. 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.

Discharge rate.—The discharge rate is the ratio of the number of discharges to the size of the midyear population.

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

Days-of-care rate.—The days-of-care rate is the ratio of the aggregate number of days of care to the size of the midyear population.

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.

Percent of beds occupied.—This is the ratio of the number of days provided to the number of days of care that would have been provided if every bed had been occupied each day of the year. In this report the ratio is expressed as a percent.

Daily rate of bed usage.—The rate of hospital bed usage is the aggregate number of days of care occurring in a specified period divided by the product of the number of days in the period and the size of the midyear population. It is a measure of hospital utilization similar to the days-of-care rate except that it represents *daily* usage per *100,000* persons rather than annual usage per 1,000 persons.

Hospital ownership.—Hospital ownership is a classification of hospitals according to the type of organization that controls and operates the hospital. This

classification is based on responses provided by sample hospitals.

Demographic Terms

Age.—Age refers to the age at last birthday at time of admission to the 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, Aleutian, 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. "Not married" includes persons who are single, widowed, or divorced.

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

Geographic region.—For the purpose of classifying hospitals by geographic area, the States are grouped into four regions. They correspond to those used by the Bureau of the Census and are as follows:

Region	*States included*
Northeast	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
North Central	Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Michigan, Ohio, Illinois, Indiana, and Wisconsin
South	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Hawaii, and Alaska

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Public Health Service Publication No. 1000

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