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Estimates From Two Survey Designs: National Hospital Discharge Survey

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The National Hospital Discharge Survey has been redesigned with regard to the sample and several data collection and estimation techniques. Data were collected for the first 3 months of 1988 using both the original and new survey designs. Estimates from the original and new designs are compared in this report.

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Cooperation of the U.S. 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 U.S. Bureau of the Census, under a contractual arrangement, participated in planning the survey and collecting the data.

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Symbols

---	Data not available
. . .	Category not applicable
–	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

Estimates From Two Survey Designs: National Hospital Discharge Survey

by Barbara J. Haupt, D.V.M., and Lola Jean Kozak, Ph.D., Division of Health Care Statistics

Introduction

The National Hospital Discharge Survey (NHDS) is one of a number of surveys conducted by the National Center for Health Statistics (NCHS). This survey has been conducted continuously since 1965 and is the principal source of data on inpatient utilization of short-stay, non-Federal hospitals in the United States. The NHDS provides nationally representative estimates on the characteristics of patients, lengths of stay, diagnoses, and surgical and nonsurgical procedures in hospitals of different bed sizes, ownerships, and geographic regions of the country.

Beginning with the 1988 survey the NHDS was redesigned, a new sample of hospitals was selected, and several data collection and estimation procedures were revised. This redesign was necessary for a number of reasons. At the onset of the survey, in the early 1960's, the only method of data collection available was the manual copying of information from a medical record to an abstract form. However, by the 1980's many hospitals were routinely submitting information in machine-readable form on all their discharges to commercial abstracting services or state systems. Study has shown that quality information can be obtained using these readily available data, resulting in a substantially reduced respondent burden (1). A primary objective of the new design was to maximize use of these sources. Another objective was to sample hospitals from the same geographic areas used for other surveys conducted by NCHS. The new hospital sample was selected from areas used for the 1985–94 National Health Interview Survey (NHIS).

The purpose of this report is to compare estimates obtained using the original survey design with those obtained using the new survey design. For this comparison, data were collected for the first 3 months of 1988 from both the old sample of hospitals using the old survey methods and the new sample of hospitals using the new survey methods. Because both sets of data were collected during the same period, differences in estimates based on the old and new survey methods should be primarily the result of sampling error, the changes in the survey methodology, or divergence over time between the respondent sample and the universe. The extent to which the methodological changes or divergence between the sample and universe affected NHDS estimates needs to be taken into account when survey data for 1965–87 are compared with data for 1988 and subsequent years.

The estimates compared are similar to those produced for the NHDS annual summaries (2, 3). Types of hospital utilization measurements shown are frequencies of discharges and days of care and average lengths of stay. The estimates are presented by age, sex, and race of the patients discharged and by geographic region, hospital bed size, and ownership of short-stay hospitals (tables 1–6). Statistics on women with deliveries (tables 7–8), conditions diagnosed (tables 9–24), and procedures performed (tables 25–28) are also shown by patient and hospital characteristics. Data for newborn infants are included only in tables 29–31.

Coding of medical data is performed according to the *International Classification of Diseases, 9th Revision, Clinical Modification,* or ICD–9–CM (4). A maximum of seven diagnoses and four procedures are coded for each medical record in the sample. Although diagnoses included in the ICD–9–CM section entitled "Supplementary classification of external causes of injury and poisoning" (codes E800–E999) are used in NHDS, they are excluded in this report. The conditions diagnosed and procedures performed are presented by the major diagnostic chapters and procedure groups of the ICD–9–CM. Within these groups, some categories were selected for presentation because of large frequencies or because they are of special interest.

Confidence intervals at the 95 percent level (1.96 standard errors) were computed for each estimate obtained using the old survey methodology. The corresponding estimate from the new survey was then examined. If the "new" estimate fell within the confidence interval of the "old" estimate, differences between the two estimates were not statistically significant. If the "new" estimate did not fall within the interval, a comparable confidence interval was computed for the estimates obtained using the new survey methodology. Differences between the two estimates were considered to be significantly different if the two confidence intervals did not overlap. Differences were not tested between estimates considered unreliable, which were estimates for which the relative standard error was 30 percent or greater or estimates that were based on fewer than 30 sample records.

Information about sampling errors and other technical notes on methods are provided in appendix I. Familiarity with the definitions used in the NHDS is important for interpreting the data. Definitions of the terms used in this report are presented in appendix II.

Highlights

- Beginning with the 1988 survey, the National Hospital Discharge Survey was redesigned, a new sample of hospitals was selected, and several data collection and estimation procedures were revised.
- The universe for the old survey design was based on the National Master Facility Inventory and American Hospital Association data; the universe for the new survey design was derived from the SMG Hospital Market Data Tape.
- The old survey had a two-stage sampling design; the new survey has a three-stage design.
- In the first 3 months of 1988, hospitals that submitted data through abstracting services made up 14 percent of participating hospitals and 19 percent of all sampled records under the old survey design. Under the new design, 37 percent of participating hospitals submitted 71 percent of all sampled records through abstracting services.
- The estimate of discharges for the first 3 months of 1988 was 8,596,000 using the old survey methods and 8,003,000 using the new survey methods.
- Based on the old survey methods, discharged patients were estimated to use 55,878,000 days of care and have an average length of stay of 6.5 days; the estimates based on the new survey methods were 53,606,000 days of care and 6.7 days average length of stay.
- The differences between most estimates obtained from the old and new survey methodologies were not statistically significant.
- Race was reported for significantly more discharges using the new survey methods than using the old methods because of more complete reporting of race by hospitals that submitted data through abstracting services than by hospitals that used the manual method of data collection.
- The estimate of all-listed diagnoses for the West Region was significantly lower using the new survey methods than using the old methods.
- The numbers of discharges and days of care estimated for government hospitals were significantly lower using the new survey methods than using the old survey methods.
- Numerous significant differences were found between the estimates of hospital use by bed size categories based on the old and new survey methods, probably the result of changes in definitions of hospitals and beds from the old to the new methodology.
- Significantly higher estimates of first-listed and all-listed diagnoses of cataract were obtained from the new survey methods, and a greater proportion of discharges with cataract diagnoses had lengths of stay of less than 1 day in the new than in the old survey.
- The new survey methods produced significantly lower estimates of first-listed and all-listed diagnoses of alcohol dependence syndrome than the old survey did.

Changes in NHDS methods

NHDS data are collected on patient discharges from non-Federal hospitals located in the 50 States and the District of Columbia. Only hospitals with six or more beds and an average length of stay of less than 30 days for all patients were included in the old sample survey. The universe for the new sample survey also included hospitals whose specialty was general (medical or surgical) or children's general, even if the average length of stay of all patients in the hospital was 30 days or more. Hospital units of institutions were excluded from both the old and the new surveys.

Sample design

Both the old and the new designs for the NHDS sample involved multi-stage procedures in which the hospitals in the universe were placed into different strata and were arranged within these strata according to different types of hospital characteristics. A sample of hospitals was selected from this universe of hospitals. Patient discharges were then selected from the sample hospitals. Aspects of sample selection using the old and the new survey methods are summarized in table A.

Old design

The original universe for the survey consisted of 6,965 hospitals obtained from the 1963 National Master Facility Inventory (NMFI) (5). This universe was updated periodically using the NMFI and data from the American Hospital Association to reflect new hospitals entering the universe. The sample of discharges was selected using a stratified two-stage design.

The first stage of the sample design was the selection of hospitals from the universe. All hospitals with 1,000 beds or more were selected with certainty. Hospitals with fewer than 1,000 beds were stratified, the primary strata being 24 size-by-region classes. The size categories were 6–49 beds, 50–99 beds, 100–199 beds, 200–299 beds, 300–499 beds, and 500–999 beds. Within each of the 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 type of ownership and geographic division. Sample hospitals were drawn with probabilities ranging from certainty for the largest hospitals (that is, those with 1,000 beds or more) to 1 in 40 for the smallest hospitals.

The second stage of the design involved selecting discharges from the sampled hospitals. The initial within-hospital sampling ratio for selecting discharges varied inversely with the probability of selecting the hospital so that the smallest sampling fraction of discharged patients was taken in the largest hospitals and the largest fraction was taken in the smallest hospitals. Therefore, the overall probability of selecting a discharge was approximately the same in each hospital size class. The original design and development of the NHDS were described in detail in a previous report (6). The initial within-hospital sampling rates were later reduced in some hospitals to limit each hospital's sample of discharges to an average of 400–600 annually.

New design

The universe for the redesigned NHDS consisted of hospitals listed on the April 1987 SMG Hospital Market Data Tape (7) that were accepting inpatients by August 1987. All hospitals with 1,000 beds or more or with 40,000 or more annual discharges were selected with certainty in the NHDS sample.

The noncertainty hospitals were selected using a stratified three-stage design. The first stage consisted of 112 primary sampling units (PSU's) that comprised a probability subsample of PSU's used in the 1985–94 National Health Interview Survey (NHIS). A report on the NHIS PSU sampling design has been published (8). Each PSU is a distinct geographic area in the United States. The NHDS sample includes the 26 largest PSU's with certainty and 86 of the remaining PSU's used in the NHIS sampling design.

The second stage involved the selection of hospitals from the PSU's that were selected in the first stage. The noncertainty hospitals in these PSU's were stratified based on geographic region, PSU, and, for the 12 largest PSU's, abstracting status (whether or not the hospital subscribed to an abstracting service). Within each of these strata the hospitals were ordered by PSU, abstracting service status, and four specialty-size groups. Group 1 consisted of hospitals with 6–999 beds that specialized in psychiatry, tuberculosis and other respiratory diseases, rehabilitation, chronic disease, mental retardation, alcoholism and other

Table A. Sample selection using old and new survey methods: National Hospital Discharge Survey

Characteristic	*Old method*	*New method*
Universe	1963 NMFI; updated periodically using NMFI and AHA data	1987 SMG Hospital Market data (to be updated periodically using SMG Hospital Market data)
Hospital selection		
Certainty hospitals	Hospitals with 1,000 or more beds selected with certainty	Hospitals with 1,000 or more beds or 40,000 or more discharges per year selected with certainty
Noncertainty hospitals	Stratified based on hospital bed size and geographic region. Hospitals selected within strata controlled on ownership and geographic division	Clustered in 112 PSU's from 1985–94 National Health Interview Survey sample. Primary or secondary strata of hospitals defined by geographic region, PSU size, abstracting service status, PSU, and hospital specialty-size groups. Within strata, hospitals arrayed by their annual numbers of discharges and then selected with probabilities proportional to those numbers
Discharge selection		
Sampling rate	Varied inversely with probability of hospital selection	Within stratum and data collection method, varied inversely with hospital selection probability
Manual hospitals	Systematic random sample usually based on terminal digits of assigned patient number	Systematic random sample usually based on terminal digits of assigned patient number
Abstracting service hospitals	Systematic random sample; discharges sorted by date of discharges	Systematic random sample; discharges sorted by first-listed diagnosis; patient age and sex; and date of discharge

NOTE: NMFI is National Master Facility Inventory.
AHA is American Hospital Association.
PSU is Primary Sampling Unit.

chemical dependencies, or children's psychiatry. Groups 2–4 included general medical and surgical hospitals and specialty hospitals other than those in group 1. Group 2 hospitals had 6–174 beds, group 3 hospitals had 175–349 beds, and group 4 hospitals had 350–999 beds. Within each specialty-size group, hospitals were arrayed by their annual number of discharges. Hospitals were then randomly selected from each stratum by probability proportional to their annual number of discharges, with at least three hospitals being selected from each PSU (or all of the hospitals in PSU's that had fewer than three hospitals).

At the third stage, a sample of discharges from each hospital was randomly selected. The sampling rate was determined by the hospital's sampling stratum and the system (manual or automated) used to collect data from the hospital. The sampling rate for certainty hospitals using the manual system of data collection was 1 percent of their discharges whereas 5 percent of the discharges were selected from certainty hospitals submitting data through abstracting services. For noncertainty hospitals, the target sample size was 250 discharges from all manual system hospitals and the automated system hospitals that had fewer than 4,000 discharges. Samples of 2,000 were targeted for each of the remaining noncertainty automated system hospitals.

Data collection

Prior to 1985 all data collection for the NHDS was done manually. Starting in 1985 two data collection procedures were used for the survey. The first was the traditional manual system of sample selection and data abstraction. The second involved the purchase of data tapes from abstracting services. This automated method was used in approximately 17 percent of the participating hospitals in 1985, 19 percent in 1986, and 17 percent in 1987. In the first 3 months of 1988, hospitals that submitted data through abstracting services made up 14 percent of participating hospitals and they submitted 19 percent of all sampled records using the old survey design. Using the new survey design, approximately 37 percent of the participating hospitals submitted 71 percent of all sampled records through abstracting services.

In the hospitals using the manual procedure, sample discharges were selected using lists of discharges as the sampling frame. The discharges were sampled randomly based on the terminal digit or digits of a number assigned to the patient by the hospital. Usually the number used was the patient's medical record number. In some cases an admission, billing, or some other number was used. If the hospital's discharge listing did not show a number that could be used, the sample was selected by starting with a randomly selected discharge and taking every kth discharge thereafter. Depending on the study procedure agreed on with the hospital administrator, the sample selection and abstraction of data from the face sheets and discharge summaries of the medical records were performed by the hospital staff, by representatives of the National Center for Health Statistics (NCHS), or by both. The completed forms were forwarded to NCHS for coding, editing, and weighting.

For the hospitals using an automated procedure, tapes containing machine-readable medical record data were

Table B. Estimation procedure using old and new survey methods: National Hospital Discharge Survey

Characteristic	*Old method*	*New method*
Inflation by reciprocals of probabilities of sample selection	Based on probability of hospital selection and probability of discharge selection	Based on probability of PSU selection, probability of hospital selection, and probability of discharge selection
Adjustment for nonresponse		
Hospital nonresponse	A nonresponding hospital did not participate in survey during all months it was in scope. Data imputed for nonresponding hospitals within each size-by-region strata for each month	A nonresponding hospital did not supply at least half expected discharges for more than half of months it was in scope. Inflated weights from responding hospitals in same region, specialty-size group, and hospital sampling stratum to account for discharges from nonresponding hospitals
Abstract nonresponse	When hospital did not submit expected number of abstracts, inflated weights of abstracts from hospitals in same size-by-region strata in that month	When hospital did not submit expected number of abstracts, inflated weights of abstracts it supplied that month. If fewer than half expected abstracts submitted for month, inflated weights of abstracts supplied by hospital in respondent months by ratios based on diagnoses
Ratio adjustment	Correction for over- and under-coverage of 1963 hospital beds in each stratum and correction for deviations from expected discharge sample size within each hospital	Correction for over- and under-coverage of current discharges within region and specialty-size group and correction for deviations from expected discharge sample size within each hospital

NOTE: PSU is Primary Sampling Unit

purchased from abstracting services. These data had been coded and edited according to each abstracting service's criteria. The sample discharges were selected from these files after the files were sorted by NCHS. Under the old survey design, the file for each hospital was sorted by date of discharge; under the new survey design the file for each hospital was sorted by first-listed diagnosis, patient age group, sex, and date of discharge. The samples were selected by starting with a randomly selected discharge and taking every kth discharge thereafter. The data for the sample were then subjected to NCHS editing procedures and were weighted.

Estimation procedure

Statistics produced by the NHDS were derived by a complex estimating procedure. The basic sample unit was the inpatient discharge. The procedure used to produce essentially unbiased national estimates in the NHDS had three principal components: inflation by reciprocals of the probabilities of sample selection, adjustment for nonresponse, and ratio adjustment. These components of estimation are summarized in table B and are briefly described below. More detailed information has been published about the original estimation procedure (9,10) and the new estimation procedure (11).

Old procedure

The data for the sample of discharged patients reported by each of the hospitals participating in the survey were first inflated by the reciprocal of their probabilities of selection. Because the old survey used a two-stage sample design, there were two probabilities: (a) the probability of selecting the sample hospitals, and (b) the probability of selecting the discharged patients within each sample hospital.

The data were then adjusted for two types of nonresponse—hospital nonresponse and abstract nonresponse. Hospital nonresponse occurred when a sample hospital did not participate in the survey for all of the months in the survey reference period; imputation for nonresponding hospitals was carried out within each of the size-by-region strata for each calendar month. This adjustment had the effect of imputing to the nonresponding hospitals the information from the responding hospitals.

Abstract nonresponse occurred when a hospital did not submit all of the discharge abstracts that were expected from that hospital based on its sampling fraction. Imputation for these missing abstracts was carried out within each calendar month by inflating the weights of the submitted data for hospitals in the same size-by-region strata. This adjustment had the effect of imputing to the missing abstracts the information reported on the abstracts that were received.

In addition, two types of ratio adjustment were done. A first-stage ratio adjustment corrected for over- or undersampling of hospitals within each stratum. This ratio was based on the hospital bed size reported in the 1963 NMFI (the original sampling frame) and was applied only to data from noncertainty hospitals (that is, hospitals with fewer than 1,000 beds). A second-stage ratio adjustment was made to correct for deviations from the expected discharge sample size within each hospital. This ratio was based on the monthly number of discharges from each hospital.

New procedure

As with the old survey sample design, the data for the sample of discharged patients reported by each of the hospitals participating in the new survey were inflated by the reciprocal of their probabilities of selection. Since a three-stage sample design was used for the new survey,

there were three probabilities: (a) the probability of selecting the PSU, (b) the probability of selecting the sample hospitals, and (c) the probability of selecting the discharged patients within each sample hospital.

Data obtained through the new survey were also adjusted for both hospital and abstract nonresponse. For any given month, a hospital was a respondent if data were received for at least half of the expected number of discharges for the hospital for that month. Hospital nonresponse occurred when a hospital was a nonrespondent for more than half of the months for which it was considered in scope for the survey. Adjustment for hospital nonresponse was done by inflating the weights of discharges from similar respondent hospitals to account for the discharges from the nonrespondent hospitals. Similar hospitals were those that were in the same region, the same specialty-size group, and, when possible, the same hospital sampling stratum (that is, the same PSU or the same abstracting status group in the 12 largest PSU's).

Abstract nonresponse occurred when the number of abstracts actually received from a hospital was less than the total number of abstracts expected from that hospital. In each month for which the hospital was a respondent, weights of abstracts collected for that month were inflated to account for the missing abstracts. For months when fewer than half the expected abstracts were collected, the weights of discharges in the hospital's respondent months were inflated by ratios that varied with the discharge groups defined by the ICD–9–CM (4) diagnostic classes of those discharges' first-listed diagnoses.

A ratio adjustment corrected for over- and undercoverage of discharges within each stratum. In addition, ratio adjustments were made within each of the noncertainty hospital groups to adjust for over- or undersampling of discharges reported in the sampling frame for the data year. The ratio adjustments were made separately for two discharge groups: (a) discharges of newborn infants and (b) all other discharges. These adjustments were based on figures from the 1989 SMG Hospital Market Data Tape (for 1988 data) for the number of births (for newborns) or admissions (for all other discharges) to the hospitals.

Comparison of estimates

The number of patients discharged from short-stay hospitals from January through March of 1988 was estimated at 8,596,000 using the old survey methods and at 8,003,000 using the new survey methods (table C). Based on the old survey methods, discharged patients were estimated to use 55,878,000 days of care and had an average length of stay of 6.5 days. The estimates based on the new survey methods were 53,606,000 days of care and an average length of stay of 6.7 days. A total of 27,405,000 diagnoses and 10,199,000 procedures were estimated for discharged patients using the old survey methods compared with totals of 25,981,000 diagnoses and 9,848,000 procedures using the new survey methods.

None of the differences between total estimates shown in table C was statistically significant. Most estimates obtained using the new survey methods were not significantly different from those derived from the old survey methods. Among the estimates shown in this report, less than 10 percent varied significantly between the two survey methodologies. The differences that were statistically significant are indicated in the detailed tables (1–31).

Significant differences in total estimates of discharges, days of care, all-listed diagnoses, or all-listed procedures were found for a few characteristics. These differences are summarized in table D. Estimates based on the new survey methods were significantly lower than estimates based on the old survey methods for the "race not stated" category (discharges and all-listed diagnoses), the West Region (all-listed diagnoses), government-owned hospitals (discharges and days of care), and the diagnostic category of alcohol dependence syndrome (discharges and all-listed diagnoses). Estimates for the diagnostic category of cataract (discharges and all-listed diagnoses) were significantly higher using the new survey methods. Estimates for hospital bed size groups varied considerably between the two survey methodologies. The new survey methods produced higher estimates of all four utilization measures for the 100–199 bed size group, lower estimates of all four utilization measures for the 500 beds or more group, and lower estimates of three of the four measures for the 200–299 bed group. Possible reasons for each of these differences are discussed later in this report.

Data were not included for principal expected source of payment. Errors were made in the assignment of a principal source of payment for some of the data from abstract services using new survey methods. Because of these errors, it was not possible to examine the effects of differences in survey methods on estimates for sources of payment.

Table C. Selected measures of short-stay hospital utilization using old and new survey methods: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Measure of utilization	*Old method*	*New method*
	Number in thousands	
Patients discharged	8,596	8,003
Days of care	55,878	53,606
All-listed diagnoses	27,405	25,981
All-listed procedures	10,199	9,848
	Number of days	
Average length of stay	6.5	6.7

Race

Using the old survey methods, an estimated 1,069,000 patients discharged from short-stay hospitals from January through March of 1988 were in the "race not stated"

Table D. Significant differences between estimates based on the old and new survey methods of the National Hospital Discharge Survey, by measure of hospital use and selected characteristics: United States, January–March 1988

Characteristic	*Discharges*	*Days of care*	*All-listed diagnoses*	*All-listed procedures*
	Percent difference[1]			
Race not stated	–33	...	–31	...
West region	...	...	–22	...
Government ownership of hospital	–28	–25	...	...
Hospital bed size				
100–199 beds	36	31	46	49
200–299 beds	–28	...	–28	–29
500 or more beds	–43	–40	–41	–35
Diagnoses				
Cataract	77	...	63	...
Alcohol dependence syndrome	–32	...	–26	...

[1]Estimate based on new survey methods compared to estimate based on old survey methods.

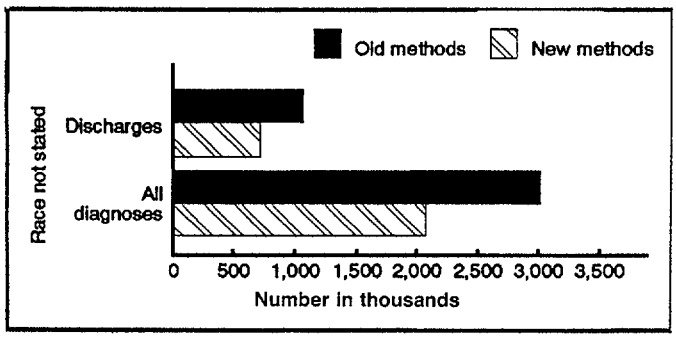

Figure 1. Number of discharges and all-listed diagnoses with race not stated using old and new survey methods: United States, January–March 1988

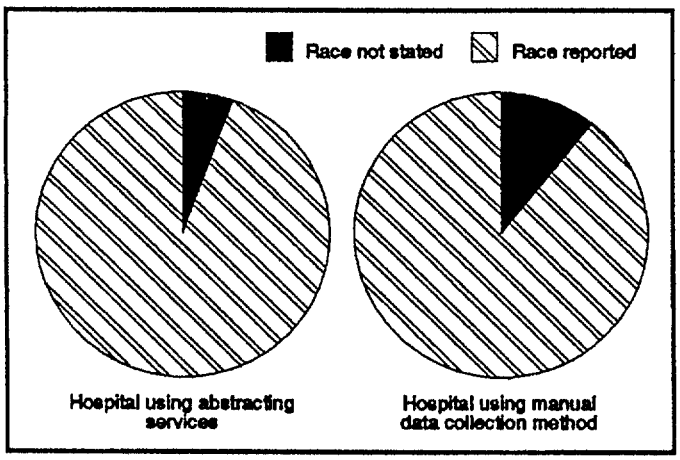

Figure 2. Percent of discharges with race not stated for hospitals submitting data through abstracting services and hospitals using a manual data collection method: United States, January–March 1988

category. Race could not be assigned for an estimated 717,000 discharged patients using the new survey methods (figure 1). Similarly, race was not stated for 3,019,000 diagnoses using the old survey methods, compared with the significantly smaller number of 2,075,000 diagnoses using the new methods.

These differences were due to a more complete reporting of race for hospitals that submit data through abstracting services. In the 3-month sample for which data were collected using new survey methods, hospitals that submitted data through abstracting services did not report race for 5.6 percent of their discharges, whereas hospitals that used the manual method of data abstraction had 10.8 percent of discharges in the "race not stated" category (figure 2). The proportion of hospitals submitting data through abstracting services increased from 14 percent under the old survey design to 37 percent under the new survey design. More complete reporting of race from abstracting service hospitals thus resulted in a decrease in the estimates for the "race not stated" category using the new survey methods.

Geographic region

The estimate of all-listed diagnoses obtained from the new survey methodology for the West Region was signifi-

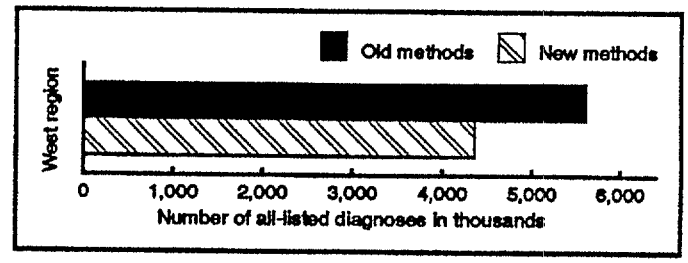

Figure 3. Number of all-listed diagnoses using old and new survey methods: West region, January–March 1988

cantly lower—4,354,000—than the estimate of 5,598,000 obtained from the old survey methodology (figure 3). This difference led to questions about the quality of regional estimates of hospital use from the National Hospital Discharge Survey. To examine their quality, NHDS regional estimates were compared with regional hospital data collected by the American Hospital Association (AHA).

AHA conducts an annual census of hospitals and publishes data each year for community hospitals, which are non-Federal short-term general and specialty hospitals excluding hospitals of institutions, all psychiatric hospitals, and all hospitals specializing in tuberculosis and other respiratory diseases. The hospitals in scope for the NHDS are similar, the main difference being that non-Federal short-stay psychiatric and tuberculosis hospitals are included in the NHDS. As shown in figure 4, the 1975 NHDS estimate of discharges in the West Region was virtually identical to the number of admissions reported by AHA for community hospitals in the West Region in 1975 (12). Over time, however, the NHDS estimates diverged from the AHA numbers (13–15). By 1987, the NHDS estimate of discharges in the West region was 24 percent higher than the number of admissions reported by AHA for community hospitals in the West Region. The 1988 NHDS annual estimate based on the new survey methods was again almost identical to the AHA figure (16).

These comparisons may suggest that the respondent hospitals from the West Region in the old NHDS sample were becoming less like other short-stay non-Federal hospitals in the West Region over time. The respondent hospitals from the West Region in the new sample may be more like hospitals in the West Region as a whole. In addition, the ratio adjustment to current discharges, which is part of the new survey methodology, may work better than the ratio adjustment in the old methodology, which was based on 1963 hospital bed size.

Hospital ownership

Patients in government hospitals had 1,751,000 discharges and used 10,244,000 days of care from January through March of 1988 as estimated by using old survey methods. The new survey methods produced significantly lower estimates of 1,264,000 discharges and 7,670,000 days of care for government hospitals (figure 5). Possible reasons for these differences included: the change in the

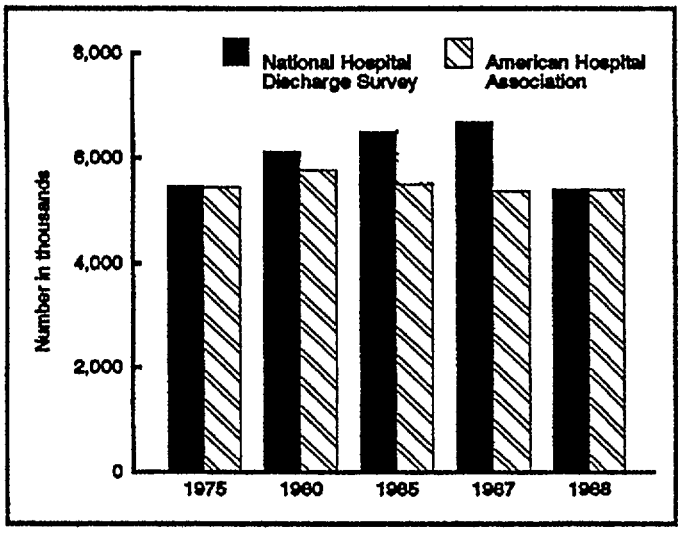

Figure 4. Number of discharges estimated in the National Hospital Discharge Survey and number of admissions to community hospitals reported by the American Hospital Association: West region, 1975–88

universe from which the sample was drawn, variations in definitions of ownership categories, and differences in response rates for government hospitals across survey methodologies. No evidence was found that any of these provided an explanation for the differences in the estimates.

NHDS estimates for hospital ownership categories were then compared to utilization data from the American Hospital Association for ownership categories of community hospitals (12–16). The findings were much like those seen in the comparison of NHDS and AHA regional data. In 1975 and 1980 the numbers of admissions to government-owned community hospitals reported by AHA were similar to the NHDS estimates of discharges from government hospitals (figure 6). In 1985, however, the NHDS estimate was 29 percent higher, and in 1987 it was 25 percent higher than the corresponding data reported by AHA. Using the new survey methods, the 1988 NHDS annual estimate was not significantly different from the AHA figure for 1988. These comparisons suggest that the old survey methods had been producing overestimates of the use of government hospitals and that the estimates obtained using the new methods may be more representative of the use of all short-stay non-Federal government hospitals.

Hospital bed size

The new survey methods produced significantly higher hospital use estimates than the old survey methods for the 100–199 beds category, but significantly lower estimates for the 200–299 beds and the 500 beds or more categories (figures 7–10). For the 100–199 beds category, estimates were higher for discharges (1,966,000 new versus 1,444,000 old), days of care (12,152,000 new versus 9,248,000 old), all-listed diagnoses (6,308,000 new versus 4,313,000 old), and all-listed procedures (2,155,000 new versus 1,450,000 old). The use measures that were significantly lower for the 200–299 beds category were discharges (1,579,000 new versus 2,190,000 old), all-listed diagnoses (5,114,000 new versus 7,146,000 old), and all-listed procedures (1,966,000 new versus 2,773,000 old). For the 500 beds or more category the new survey methods produced smaller estimates of discharges (1,001,000 new versus 1,753,000 old), days of care (7,668,000 new versus 12,792,000 old), all-listed diagnoses (3,216,000 new versus 5,415,000 old), and all-listed procedures (1,596,000 new versus 2,439,000 old).

These changes in estimates for bed size categories were not surprising because there were differences in the definition of hospitals between the universes used for the old and the new survey designs. The universe for the old design was derived from the National Master Facility Inventory and the American Hospital Association data, but the new universe was based on the SMG Hospital Market Data Tape. Groups of hospitals under an umbrella organization are sometimes listed as a single hospital by AHA but are more likely to be listed as separate entities on the SMG data tape. For example, a medical center consisting of three separate facilities in different locations but under one umbrella organization could be listed as a single large hospital by AHA but as three smaller hospitals by SMG. The result is that there are fewer large hospitals and more small hospitals in the universe for the new survey design than in the universe for the old survey design.

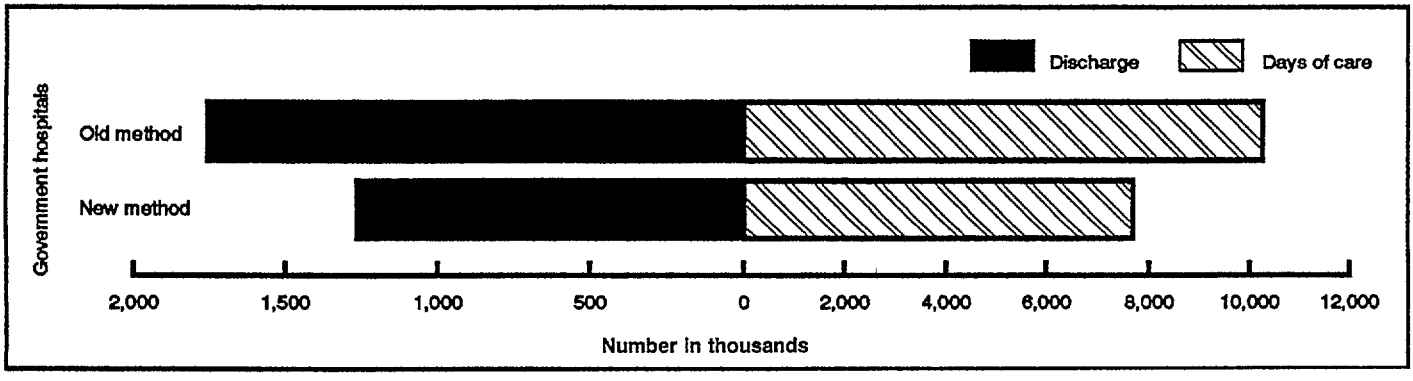

Figure 5. Number of discharges and days of care for government hospitals using old and new survey methods: United States, January–March 1988

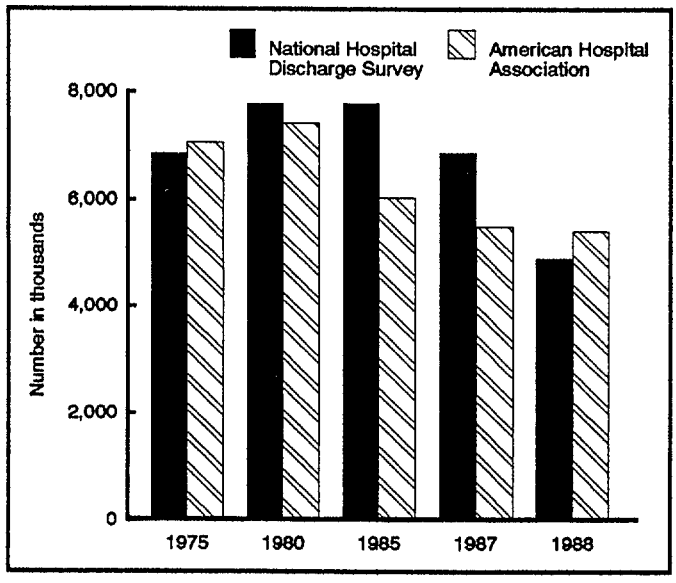

Figure 6. Number of discharges from government hospitals estimated in the National Hospital Discharge Survey and number of admissions to government-owned community hospitals reported by the American Hospital Association: United States, 1975–88

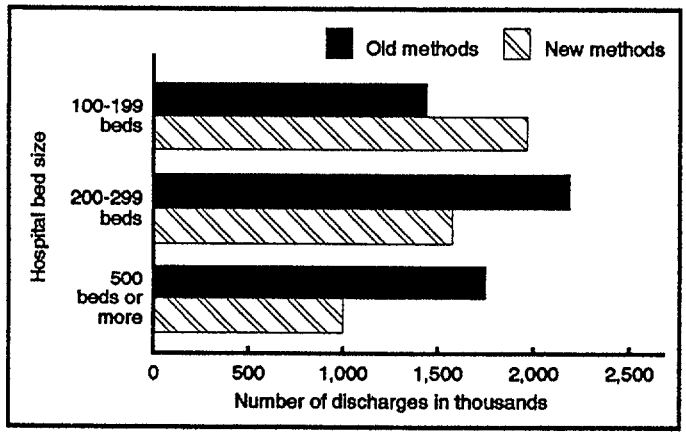

Figure 7. Number of discharges for selected hospital bed size categories using old and new survey methods: United States, January–March 1988

In addition, the definition of beds used to construct the bed size categories was changed as part of the new survey methods. Bed size had been based on the total number of beds staffed and available for use as reported by the hospital. In the new design, size was determined by "defined beds," which was the number of short-term beds the hospital reported, or if short-term beds were not reported, the total number of staffed beds. The use of "defined beds" resulted in fewer hospitals in larger bed size categories and more in smaller size categories.

Thus, although the estimates for hospital bed size categories obtained using the new survey methods varied from the estimates based on the old methods, and from 1988 AHA data (16), they were generally similar to the bed size data for the universe on which they were based (figure 11).

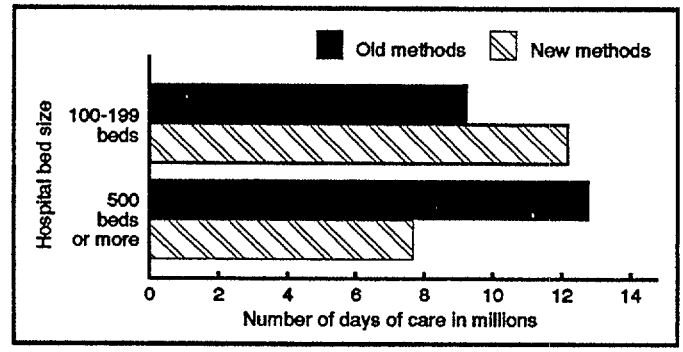

Figure 8. Number of days of care for selected hospital bed size categories using old and new survey methods: United States, January–March 1988

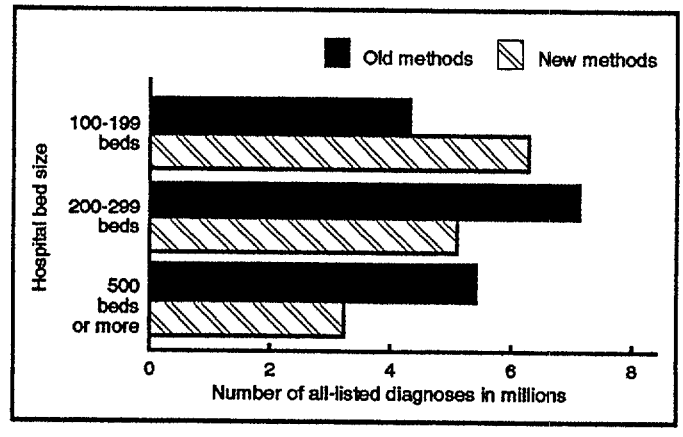

Figure 9. Number of all-listed diagnoses for selected hospital bed size categories using old and new survey methods: United States, January–March 1988

Diagnoses

Significant differences were found between estimates from the old and the new survey methods for two diagnostic categories. Estimates were higher for cataract but lower for alcohol dependence syndrome using the new survey methods. The "new" estimate of discharges with cataract as a first-listed diagnosis was 23,000 compared with the "old" estimate of 13,000. Cataract was an all-listed diagnosis, that is the principal or a secondary diagnosis, 39,000 times according to the new survey methods but only 24,000 times using the old survey methods (figure 12).

The increases in the cataract estimate were probably related to increases in the number of discharges with a diagnosis of cataract that had a hospital stay of less than 1 day. Using the old survey methods, 43 percent of patients with a first-listed diagnosis of cataract had a length of stay of less than 1 day, but 62 percent of cataract discharges had less than 1 day stays using the new methods (figure 13). Some hospitals in the new sample reported less than 1 day stays for all or almost all discharges with a first-listed diagnosis of cataract. These hospitals also had high proportions of total discharges in the "under 1 day stay" category, which could result from these hospitals

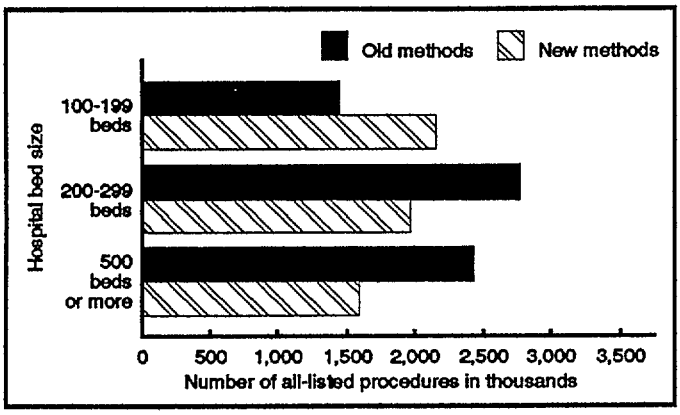

Figure 10. Number of all-listed procedures for selected hospital bed size categories using old and new survey methods: United States, January–March 1988

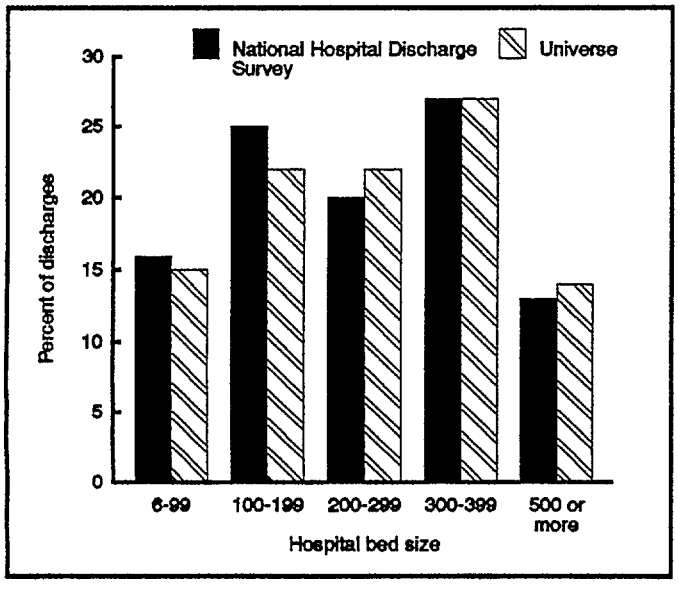

Figure 11. Percent distribution of discharges by hospital bed size categories based on the new survey methods for the National Hospital Discharge Survey and the new NHDS universe: United States, January–March 1988

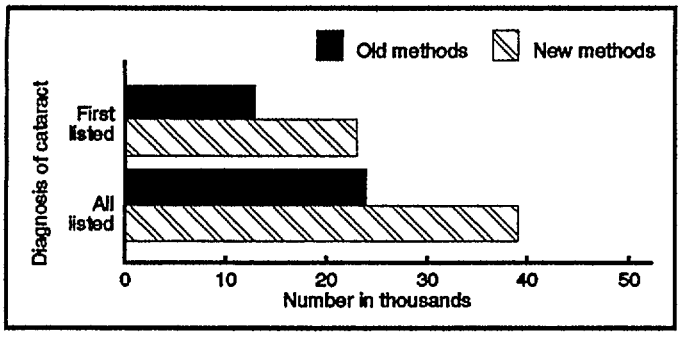

Figure 12. Number of first-listed and all-listed diagnoses of cataract using old and new survey methods: United States, January–March 1988

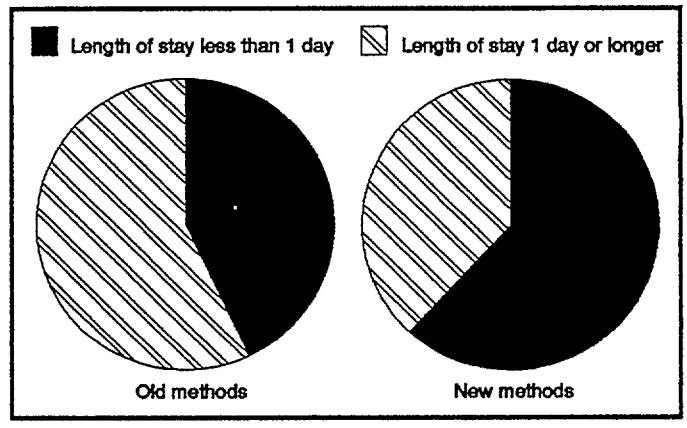

Figure 13. Percent of discharges with first-listed diagnosis of cataract that had a hospital stay of less than 1 day using old and new survey methods: United States, January–March 1988

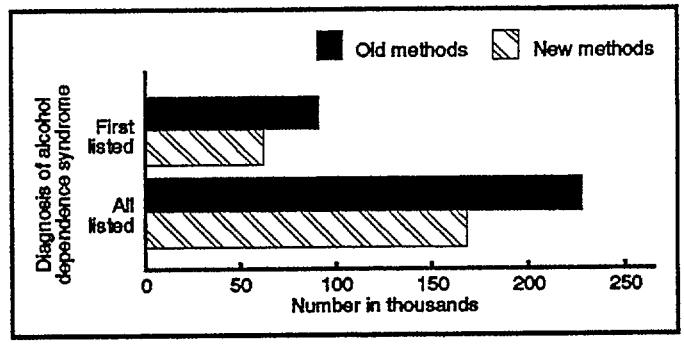

Figure 14. Number of first-listed and all-listed diagnoses of alcohol dependence syndrome using old and new survey methods: United States, January–March 1988

formally admitting the types of patients that would be treated in outpatient surgery programs at other hospitals. It is also possible that these hospitals reported data on outpatients to the NHDS.

Alcohol dependence syndrome was a first-listed diagnosis for an estimated 91,000 discharges based on the old survey methods, but only 62,000 using the new survey methods. Likewise, the estimates of alcohol dependence syndrome as a principal or secondary diagnosis were 228,000 from the old survey methods and only 168,000 from the new methods (figure 14). These differences are not completely understood, but one factor may have been a change in the participation of specialty hospitals in the NHDS. Two hospitals specializing in the treatment of alcoholism and other chemical dependencies participated in the old survey. These two hospitals accounted for 11 percent of all discharges with a first-listed diagnosis of alcohol dependence syndrome. Although in the new survey two alcoholism and chemical dependency hospitals were sampled, neither of them participated in the survey during the first 3 months of 1988.

Summary

The methodology for the National Hospital Discharge Survey (NHDS) has been revised in several ways. These revisions, which were implemented for the 1988 NHDS, included adoption of a different hospital sampling frame, changes in the sampling design (in particular the implementation of a three-stage design), increased use of data purchased from abstracting service organizations, and adjustments to the estimation procedures used to derive the national estimates. To investigate the effects of these revisions on the estimates of hospital use from the NHDS, data were collected from January through March of 1988 using both the old and the new survey methods. This study compared estimates based on the old and the new survey methods for a variety of hospital and patient characteristics.

Although few estimates were identical across survey methodologies, most of the variations could be attributed to sampling error. Estimates from two different samples of the same population would be expected to vary by chance even if precisely the same methods were used to collect and process the data. Because probability samples were used for the old and new survey methodologies, sampling error could be measured. Approximate relative standard errors were calculated for the estimates using the old and new survey methods. Taking these errors into account, less than 10 percent of the estimates were found to differ across survey methodologies at the 0.05 level of significance. Because a large number of comparisons were made, 5 percent of the estimates could have been found to be significantly different by chance alone.

Where there were statistically significant differences in nonmedical data, the new methods appeared to produce more accurate estimates than the old methods did. Race was more likely to be reported using the new methods. "New" estimates for hospitals in the West Region and government-owned hospitals were more similar than the corresponding "old" estimates to data from the census of hospitals conducted by the American Hospital Association. The numerous significant differences in estimates for bed size categories between the two survey methodologies reflected the change in the universe and definition of beds for the new survey.

Few statistically significant differences were found in the medical data using the old and the new survey methods. Two main differences, in estimates for cataract and alcohol dependence syndrome, may have resulted from problems with the new survey. A measurement error, reporting outpatients to the NHDS, is one possible explanation of the higher estimates for diagnosis of cataract using the new survey methods. The decrease in estimates of alcohol dependence syndrome may have been due to the nonresponse of hospitals that specialize in the treatment of alcoholics. Further work may be needed to correct these problems. In general, however, estimates of the utilization of short-stay non-Federal hospitals in the United States were not found to be significantly affected by the change from the old to the new survey methods.

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List of detailed tables

Table 1. Number of discharges and days of care and average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by sex and age: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Sex and age	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
Both sexes						
All ages	8,596	8,003	55,878	53,606	6.5	6.7
Under 15 years	760	688	3,728	3,161	4.9	4.6
Under 1 year	259	218	1,374	1,269	5.3	5.8
1–4 years	233	216	845	772	3.6	3.6
5–14 years	269	255	1,509	1,120	5.6	[1]4.4
15–44 years	3,237	2,931	15,453	14,024	4.8	4.8
15–19 years	368	358	1,838	1,820	5.0	5.1
20–24 years	606	540	2,299	2,070	3.8	3.8
25–34 years	1,390	1,238	6,402	5,619	4.6	4.5
35–44 years	872	795	4,914	4,515	5.6	5.7
45–64 years	1,790	1,702	12,063	12,057	6.7	7.1
45–54 years	776	728	4,892	4,798	6.3	6.6
55–64 years	1,014	974	7,171	7,259	7.1	7.4
65 years and over	2,809	2,682	24,634	24,364	8.8	9.1
65–74 years	1,298	1,214	10,498	10,212	8.1	8.4
75–84 years	1,074	1,038	9,780	9,980	9.1	9.6
85 years and over	437	430	4,357	4,173	10.0	9.7
Male						
All ages	3,513	3,311	24,412	23,599	6.9	7.1
Under 15 years	417	382	1,955	1,721	4.7	4.5
Under 1 year	157	118	835	658	5.3	5.6
1–4 years	134	127	450	456	3.4	3.6
5–14 years	126	138	669	608	5.3	4.4
15–44 years	983	870	6,028	5,473	6.1	6.3
15–19 years	113	113	753	814	6.7	7.2
20–24 years	140	121	744	648	5.3	5.4
25–34 years	371	295	2,354	1,872	6.3	6.3
35–44 years	358	340	2,178	2,139	6.1	6.3
45–64 years	886	849	5,824	5,970	6.6	7.0
45–54 years	382	353	2,400	2,275	6.3	6.4
55–64 years	504	496	3,424	3,695	6.8	7.4
65 years and over	1,227	1,210	10,605	10,435	8.6	8.6
65–74 years	641	607	4,973	4,778	7.8	7.9
75–84 years	444	445	4,139	4,142	9.3	9.3
85 years and over	141	158	1,493	1,515	10.6	9.6
Female						
All ages	5,083	4,692	31,466	30,006	6.2	6.4
Under 15 years	343	306	1,773	1,440	5.2	4.7
Under 1 year	101	101	539	612	5.3	6.1
1–4 years	99	88	395	316	4.0	3.6
5–14 years	143	117	839	[1]512	5.9	[1]4.4
15–44 years	2,254	2,061	9,425	8,551	4.2	4.1
15–19 years	255	244	1,085	1,006	4.3	4.1
20–24 years	467	420	1,555	1,423	3.3	3.4
25–34 years	1,019	942	4,048	3,747	4.0	4.0
35–44 years	513	455	2,736	2,376	5.3	5.2
45–64 years	904	853	6,239	6,086	6.9	7.1
45–54 years	394	375	2,492	2,523	6.3	6.7
55–64 years	510	478	3,747	3,564	7.3	7.4
65 years and over	1,582	1,472	14,029	13,929	8.9	9.5
65–74 years	657	608	5,525	5,433	8.4	8.9
75–84 years	630	593	5,640	5,838	9.0	9.8
85 years and over	295	271	2,863	2,658	9.7	9.8

[1]Difference from estimate using old method significant at the $p < .05$ level.

Table 2. Number of discharges and days of care and average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by sex, race, and age: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Sex, race, and age	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
Both sexes						
All races, all ages	8,596	8,003	55,878	53,606	6.5	6.7
Under 15 years	760	688	3,728	3,161	4.9	4.6
15–44 years	3,237	2,931	15,453	14,024	4.8	4.8
45–64 years	1,790	1,702	12,063	12,057	6.7	7.1
65 years and over	2,809	2,682	24,634	24,364	8.8	9.1
White, all ages	6,189	6,048	40,843	41,250	6.6	6.8
Under 15 years	510	457	2,425	1,914	4.8	4.2
15–44 years	2,150	2,057	10,249	9,891	4.8	4.8
45–64 years	1,330	1,315	8,903	9,233	6.7	7.0
65 years and over	2,198	2,218	19,267	20,212	8.8	9.1
All other, all ages	1,338	1,239	8,923	8,361	6.7	6.7
Under 15 years	162	156	899	855	5.6	5.5
15–44 years	650	582	3,372	2,909	5.2	5.0
45–64 years	256	243	1,897	1,996	7.4	8.2
65 years and over	270	258	2,755	2,600	10.2	10.1
Race not stated, all ages	1,069	[1]717	6,112	3,995	5.7	5.6
Under 15 years	88	75	404	391	4.6	5.2
15–44 years	436	[1]292	1,832	1,224	4.2	4.2
45–64 years	204	[1]144	1,263	828	6.2	5.7
65 years and over	340	[1]205	2,613	[1]1,552	7.7	7.6
Male						
All races, all ages	3,513	3,311	24,412	23,599	6.9	7.1
Under 15 years	417	382	1,955	1,721	4.7	4.5
15–44 years	983	870	6,028	5,473	6.1	6.3
45–64 years	886	849	5,824	5,970	6.6	7.0
65 years and over	1,227	1,210	10,605	10,435	8.6	8.6
White, all ages	2,552	2,549	17,689	18,166	6.9	7.1
Under 15 years	277	259	1,273	1,079	4.6	4.2
15–44 years	658	633	3,962	3,908	6.0	6.2
45–64 years	657	661	4,220	4,576	6.4	6.9
65 years and over	959	997	8,233	8,603	8.6	8.6
All other, all ages	533	478	4,015	3,672	7.5	7.7
Under 15 years	92	84	458	452	5.0	5.4
15–44 years	198	158	1,388	1,103	7.0	7.0
45–64 years	126	117	945	1,005	7.5	8.6
65 years and over	116	119	1,224	1,112	10.6	9.3
Race not stated, all ages	429	[1]284	2,708	1,762	6.3	6.2
Under 15 years	48	39	224	190	4.7	4.8
15–44 years	126	[1]78	678	462	5.4	5.9
45–64 years	104	72	659	389	6.4	5.4
65 years and over	151	[1]94	1,148	720	7.6	7.6
Female						
All races, all ages	5,083	4,692	31,466	30,006	6.2	6.4
Under 15 years	343	306	1,773	1,440	5.2	4.7
15–44 years	2,254	2,061	9,425	8,551	4.2	4.1
45–64 years	904	853	6,239	6,086	6.9	7.1
65 years and over	1,582	1,472	14,029	13,929	8.9	9.5
White, all ages	3,637	3,498	23,154	23,084	6.4	6.6
Under 15 years	233	199	1,151	[1]835	4.9	4.2
15–44 years	1,492	1,424	6,286	5,983	4.2	4.2
45–64 years	674	654	4,683	4,656	7.0	7.1
65 years and over	1,239	1,222	11,033	11,610	8.9	9.5

Table 2. Number of discharges and days of care and average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by sex, race, and age: United States, January–March 1988—Con.

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Sex, race, and age	Discharges		Days of care		Average length of stay	
	Old method	*New method*	*Old method*	*New method*	*Old method*	*New method*
Female—Con.	Number in thousands				Number of days	
All other, all ages	805	761	4,908	4,689	6.1	6.2
Under 15 years	69	72	441	403	6.4	5.6
15–44 years	452	424	1,985	1,806	4.4	4.3
45–64 years	130	126	952	991	7.3	7.8
65 years and over	154	139	1,531	1,488	9.9	10.7
Race not stated, all ages	640	[1]433	3,404	2,234	5.3	5.2
Under 15 years	41	36	181	201	4.4	5.6
15–44 years	310	[1]214	1,154	762	3.7	3.6
45–64 years	100	72	604	439	6.0	6.1
65 years and over	189	[1]111	1,465	[1]831	7.7	7.5

[1]Difference from estimate using old method significant at the $p < .05$ level.

Table 3. Number of discharges and days of care and average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by region and hospital bed size: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Region and bed size	Discharges		Days of care		Average length of stay	
	Old method	*New method*	*Old method*	*New method*	*Old method*	*New method*
	Number in thousands				Number of days	
United States						
All sizes	8,596	8,003	55,878	53,606	6.5	6.7
6–99 beds	1,311	1,297	6,443	7,491	4.9	5.8
100–199 beds	1,444	[1]1,966	9,248	[1]12,152	6.4	6.2
200–299 beds	2,190	[1]1,579	13,834	10,866	6.3	6.9
300–499 beds	1,897	2,160	13,561	15,429	7.1	7.1
500 beds or more	1,753	[1]1,001	12,792	[1]7,668	7.3	7.7
Northeast						
All sizes	1,701	1,788	13,243	13,685	7.8	7.7
6–99 beds	191	179	1,252	1,098	6.5	6.1
100–199 beds	189	[1]310	1,474	[1]2,181	7.8	7.0
200–299 beds	444	439	3,399	3,428	7.6	7.8
300–499 beds	505	643	4,015	5,071	8.0	7.9
500 beds or more	371	[1]216	3,103	[1]1,907	8.4	8.8
Midwest						
All sizes	2,278	2,034	14,795	13,176	6.5	6.5
6–99 beds	248	[1]444	1,169	[1]2,396	4.7	5.4
100–199 beds	422	[1]267	2,628	[1]1,579	6.2	5.9
200–299 beds	381	386	2,359	2,609	6.2	6.8
300–499 beds	502	[1]678	3,571	4,803	7.1	7.1
500 beds or more	724	[1]260	5,067	[1]1,789	7.0	6.9
South						
All sizes	2,859	2,783	18,019	18,615	6.3	6.7
6–99 beds	515	404	2,567	2,302	5.0	5.7
100–199 beds	623	872	3,796	[1]5,540	6.1	6.4
200–299 beds	720	[1]500	4,491	3,331	6.2	6.7
300–499 beds	489	567	3,619	3,940	7.4	6.9
500 beds or more	512	440	3,547	3,501	6.9	8.0
West						
All sizes	1,758	1,398	9,821	8,131	5.6	5.8
6–99 beds	356	270	1,456	1,694	4.1	[1]6.3
100–199 beds	210	[1]518	1,350	[1]2,852	6.4	5.5
200–299 beds	645	[1]255	3,584	[1]1,498	5.6	5.9
300–499 beds	401	[1]271	2,356	1,615	5.9	6.0
500 beds or more	146	[1]84	1,076	[1]471	7.4	[1]5.6

[1]Difference from estimate using old method significant at the $p < .05$ level.

Table 4. Number of discharges and days of care and average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by age of patient and hospital bed size: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Age and bed size	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
All ages						
All sizes	8,596	8,003	55,878	53,606	6.5	6.7
6–99 beds	1,311	1,297	6,443	7,491	4.9	5.8
100–199 beds	1,444	[1]1,966	9,248	[1]12,152	6.4	6.2
200–299 beds	2,190	[1]1,579	13,834	10,866	6.3	6.9
300–499 beds	1,897	2,160	13,561	15,429	7.1	7.1
500 beds or more	1,753	[1]1,001	12,792	[1]7,668	7.3	7.7
Under 15 years						
All sizes	760	688	3,728	3,161	4.9	4.6
6–99 beds	103	123	306	591	3.0	[1]4.8
100–199 beds	195	197	1,100	[1]755	5.6	[1]3.8
200–299 beds	179	138	720	671	4.0	[1]4.9
300–499 beds	149	158	829	730	5.6	[1]4.6
500 beds or more	134	[1]73	772	[1]413	5.8	5.7
15–44 years						
All sizes	3,237	2,931	15,453	14,024	4.8	4.8
6–99 beds	470	443	1,781	2,079	3.8	4.7
100–199 beds	512	692	2,597	3,023	5.1	4.4
200–299 beds	812	[1]567	3,588	[1]2,644	4.4	4.7
300–499 beds	736	810	3,795	4,020	5.2	5.0
500 beds or more	706	[1]420	3,692	[1]2,260	5.2	5.4
45–64 years						
All sizes	1,790	1,702	12,063	12,057	6.7	7.1
6–99 beds	248	230	1,184	1,290	4.8	5.6
100–199 beds	267	[1]391	1,699	[1]2,575	6.4	6.6
200–299 beds	440	326	2,776	2,309	6.3	7.1
300–499 beds	425	505	3,161	3,769	7.4	7.5
500 beds or more	410	[1]251	3,242	[1]2,114	7.9	8.4
65 years and over						
All sizes	2,809	2,682	24,634	24,364	8.8	9.1
6–99 beds	489	501	3,171	3,531	6.5	7.0
100–199 beds	471	[1]687	3,851	[1]5,799	8.2	8.4
200–299 beds	759	[1]549	6,749	5,243	8.9	9.6
300–499 beds	587	687	5,776	6,911	9.8	10.1
500 beds or more	503	[1]258	5,086	[1]2,881	10.1	11.2

[1]Difference from estimate using old method significant at the $p < .05$ level.

Table 5. Number of discharges and days of care and average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by sex, age, and region: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Sex, age, and region	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
Both sexes						
All ages	8,596	8,003	55,878	53,606	6.5	6.7
Northeast	1,701	1,788	13,243	13,685	7.8	7.7
Midwest	2,278	2,034	14,795	13,176	6.5	6.5
South	2,859	2,783	18,019	18,615	6.3	6.7
West	1,758	1,398	9,821	8,131	5.6	5.8
Under 15 years	760	688	3,728	3,161	4.9	4.6
Northeast	133	170	595	792	4.5	4.7
Midwest	195	171	1,137	[1]693	5.8	[1]4.0
South	318	[1]208	1,488	[1]943	4.7	4.5
West	115	139	507	732	4.4	5.3
15–44 years	3,237	2,931	15,453	14,024	4.8	4.8
Northeast	624	622	3,249	3,178	5.2	5.1
Midwest	852	721	4,302	3,461	5.0	4.8
South	1,069	1,041	5,088	4,853	4.8	4.7
West	692	547	2,814	2,532	4.1	4.6
45–64 years	1,790	1,702	12,063	12,057	6.7	7.1
Northeast	361	389	2,772	3,122	7.7	8.0
Midwest	494	435	3,257	2,958	6.6	6.8
South	597	593	4,050	4,248	6.8	[1]7.2
West	338	285	1,984	1,729	5.9	6.1
65 years and over	2,809	2,682	24,634	24,364	8.8	9.1
Northeast	583	607	6,627	6,593	11.4	10.9
Midwest	737	707	6,099	6,064	8.3	8.6
South	875	941	7,392	8,570	8.4	9.1
West	613	[1]427	4,516	[1]3,138	7.4	7.4
Male						
All ages	3,513	3,311	24,412	23,599	6.9	7.1
Northeast	716	774	5,836	6,052	8.2	7.8
Midwest	959	837	6,687	5,788	7.0	6.9
South	1,124	1,126	7,466	8,097	6.6	7.2
West	714	574	4,423	3,662	6.2	6.4
Under 15 years	417	382	1,955	1,721	4.7	4.5
Northeast	79	93	369	449	4.7	4.8
Midwest	106	94	609	391	5.7	[1]4.2
South	166	115	673	495	4.0	4.3
West	66	81	304	[1]386	4.6	4.8
15–44 years	983	870	6,028	5,473	6.1	6.3
Northeast	205	208	1,374	1,312	6.7	6.3
Midwest	277	217	1,798	1,415	6.5	6.5
South	315	293	1,833	1,694	5.8	5.8
West	185	152	1,023	1,052	5.5	[1]6.9
45–64 years	886	849	5,824	5,970	6.6	7.0
Northeast	175	198	1,307	1,597	7.5	8.0
Midwest	261	226	1,625	1,506	6.2	6.7
South	278	279	1,835	2,000	6.6	7.2
West	173	146	1,057	867	6.1	5.9
65 years and over	1,227	1,210	10,605	10,435	8.6	8.6
Northeast	256	275	2,786	2,694	10.9	9.8
Midwest	316	300	2,654	2,476	8.4	8.3
South	364	439	3,126	3,908	8.6	8.9
West	290	[1]196	2,039	[1]1,357	7.0	6.9

Table 5. Number of discharges and days of care and average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by sex, age, and region: United States, January–March 1988—Con.

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Sex, age, and region	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
Female						
All ages	5,083	4,692	31,466	30,006	6.2	6.4
Northeast	985	1,014	7,406	7,633	7.5	7.5
Midwest	1,319	1,198	8,108	7,388	6.1	6.2
South	1,736	1,656	10,553	10,517	6.1	6.3
West	1,044	824	5,398	4,468	5.2	5.4
Under 15 years	343	306	1,773	1,440	5.2	4.7
Northeast	54	77	226	343	4.2	4.5
Midwest	88	77	528	[1]302	6.0	[1]3.9
South	152	[1]93	816	[1]449	5.4	4.8
West	49	58	203	[1]346	4.1	[1]5.9
15–44 years	2,254	2,061	9,425	8,551	4.2	4.1
Northeast	418	414	1,875	1,866	4.5	4.5
Midwest	576	504	2,503	2,046	4.3	4.1
South	754	748	3,256	3,159	4.3	4.2
West	506	395	1,791	1,480	3.5	3.7
45–64 years	904	853	6,239	6,086	6.9	7.1
Northeast	186	191	1,465	1,525	7.9	8.0
Midwest	233	209	1,632	1,452	7.0	6.9
South	319	313	2,215	2,248	6.9	7.2
West	166	140	927	862	5.6	6.2
65 years and over	1,582	1,472	14,029	13,929	8.9	9.5
Northeast	327	332	3,841	3,899	11.7	11.7
Midwest	422	407	3,444	3,588	8.2	8.8
South	511	502	4,266	4,661	8.4	9.3
West	322	[1]231	2,478	1,781	7.7	7.7

[1]Difference from estimate using old method significant at the $p < .05$ level.

Table 6. Number of discharges and days of care and average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by ownership of hospital and age of patient: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants.]

Ownership and age	Discharges		Days of care		Average length of stay	
	Old method	*New method*	*Old method*	*New method*	*Old method*	*New method*
	Number in thousands				Number of days	
All hospitals						
All ages	8,596	8,003	55,878	53,606	6.5	6.7
Under 15 years	760	688	3,728	3,161	4.9	4.6
15–44 years	3,237	2,931	15,453	14,024	4.8	4.8
45–64 years	1,790	1,702	12,063	12,057	6.7	7.1
65 years and over	2,809	2,682	24,634	24,364	8.8	9.1
Voluntary nonprofit						
All ages	5,925	5,968	40,208	40,567	6.8	6.8
Under 15 years	528	536	2,675	2,385	5.1	4.4
15–44 years	2,170	2,094	10,549	9,840	4.9	4.7
45–64 years	1,265	1,302	8,709	9,288	6.9	7.1
65 years and over	1,961	2,035	18,275	19,053	9.3	9.4
Government						
All ages	1,751	[1]1,264	10,244	[1]7,670	5.9	6.1
Under 15 years	175	[1]117	846	[1]524	4.8	4.5
15–44 years	720	[1]554	3,275	2,639	4.5	4.8
45–64 years	325	252	2,232	1,802	6.9	7.1
65 years and over	530	[1]342	3,892	[1]2,706	7.3	7.9
Proprietary						
All ages	921	771	5,425	5,369	5.9	7.0
Under 15 years	57	[1]35	207	251	3.6	[1]7.1
15–44 years	346	283	1,628	1,546	4.7	5.5
45–64 years	200	148	1,122	967	5.6	6.6
65 years and over	317	305	2,468	2,605	7.8	8.5

[1]Difference from estimate using old method significant at the $p < .05$ level.

Table 7. Number of discharges and days of care and average length of stay for women with deliveries discharged from short-stay hospitals using old and new survey methods, by selected characteristics: United States, January–March 1988

[Discharges from non-Federal hospitals.]

Characteristic	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
10–54 years	966	900	2,874	2,708	3.0	3.0
Age						
10–14 years	*	[1]*	*	[1]*	*	[1]*
15–44 years	962	896	2,864	2,696	3.0	3.0
15–19 years	123	111	339	333	2.8	3.0
20–24 years	259	239	716	658	2.8	2.8
25–29 years	311	295	915	890	2.9	3.0
30–34 years	198	186	656	592	3.3	3.2
35–44 years	71	64	239	222	3.3	3.5
45–54 years	–	[1]*	–	[1]*	–	[1]*
10–17 years	48	42	133	137	2.8	3.2
18–54 years	918	857	2,741	2,571	3.0	3.0
Race						
White	618	593	1,859	1,773	3.0	3.0
All other	199	191	615	619	3.1	3.2
Race not stated	149	115	400	316	2.7	2.7
Region						
Northeast	175	166	601	595	3.4	3.6
Midwest	227	218	687	652	3.0	3.0
South	308	318	924	963	3.0	3.0
West	257	198	661	498	2.6	2.5
Bed size						
6–99 beds	131	121	316	326	2.4	2.7
100–199 beds	124	[2]210	350	[2]577	2.8	2.8
200–299 beds	266	[2]167	765	[2]507	2.9	3.0
300–499 beds	224	266	703	837	3.1	3.1
500 beds or more	221	[2]136	740	[2]461	3.4	3.4

[1]Difference between estimates using old and new methods not tested.

[2]Difference from estimate using old method significant at the $p < .05$ level.

Table 8. Number of discharges and days of care and average length of stay for women with deliveries discharged from short-stay hospitals using old and new survey methods, by region and hospital bed size: United States, January–March 1988

[Discharges from non-Federal hospitals.]

Region and bed size	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
United States						
All sizes	966	900	2,874	2,708	3.0	3.0
6–99 beds	131	121	316	326	2.4	2.7
100–199 beds	124	[1]210	350	[1]577	2.8	2.8
200–299 beds	266	[1]167	765	[1]507	2.9	3.0
300–499 beds	224	266	703	837	3.1	3.1
500 beds or more	221	[1]136	740	[1]461	3.4	3.4
Northeast						
All sizes	175	166	601	595	3.4	3.6
6–99 beds	15	9	43	*25	2.9	*2.7
100–199 beds	*13	26	*	[2]84	*	[2]3.2
200–299 beds	41	33	140	119	3.5	3.6
300–499 beds	56	69	201	249	3.6	3.6
500 beds or more	51	[1]28	181	118	3.6	4.2
Midwest						
All sizes	227	218	687	652	3.0	3.0
6–99 beds	17	[1]41	57	110	3.2	2.7
100–199 beds	45	27	124	73	2.7	2.7
200–299 beds	35	32	98	91	2.8	2.9
300–499 beds	45	[1]84	139	[1]261	3.1	3.1
500 beds or more	84	[1]34	270	[1]116	3.2	3.4
South						
All sizes	308	318	924	963	3.0	3.0
6–99 beds	46	35	114	107	2.5	3.1
100–199 beds	47	[1]99	121	[1]279	2.6	2.8
200–299 beds	97	60	300	185	3.1	3.1
300–499 beds	53	70	173	213	3.3	3.1
500 beds or more	66	55	215	179	3.3	3.3
West						
All sizes	257	198	661	498	2.6	2.5
6–99 beds	53	37	103	84	1.9	2.3
100–199 beds	19	[1]57	68	[1]140	3.5	2.4
200–299 beds	94	[1]42	227	[1]112	2.4	2.7
300–499 beds	70	43	190	113	2.7	2.6
500 beds or more	20	18	73	48	3.6	2.6

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

Table 9. Number of patients discharged from short-stay hospitals using old and new survey methods, by age and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	All ages		Under 15 years		15–44 years		45–64 years		65 years and over	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of patients discharged in thousands									
All conditions	8,596	8,003	760	688	3,237	2,931	1,790	1,702	2,809	2,682
Infectious and parasitic diseases .001–139	188	169	63	52	46	44	25	29	53	45
Neoplasms .140–239	573	540	*12	9	100	96	200	180	261	255
Malignant neoplasms .140–208,230–234	460	439	*9	*6	51	46	159	150	241	237
Malignant neoplasm of large intestine and rectum .153–154,197.5	53	43	–	–	*	1*	14	11	36	29
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	67	69	–	1*	*	1*	26	29	36	38
Malignant neoplasm of breast .174–175,198.81	52	54	–	–	*	1*6	22	24	24	24
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	113	101	*	1*	49	50	41	30	20	19
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	276	282	28	30	63	58	67	73	118	121
Diabetes mellitus .250	106	121	*	1*7	31	33	35	39	35	42
Diseases of the blood and blood-forming organs .280–289	82	73	*12	12	24	19	15	13	30	29
Mental disorders .290–319	434	390	17	13	269	238	86	78	62	61
Psychoses .290–299	189	187	*	1*5	101	102	44	41	41	38
Alcohol dependence syndrome .303	91	2*62	*	1–	62	2*40	22	19	*	1*
Diseases of the nervous system and sense organs .320–389	237	233	56	48	61	57	53	48	67	79
Diseases of the central nervous system .320–336, 340–349	89	92	14	12	30	33	19	18	26	28
Cataract .366	13	2*23	–	1*	–	1*	*	1*5	*10	18
Diseases of the ear and mastoid process .380–389	61	52	35	29	*10	9	*8	8	*7	*6
Diseases of the circulatory system .390–459	1,438	1,361	*9	*6	119	107	428	423	882	825
Heart disease .391–392.0,393–398,402,404, 410–416, 420–429	981	945	*	1*	69	61	313	300	595	580
Acute myocardial infarction .410	191	182	–	–	13	10	65	61	114	111
Atherosclerotic heart disease .414.0	89	105	–	1*	*	1*6	40	46	43	52
Other ischemic heart disease .411–413,414.1–419.9	261	243	*	1–	17	13	103	94	140	137
Cardiac dysrhythmias .427	147	124	*	1*	*12	10	36	35	98	78
Congestive heart failure .428.0	171	180	*	1*	*	1*5	28	31	139	144
Cerebrovascular disease .430–438	224	204	*	1*	*	1*9	40	45	177	150
Diseases of the respiratory system .460–519	967	962	259	244	163	153	168	178	377	387
Acute respiratory infections, except influenza .460–466	169	165	88	73	17	17	21	28	43	46
Chronic disease of tonsils and adenoids .474	55	58	34	41	20	16	*	1*	*	1*
Pneumonia, all forms .480–486	325	344	79	83	39	36	49	51	158	174
Asthma .493	126	127	37	35	32	30	28	28	30	35
Diseases of the digestive system .520–579	927	830	90	75	277	255	237	199	323	301
Ulcers of the stomach and small intestine .531–534	73	67	*	1*	14	14	24	14	35	39
Gastritis and duodenitis .535	46	38	*	1*	15	11	13	11	16	13

Appendicitis .540–543	58	55	14	15	35	33	*	1*4	*	1*4
Inguinal hernia .550	72	67	*	1*7	19	20	25	16	24	24
Noninfectious enteritis and colitis .555–556,558	119	93	49	232	35	32	14	12	21	17
Cholelithiasis .574	124	123	*	1–	48	53	36	33	41	37
Diseases of the genitourinary system .580–629	631	542	17	14	266	231	148	126	200	171
Calculus of kidney and ureter .592	66	61	*	1*	30	33	23	20	*12	7
Hyperplasia of prostate .600	74	68	–	–	*	1*	17	17	56	51
Complications of pregnancy, childbirth, and the puerperium[3] .630–676	220	218	*	1*	219	217	*	1*	...	...
Abortions and ectopic and molar pregnancies .630–639	80	76	*	1*	80	75	*	1*	...	...
Diseases of the skin and subcutaneous tissue .680–709	127	108	*13	*7	46	36	31	27	38	38
Diseases of the musculoskeletal system and connective tissue .710–739	494	420	*11	11	195	154	152	131	137	123
Arthropathies and related disorders .710–719	119	125	*	1*	36	33	33	32	50	57
Intervertebral disc disorders .722	141	110	*	1*	76	56	49	42	15	11
Congenital anomalies .740–759	50	50	26	32	14	11	*7	*6	*	1*
Certain conditions originating in the perinatal period .760–779	39	32	39	32	*	1*	–	–	–	1*
Symptoms, signs, and ill-defined conditions .780–799	111	92	20	13	47	37	24	30	19	13
Injury and poisoning .800–999	736	681	72	69	319	284	128	128	217	199
Fractures, all sites .800–829	273	255	24	20	91	79	47	45	111	111
Fracture of neck of femur .820	72	69	*	1*	*	1*	*8	*7	60	58
Sprains and strains of back (including neck) .846–847	36	32	*	1*	23	19	*8	8	*	1*
Intracranial injuries (excluding those with skull fracture) .850–854	51	46	*8	10	30	24	*	1*	*9	*7
Lacerations and open wounds .870–904	53	52	*7	*5	35	34	*	18	*	1*4
Supplementary classifications .V01–V82	1,066	1,020	16	20	1,008	933	21	33	22	34
Females with deliveries .V27	966	900	*	1*	962	896	*	1*	...	...

[1]Difference between estimates using old and new methods not tested.

[2]Difference from estimate using old method significant at the $p < .05$ level.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 10. Number of days of care for patients discharged from short-stay hospitals using old and new survey methods, by age and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	All ages		Under 15 years		15–44 years		45–64 years		65 years and over	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of days of care in thousands									
All conditions	55,878	53,606	3,728	3,161	15,453	14,024	12,063	12,057	24,634	24,364
Infectious and parasitic diseases .001–139	1,313	1,403	231	191	266	302	257	383	559	528
Neoplasms .140–239	4,685	4,670	*190	[1]68	559	549	1,536	1,492	2,400	2,562
Malignant neoplasms .140–208,230–234	4,108	4,131	*186	[1]*60	340	333	1,327	1,318	2,255	2,420
Malignant neoplasm of large intestine and rectum .153–154,197.5	642	566	–	–	*	[2]*	162	145	453	396
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	568	670	–	[2]*	*	[2]*	221	287	330	364
Malignant neoplasm of breast .174–175,198.81	280	331	–	–	*	[2]*46	124	133	131	152
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	577	539	*	[2]*	219	217	210	173	144	142
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	2,006	2,113	116	121	333	308	463	582	1,093	1,102
Diabetes mellitus .250	851	995	*	[2]*34	184	203	274	349	364	408
Diseases of the blood and blood-forming organs .280–289	470	461	*39	48	121	104	86	83	224	225
Mental disorders .290–319	5,466	4,988	392	[1]254	3,238	3,099	1,052	913	784	722
Psychoses .290–299	2,767	2,836	*	[2]135	1,461	1,503	632	623	594	575
Alcohol dependence syndrome .303	980	749	*	[2]–	684	564	239	163	*	[2]*
Diseases of the nervous system and sense organs .320–389	1,247	1,314	167	185	351	279	264	315	465	535
Diseases of the central nervous system .320–336, 340–349	791	868	56	97	259	207	158	210	317	353
Cataract .366	24	32	–	[2]*	–	[2]*	*	[2]*6	*16	[2]*
Diseases of the ear and mastoid process .380–389	163	128	88	58	*19	20	*22	21	*35	*29
Diseases of the circulatory system .390–459	11,088	10,519	*50	*46	720	594	2,854	2,724	7,463	7,155
Heart disease .391–392.0,393–398,402,404, 410–416, 420–429	7,053	6,920	*	[2]*	415	353	1,960	1,833	4,653	4,714
Acute myocardial infarction .410	1,748	1,603	–	–	*120	85	477	486	1,151	1,031
Atherosclerotic heart disease .414.0	533	705	–	[2]*	*	[2]*29	201	252	303	423
Other ischemic heart disease .411–413,414.1–419.9	1,367	1,395	*	[2]–	70	47	485	415	812	933
Cardiac dysrhythmias .427	882	700	*	[2]*	*45	41	214	135	613	517
Congestive heart failure .428.0	1,483	1,588	*	[2]*	*	[2]*27	233	276	1,217	1,280
Cerebrovascular disease .430–438	2,302	1,999	*	[2]*	*	[2]55	382	382	1,867	1,558
Diseases of the respiratory system .460–519	6,307	6,658	995	850	687	698	1,153	1,338	3,472	3,772
Acute respiratory infections, except influenza .460–466	847	830	337	253	62	71	132	170	317	337
Chronic disease of tonsils and adenoids .474	71	66	43	45	26	20	*	[2]*	*	[2]*
Pneumonia, all forms .480–486	2,598	2,898	417	408	248	260	362	445	1,572	1,786
Asthma .493	636	696	114	105	142	128	195	175	185	287
Diseases of the digestive system .520–579	5,425	4,965	305	262	1,326	1,145	1,351	1,296	2,444	2,263
Ulcers of the stomach and small intestine .531–534	531	436	*	[2]*	60	76	168	[1]88	302	271
Gastritis and duodenitis .535	194	178	*	[2]*	54	42	49	50	85	80
Appendicitis .540–543	322	277	62	70	164	135	*	[2]*35	*	[2]*36

Inguinal hernia .550	174	171	*	[2]*	35	35	56	38	73	86
Noninfectious enteritis and colitis .555–556,558	502	421	129	94	146	143	71	72	155	112
Cholelithiasis .574	785	794	*	[2]–	254	274	198	204	333	316
Diseases of the genitourinary system .580–629	3,263	2,885	91	55	999	925	693	624	1,479	1,281
Calculus of kidney and ureter .592	202	174	*	[2]*	86	79	59	66	*56	25
Hyperplasia of prostate .600	402	373	–	–	*	[2]*	85	79	316	294
Complications of pregnancy, childbirth, and the puerperium[3] .630–676	578	570	*	[2]*	577	569	*	[2]*	...	...
Abortions and ectopic and molar pregnancies .630–639	169	181	*	[2]*	168	181	*	[2]*	...	...
Diseases of the skin and subcutaneous tissue .680–709	1,128	933	*55	[1]*22	271	190	321	247	482	474
Diseases of the musculoskeletal system and connective tissue .710–739	3,269	2,702	*65	52	1,060	[1]694	893	811	1,251	1,145
Arthropathies and related disorders .710–719	855	984	*	[2]*	140	131	226	223	485	619
Intervertebral disc disorders .722	914	661	*	[2]*	495	[1]304	300	265	117	91
Congenital anomalies .740–759	332	303	189	179	61	55	*63	*58	*	[2]*
Certain conditions originating in the perinatal period .760–779	333	345	333	344	*	[2]*	–	–	–	[2]*
Symptoms, signs, and ill-defined conditions .780–799	367	351	85	[1]37	122	135	73	[1]131	87	48
Injury and poisoning .800–999	5,173	4,987	369	308	1,669	1,544	909	917	2,225	2,217
Fractures, all sites .800–829	2,335	2,399	139	130	623	514	333	361	1,240	1,393
Fracture of neck of femur .820	969	1,023	*	[2]*	*	[2]*	*99	*93	806	864
Sprains and strains of back (including neck) .846–847	193	155	*	[2]*	118	99	*49	39	*	[2]*
Intracranial injuries (excluding those with skull fracture) .850–854	474	322	*69	[1]21	138	162	*	[2]*61	*243	[1]*78
Lacerations and open wounds .870–904	213	187	*13	*14	151	124	*	[2]25	*	[2]*25
Supplementary classifications .V01–V82	3,428	3,439	53	[1]137	3,094	2,835	93	144	188	[1]324
Females with deliveries .V27	2,874	2,708	*	[2]*	2,864	2,696	*	[2]*	...	...

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 11. Average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by age and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	All ages		Under 15 years		15–44 years		45–64 years		65 years and over	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Average length of stay in days									
All conditions	6.5	6.7	4.9	4.6	4.8	4.8	6.7	7.1	8.8	9.1
Infectious and parasitic diseases .001–139	7.0	8.3	3.7	3.7	5.7	6.8	10.3	13.3	10.5	11.9
Neoplasms .140–239	8.2	8.6	*16.0	[1]7.5	5.6	5.7	7.7	8.3	9.2	10.0
Malignant neoplasms .140–208,230–234	8.9	9.4	*21.2	[1]*10.0	6.6	7.2	8.3	8.8	9.4	10.2
Malignant neoplasm of large intestine and rectum .153–154,197.5	12.0	13.3	–	–	*	[2]*	11.7	13.2	12.4	13.5
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	8.5	9.7	–	[2]*	*	[2]*	8.4	9.9	9.1	9.5
Malignant neoplasm of breast .174–175,198.81	5.4	6.1	–	–	*	[2]*7.2	5.8	5.5	5.4	6.3
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	5.1	5.3	*	[2]*	4.5	4.3	5.1	5.9	7.1	7.6
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	7.3	7.5	4.2	4.0	5.3	5.3	6.9	7.9	9.3	9.1
Diabetes mellitus .250	8.1	8.2	*	[2]*5.0	5.8	6.1	7.9	8.9	10.5	9.8
Diseases of the blood and blood-forming organs .280–289	5.8	6.3	*3.3	4.0	4.9	5.5	5.8	6.5	7.4	7.7
Mental disorders .290–319	12.6	12.8	22.9	20.0	12.1	13.0	12.2	11.7	12.6	11.9
Psychoses .290–299	14.6	15.2	*	[2]*25.3	14.5	14.7	14.4	15.1	14.4	15.0
Alcohol dependence syndrome .303	10.8	12.1	*	[2]–	10.9	14.2	10.6	8.7	*	[2]*
Diseases of the nervous system and sense organs .320–389	5.3	5.7	3.0	3.8	5.8	4.9	5.0	6.5	6.9	6.8
Diseases of the central nervous system .320–336, 340–349	8.9	9.5	4.0	[1]7.8	8.6	[1]6.2	8.3	11.9	12.2	12.5
Cataract .366	1.9	1.4	–	[2]*	–	[2]*	*	[2]*1.3	*1.6	[2]*
Diseases of the ear and mastoid process .380–389	2.7	2.5	2.5	2.0	*1.8	2.2	*2.5	2.7	*4.9	*4.9
Diseases of the circulatory system .390–459	7.7	7.7	*5.8	*7.5	6.0	5.6	6.7	6.4	8.5	8.7
Heart disease .391–392.0,393–398,402,404, 410–416,420–429	7.2	7.3	*	[2]*	6.0	5.7	6.3	6.1	7.8	8.1
Acute myocardial infarction .410	9.1	8.8	–	–	*9.2	8.3	7.4	8.0	10.1	9.3
Atherosclerotic heart disease .414.0	6.0	6.7	–	[2]*	*	[2]*4.6	5.0	5.5	7.1	8.1
Other ischemic heart disease .411–413,414.1–419.9	5.2	5.7	*	[2]–	4.1	3.7	4.7	4.4	5.8	6.8
Cardiac dysrhythmias .427	6.0	5.7	*	[2]*	*3.8	4.0	6.0	[1]3.9	6.3	6.7
Congestive heart failure .428.0	8.7	8.8	*	[2]*	*	[2]*5.7	8.3	8.9	8.8	8.9
Cerebrovascular disease .430–438	10.3	9.8	*	[2]*	*	[2]6.1	9.5	8.6	10.5	10.4
Diseases of the respiratory system .460–519	6.5	6.9	3.8	3.5	4.2	4.6	6.9	7.5	9.2	9.8
Acute respiratory infections, except influenza .460–466	5.0	5.0	3.8	3.5	3.7	4.0	6.4	6.1	7.3	7.3
Chronic disease of tonsils and adenoids .474	1.3	1.1	1.3	1.1	1.3	1.2	*	[2]*	*	[2]*
Pneumonia, all forms .480–486	8.0	8.4	5.3	4.9	6.4	7.1	7.3	8.8	9.9	10.3
Asthma .493	5.0	5.5	3.1	3.0	4.5	4.3	7.0	6.3	6.2	8.3
Diseases of the digestive system .520–579	5.9	6.0	3.4	3.5	4.8	4.5	5.7	6.5	7.6	7.5
Ulcers of the stomach and small intestine .531–534	7.3	6.5	*	[2]*	4.4	5.3	6.9	6.5	8.6	7.0
Gastritis and duodenitis .535	4.2	4.7	*	[2]*	3.6	3.7	3.8	4.6	5.2	5.9

Appendicitis	.540–543	5.5	5.0	4.5	4.8	4.6	4.1	*	[2]*9.2	*	[2]*10.1
Inguinal hernia	.550	2.4	2.5	*	[2]*	1.9	1.7	2.3	2.4	3.0	3.6
Noninfectious enteritis and colitis	.555–556,558	4.2	4.5	2.7	2.9	4.1	4.5	4.9	5.9	7.5	6.8
Cholelithiasis	.574	6.3	6.5	*	[2]–	5.3	5.2	5.5	6.2	8.2	8.5
Diseases of the genitourinary system	.580–629	5.2	5.3	5.4	3.9	3.8	4.0	4.7	5.0	7.4	7.5
Calculus of kidney and ureter	.592	3.1	2.9	*	[2]*	2.8	2.4	2.5	3.4	*4.7	3.6
Hyperplasia of prostate	.600	5.5	5.5	–	–	*	[2]*	5.0	4.6	5.6	5.8
Complications of pregnancy, childbirth, and the puerperium[3]	.630–676	2.6	2.6	*	[2]*	2.6	2.6	*	[2]*	...	...
Abortions and ectopic and molar pregnancies	.630–639	2.1	2.4	*	[2]*	2.1	2.4	*	[2]*	...	...
Diseases of the skin and subcutaneous tissue	.680–709	8.9	8.6	*4.1	*3.1	5.9	5.3	10.5	9.1	12.8	12.5
Diseases of the musculoskeletal system and connective tissue	.710–739	6.6	6.4	*5.9	4.9	5.4	4.5	5.9	6.2	9.1	9.3
Arthropathies and related disorders	.710–719	7.2	7.9	*	[2]*	3.9	4.0	6.9	7.1	9.8	10.8
Intervertebral disc disorders	.722	6.5	6.0	*	[2]*	6.5	5.4	6.1	6.3	7.8	8.2
Congenital anomalies	.740–759	6.6	6.1	7.3	5.6	4.3	4.8	*8.7	*10.6	*	[2]*
Certain conditions originating in the perinatal period	.760–779	8.5	10.7	8.5	10.7	*	[2]*	–	–	–	[2]*
Symptoms, signs, and ill-defined conditions	.780–799	3.3	3.8	4.2	3.0	2.6	3.6	3.1	4.4	4.5	3.7
Injury and poisoning	.800–999	7.0	7.3	5.2	4.4	5.2	5.4	7.1	7.2	10.3	11.1
Fractures, all sites	.800–829	8.5	9.4	5.8	6.5	6.8	6.5	7.1	8.0	11.2	12.5
Fracture of neck of femur	.820	13.4	14.9	*	[2]*	*	[2]*	*12.2	*13.3	13.5	14.9
Sprains and strains of back (including neck)	.846–847	5.3	4.9	*	[2]*	5.0	5.1	*6.1	4.7	*	[2]*
Intracranial injuries (excluding those with skull fracture)	.850–854	9.2	7.0	*8.2	[1]2.1	4.6	[1]6.9	*	[2]*10.9	*27.2	[1]*10.6
Lacerations and open wounds	.870–904	4.0	3.6	*1.9	*2.5	4.4	3.6	*	[2]3.3	*	[2]*5.8
Supplementary classifications	.V01–V82	3.2	3.4	3.3	[1]6.8	3.1	3.0	4.4	4.3	8.7	9.6
Females with deliveries	.V27	3.0	3.0	*	[2]*	3.0	3.0	*	[2]*	...	...

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 12. Number of patients discharged from short-stay hospitals using old and new survey methods, by sex, race, and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	All patients		Male		Female		White		All other races		Race not stated	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of patients discharged in thousands											
All conditions	8,596	8,003	3,513	3,311	5,083	4,692	6,189	6,048	1,338	1,239	1,069	[1]717
Infectious and parasitic diseases .001–139	188	169	90	84	98	85	132	124	34	30	22	16
Neoplasms .140–239	573	540	238	217	335	323	430	416	76	73	67	51
Malignant neoplasms .140–208,230–234	460	439	216	201	244	238	352	341	53	53	55	44
Malignant neoplasm of large intestine and rectum .153–154,197.5	53	43	27	19	27	23	43	35	*	[2]*6	*	[2]*
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	67	69	42	43	25	26	54	56	*	[2]*7	*	[2]*
Malignant neoplasm of breast .174–175,198.81	52	54	–	[2]*	52	54	39	44	*	[2]*4	*9	[2]*
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	113	101	22	16	91	85	78	74	23	20	*12	[2]*
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	276	282	108	112	168	170	195	195	52	62	29	25
Diabetes mellitus .250	106	121	42	55	64	67	70	77	25	33	*11	12
Diseases of the blood and blood-forming organs .280–289	82	73	36	33	46	40	50	50	23	19	*8	[2]*
Mental disorders .290–319	434	390	237	191	198	199	302	304	83	59	50	[1]27
Psychoses .290–299	189	187	86	82	103	105	130	146	36	31	24	[1]10
Alcohol dependence syndrome .303	91	[1]62	69	[1]46	22	16	63	48	19	[1]10	*9	[2]*
Diseases of the nervous system and sense organs .320–389	237	233	120	114	117	118	168	176	32	35	37	22
Diseases of the central nervous system .320–336,340–349	89	92	42	45	47	46	65	66	*11	[1]18	*13	[2]*
Cataract .366	13	[1]23	*	[2]9	*7	14	*9	[1]17	*	[2]*	*	[2]*
Diseases of the ear and mastoid process .380–389	61	52	34	28	27	24	45	40	*7	*7	*8	[2]*
Diseases of the circulatory system .309–459	1,438	1,361	731	713	707	648	1,105	1,086	173	164	160	[1]111
Heart disease .391–392.0,393–398, 402,404, 410–416,420–429	981	945	519	507	462	438	763	762	111	104	107	79
Acute myocardial infarction .410	191	182	122	116	69	66	154	156	18	15	20	11
Atherosclerotic heart disease .414.0	89	105	62	69	27	36	71	86	*8	*5	*10	13
Other ischemic heart disease .411–413, 414.1–419.9	261	243	135	138	126	105	202	193	29	24	30	26
Cardiac dysrhythmias .427	147	124	70	58	77	65	119	103	14	15	14	[2]*
Congestive heart failure .428.0	171	180	73	76	98	104	126	140	26	27	20	13
Cerebrovascular disease .430–438	224	204	100	95	124	109	173	162	27	24	24	18
Diseases of the respiratory system .460–519	967	962	473	468	494	494	721	741	145	144	101	77
Acute respiratory infections, except influenza .460–466	169	165	80	79	88	85	123	126	25	20	20	18
Chronic disease of tonsils and adenoids .474	55	58	22	26	33	32	42	51	*	[2]*4	*8	[2]*
Pneumonia, all forms .480–486	325	344	162	171	163	172	241	266	52	57	33	21
Asthma .493	126	127	57	54	69	73	87	81	27	33	*12	13

Diseases of the digestive system .520–579	927	830	425	396	502	434	687	654	128	104	112	[1]72
Ulcers of the stomach and small intestine.531–534	73	67	40	38	33	29	52	53	*12	11	*8	[2]*
Gastritis and duodenitis .535	46	38	16	14	30	23	33	30	*8	*6	*	[2]*
Appendicitis .540–543	58	55	34	31	24	24	42	43	*8	*6	*8	[2]*
Inguinal hernia.550	72	67	65	61	*8	*6	58	55	*	[2]*7	*8	[2]*
Noninfectious enteritis and colitis .555–556,558	119	93	51	41	68	52	88	71	18	14	*13	[2]*
Cholelithiasis.574	124	123	34	34	90	89	88	98	15	11	21	14
Diseases of the genitourinary system.580–629	631	542	231	211	400	330	459	416	88	83	84	[1]43
Calculus of kidney and ureter .592	66	61	43	38	23	23	52	50	*	[2]*4	*9	[2]*
Hyperplasia of prostate .600	74	68	74	68	...	...	59	56	*	[2]*7	*11	[2]*
Complications of pregnancy, childbirth, and the puerperium[3] .630–676	220	218	...	...	220	218	138	133	58	62	24	23
Abortions and ectopic and molar pregnancies .630–639	80	76	...	...	80	76	48	44	25	22	*7	9
Diseases of the skin and subcutaneous tissue.680–709	127	108	62	57	65	51	87	83	23	19	17	[2]*
Diseases of the musculoskeletal system and connective tissue.710–739	494	420	236	204	259	216	369	347	57	[1]35	69	[1]37
Arthropathies and related disorders .710–719	119	125	53	55	67	70	88	100	*13	10	18	14
Intervertebral disc disorders .722	141	110	82	67	58	43	108	93	14	8	18	[1]8
Congenital anomalies.740–759	50	50	25	29	25	20	33	35	*8	8	*9	[2]*
Certain conditions originating in the perinatal period.760–779	39	32	25	17	15	15	27	18	*8	10	*	[2]*
Symptoms, signs, and ill-defined conditions.780–799	111	92	50	49	60	43	80	69	*13	14	17	9
Injury and poisoning .800–999	736	681	385	364	350	317	513	517	123	106	99	[1]59
Fractures, all sites .800–829	273	255	124	122	149	133	203	201	34	30	35	23
Fracture of neck of femur .820	72	69	19	20	53	49	57	58	*	[2]*5	*11	[2]*
Sprains and strains of back (including neck) .846–847	36	32	19	18	17	14	28	25	*7	*4	*	[2]*
Intracranial injuries (excluding those with skull fracture) .850–854	51	46	27	28	24	19	35	37	*10	*7	*7	[2]*
Lacerations and open wounds.870–904	53	52	41	40	*12	12	27	30	18	18	*8	[2]*
Supplementary classifications .V01–V82	1,066	1,020	41	52	1,025	969	694	686	214	210	158	124
Females with deliveries .V27	966	900	...	...	966	900	618	593	199	191	149	115

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 13. Number of days of care for patients discharged from short-stay hospitals using old and new survey methods, by sex, race, and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	All patients		Male		Female		White		All other races		Race not stated	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of days of care in thousands											
All conditions	55,878	53,606	24,412	23,599	31,466	30,006	40,843	41,250	8,923	8,361	6,112	3,995
Infectious and parasitic diseases .001–139	1,313	1,403	633	766	680	637	885	1,056	277	265	151	82
Neoplasms .140–239	4,685	4,670	2,081	1,976	2,604	2,694	3,463	3,472	724	774	497	424
Malignant neoplasms .140–208,230–234	4,108	4,131	1,959	1,879	2,149	2,252	3,089	3,098	585	638	434	395
Malignant neoplasm of large intestine and rectum .153–154,197.5	642	566	321	233	322	333	527	487	*	[1]*57	*	[1]*
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	568	670	344	398	224	272	458	543	*	[1]*67	*	[1]*
Malignant neoplasm of breast .174–175,198.81	280	331	–	[1]*	280	330	212	248	*	[1]*43	*40	[1]*
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	577	539	122	97	455	442	375	375	140	136	*63	[1]*
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	2,006	2,113	774	847	1,232	1,266	1,465	1,446	361	512	179	156
Diabetes mellitus .250	851	995	326	466	526	529	578	605	192	293	*80	97
Diseases of the blood and blood-forming organs .280–289	470	461	179	200	290	261	299	319	125	112	*46	[1]*
Mental disorders .290–319	5,466	4,988	2,731	2,388	2,735	2,600	3,908	3,958	1,005	[2]716	553	[2]313
Psychoses .290–299	2,767	2,836	1,086	1,202	1,681	1,634	1,942	2,248	490	465	335	[2]123
Alcohol dependence syndrome .303	980	749	732	520	248	229	727	590	168	109	*85	[1]*
Diseases of the nervous system and sense organs .320–389	1,247	1,314	601	648	646	666	845	969	212	216	190	129
Diseases of the central nervous system .320–336,340–349	791	868	371	464	420	404	543	628	*141	154	*107	[1]*
Cataract .366	24	32	*	[1]14	9	17	*	[1]23	*	[1]*	*	[1]*
Diseases of the ear and mastoid process .380–389	163	128	87	59	76	70	112	97	*	[1]*17	*31	[1]*
Diseases of the circulatory system .309–459	11,088	10,519	5,376	5,241	5,712	5,278	8,531	8,541	1,427	1,299	1,130	[2]679
Heart disease .391–392.0,393–398,402, 404, 410–416,420–429	7,053	6,920	3,648	3,508	3,404	3,413	5,432	5,694	873	745	747	481
Acute myocardial infarction .410	1,748	1,603	1,070	959	678	644	1,396	1,399	169	123	183	[2]80
Atherosclerotic heart disease .414.0	533	705	365	425	169	[2]281	435	584	*45	*46	*53	75
Other ischemic heart disease .411–413, 414.1–419.9	1,367	1,395	722	732	645	662	1,040	1,114	168	141	159	140
Cardiac dysrhythmias .427	882	700	426	354	456	347	661	598	98	66	124	[1]*
Congestive heart failure .428.0	1,483	1,588	605	640	878	948	1,125	1,273	233	223	126	92
Cerebrovascular disease .430–438	2,302	1,999	907	866	1,395	1,133	1,771	1,592	333	296	198	111
Diseases of the respiratory system .460–519	6,307	6,658	3,093	3,198	3,215	3,460	4,822	5,319	888	894	598	445
Acute respiratory infections, except influenza .460–466	847	830	405	375	442	455	635	662	115	93	97	76
Chronic disease of tonsils and adenoids .474	71	66	28	30	43	36	57	58	*	[1]*	*	[1]*
Pneumonia, all forms .480–486	2,598	2,898	1,294	1,395	1,305	1,504	1,939	2,363	393	393	267	[2]142
Asthma .493	636	696	279	298	357	398	449	481	133	149	*53	66
Diseases of the digestive system .520–579	5,425	4,965	2,310	2,252	3,115	2,714	4,056	3,967	764	641	604	357
Ulcers of the stomach and small intestine .531–534	531	436	252	242	278	194	383	355	*74	65	*74	[1]*
Gastritis and duodenitis .535	194	178	59	64	135	114	138	146	*36	*26	*20	[1]*
Appendicitis .540–543	322	277	204	157	118	120	243	214	*39	*34	*39	[1]*

Inguinal hernia	.550	174	171	152	157	*22	*14	133	133	*	[1]*28	*	[1]*
Noninfectious enteritis and colitis	.555–556,558	502	421	197	205	304	216	387	338	70	59	*45	[1]*
Cholelithiasis	.574	785	794	239	268	546	526	555	636	117	76	113	82
Diseases of the genitourinary system	.580–629	3,263	2,885	1,290	1,182	1,972	1,703	2,365	2,185	525	521	372	[2]179
Calculus of kidney and ureter	.592	202	174	125	96	77	79	160	145	*	[1]*	*27	[1]*
Hyperplasia of prostate	.600	402	373	402	373	...	...	330	304	*	[1]*45	*45	[1]*
Complications of pregnancy, childbirth, and the puerperium[3]	.630–676	578	570	...	...	578	570	356	340	156	170	67	60
Abortions and ectopic and molar pregnancies	.630–639	169	181	...	...	169	181	102	102	50	55	*	[1]*
Diseases of the skin and subcutaneous tissue	.680–709	1,128	933	499	452	629	481	756	726	241	175	131	[1]*
Diseases of the musculoskeletal system and connective tissue	.710–739	3,269	2,702	1,496	1,187	1,773	1,514	2,430	2,213	421	[2]252	417	[2]236
Arthropathies and related disorders	.710–719	855	984	333	378	522	606	652	789	*86	97	117	99
Intervertebral disc disorders	.722	914	661	489	366	425	295	692	559	113	[2]52	109	[2]49
Congenital anomalies	.740–759	332	303	152	176	181	126	242	195	*38	64	*52	[1]*
Certain conditions originating in the perinatal period	.760–779	333	345	237	170	96	[2]175	199	149	*113	149	*20	[1]*
Symptoms, signs, and ill-defined conditions	.780–799	367	351	132	151	235	200	259	262	*41	45	68	43
Injury and poisoning	.800–999	5,173	4,987	2,564	2,437	2,608	2,550	3,678	3,801	891	802	604	384
Fractures, all sites	.800–829	2,335	2,399	1,018	934	1,317	1,465	1,744	1,948	325	271	266	179
Fracture of neck of femur	.820	969	1,023	291	268	679	755	741	875	*	[1]*74	*112	[1]*
Sprains and strains of back (including neck)	.846–847	193	155	94	85	99	70	146	127	*41	*18	*	[1]*
Intracranial injuries (excluding those with skull fracture)	.850–854	474	322	285	217	189	[2]104	366	[2]237	*86	*75	*22	[1]*
Lacerations and open wounds	.870–904	213	187	156	146	56	41	100	109	74	70	*39	[1]*
Supplementary classifications	.V01–V82	3,428	3,439	264	327	3,164	3,112	2,282	2,331	713	751	433	357
Females with deliveries	.V27	2,874	2,708	...	...	2,874	2,708	1,859	1,773	615	619	400	316

[1]Difference between estimates using old and new methods not tested.

[2]Difference from estimate using old method significant at the $p < .05$ level.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 14. Average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by sex, race, and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	All patients		Male		Female		White		All other races		Race not stated	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Average length of stay in days											
All conditions	6.5	6.7	6.9	7.1	6.2	6.4	6.6	6.8	6.7	6.7	5.7	5.6
Infectious and parasitic diseases .001–139	7.0	8.3	7.0	[1]9.1	7.0	7.5	6.7	8.5	8.3	8.9	6.8	5.1
Neoplasms .140–239	8.2	8.6	8.7	9.1	7.8	8.3	8.1	8.4	9.5	10.5	7.4	8.3
Malignant neoplasms .140–208,230–234	8.9	9.4	9.1	9.3	8.8	9.5	8.8	9.1	11.0	11.9	7.9	9.0
Malignant neoplasm of large intestine and rectum .153–154,197.5	12.0	13.3	12.1	11.9	12.0	14.5	12.1	14.0	*	[2]*10.3	*	[2]*
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	8.5	9.7	8.2	9.2	8.9	10.5	8.4	9.7	*	[2]*10.2	*	[2]*
Malignant neoplasm of breast .174–175,198.81	5.4	6.1	–	[2]*	5.4	6.1	5.5	5.7	*	[2]*9.4	*4.7	[2]*
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	5.1	5.3	5.5	6.0	5.0	5.2	4.8	5.0	6.0	6.8	*5.2	[2]*
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	7.3	7.5	7.2	7.6	7.3	7.4	7.5	7.4	7.0	8.3	6.2	6.1
Diabetes mellitus .250	8.1	8.2	7.8	8.5	8.2	8.0	8.3	7.9	7.7	9.0	*7.5	8.2
Diseases of the blood and blood-forming organs .280–289	5.8	6.3	5.0	6.1	6.3	6.5	6.0	6.4	5.4	5.8	*5.4	[2]*
Mental disorders .290–319	12.6	12.8	11.5	12.5	13.8	13.1	12.9	13.0	12.1	12.0	11.1	11.8
Psychoses .290–299	14.6	15.2	12.6	14.6	16.3	15.6	15.0	15.4	13.7	14.8	14.1	12.4
Alcohol dependence syndrome .303	10.8	12.1	10.6	11.3	11.4	14.5	11.6	12.3	8.6	10.7	*9.9	[2]*
Diseases of the nervous system and sense organs .320–389	5.3	5.7	5.0	5.7	5.5	5.6	5.0	5.5	6.7	6.2	5.2	5.9
Diseases of the central nervous system .320–336,340–349	8.9	9.5	8.7	10.3	9.0	8.7	8.3	9.5	*12.8	[1]8.6	*8.4	[2]*
Cataract .366	1.9	1.4	*	[2]1.6	*1.3	1.3	*	[2]1.4	*	[2]*	*	[2]*
Diseases of the ear and mastoid process .380–389	2.7	2.5	2.6	2.1	2.8	2.9	2.5	2.5	*	[2]*2.5	*3.8	[2]*
Diseases of the circulatory system .309–459	7.7	7.7	7.4	7.4	8.1	8.1	7.7	7.9	8.2	7.9	7.1	6.1
Heart disease .391–392.0,393–398,402, 404, 410–416,420–429	7.2	7.3	7.0	6.9	7.4	7.8	7.1	7.5	7.8	7.2	7.0	6.1
Acute myocardial infarction .410	9.1	8.8	8.8	8.3	9.8	9.7	9.1	9.0	9.6	8.0	9.0	7.6
Atherosclerotic heart disease .414.0	6.0	6.7	5.9	6.2	6.3	7.9	6.1	6.8	*5.7	*8.5	5.6	5.7
Other ischemic heart disease .411–413, 414.1–419.9	5.2	5.7	5.4	5.3	5.1	6.3	5.1	5.8	5.8	5.8	5.4	5.3
Cardiac dysrhythmias .427	6.0	5.7	6.1	6.1	5.9	5.3	5.5	5.8	7.0	[1]4.4	9.0	[2]*
Congestive heart failure .428.0	8.7	8.8	8.3	8.4	8.9	9.1	9.0	9.1	9.0	8.2	6.5	6.9
Cerebrovascular disease .430–438	10.3	9.8	9.1	9.1	11.2	10.4	10.2	9.8	12.3	12.3	8.4	6.2
Diseases of the respiratory system .460–519	6.5	6.9	6.5	6.8	6.5	7.0	6.7	7.2	6.1	6.2	5.9	5.8
Acute respiratory infections, except influenza .460–466	5.0	5.0	5.0	4.7	5.0	5.3	5.2	5.2	4.6	4.7	4.8	4.1
Chronic disease of tonsils and adenoids .474	1.3	1.1	1.3	1.2	1.3	1.1	1.3	1.1	*	[2]*	*	[2]*
Pneumonia, all forms .480–486	8.0	8.4	8.0	8.1	8.0	8.7	8.1	8.9	7.6	6.9	8.2	6.7
Asthma .493	5.0	5.5	4.9	5.5	5.1	5.5	5.2	5.9	4.9	4.6	*4.6	5.2
Diseases of the digestive system .520–579	5.9	6.0	5.4	5.7	6.2	6.2	5.9	6.1	6.0	6.2	5.4	5.0
Ulcers of the stomach and small intestine .531–534	7.3	6.5	6.3	6.4	8.4	6.7	7.3	6.7	*6.0	6.0	*8.8	[2]*

Gastritis and duodenitis	.535	4.2	4.7	3.7	4.4	4.5	4.9	4.1	4.8	*4.6	*4.6	*	2*
Appendicitis	.540–543	5.5	5.0	6.0	5.1	4.8	4.9	5.8	5.0	*4.9	*5.8	*4.7	2*
Inguinal hernia	.550	2.4	2.5	2.3	2.6	*2.9	*2.2	2.3	2.4	*	2*3.8	*	2*
Noninfectious enteritis and colitis	.555–556,558	4.2	4.5	3.9	5.0	4.4	4.2	4.4	4.7	3.9	4.2	*3.5	2*
Cholelithiasis	.574	6.3	6.5	7.0	7.8	6.0	5.9	6.3	6.5	7.6	6.8	5.5	6.1
Diseases of the genitourinary system	.580–629	5.2	5.3	5.6	5.6	4.9	5.2	5.2	5.3	5.9	6.3	4.4	4.2
Calculus of kidney and ureter	.592	3.1	2.9	2.9	2.5	3.3	3.4	3.1	2.9	*	2*	*3.0	2*
Hyperplasia of prostate	.600	5.5	5.5	5.5	5.5	...	...	5.6	5.4	*	2*6.9	*4.0	2*
Complications of pregnancy, childbirth, and the puerperium[3]	.630–676	2.6	2.6	...	...	2.6	2.6	2.6	2.6	2.7	2.8	2.8	2.6
Abortions and ectopic and molar pregnancies	.630–639	2.1	2.4	...	...	2.1	2.4	2.1	2.3	2.0	2.5	*	2*
Diseases of the skin and subcutaneous tissue	.680–709	8.9	8.6	8.0	7.9	9.7	9.4	8.7	8.8	10.4	9.3	7.5	2*
Diseases of the musculoskeletal system and connective tissue	.710–739	6.6	6.4	6.4	5.8	6.8	7.0	6.6	6.4	7.4	7.1	6.1	6.4
Arthropathies and related disorders	.710–719	7.2	7.9	6.3	6.9	7.8	8.6	7.4	7.9	*6.8	9.3	6.3	6.8
Intervertebral disc disorders	.722	6.5	6.0	5.9	5.4	7.3	6.9	6.4	6.0	7.8	6.4	5.9	5.9
Congenital anomalies	.740–759	6.6	6.1	6.0	6.1	7.3	6.2	7.3	5.6	*4.7	7.6	*5.9	2*
Certain conditions originating in the perinatal period	.760–779	8.5	10.7	9.6	9.9	6.5	[1]11.7	7.4	8.5	*15.0	14.9	*	2*
Symptoms, signs, and ill-defined conditions	.780–799	3.3	3.8	2.6	3.1	3.9	4.6	3.2	3.8	*3.1	3.1	3.9	4.9
Injury and poisoning	.800–999	7.0	7.3	6.7	6.7	7.4	8.0	7.2	7.4	7.2	7.6	6.1	6.5
Fractures, all sites	.800–829	8.5	9.4	8.2	7.7	8.8	[1]11.0	8.6	9.7	9.4	8.9	7.5	7.7
Fracture of neck of femur	.820	13.4	14.9	15.0	13.4	12.8	15.5	13.1	15.2	*	2*15.4	*10.2	2*
Sprains and strains of back (including neck)	.846–847	5.3	4.9	4.9	4.8	5.7	5.0	5.2	5.1	*5.7	*4.9	*	2*
Intracranial injuries (excluding those with skull fracture)	.850–854	9.2	7.0	10.4	7.9	8.0	5.6	10.5	[1]6.5	*8.9	*11.2	*3.2	2*
Lacerations and open wounds	.870–904	4.0	3.6	3.9	3.7	*4.7	3.4	3.8	3.6	4.2	4.0	*4.6	2*
Supplementary classifications	.V01–V82	3.2	3.4	6.4	6.3	3.1	3.2	3.3	3.4	3.3	3.6	2.7	2.9
Females with deliveries	.V27	3.0	3.0	...	...	3.0	3.0	3.0	3.0	3.1	3.2	2.7	2.7

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 15. Number of patients discharged from short-stay hospitals using old and new survey methods, by region and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	United States		Northeast		Midwest		South		West	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of patients discharged in thousands									
All conditions	8,596	8,003	1,701	1,788	2,278	2,034	2,859	2,783	1,758	1,398
Infectious and parasitic diseases .001–139	188	169	33	39	45	40	76	57	33	33
Neoplasms .140–239	573	540	121	139	156	117	168	196	129	90
Malignant neoplasms .140–208,230–234	460	439	96	108	126	95	133	163	105	73
Malignant neoplasm of large intestine and rectum .153–154,197.5	53	43	*13	13	*12	9	17	18	*12	1*
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	67	69	17	16	19	12	19	29	*12	12
Malignant neoplasm of breast .174–175,198.81	52	54	12	10	15	11	*13	24	*13	9
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	113	101	24	31	29	22	35	33	24	16
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	276	282	55	61	72	77	95	98	53	46
Diabetes mellitus .250	106	121	22	25	27	28	39	47	17	21
Diseases of the blood and blood-forming organs .280–289	82	73	16	17	25	19	24	25	16	12
Mental disorders .290–319	434	390	115	2 78	142	100	110	114	67	98
Psychoses .290–299	189	187	58	41	48	45	49	49	35	52
Alcohol dependence syndrome .303	91	2 62	28	2 10	37	2 19	19	22	*	1 11
Diseases of the nervous system and sense organs .320–389	237	233	49	73	79	50	67	74	42	35
Diseases of the central nervous system .320–336, 340–349	89	92	14	20	27	25	29	33	19	14
Cataract .366	13	2 23	*	1 11	*	1*	*	1 *4	*	1 *5
Diseases of the ear and mastoid process .380–389	61	52	15	19	17	8	19	18	*9	*7
Diseases of the circulatory system .390–459	1,438	1,361	296	298	371	353	483	475	288	235
Heart disease .391–392.0,393–398,402, 404,410–416, 420–429	981	945	207	210	257	246	322	322	195	166
Acute myocardial infarction .410	191	182	43	40	48	38	62	66	39	37
Atherosclerotic heart disease .414.0	89	105	17	23	33	33	24	29	15	20
Other ischemic heart disease .411–413,414.1–419.9	261	243	53	56	69	60	84	86	54	42
Cardiac dysrhythmias .427	147	124	31	27	36	32	49	46	31	19
Congestive heart failure .428.0	171	180	40	38	42	55	56	58	32	29
Cerebrovascular disease .430–438	224	204	47	41	52	53	80	74	45	35
Diseases of the respiratory system .460–519	967	962	179	197	250	266	375	340	165	158
Acute respiratory infections, except influenza .460–466	169	165	28	33	42	49	70	51	29	31
Chronic disease of tonsils and adenoids .474	55	58	*11	19	20	18	19	15	*	1 *6
Pneumonia, all forms .480–486	325	344	62	63	83	102	128	121	53	58
Asthma .493	126	127	28	31	28	33	48	40	22	23
Diseases of the digestive system .520–579	927	830	196	190	245	212	314	303	172	126
Ulcers of the stomach and small intestine .531–534	73	67	15	15	17	19	25	25	15	*8

Gastritis and duodenitis .535	46	38	*10	*7	*13	11	16	16	*7	[1]*
Appendicitis .540–543	58	55	*11	11	15	15	20	19	*12	11
Inguinal hernia .550	72	67	18	20	23	18	25	22	*7	*7
Noninfectious enteritis and colitis .555–556,558	119	93	21	19	30	25	49	35	19	14
Cholelithiasis .574	124	123	26	27	29	34	41	44	28	18
Diseases of the genitourinary system .580–629	631	542	113	122	167	147	229	196	122	[2]77
Calculus of kidney and ureter .592	66	61	14	17	18	16	26	20	*9	8
Hyperplasia of prostate .600	74	68	15	16	19	18	18	25	21	[2]9
Complications of pregnancy, childbirth, and the puerperium[3] .630–676	220	218	46	45	61	51	71	84	42	337
Abortions and ectopic and molar pregnancies .630–639	80	76	22	21	18	15	25	27	15	13
Diseases of the skin and subcutaneous tissue .680–709	127	108	29	28	31	26	39	41	29	[2]14
Diseases of the musculoskeletal system and connective tissue .710–739	494	420	84	93	135	113	167	146	109	[2]67
Arthropathies and related disorders .710–719	119	125	20	32	37	30	31	38	32	25
Intervertebral disc disorders .722	141	110	18	22	35	33	58	40	30	15
Congenital anomalies .740–759	50	50	*8	[2]17	14	9	17	11	*11	12
Certain conditions originating in the perinatal period .760–779	39	32	*	[1]*4	*8	8	17	11	*11	10
Symptoms, signs, and ill-defined conditions .780–799	111	92	15	13	33	27	37	33	25	20
Injury and poisoning .800–999	736	681	142	165	189	166	235	233	170	[2]117
Fractures, all sites .800–829	273	255	55	61	73	61	86	90	59	43
Fracture of neck/femur .820	72	69	*13	14	21	17	24	27	14	11
Sprains and strains of back (including neck) .846–847	36	32	*7	*6	*	[1]10	20	13	*	[1]*
Intracranial injuries (excluding those with skull fracture) .850–854	51	46	*13	13	15	11	*13	15	*10	8
Lacerations and open wounds .870–904	53	52	*10	10	*9	12	20	21	14	9
Supplementary classifications .V01–V82	1,066	1,020	202	210	255	253	335	346	274	212
Females with deliveries .V27	966	900	175	166	227	218	308	318	257	198

[1]Difference between estimates using old and new methods not tested.

[2]Difference from estimate using old method significant at the $p < .05$ level.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 16. Number of days of care for patients discharged from short-stay hospitals using old and new survey methods, by region and category of first-listed diagnosis: United States, January-March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM Code	United States		Northeast		Midwest		South		West	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of days of care in thousands									
All conditions	55,878	53,606	13,243	13,685	14,795	13,176	18,019	18,615	9,821	8,131
Infectious and parasitic diseases .001–139	1,313	1,403	305	393	310	361	457	475	241	174
Neoplasms .140–239	4,685	4,670	1,195	1,280	1,245	992	1,437	1,739	808	659
Malignant neoplasms .140–208,230–234	4,108	4,131	1,070	1,130	1,080	861	1,254	1,565	703	575
Malignant neoplasm of large intestine and rectum .153–154,197.5	642	566	*187	196	*141	106	193	230	*121	1*
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	568	670	188	189	158	95	157	2290	*65	96
Malignant neoplasm of breast .174–175,198.81	280	331	60	52	82	63	*89	170	*50	45
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	577	539	124	151	165	131	182	174	106	84
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	2,006	2,113	522	604	434	541	679	667	371	302
Diabetes mellitus .250	851	995	219	268	187	252	284	329	161	145
Diseases of the blood and blood-forming organs .280–289	470	461	103	145	160	116	123	147	83	53
Mental disorders .290–319	5,466	4,988	1,411	1,068	1,952	1,318	1,346	1,401	757	21,202
Psychoses .290–299	2,767	2,836	886	710	824	730	586	663	471	732
Alcohol dependence syndrome .303	980	749	194	282	408	233	278	296	*	1138
Diseases of the nervous system and sense organs .320–389	1,247	1,314	279	382	337	299	374	427	257	206
Diseases of the central nervous system .320–336, 340–349	791	868	185	238	194	206	234	280	178	144
Cataract .366	24	32	*	114	*	1*	*	1*	*	1*
Diseases of the ear and mastoid process .380–389	163	128	*	145	*	123	63	46	*	1*15
Diseases of the circulatory system .390–459	11,088	10,519	2,865	2,821	2,710	2,585	3,610	3,641	1,902	1,471
Heart disease .391–392.0,393–398, 402,404,410–416, 420–429	7,053	6,920	1,776	1,805	1,820	1,789	2,234	2,313	1,223	1,013
Acute myocardial infarction .410	1,748	1,603	505	479	392	325	520	513	332	286
Atherosclerotic heart disease .414.0	533	705	110	164	196	218	138	215	90	109
Other ischemic heart disease .411–413,414.1–419.9	1,367	1,395	314	343	363	334	454	525	235	192
Cardiac dysrhythmias .427	882	700	230	201	236	171	273	229	144	99
Congestive heart failure .428.0	1,483	1,588	412	413	350	491	481	480	240	204
Cerebrovascular disease .430–438	2,302	1,999	681	578	459	421	781	731	382	270
Diseases of the respiratory system .460–519	6,307	6,658	1,422	1,488	1,621	1,690	2,213	2,540	1,052	941
Acute respiratory infections, except influenza .460–466	847	830	164	207	198	236	337	262	149	125
Chronic disease of tonsils and adenoids .474	71	66	*	122	*	120	*	118	*	1*
Pneumonia, all forms .480–486	2,598	2,898	624	628	648	713	871	1,121	455	436
Asthma .493	636	696	191	187	122	171	237	236	86	102
Diseases of the digestive system .520–579	5,425	4,965	1,340	1,349	1,368	1,192	1,690	1,814	1,028	2611
Ulcers of the stomach and small intestine .531–534	531	436	137	114	142	135	150	147	102	2*39
Gastritis and duodenitis .535	194	178	*55	*30	*56	68	59	69	*	1*

Appendicitis	540–543	322	277	*63	70	79	75	98	88	*82	44
Inguinal hernia	550	174	171	46	55	56	47	64	59	*	[1]*
Noninfectious enteritis and colitis	555–556,558	502	421	101	115	129	105	182	153	90	48
Cholelithiasis	574	785	794	189	212	180	204	260	272	155	106
Diseases of the genitourinary system	580–629	3,263	2,885	741	715	839	725	1,175	1,085	508	361
Calculus of kidney and ureter	592	202	174	54	53	45	44	83	51	*	[1]28
Hyperplasia of prostate	600	402	373	89	93	105	92	120	156	88	32
Complications of pregnancy, childbirth, and the puerperium[3]	630–676	578	570	108	115	171	125	211	242	88	88
Abortions and ectopic and molar pregnancies	630–639	169	181	40	51	47	34	56	67	*	[1]29
Diseases of the skin and subcutaneous tissue	680–709	1,128	933	293	270	248	195	378	327	209	141
Diseases of the musculoskeletal system and connective tissue	710–739	3,269	2,702	623	609	984	690	1,038	984	624	419
Arthropathies and related disorders	710–719	855	984	167	245	258	208	220	[2]372	210	160
Intervertebral disc disorders	722	914	661	120	138	260	208	381	229	153	86
Congenital anomalies	740–759	332	303	*53	[2]115	79	53	120	55	*80	79
Certain conditions originating in the perinatal period	760–779	333	345	*	[1]*47	*98	62	133	102	*51	[2]134
Symptoms, signs, and ill-defined conditions	780–799	367	351	53	40	104	123	136	107	74	81
Injury and poisoning	800–999	5,173	4,987	1,115	1,434	1,307	1,201	1,773	1,695	977	656
Fractures, all sites	800–829	2,335	2,399	609	704	559	581	720	797	447	316
Fracture of neck of femur	820	969	1,023	*279	332	234	219	290	347	167	126
Sprains and strains of back (including neck)	846–847	193	155	*43	*46	*	[1]43	104	53	*	[1]*
Intracranial injuries (excluding those with skull fracture)	850–854	474	322	*57	100	113	75	*273	[2]125	*	[1]21
Lacerations and open wounds	870–904	213	187	*	[1]35	*49	52	66	77	62	23
Supplementary classifications	V01–V82	3,428	3,439	764	811	827	906	1,126	1,168	712	553
Females with deliveries	V27	2,874	2,708	601	595	687	652	924	963	661	498

[1]Difference between estimates using old and new methods not tested.

[2]Difference from estimate using old method significant at the $p < .05$ level.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 17. Average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by region and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM Code	United States		Northeast		Midwest		South		West	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Average length of stay in days									
All conditions	6.5	6.7	7.8	7.7	6.5	6.5	6.3	6.7	5.6	5.8
Infectious and parasitic diseases .001–139	7.0	8.3	9.3	10.1	6.8	9.0	6.0	8.3	7.2	5.2
Neoplasms .140–239	8.2	8.6	9.9	9.2	8.0	8.5	8.6	8.9	6.3	7.4
Malignant neoplasms .140–208,230–234	8.9	9.4	11.1	10.5	8.5	9.1	9.5	9.6	6.7	7.8
Malignant neoplasm of large intestine and rectum .153–154,197.5	12.0	13.3	*14.2	15.1	*12.1	11.8	11.5	13.0	*10.3	[1]*
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	8.5	9.7	11.2	11.5	8.2	8.1	8.2	10.1	*5.5	7.8
Malignant neoplasm of breast .174–175,198.81	5.4	6.1	4.9	5.1	5.6	5.5	*7.0	7.2	*4.0	4.9
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	5.1	5.3	5.1	4.9	5.7	5.9	5.2	5.3	4.3	5.2
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	7.3	7.5	9.5	9.9	6.0	7.0	7.1	6.8	6.9	6.5
Diabetes mellitus .250	8.1	8.2	9.8	10.5	6.9	9.1	7.3	7.0	9.5	6.9
Diseases of the blood and blood-forming organs .280–289	5.8	6.3	6.6	8.4	6.4	6.0	5.0	5.9	5.1	4.6
Mental disorders .290–319	12.6	12.8	12.3	13.7	13.7	13.2	12.2	12.3	11.3	12.3
Psychoses .290–299	14.6	15.2	15.4	17.2	17.2	16.3	12.0	13.5	13.5	14.1
Alcohol dependence syndrome .303	10.8	12.1	7.0	7.9	10.9	12.5	14.3	13.7	*	[1]12.4
Diseases of the nervous system and sense organs .320–389	5.3	5.7	5.7	5.2	4.3	6.0	5.6	5.8	6.1	5.8
Diseases of the central nervous system .320–336, 340–349	8.9	9.5	13.2	11.6	7.1	8.4	8.2	8.6	9.3	10.3
Cataract .366	1.9	1.4	*	[1]1.2	*	[1]*	*	[1]*	*	[1]*
Diseases of the ear and mastoid process .380–389	2.7	2.5	*	[1]2.3	*	[1]2.8	3.4	2.6	*	[1]*2.1
Diseases of the circulatory system .390–459	7.7	7.7	9.7	9.5	7.3	7.3	7.5	7.7	6.6	6.3
Heart disease .391–392.0,393–398, 402,404,410–416, 420–429	7.2	7.3	8.6	8.6	7.1	7.3	6.9	7.2	6.3	6.1
Acute myocardial infarction .410	9.1	8.8	11.8	11.8	8.2	8.5	8.4	7.8	8.5	7.7
Atherosclerotic heart disease .414.0	6.0	6.7	6.4	7.2	6.0	6.6	5.7	7.5	6.0	5.3
Other ischemic heart disease .411–413,414.1–419.9	5.2	5.7	5.9	6.1	5.2	5.6	5.4	6.1	4.4	4.6
Cardiac dysrhythmias .427	6.0	5.7	7.3	7.4	6.6	5.4	5.5	5.0	4.7	5.1
Congestive heart failure .428.0	8.7	8.8	10.3	10.8	8.3	9.0	8.6	8.2	7.5	7.0
Cerebrovascular disease .430–438	10.3	9.8	14.6	13.9	8.8	7.9	9.8	9.9	8.4	7.7
Diseases of the respiratory system .460–519	6.5	6.9	8.0	7.5	6.5	6.3	5.9	7.5	6.4	6.0
Acute respiratory infections, except influenza .460–466	5.0	5.0	5.9	6.2	4.8	4.8	4.8	5.2	5.1	4.0
Chronic disease of tonsils and adenoids .474	1.3	1.1	*	[1]1.2	*	[1]1.1	*	[1]1.2	*	[1]*
Pneumonia, all forms .480–486	8.0	8.4	10.1	10.0	7.8	7.0	6.8	[2]9.3	8.7	7.5
Asthma .493	5.0	5.5	6.8	6.1	4.4	5.1	4.9	6.0	3.9	4.4
Diseases of the digestive system .520–579	5.9	6.0	6.8	7.1	5.6	5.6	5.4	6.0	6.0	4.9
Ulcers of the stomach and small intestine .531–534	7.3	6.5	8.9	7.8	8.3	7.0	5.9	5.9	6.7	*4.7

Gastritis and duodenitis	.535	4.2	4.7	*5.5	*4.2	*4.2	6.1	3.6	4.2	*	[1]*
Appendicitis	.540–543	5.5	5.0	*5.8	6.5	5.1	5.0	5.0	4.7	*6.5	4.1
Inguinal hernia	.550	2.4	2.5	2.5	2.7	2.4	2.6	2.6	2.6	*	[1]*
Noninfectious enteritis and colitis	.555–556,558	4.2	4.5	4.9	6.0	4.2	4.2	3.7	4.4	4.7	3.5
Cholelithiasis	.574	6.3	6.5	7.3	8.0	6.2	6.0	6.3	6.1	5.6	5.9
Diseases of the genitourinary system	.580–629	5.2	5.3	6.5	5.8	5.0	4.9	5.1	5.5	4.2	4.7
Calculus of kidney and ureter	.592	3.1	2.9	4.0	3.2	2.5	2.7	3.2	2.5	*	[1]*
Hyperplasia of prostate	.600	5.5	5.5	5.7	5.7	5.4	5.2	6.6	6.3	4.3	3.4
Complications of pregnancy, childbirth, and the puerperium[3]	.630–676	2.6	2.6	2.4	2.5	2.8	2.4	3.0	2.9	2.1	2.4
Abortions and ectopic and molar pregnancies	.630–639	2.1	2.4	1.8	2.4	2.6	2.3	2.2	2.5	*	[1]*
Diseases of the skin and subcutaneous tissue	.680–709	8.9	8.6	10.3	9.8	8.1	7.6	9.6	8.0	7.3	10.0
Diseases of the musculoskeletal system and connective tissue	.710–739	6.6	6.4	7.4	6.5	7.3	6.1	6.2	6.7	5.7	6.2
Arthropathies and related disorders	.710–719	7.2	7.9	8.2	7.6	7.0	7.0	7.2	[2]9.8	6.6	6.3
Intervertebral disc disorders	.722	6.5	6.0	6.5	6.4	7.5	6.3	6.6	5.7	5.1	5.6
Congenital anomalies	.740–759	6.6	6.1	*6.8	6.8	5.5	5.8	7.2	4.9	*7.0	6.5
Certain conditions originating in the perinatal period	.760–779	8.5	10.7	*	[1]*12.3	*12.6	8.2	7.8	9.2	*4.6	[2]13.8
Symptoms, signs, and ill-defined conditions	.780–799	3.3	3.8	3.4	3.0	3.1	4.6	3.7	3.2	3.0	4.1
Injury and poisoning	.800–999	7.0	7.3	7.8	8.7	6.9	7.2	7.5	7.3	5.8	5.6
Fractures, all sites	.800–829	8.5	9.4	11.1	11.5	7.7	9.6	8.3	8.8	7.5	7.3
Fracture of neck of femur	.820	13.4	14.9	*21.0	23.1	11.4	13.0	12.0	12.8	11.6	11.9
Sprains and strains of back (including neck)	.846–847	5.3	4.9	*6.3	*7.2	*	[1]4.4	5.3	4.2	*	[1]*
Intracranial injuries (excluding those with skull fracture)	.850–854	9.2	7.0	*4.4	7.9	7.4	7.0	*20.6	[2]8.3	*	[1]2.8
Lacerations and open wounds	.870–904	4.0	3.6	*	[1]3.4	*5.3	4.5	3.3	3.7	4.5	2.5
Supplementary classifications	.V01–V82	3.2	3.4	3.8	3.9	3.2	3.6	3.4	3.4	2.6	2.6
Females with deliveries	.V27	3.0	3.0	3.4	3.6	3.0	3.0	3.0	3.0	2.6	2.5

[1]Difference between estimates using old and new methods not tested.

[2]Difference from estimate using old method significant at the $p < .05$ level.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 18. Number of patients discharged from short-stay hospitals using old and new survey methods, by hospital bed size and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM Code	All sizes		6–99 beds		100–199 beds		200–299 beds		300–499 beds		500 beds or more	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of patients discharged in thousands											
All conditions	8,596	8,003	1,311	1,297	1,444	[1]1,966	2,190	[1]1,579	1,897	2,160	1,753	[1]1,001
Infectious and parasitic diseases .001–139	188	169	34	33	28	40	47	35	41	42	37	[1]19
Neoplasms .140–239	573	540	49	49	84	119	139	115	139	166	162	[1]91
Malignant neoplasms .140–208,230–234	460	439	36	42	65	97	110	92	116	134	133	[1]74
Malignant neoplasm of large intestine and rectum .153–154,197.5	53	43	*	[2]*	*10	12	*12	8	14	14	*13	[1]*6
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	67	69	*	[2]*	*12	19	18	15	15	16	18	12
Malignant neoplasm of breast .174–175,198.81	52	54	*7	[2]*	*8	10	*12	8	*13	21	*13	9
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	113	101	*13	[2]*	19	22	29	24	23	31	29	17
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	276	282	48	55	55	70	71	56	53	72	49	[1]29
Diabetes mellitus .250	106	121	15	20	23	30	24	28	25	31	19	12
Diseases of the blood and blood-forming organs .280–289	82	73	*13	14	*11	16	17	16	20	18	20	9
Mental disorders .290–319	434	390	63	[1]95	91	94	106	[1]53	111	104	63	43
Psychoses .290–299	189	187	25	[1]53	38	38	42	26	54	49	30	22
Alcohol dependence syndrome .303	91	[1]62	17	12	17	18	22	[1]9	21	18	14	[1]*5
Diseases of the nervous system and sense organs .320–389	237	233	30	29	35	[1]62	53	42	56	68	62	[1]32
Diseases of the central nervous system .320–336,340–349	89	92	*9	12	15	19	21	18	21	31	22	12
Cataract .366	13	[1]23	*	[2]*	*	[2]*7	*	[2]*	*	[2]*	*	[2]*
Diseases of the ear and mastoid process .380–389	61	52	*7	8	*11	18	14	8	14	14	14	[1]*5
Diseases of the circulatory system .309–459	1,438	1,361	221	195	209	[1]327	375	255	345	405	287	[1]178
Heart disease .391–392.0,393–398,402, 404, 410–416,420–429	981	945	151	127	142	[1]230	248	179	238	286	202	[1]123
Acute myocardial infarction .410	191	182	26	26	28	[1]52	52	32	47	52	39	19
Atherosclerotic heart disease .414.0	89	105	*	[2]*	*	[2]20	20	13	29	[1]50	32	19
Other ischemic heart disease .411–413, 414.1–419.9	261	243	47	33	38	52	67	50	62	71	47	37
Cardiac dysrhythmias .427	147	124	28	19	25	36	37	24	34	31	23	14
Congestive heart failure .428.0	171	180	33	35	28	46	43	37	37	45	30	[1]16
Cerebrovascular disease .430–438	224	204	34	37	34	52	66	36	51	54	39	24
Diseases of the respiratory system .460–519	967	962	202	219	197	268	241	189	180	209	147	[1]77
Acute respiratory infections, except influenza .460–466	169	165	41	44	44	47	40	28	28	32	16	14
Chronic disease of tonsils and adenoids .474	55	58	*8	[2]*	*12	19	15	13	*9	[1]18	*11	[2]*

Pneumonia, all forms	.480–486	325	344	77	92	56	[1]95	79	68	64	66	50	23
Asthma	.493	126	127	20	26	23	27	32	26	26	34	25	[1]14
Diseases of the digestive system	.520–579	927	830	168	158	175	219	229	166	182	199	173	[1]88
Ulcers of the stomach and small intestine	.531–534	73	67	16	13	*13	15	16	18	14	14	*13	8
Gastritis and duodenitis	.535	46	38	*13	8	*7	14	15	[1]*5	*	[2]*7	*	[2]*5
Appendicitis	.540–543	58	55	*12	11	*12	19	*9	9	*12	10	*13	*7
Inguinal hernia	.550	72	67	*10	17	15	16	18	10	*13	16	16	8
Noninfectious enteritis and colitis	.555–556,558	119	93	22	19	30	24	25	19	24	22	18	[1]9
Cholelithiasis	.574	124	123	24	25	21	30	38	28	21	29	21	[1]11
Diseases of the genitourinary system	.580–629	631	542	102	81	101	134	175	[1]116	129	145	123	[1]66
Calculus of kidney and ureter	.592	66	61	*8	[2]*	*11	17	18	15	17	16	*13	*7
Hyperplasia of prostate	.600	74	68	*10	9	*12	18	25	[1]14	14	20	*13	8
Complications of pregnancy, childbirth, and the puerperium[3]	.630–676	220	218	26	30	27	[1]55	60	[1]37	49	58	58	[1]37
Abortions and ectopic and molar pregnancies	.630–639	80	76	*8	9	*11	19	26	[1]14	19	21	17	13
Diseases of the skin and subcutaneous tissue	.680–709	127	108	22	23	22	21	31	24	27	30	25	[1]11
Diseases of the musculoskeletal system and connective tissue	.710–739	494	420	65	48	99	106	121	100	101	112	108	[1]54
Arthropathies and related disorders	.710–719	119	125	15	14	17	[1]32	29	31	26	31	32	[1]16
Intervertebral disc disorders	.722	141	110	20	[1]10	29	23	35	29	30	32	27	16
Congenital anomalies	.740–759	50	50	*	[2]*	*9	14	*12	13	*12	9	15	9
Certain conditions originating in the perinatal period	.760–779	39	32	*	[2]*8	*8	8	17	[1]7	*7	*7	*	[2]*
Symptoms, signs, and ill-defined conditions	.780–799	111	92	16	14	26	24	24	21	20	24	25	[1]10
Injury and poisoning	.800–999	736	681	104	109	125	[1]162	185	138	178	187	144	[1]86
Fractures, all sites	.800–829	273	255	36	37	44	[1]67	77	53	67	70	50	[1]29
Fracture of neck of femur	.820	72	69	*10	9	*9	[1]21	24	[1]11	17	20	*12	*7
Sprains and strains of back (including neck)	.846–847	36	32	*10	14	*10	*7	*9	[2]*	*6	[2]*	*	[2]*
Intracranial injuries (excluding those with skull fracture)	.850–854	51	46	*	[2]10	*12	9	14	10	*12	13	*8	*5
Lacerations and open wounds	.870–904	53	52	*	[2]8	*6	10	15	11	14	14	*13	9
Supplementary classifications	.V01–V82	1,066	1,020	141	133	141	[1]228	289	[1]196	247	306	248	[1]157
Females with deliveries	.V27	966	900	131	121	124	[1]210	266	[1]167	224	266	221	[1]136

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 19. Number of days of care for patients discharged from short-stay hospitals using old and new survey methods, by hospital bed size and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	All sizes		6–99 beds		100–199 beds		200–299 beds		300–499 beds		500 beds or more	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of days of care in thousands											
All conditions	55,878	53,606	6,443	7,491	9,248	12,152	13,834	10,866	13,561	15,429	12,792	[1]7,668
Infectious and parasitic diseases .001–139	1,313	1,403	180	158	204	[1]364	334	274	282	413	313	[1]193
Neoplasms .140–239	4,685	4,670	280	329	715	[1]1,076	1,033	930	1,248	1,504	1,409	[1]830
Malignant neoplasms .140–208,230–234	4,108	4,131	223	300	628	[1]971	902	809	1,111	1,319	1,243	[1]732
Malignant neoplasm of large intestine and rectum .153–154,197.5	642	566	*	[2]*	*138	151	*159	109	147	176	*158	[1]*85
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	568	670	*	[2]*	*75	[1]189	164	128	139	176	172	126
Malignant neoplasm of breast .174–175,198.81	280	331	*45	[2]*	*38	45	*58	73	*64	[1]137	*74	48
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	577	539	*57	[2]*	87	106	132	121	136	185	166	[1]98
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	2,006	2,113	283	326	382	475	474	433	441	610	426	[1]269
Diabetes mellitus .250	851	995	104	158	161	191	184	234	230	298	172	114
Diseases of the blood and blood-forming organs .280–289	470	461	*63	77	*57	98	98	129	106	98	146	[1]59
Mental disorders .290–319	5,466	4,988	554	[1]1,244	1,146	1,196	1,230	[1]620	1,465	1,279	1,071	[1]649
Psychoses .290–299	2,767	2,836	243	[1]773	595	562	508	364	836	703	584	434
Alcohol dependence syndrome .303	980	749	143	154	118	[1]225	284	[1]115	206	192	228	[1]*62
Diseases of the nervous system and sense organs .320–389	1,247	1,314	94	123	198	232	303	297	319	383	333	279
Diseases of the central nervous system .320–336,340–349	791	868	*54	84	121	116	209	208	204	267	202	193
Cataract .366	24	32	*	[2]*	*	[2]*	*	[2]*	*	[2]*	*	[2]*
Diseases of the ear and mastoid process .380–389	163	128	*16	[2]*	*41	36	28	23	45	34	32	[2]*
Diseases of the circulatory system .309–459	11,088	10,519	1,274	1,213	1,535	[1]2,286	2,782	[1]1,971	2,943	3,392	2,554	[1]1,658
Heart disease .391–392.0,393–398,402, 404, 410–416,420–429	7,053	6,920	817	704	960	[1]1,551	1,694	1,266	1,873	2,331	1,708	[1]1,069
Acute myocardial infarction .410	1,748	1,603	188	180	263	[1]416	426	[1]247	466	555	405	[1]205
Atherosclerotic heart disease .414.0	533	705	*	[2]*	*	[2]133	118	86	186	[1]349	185	125
Other ischemic heart disease .411–413, 414.1–419.9	1,367	1,395	168	123	188	257	334	304	360	408	316	302
Cardiac dysrhythmias .427	882	700	120	89	151	188	180	126	242	209	190	[1]88
Congestive heart failure .428.0	1,483	1,588	217	210	193	[1]399	392	329	345	490	336	[1]160
Cerebrovascular disease .430–438	2,302	1,999	230	287	366	460	692	[1]391	587	547	428	315
Diseases of the respiratory system .460–519	6,307	6,658	1,130	1,282	1,137	[1]1,790	1,570	1,469	1,428	1,499	1,042	[1]617
Acute respiratory infections, except influenza .460–466	847	830	197	201	201	228	217	143	144	185	88	74
Chronic disease of tonsils and adenoids .474	71	66	*10	[2]*	*15	21	16	17	*15	20	*15	[2]*
Pneumonia, all forms .480–486	2,598	2,898	541	615	384	[1]836	666	651	550	581	457	[1]214
Asthma .493	636	696	99	135	109	128	142	159	149	186	137	87

Diseases of the digestive system .520–579	5,425	4,965	760	726	939	1,162	1,436	1,118	1,147	1,334	1,144	[1]626
Ulcers of the stomach and small intestine. .531–534	531	436	76	61	*89	85	126	113	113	105	*127	[1]72
Gastritis and duodenitis .535	194	178	*47	39	*27	51	61	[1]*25	*	[2]*34	*	[2]*28
Appendicitis .540–543	322	277	*54	[2]*	*94	103	*47	41	*61	60	*65	*36
Inguinal hernia. .550	174	171	*20	42	32	41	49	27	*35	44	39	16
Noninfectious enteritis and colitis .555–556,558	502	421	83	75	91	82	124	90	92	119	111	[1]56
Cholelithiasis. .574	785	794	135	143	136	191	223	184	136	210	155	[1]67
Diseases of the genitourinary system .580–629	3,263	2,885	454	395	503	661	806	648	764	780	736	[1]400
Calculus of kidney and ureter .592	202	174	*20	[2]*	*35	44	45	46	67	50	*35	*21
Hyperplasia of prostate .600	402	373	*65	45	*61	81	124	78	81	122	*71	46
Complications of pregnancy, childbirth, and the puerperium[3] .630–676	578	570	64	64	70	[1]151	135	102	137	152	172	[1]100
Abortions and ectopic and molar pregnancies .630–639	169	181	*20	[2]*	*30	46	49	34	39	58	31	28
Diseases of the skin and subcutaneous tissue .680–709	1,128	933	122	190	185	198	253	166	254	262	314	[1]117
Diseases of the musculoskeletal system and connective tissue .710–739	3,269	2,702	316	265	635	598	790	665	752	789	776	[1]386
Arthropathies and related disorders .710–719	855	984	63	88	109	[1]221	241	256	179	274	262	[1]145
Intervertebral disc disorders .722	914	661	104	74	183	121	196	169	261	209	169	[1]89
Congenital anomalies. .740–759	332	303	*	[2]*	*78	84	*59	[1]116	*80	[1]23	102	61
Certain conditions originating in the perinatal period. .760–779	333	345	*	[2]95	*121	74	66	75	*86	53	*	[2]*
Symptoms, signs, and ill-defined conditions. .780–799	367	351	37	[2]*	115	84	79	122	59	90	77	[1]27
Injury and poisoning .800–999	5,173	4,987	468	553	805	975	1,456	[1]1,059	1,233	1,612	1,211	[1]788
Fractures, all sites .800–829	2,335	2,399	218	284	360	[1]540	706	501	551	739	500	[1]334
Fracture of neck of femur .820	969	1,023	*107	102	*125	[1]264	325	[1]184	230	339	*181	*135
Sprains and strains of back (including neck) .846–847	193	155	*50	66	*62	[1]*23	*42	30	*	[2]*27	*	[2]*
Intracranial injuries (excluding those with skull fracture) .850–854	474	322	*	[2]*	*110	[1]38	258	[1]76	*59	[1]118	*34	[1]*70
Lacerations and open wounds. .870–904	213	187	*	[2]*	*22	29	59	50	46	45	*70	44
Supplementary classifications .V01–V82	3,428	3,439	345	403	423	[1]648	931	673	818	[1]1,155	911	[1]560
Females with deliveries .V27	2,874	2,708	316	326	350	[1]577	765	[1]507	703	837	740	[1]461

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 20. Average length of stay for patients discharged from short-stay hospitals using old and new survey methods, by hospital bed size and category of first-listed diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Category of first-listed diagnosis and ICD–9–CM code	All sizes		6–99 beds		100–199 beds		200–299 beds		300–499 beds		500 beds or more	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Average length of stay in days											
All conditions	6.5	6.7	4.9	5.8	6.4	6.2	6.3	6.9	7.1	7.1	7.3	7.7
Infectious and parasitic diseases .001–139	7.0	8.3	5.3	4.8	7.4	9.1	7.1	7.7	6.8	[1]9.9	8.4	10.0
Neoplasms .140–239	8.2	8.6	5.7	6.7	8.5	9.0	7.4	8.1	9.0	9.1	8.7	9.1
Malignant neoplasms .140–208,230–234	8.9	9.4	6.2	7.2	9.6	10.0	8.2	8.8	9.6	9.8	9.4	9.9
Malignant neoplasm of large intestine and rectum .153–154,197.5	12.0	13.3	*	[2]*	*13.6	13.0	*13.0	14.3	10.5	12.6	*11.8	*15.4
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	8.5	9.7	*	[2]*	*6.4	[1]10.1	8.9	8.4	9.1	10.7	9.3	10.7
Malignant neoplasm of breast .174–175,198.81	5.4	6.1	*6.5	[2]*	*5.1	4.6	*4.9	8.7	*4.9	6.4	*5.9	5.5
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	5.1	5.3	*4.4	[2]*	4.6	4.8	4.5	5.1	5.9	5.9	5.7	5.8
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	7.3	7.5	5.9	6.0	6.9	6.8	6.7	7.7	8.3	8.4	8.6	9.2
Diabetes mellitus .250	8.1	8.2	6.7	7.7	7.0	6.4	7.8	8.2	9.2	9.7	9.1	9.6
Diseases of the blood and blood-forming organs .280–289	5.8	6.3	*4.7	5.3	*5.1	6.2	5.9	8.3	5.2	5.3	7.3	6.6
Mental disorders .290–319	12.6	12.8	8.8	13.0	12.5	12.7	11.6	11.8	13.2	12.3	16.9	14.9
Psychoses .290–299	14.6	15.2	9.8	14.7	15.7	14.9	12.1	14.1	15.4	14.4	19.3	19.6
Alcohol dependence syndrome .303	10.8	12.1	8.6	12.5	7.1	[1]12.8	13.2	12.7	9.6	10.8	15.8	*12.8
Diseases of the nervous system and sense organs .320–389	5.3	5.7	3.2	4.2	5.6	[1]3.8	5.7	7.0	5.7	5.7	5.4	[1]8.8
Diseases of the central nervous system .320–336,340–349	8.9	9.5	*5.7	7.0	7.9	6.1	10.0	11.7	9.8	8.7	9.1	[1]16.1
Cataract .366	1.9	1.4	*	[2]*	*	[2]*	*	[2]*	*	[2]*	*	[2]*
Diseases of the ear and mastoid process .380–389	2.7	2.5	*2.2	[2]*	*3.8	[1]2.0	1.9	2.9	3.2	2.5	2.3	[2]*
Diseases of the circulatory system .309–459	7.7	7.7	5.8	6.2	7.3	7.0	7.4	7.7	8.5	8.4	8.9	9.3
Heart disease .391–392.0,393–398,402, 404, 410–416,420–429	7.2	7.3	5.4	5.6	6.8	6.7	6.8	7.1	7.9	8.2	8.5	8.7
Acute myocardial infarction .410	9.1	8.8	7.4	7.0	9.5	8.0	8.2	7.6	9.0	10.6	10.4	10.7
Atherosclerotic heart disease .414.0	6.0	6.7	*	[2]*	*	[2]6.7	5.9	6.7	6.3	6.9	5.8	6.7
Other ischemic heart disease .411–413, 414.1–419.9	5.2	5.7	3.6	3.7	4.9	4.9	5.0	6.1	5.9	5.7	6.7	8.1
Cardiac dysrhythmias .427	6.0	5.7	4.3	4.8	6.0	5.2	4.9	5.2	7.0	6.8	8.3	6.2
Congestive heart failure .428.0	8.7	8.8	6.6	5.9	6.9	8.6	9.1	8.8	9.4	10.9	11.0	9.7
Cerebrovascular disease .430–438	10.3	9.8	6.7	7.7	10.8	8.8	10.6	10.9	11.5	10.1	10.9	13.0
Diseases of the respiratory system .460–519	6.5	6.9	5.6	5.8	5.8	6.7	6.5	7.8	7.9	7.2	7.1	8.0
Acute respiratory infections, except influenza .460–466	5.0	5.0	4.8	4.6	4.6	4.8	5.4	5.1	5.2	5.8	5.5	5.4
Chronic disease of tonsils and adenoids .474	1.3	1.1	*1.3	[2]*	*1.2	1.1	1.1	1.3	*1.7	1.1	*1.3	[2]*
Pneumonia, all forms .480–486	8.0	8.4	7.0	6.7	6.9	8.8	8.5	9.6	8.6	8.8	9.2	9.3
Asthma .493	5.0	5.5	4.9	5.2	4.7	4.7	4.5	6.2	5.8	5.5	5.4	6.1
Diseases of the digestive system .520–579	5.9	6.0	4.5	4.6	5.3	5.3	6.3	6.7	6.3	6.7	6.6	7.1
Ulcers of the stomach and small intestine .531–534	7.3	6.5	4.7	4.7	*6.9	5.5	7.8	6.4	7.9	7.7	*9.4	9.5
Gastritis and duodenitis .535	4.2	4.7	*3.7	5.1	*3.9	3.8	4.1	*5.3	*	[2]*4.8	*	[2]*6.1

Appendicitis	.540–543	5.5	5.0	*4.4	[2]*	*7.7	5.5	*5.4	4.4	*5.0	6.2	*5.0	*5.5
Inguinal hernia	.550	2.4	2.5	*2.0	2.5	2.2	2.6	2.6	2.6	*2.6	2.7	2.4	2.0
Noninfectious enteritis and colitis	.555–556,558	4.2	4.5	3.7	3.9	3.1	3.4	5.0	4.8	3.9	5.4	6.1	6.5
Cholelithiasis	.574	6.3	6.5	5.6	5.7	6.5	6.4	5.9	6.6	6.6	7.1	7.5	6.0
Diseases of the genitourinary system	.580–629	5.2	5.3	4.4	4.9	5.0	4.9	4.6	5.6	5.9	5.4	6.0	6.1
Calculus of kidney and ureter	.592	3.1	2.9	*2.4	[2]*	*3.3	2.6	2.5	3.1	4.0	3.1	*2.7	*3.0
Hyperplasia of prostate	.600	5.5	5.5	*6.8	5.3	*5.1	4.6	5.0	5.7	6.0	6.1	5.3	5.8
Complications of pregnancy, childbirth, and the puerperium[3]	.630–676	2.6	2.6	2.5	2.1	2.7	2.7	2.2	2.7	2.8	2.6	3.0	2.7
Abortions and ectopic and molar pregnancies	.630–639	2.1	2.4	*2.6	[2]*	*2.8	2.4	1.9	2.5	2.0	2.7	1.8	2.2
Diseases of the skin and subcutaneous tissue	.680–709	8.9	8.6	5.6	8.3	8.3	9.4	8.2	6.9	9.5	8.9	12.4	10.6
Diseases of the musculoskeletal system and connective tissue	.710–739	6.6	6.4	4.8	5.5	6.4	5.7	6.5	6.6	7.4	7.1	7.2	7.1
Arthropathies and related disorders	.710–719	7.2	7.9	4.3	6.1	6.3	6.9	8.2	8.2	7.0	8.7	8.1	9.0
Intervertebral disc disorders	.722	6.5	6.0	5.2	7.4	6.3	5.2	5.6	5.9	8.8	6.5	6.2	5.7
Congenital anomalies	.740–759	6.6	6.1	*	[2]*	*9.0	6.0	*5.1	[1]8.6	*6.9	[1]2.5	6.9	6.8
Certain conditions originating in the perinatal period	.760–779	8.5	10.7	*	[2]*	*14.7	[1]8.9	4.0	[1]11.3	13.1	8.2	*	[2]*
Symptoms, signs, and ill-defined conditions	.780–799	3.3	3.8	2.4	[2]*	4.4	3.5	3.3	[1]5.8	2.9	3.7	3.1	2.7
Injury and poisoning	.800–999	7.0	7.3	4.5	5.1	6.4	6.0	7.9	7.7	6.9	[1]8.6	8.4	9.2
Fractures, all sites	.800–829	8.5	9.4	6.1	7.7	8.2	8.1	9.2	9.5	8.3	10.6	10.0	11.6
Fracture of neck of femur	.820	13.4	14.9	*10.9	11.0	*14.4	12.7	13.5	16.3	13.3	16.9	*14.7	*18.1
Sprains and strains of back (including neck)	.846–847	5.3	4.9	*5.2	4.8	*6.3	[1]*3.5	*4.7	6.6	*	[2]*5.4	*	[2]*
Intracranial injuries (excluding those with skull fracture)	.850–854	9.2	7.0	*	[2]*	*9.0	[1]4.3	19.0	[1]7.7	*5.1	[1]9.2	*4.5	[1]*14.8
Lacerations and open wounds	.870–904	4.0	3.6	*	[2]*	*3.6	3.0	4.0	4.4	3.3	3.2	*5.5	4.9
Supplementary classifications	.V01–V82	3.2	3.4	2.4	3.0	3.0	2.8	3.2	3.4	3.3	3.8	3.7	3.6
Females with deliveries	.V27	3.0	3.0	2.4	2.7	2.8	2.8	2.9	3.0	3.1	3.1	3.4	3.4

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 21. Number of all-listed diagnoses for patients discharged from short-stay hospitals using old and new survey methods, by age and category of diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Diagnostic category and ICD–9–CM code	All ages		Under 15 years		15–44 years		45–64 years		65 years and over	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of all-listed diagnoses									
All conditions	27,405	25,981	1,663	1,513	7,991	7,466	5,891	5,604	11,860	11,400
Infectious and parasitic diseases .001–139	706	707	135	119	174	173	112	123	284	293
Neoplasms .140–239	1,183	1,166	18	18	190	180	381	372	595	596
Malignant neoplasms .140–208,230–234	919	931	*12	13	90	85	301	300	517	532
Malignant neoplasm of large intestine and rectum .153–154,197.5	72	62	–	–	*	1*	18	15	51	44
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	134	140	–	1*	*9	*6	48	55	77	79
Malignant neoplasm of breast .174–175,198.81	70	74	–	–	*8	8	28	29	35	37
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	264	235	*	1*	100	95	80	72	78	63
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	2,067	2,002	118	109	287	285	549	544	1,113	1,064
Diabetes mellitus .250	788	749	*7	9	96	94	234	240	451	406
Diseases of the blood and blood-forming organs .280–289	641	625	39	38	154	137	128	130	321	321
Mental disorders .290–319	1,327	1,212	39	32	637	592	286	252	365	336
Psychoses .290–299	397	386	*	1*7	145	141	76	73	171	165
Alcohol dependence syndrome .303	228	2168	*	1*	125	287	78	58	23	23
Diseases of the nervous system and sense organs .320–389	944	879	175	159	172	160	191	186	406	373
Diseases of the central nervous system .320–336, 340–349	430	404	34	33	89	86	86	85	221	199
Cataract .366	24	239	*	1*	*	1*	*	1*7	19	30
Diseases of the ear and mastoid process .380–389	200	177	125	110	23	21	20	19	32	26
Diseases of the circulatory system .390–459	5,526	5,395	29	24	330	334	1,422	1,398	3,745	3,638
Heart disease .391–392.0,393–398,402,404, 410–416, 420–429	3,542	3,491	19	16	173	170	881	872	2,470	2,433
Acute myocardial infarction .410	228	211	–	–	15	13	73	69	140	129
Atherosclerotic heart disease .414.0	508	590	*	1*	15	18	140	163	351	410
Other ischemic heart disease .411–413,414.1–419.9	814	699	*	1*	39	224	274	239	501	435
Cardiac dysrhythmias .427	737	721	*8	8	36	40	143	137	550	536
Congestive heart failure .428.0	508	509	*	1*	*10	11	78	90	417	406
Cerebrovascular disease .430–438	474	442	*	1*	*12	16	82	86	377	338
Diseases of the respiratory system .460–519	2,416	2,355	415	376	346	336	486	491	1,168	1,152
Acute respiratory infections, except influenza .460–466	310	310	135	114	42	47	43	56	90	93
Chronic disease of tonsils and adenoids .474	73	73	48	54	24	19	*	1*	*	1*
Pneumonia, all forms .480–486	500	502	106	103	54	54	73	84	267	262
Asthma .493	245	231	60	55	59	56	57	51	68	68
Diseases of the digestive system .520–579	2,095	1,911	140	119	507	465	544	469	904	858
Ulcers of the stomach and small intestine .531–534	150	135	*	1*	27	24	48	230	74	81
Gastritis and duodenitis .535	149	122	*	1*	39	33	43	30	61	55
Appendicitis .540–543	69	67	17	19	41	37	*	1*6	*	1*4

Inguinal hernia .550	94	85	*7	10	21	22	28	20	38	33
Noninfectious enteritis and colitis .555–556,558	199	165	66	48	56	48	27	24	50	45
Cholelithiasis .574	197	197	*	[1]*	62	67	53	53	82	77
Diseases of the genitourinary system .580–629	1,927	1,766	41	29	660	609	447	401	778	727
Calculus of kidney and ureter .592	85	82	*	[1]*	35	42	29	24	19	15
Hyperplasia of prostate .600	131	116	–	–	*	[1]*	29	28	101	88
Complications of pregnancy, childbirth, and the puerperium[3] .630–676	1,776	1,726	*	[1]8	1,770	1,716	*	[1]*	...	...
Abortions and ectopic and molar pregnancies .630–639	91	87	*	[1]*	91	87	*	[1]*	...	...
Diseases of the skin and subcutaneous tissue .680–709	340	312	29	22	92	72	80	79	139	138
Diseases of the musculoskeletal system and connective tissue .710–739	1,210	1,070	18	19	316	278	329	292	546	480
Arthropathies and related disorders .710–719	430	407	*	[1]*5	69	70	94	95	265	236
Intervertebral disc disorders .722	182	142	*	[1]*	88	67	64	54	29	21
Congenital anomalies .740–759	149	146	62	75	42	33	29	23	16	15
Certain conditions originating in the perinatal period .760–779	90	82	85	81	*	[1]*	*	[1]*	*	[1]*
Symptoms, signs, and ill-defined conditions .780–799	1,429	1,300	149	116	341	304	349	312	590	568
Injury and poisoning .800–999	1,515	1,423	118	120	662	585	280	279	455	440
Fractures, all sites .800–829	403	369	30	26	158	122	68	67	147	154
Fracture of neck of femur .820	80	76	*	[1]*	*	[1]*	*10	8	64	64
Sprains and strains of back (including neck) .846–847	61	55	*	[1]*	41	34	*12	12	*7	*7
Intracranial injuries (excluding those with skull fracture) .850–854	70	67	*11	12	40	34	*7	8	*13	13
Lacerations and open wounds .870–904	138	137	14	13	89	87	15	17	20	20
Supplementary classifications .V01–V82	2,063	1,903	47	49	1,310	1,205	273	250	433	399
Females with deliveries .V27	966	900	*	[1]*	962	896	*	[1]*	...	...

[1]Difference between estimates using old and new methods not tested.

[2]Difference from estimate using old method significant at the $p < .05$ level.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 22. Number of all-listed diagnoses for patients discharged from short-stay hospitals using old and new survey methods, by sex, race, and category of diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Diagnostic category and ICD–9–CM code	All patients		Male		Female		White		All other races		Race not stated	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of all-listed diagnoses in thousands											
All conditions	27,405	25,981	11,254	10,825	16,151	15,157	20,238	19,988	4,148	3,918	3,019	[1]2,075
Infectious and parasitic diseases .001–139	706	707	300	317	406	390	506	522	124	128	77	57
Neoplasms .140–239	1,183	1,166	522	504	661	662	917	928	152	146	115	92
Malignant neoplasms .140–208,230–234	919	931	457	453	462	478	729	751	102	103	89	76
Malignant neoplasm of large intestine and rectum .153–154,197.5	72	62	36	27	36	35	58	52	*8	8	*	[2]*
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	134	140	81	88	53	52	109	113	13	14	*12	13
Malignant neoplasm of breast .174–175,198.81	70	74	–	–	70	74	54	62	*	[2]*6	*10	[2]*
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	264	235	65	51	199	184	189	177	50	43	26	16
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	2,067	2,002	826	824	1,241	1,178	1,545	1,528	335	331	186	143
Diabetes mellitus .250	788	749	335	335	452	414	563	560	148	139	77	51
Diseases of the blood and blood-forming organs .280–289	641	625	253	254	388	371	437	449	145	129	59	47
Mental disorders .290–319	1,327	1,212	708	591	619	621	945	943	239	189	144	[1]79
Psychoses .290–299	397	386	185	173	212	213	284	312	65	55	49	[1]19
Alcohol dependence syndrome .303	228	[1]168	175	[1]121	53	47	147	117	57	42	23	[1]10
Diseases of the nervous system and sense organs .320–389	944	879	465	415	479	464	697	687	133	126	114	[1]66
Diseases of the central nervous system .320–336,340–349	430	404	208	189	222	215	323	315	58	63	49	[1]25
Cataract .366	24	[1]39	*10	17	14	21	17	[1]29	*	[2]*5	*	[2]*
Diseases of the ear and mastoid process .380–389	200	177	108	91	92	86	152	131	26	27	22	19
Diseases of the circulatory system .309–459	5,526	5,395	2,699	2,724	2,826	2,671	4,308	4,367	662	653	556	[1]375
Heart disease .391–392.0,393–398,402, 404, 410–416,420–429	3,542	3,491	1,807	1,806	1,736	1,685	2,814	2,873	377	365	351	[1]252
Acute myocardial infarction .410	228	211	140	133	88	78	182	180	22	18	23	13
Atherosclerotic heart disease .414.0	508	590	288	319	219	272	417	504	46	38	44	48
Other ischemic heart disease .411–413,414.1–419.9	814	699	448	387	365	312	656	580	72	65	86	[1]55
Cardiac dysrhythmias .427	737	721	366	374	371	347	597	595	72	74	69	52
Congestive heart failure .428.0	508	509	217	223	292	286	393	411	59	60	57	38
Cerebrovascular disease .430–438	474	442	203	204	271	238	367	349	58	56	49	36
Diseases of the respiratory system .460–519	2,416	2,355	1,214	1,181	1,202	1,174	1,865	1,875	312	310	238	[1]169
Acute respiratory infections, except influenza .460–466	310	310	145	144	165	167	227	240	48	42	35	29
Chronic disease of tonsils and adenoids .474	73	73	32	33	41	40	58	64	*	[2]*5	*9	[2]*
Pneumonia, all forms .480–486	500	502	253	252	247	250	374	391	74	78	53	33
Asthma .493	245	231	103	93	142	138	173	158	48	52	24	21
Diseases of the digestive system .520–579	2,095	1,911	928	866	1,167	1,045	1,573	1,513	295	250	227	[1]149
Ulcers of the stomach and small intestine .531–534	150	135	75	74	75	61	111	106	25	20	14	8
Gastritis and duodenitis .535	149	122	64	54	85	68	107	95	26	21	17	[2]*

Appendicitis	.540–543	69	67	40	36	30	31	50	53	*9	*7	*10	[2]*
Inguinal hernia	.550	94	85	84	77	*10	8	74	70	*8	9	*12	[2]*
Noninfectious enteritis and colitis	.555–556,558	199	165	84	68	115	97	150	126	29	25	19	14
Cholelithiasis	.574	197	197	61	60	136	137	143	160	27	20	28	18
Diseases of the genitourinary system	.580–629	1,927	1,766	644	620	1,283	1,146	1,401	1,361	306	282	220	[1]122
Calculus of kidney and ureter	.592	85	82	53	49	31	33	65	68	*7	*6	*12	8
Hyperplasia of prostate	.600	131	116	131	116	...	...	102	93	11	14	19	[1]9
Complications of pregnancy, childbirth, and the puerperium[3]	.630–676	1,776	1,726	...	...	1,776	1,726	1,123	1,104	405	406	248	217
Abortions and ectopic and molar pregnancies	.630–639	91	87	...	...	91	87	55	51	27	26	*9	10
Diseases of the skin and subcutaneous tissue	.680–709	340	312	165	157	176	155	246	234	56	55	38	[1]22
Diseases of the musculoskeletal system and connective tissue	.710–739	1,210	1,070	482	441	728	629	932	895	139	[1]97	139	[1]77
Arthropathies and related disorders	.710–719	430	407	152	144	278	263	334	333	46	39	50	34
Intervertebral disc disorders	.722	182	142	101	84	81	58	144	124	17	10	21	[1]9
Congenital anomalies	.740–759	149	146	75	80	74	67	106	102	21	26	22	18
Certain conditions originating in the perinatal period	.760–779	90	82	56	45	33	38	60	[1]42	18	28	*11	12
Symptoms, signs, and ill-defined conditions	.780–799	1,429	1,300	657	612	771	688	1,047	993	218	202	164	[1]105
Injury and poisoning	.800–999	1,515	1,423	797	779	718	645	1,092	1,076	233	222	190	[1]126
Fractures, all sites	.800–829	403	369	195	182	208	187	295	293	56	44	52	[1]32
Fracture of neck of femur	.820	80	76	23	23	57	53	61	63	*	[2]*5	*13	[2]*
Sprains and strains of back (including neck)	.846–847	61	55	30	29	31	25	46	44	*11	*7	*	[2]*
Intracranial injuries (excluding those with skull fracture)	.850–854	70	67	36	41	33	26	48	54	*13	10	*9	[2]*
Lacerations and open wounds	.870–904	138	137	95	92	43	45	85	86	35	36	19	15
Supplementary classifications	.V01–V82	2,063	1,903	462	417	1,602	1,485	1,439	1,368	354	337	270	198
Females with deliveries	.V27	966	900	...	...	966	900	618	593	199	191	149	115

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 23. Number of all-listed diagnoses for patients discharged from short-stay hospitals using old and new survey methods, by region and category of diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Diagnostic category and ICD–9–CM code	All regions		Northeast		Midwest		South		West	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of all-listed diagnoses in thousands									
All conditions	27,405	25,981	5,668	6,061	7,144	6,686	8,995	8,880	5,598	[1]4,354
Infectious and parasitic diseases .001–139	706	707	135	152	179	189	263	237	129	129
Neoplasms .140–239	1,183	1,166	272	322	319	279	347	389	245	176
Malignant neoplasms .140–208,230–234	919	931	216	258	251	225	258	308	194	140
Malignant neoplasm of large intestine and rectum .153–154,197.5	72	62	18	20	15	14	22	22	16	[1]*6
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	134	140	35	39	35	31	36	47	27	24
Malignant neoplasm of breast .174–175,198.81	70	74	18	15	21	18	15	[1]30	17	11
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	264	235	56	64	67	55	90	81	51	36
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	2,067	2,002	415	464	576	551	730	698	346	290
Diabetes mellitus .250	788	749	174	180	207	203	271	268	136	99
Diseases of the blood and blood-forming organs .280–289	641	625	144	157	169	154	208	215	120	100
Mental disorders .290–319	1,327	1,212	327	268	384	332	367	350	248	261
Psychoses .290–299	397	386	107	86	104	106	108	110	78	84
Alcohol dependence syndrome .303	228	[1]168	68	[1]36	70	52	55	47	34	33
Diseases of the nervous system and sense organs .320–389	944	879	199	242	280	220	285	282	180	136
Diseases of the central nervous system .320–336, 340–349	430	404	91	107	120	100	135	137	83	60
Cataract .366	24	[1]39	*8	15	*7	*6	*	[2]11	*	[2]*7
Diseases of the ear and mastoid process .380–389	200	177	40	45	55	47	71	52	33	32
Diseases of the circulatory system .390–459	5,526	5,395	1,221	1,281	1,370	1,422	1,788	1,845	1,147	[1]846
Heart disease .391–392.0,393–398,402,404, 410–416, 420–429	3,542	3,491	794	830	876	911	1,122	1,171	750	579
Acute myocardial infarction .410	228	211	52	51	57	44	70	75	50	41
Atherosclerotic heart disease .414.0	508	590	127	143	138	166	150	182	93	99
Other ischemic heart disease .411–413,414.1–419.9	814	699	184	185	206	173	250	228	174	[1]113
Cardiac dysrhythmias .427	737	721	155	155	182	197	231	251	168	117
Congestive heart failure .428.0	508	509	117	118	120	139	160	165	111	86
Cerebrovascular disease .430–438	474	442	103	98	110	116	167	164	94	63
Diseases of the respiratory system .460–519	2,416	2,355	472	524	616	613	885	819	443	398
Acute respiratory infections, except influenza .460–466	310	310	56	63	75	87	124	106	54	55
Chronic disease of tonsils and adenoids .474	73	73	16	24	28	21	24	19	*	[2]8
Pneumonia, all forms .480–486	500	502	94	97	127	145	194	175	85	84
Asthma .493	245	231	56	58	62	63	84	68	43	42
Diseases of the digestive system .520–579	2,095	1,911	469	458	546	490	697	678	383	285
Ulcers of the stomach and small intestine .531–534	150	135	37	31	36	37	52	47	24	19
Gastritis and duodenitis .535	149	122	30	26	42	38	52	47	25	[1]11

Appendicitis	.540–543	69	67	14	14	18	18	23	23	*13	12
Inguinal hernia	.550	94	85	22	25	27	23	31	29	14	9
Noninfectious enteritis and colitis	.555–556,558	199	165	39	36	49	47	78	58	33	25
Cholelithiasis	.574	197	197	44	46	49	50	66	73	39	29
Diseases of the genitourinary system	.580–629	1,927	1,766	367	416	486	448	707	634	366	268
Calculus of kidney and ureter	.592	85	82	19	25	21	22	34	26	*11	9
Hyperplasia of prostate	.600	131	116	30	31	34	32	35	40	32	[1]14
Complications of pregnancy, childbirth, and the puerperium[3]	.630–676	1,776	1,726	329	344	432	401	561	629	455	351
Abortions and ectopic and molar pregnancies	.630–639	91	87	24	25	22	17	28	31	18	14
Diseases of the skin and subcutaneous tissue	.680–709	340	312	76	84	91	68	103	108	71	51
Diseases of the musculoskeletal system and connective tissue	.710–739	1,210	1,070	233	248	317	298	409	365	250	[1]158
Arthropathies and related disorders	.710–719	430	407	89	100	119	107	131	139	92	60
Intervertebral disc disorders	.722	182	142	23	30	42	41	78	52	39	[1]19
Congenital anomalies	.740–759	149	146	29	[1]48	39	34	50	36	31	29
Certain conditions originating in the perinatal period	.760–779	90	82	*11	*12	26	16	33	31	21	24
Symptoms, signs, and ill-defined conditions	.780–799	1,429	1,300	257	280	377	358	490	436	305	226
Injury and poisoning	.800–999	1,515	1,423	302	349	382	344	469	488	362	[1]242
Fractures, all sites	.800–829	403	369	80	93	105	87	127	127	91	61
Fracture of neck of femur	.820	80	76	15	17	22	18	27	30	17	11
Sprains and strains of back (including neck)	.846–847	61	55	14	12	*11	14	30	23	*	[2]*5
Intracranial injuries (excluding those with skull fracture)	.850–854	70	67	17	19	18	15	20	22	15	11
Lacerations and open wounds	.870–904	138	137	29	28	30	33	46	53	34	22
Supplementary classifications	.V01–V82	2,063	1,903	412	411	555	469	601	640	495	382
Females with deliveries	.V27	966	900	175	166	227	218	308	318	257	198

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 24. Number of all-listed diagnoses for patients discharged from short-stay hospitals using old and new survey methods, by hospital bed size and category of diagnosis: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Diagnostic category and ICD–9–CM code	All sizes		6–99 beds		100–199 beds		200–299 beds		300–499 beds		500 beds or more	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of all-listed diagnoses in thousands											
All conditions	27,405	25,981	4,331	4,207	4,313	[1]6,308	7,146	[1]5,114	6,199	7,136	5,415	[1]3,216
Infectious and parasitic diseases .001–139	706	707	121	144	107	[1]162	184	140	151	173	144	[1]88
Neoplasms .140–239	1,183	1,166	111	121	162	[1]256	317	259	275	347	318	[1]183
Malignant neoplasms .140–208,230–234	919	931	75	95	121	[1]202	241	205	220	280	261	[1]148
Malignant neoplasm of large intestine and rectum .153–154,197.5	72	62	*	[2]*	14	16	16	12	19	19	17	9
Malignant neoplasm of trachea, bronchus, and lung .162,197.0,197.3	134	140	*10	16	19	[1]34	37	31	32	39	36	[1]20
Malignant neoplasm of breast .174–175,198.81	70	74	*9	8	*10	13	16	13	16	[1]30	18	[1]10
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature .210–229,235–239	264	235	35	25	40	53	76	54	56	68	57	[1]35
Endocrine, nutritional and metabolic diseases, and immunity disorders .240–279	2,067	2,002	364	364	344	469	513	411	469	547	376	[1]210
Diabetes mellitus .250	788	749	117	124	123	165	206	157	198	218	143	[1]85
Diseases of the blood and blood-forming organs .280–289	641	625	105	90	89	[1]140	150	139	157	170	140	[1]86
Mental disorders .290–319	1,327	1,212	203	257	243	287	341	[1]202	328	329	212	[1]137
Psychoses .290–299	397	386	55	[1]87	67	87	104	[1]64	104	105	66	[1]43
Alcohol dependence syndrome .303	228	[1]168	38	29	42	44	61	[1]31	54	46	32	[1]19
Diseases of the nervous system and sense organs .320–389	944	879	127	121	150	[1]222	235	[1]165	225	254	207	[1]117
Diseases of the central nervous system .320–336,340–349	430	404	52	55	66	[1]100	108	75	105	123	99	[1]51
Cataract .366	24	[1]39	*	[2]*	*	[2]10	*	[2]*	*8	12	*	[2]*6
Diseases of the ear and mastoid process .380–389	200	177	31	30	41	54	49	31	44	40	35	21
Diseases of the circulatory system .309–459	5,526	5,395	890	829	782	[1]1,317	1,469	[1]1,031	1,313	1,570	1,072	[1]647
Heart disease .391–392.0,393–398,402, 404, 410–416,420–429	3,542	3,491	583	524	491	[1]880	937	[1]657	838	[1]1,024	694	[1]405
Acute myocardial infarction .410	228	211	32	29	34	[1]61	61	[1]37	55	63	46	[1]22
Atherosclerotic heart disease .414.0	508	590	54	63	54	[1]140	135	104	140	[1]203	124	[1]79
Other ischemic heart disease .411–413, 414.1–419.9	814	699	144	[1]98	118	156	207	[1]144	197	210	147	[1]92
Cardiac dysrhythmias .427	737	721	126	120	115	[1]197	200	[1]133	163	198	135	[1]73
Congestive heart failure .428.0	508	509	105	96	71	[1]136	134	99	109	128	89	[1]49
Cerebrovascular disease .430–438	474	442	77	73	75	107	134	[1]89	108	119	80	54
Diseases of the respiratory system .460–519	2,416	2,355	490	485	446	[1]639	628	[1]467	472	544	381	[1]219
Acute respiratory infections, except influenza .460–466	310	310	73	77	69	93	79	56	55	60	34	25
Chronic disease of tonsils and adenoids .474	73	73	*10	[2]*	14	25	21	17	*13	21	15	[1]*5
Pneumonia, all forms .480–486	500	502	112	125	84	[1]134	122	100	103	102	79	[1]42
Asthma .493	245	231	43	49	45	50	61	45	49	61	48	[1]26

Diseases of the digestive system .520–579	2,095	1,911	374	325	371	498	520	390	440	483	390	[1]216
Ulcers of the stomach and small intestine. .531–534	150	135	30	22	22	29	37	35	34	33	27	16
Gastritis and duodenitis .535	149	122	35	24	26	34	40	[1]23	27	27	21	15
Appendicitis .540–543	69	67	15	12	15	24	*10	11	15	13	15	*7
Inguinal hernia. .550	94	85	*13	20	17	21	26	15	18	20	20	[1]10
Noninfectious enteritis and colitis .555–556,558	199	165	37	35	44	43	43	30	43	40	33	[1]17
Cholelithiasis. .574	197	197	38	35	36	52	57	46	34	47	32	[1]17
Diseases of the genitourinary system .580–629	1,927	1,766	324	251	315	[1]443	536	371	396	482	355	[1]219
Calculus of kidney and ureter .592	85	82	*11	9	14	20	25	22	20	23	15	9
Hyperplasia of prostate .600	131	116	18	19	20	27	42	22	25	34	26	15
Complications of pregnancy, childbirth, and the puerperium[3] .630–676	1,776	1,726	227	217	205	[1]400	477	[1]310	416	508	451	[1]292
Abortions and ectopic and molar pregnancies .630–639	91	87	*10	10	*11	[1]22	30	[1]17	23	24	18	14
Diseases of the skin and subcutaneous tissue .680–709	340	312	50	56	53	71	92	63	79	84	67	[1]38
Diseases of the musculoskeletal system and connective tissue .710–739	1,210	1,070	212	161	226	269	298	240	251	277	224	[1]122
Arthropathies and related disorders .710–719	430	407	81	67	69	[1]104	104	90	95	102	80	[1]44
Intervertebral disc disorders .722	182	142	33	[1]17	34	29	46	38	39	40	31	[1]18
Congenital anomalies. .740–759	149	146	15	20	25	38	34	32	34	33	40	[1]23
Certain conditions originating in the perinatal period. .760–779	90	82	*	[2]17	19	19	31	19	16	19	18	[1]9
Symptoms, signs, and ill-defined conditions. .780–799	1,429	1,300	243	239	258	323	379	[1]251	299	337	250	[1]150
Injury and poisoning .800–999	1,515	1,423	210	227	237	314	395	[1]282	378	420	295	[1]181
Fractures, all sites .800–829	403	369	52	50	58	[1]89	114	75	103	111	76	[1]43
Fracture of neck of femur .820	80	76	*10	11	*9	[1]22	26	14	20	22	14	8
Sprains and strains of back (including neck) .846–847	61	55	15	22	15	11	16	8	*10	10	*	[2]*
Intracranial injuries (excluding those with skull fracture) .850–854	70	67	*9	13	16	14	19	13	15	20	*11	*7
Lacerations and open wounds. .870–904	138	137	16	26	20	24	33	29	41	39	27	19
Supplementary classifications .V01–V82	2,063	1,903	260	284	282	[1]441	547	340	500	560	474	[1]278
Females with deliveries .V27	966	900	131	121	124	[1]210	266	167	224	266	221	[1]136

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

[3]First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

Table 25. Number of all-listed procedures for patients discharged from short-stay hospitals using old and new survey methods, by age and procedure category: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Procedure category and ICD–9–CM code	All ages		Under 15 years		15–44 years		45–64 years		65 years and over	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of all-listed procedures in thousands									
All procedures	10,199	9,848	450	457	3,949	3,829	2,393	2,282	3,406	3,279
Operations on the nervous system .01–05	244	255	52	53	76	68	59	57	56	47
Spinal tap .03.31	106	90	44	41	24	16	17	13	21	19
Operations on the endocrine system .06–07	28	25	*	1*	*11	10	*10	9	*	1*5
Operations on the eye .08–16	116	117	*	18	23	18	30	24	57	68
Extraction of lens .13.1–13.6	15	25	*	1*	*	1*	*	1*5	*11	18
Insertion of prosthetic lens (pseudophakos) .13.7	13	23	–	1*	*	1*	*	1*	*11	18
Operations on the ear .18–20	51	52	25	32	14	11	*7	*6	*	1*
Operations on the nose, mouth, and pharynx .21–29	231	220	58	60	105	102	37	35	31	22
Rhinoplasty and repair of nose .21.8	27	30	*	1*	18	23	*	1*	*	1*
Tonsillectomy with or without adenoidectomy .28.2–28.3	58	58	35	41	22	17	*	1*	–	1*
Operations on the respiratory system .30–34	264	256	14	13	41	42	89	79	121	122
Bronchoscopy .33.21–33.23	45	37	*	1*	*	1*5	16	11	20	17
Operations on the cardiovascular system .35–39	835	907	30	34	96	110	325	345	384	419
Removal of coronary artery obstruction .36.0	52	50	–	–	*	1*	24	26	23	19
Direct heart revascularization .36.1	82	93	–	1*	*	1*	41	44	38	46
Cardiac catheterization .37.21–37.23	226	232	*	1*	25	21	111	109	83	97
Pacemaker insertion, replacement, removal, and repair .37.7–37.8	65	69	*	1*	*	1*	*11	14	53	52
Operations on the hemic and lymphatic system .40–41	94	100	*	1*	19	23	26	25	44	46
Operations on the digestive system .42–54	1,435	1,315	48	53	426	395	369	329	592	538
Esophagoscopy and gastroscopy (natural orifice) .42.23,44.13	34	34	*	1*	*7	*7	*9	9	16	17
Partial gastrectomy and resection of intestine .43.5–43.8,45.6–45.8	87	68	*	1*	*12	*7	27	22	48	36
Endoscopy of large intestine (natural orifice) .45.24	64	66	*	1*	*10	11	*12	15	42	40
Appendectomy, excluding incidental .47.0	68	60	16	16	43	35	*	1*5	*	1*
Hemorrhoidectomy .49.43–49.46	24	20	–	1*	*13	8	*8	*7	*	1*5
Cholecystectomy .51.2	130	119	*	1*	52	51	38	32	40	36
Repair of inguinal hernia .53.0–53.1	82	77	*7	9	20	23	26	18	29	28
Division of peritoneal adhesions .54.5	84	77	*	1*	48	42	17	18	19	17
Operations on the urinary system .55–59	473	425	9	9	104	98	123	103	237	215
Endoscopies through natural orifice .55.21–55.22, 56.31,57.32,58.22	157	155	*	1*	22	23	40	36	94	94
Operations on the male genital organs .60–64	178	175	*10	10	17	15	38	39	112	110
Prostatectomy .60.2–60.6	108	104	...	...	*	1*	21	22	87	81
Operations on female genital organs .65–71	763	644	*	1*	534	469	157	118	70	56
Oophorectomy and salpingo-oophorectomy .65.3–65.6	138	117	–	1*	71	69	50	38	16	10
Bilateral destruction or occlusion of fallopian tubes .66.2–66.3	100	92	–	–	99	91	*	1*	...	...

Hysterectomy .68.3–68.7	176	146	–	–	99	91	56	40	20	15
Dilation and curettage of uterus .69.0	96	73	*	[1]*	79	58	*12	12	*	[1]*
Repair of cystocele and rectocele .70.5	43	36	–	–	*12	10	18	13	*13	13
Obstetrical procedures .72–75	1,358	1,440	*	[1]*	1,353	1,435	*	[1]*	–	–
Episiotomy with or without forceps or vacuum extraction .72.1,72.21,72.31,72.71,73.6	455	404	*	[1]*	453	402	*	[1]*	–	–
Cesarean section .74.0–74.2,74.4,74.99	233	227	*	[1]*	233	226	*	[1]*	–	–
Repair of current obstetric laceration .75.5–75.6	161	168	*	[1]*	160	167	–	[1]*	–	–
Operations on the musculoskeletal system .76–84	904	775	45	38	385	310	229	193	245	233
Open reduction of fracture, except jaw .76.79, 79.2–79.3,79.5–79.6	127	115	*	[1]*	50	44	26	23	45	43
Other reduction of fracture, except jaw .76.70,76.78, 79.0–79.1,79.4	47	41	9	9	20	13	*8	*6	*11	12
Excision or destruction of intervertebral disc and spinal fusion .80.5,81.0	107	79	*	[1]*	55	38	40	29	*9	11
Arthroplasty and replacement of knee .81.41–81.47	51	55	*	[1]*	23	21	*	[1]8	22	26
Arthroplasty and replacement of hip .81.5,81.6	52	54	*	[1]*	*	[1]*	13	11	34	39
Operations on muscles, tendons, fascia, and bursa .82–83.1,83.3–83.9	86	71	*7	*7	35	32	23	17	21	15
Operations on the integumentary system .85–86	396	365	23	21	153	130	108	97	112	117
Mastectomy .85.4	39	38	–	–	*	[1]*5	16	14	17	18
Excision or destruction of lesion or tissue of skin or subcutaneous tissue .86.2–86.4	144	115	*11	8	56	41	30	28	48	39
Skin graft (except lip or mouth) .86.6–86.7	36	34	*	[1]*	*13	13	*10	*6	*9	11
Miscellaneous diagnostic and therapeutic procedures .87–99	2,831	2,805	117	115	592	591	786	823	1,335	1,275
Computerized axial tomagraphy (CAT scan) .87.03, 87.41,87.71,88.01,88.38	441	424	24	20	99	96	98	105	220	203
Pyelogram .87.73–87.75	80	82	*	[1]*	29	29	21	22	29	31
Arteriography and angiocardiography using contrast material .88.4–88.5	361	403	*	[1]*	43	41	172	190	144	169
Diagnostic ultrasound .88.7	451	413	19	21	124	123	100	95	209	175
Circulatory monitoring .89.6	256	244	17	9	31	32	56	69	152	134
Radioisotope scan .92.0–92.1	200	191	*	[1]*	34	33	56	58	105	95

[1]Difference between estimates using old and new methods not tested.

Table 26. Number of all-listed procedures for patients discharged from short-stay hospitals using old and new survey methods, by sex, race, and procedure category: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Procedure category and ICD–9–CM code	All patients		Male		Female		White		All other races		Race not stated	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of all-listed procedures in thousands											
All procedures	10,199	9,848	4,092	4,006	6,108	5,842	7,483	7,488	1,550	1,479	1,166	881
Operations on the nervous system .01–05	244	225	127	117	116	109	172	163	40	40	39	23
Spinal tap .03.31	106	90	54	44	52	46	70	58	27	24	*9	1*
Operations on the endocrine system .06–07	28	25	*9	*6	19	20	20	20	*	1*	*	1*
Operations on the eye .08–16	116	117	60	59	56	58	74	93	14	13	27	211
Extraction of lens .13.1–13.6	15	25	*	111	*8	14	*11	19	*	1*	*	1*
Insertion of prosthetic lens (pseudophakos) .13.7	13	23	*	19	*8	13	*10	19	*	1*	*	1*
Operations on the ear .18–20	51	52	30	30	21	23	43	41	*	1*5	*	1*
Operations on the nose, mouth, and pharynx .21–29	231	220	126	119	105	101	170	184	28	21	32	215
Rhinoplasty and repair of nose .21.8	27	30	18	21	*9	10	22	27	*	1*	*	1*
Tonsillectomy with or without adenoidectomy .28.2–28.3	58	58	24	26	33	33	44	51	*	1*	*8	1*
Operations on the respiratory system .30–34	264	256	148	148	116	108	198	200	41	40	25	16
Bronchoscopy .33.21–33.23	45	37	25	22	20	15	34	29	*	1*7	*	1*
Operations on the cardiovascular system .35–39	835	907	496	558	339	350	631	703	117	112	87	92
Removal of coronary artery obstruction .36.0	52	50	35	40	17	9	43	37	*	1*	*	110
Direct heart revascularization .36.1	82	93	62	68	19	26	63	75	*9	*6	10	12
Cardiac catheterization .37.21–37.23	226	232	142	152	84	80	180	186	26	19	20	27
Pacemaker insertion, replacement, removal, and repair .37.7–37.8	65	69	28	40	36	29	49	59	*	1*6	*9	1*
Operations on the hemic and lymphatic system .40–41	94	100	44	52	49	48	75	79	*11	14	*9	1*
Operations on the digestive system .42–54	1,435	1,315	610	558	826	757	1,085	1,026	193	185	157	2104
Esophagoscopy and gastroscopy (natural orifice) .42.23,44.13	34	34	19	18	15	17	25	25	*	1*7	*	1*
Partial gastrectomy and resection of intestine .43.5–43.8,45.6–45.8	87	68	38	29	50	39	70	55	*9	10	*8	1*
Endoscopy of large intestine (natural orifice) .45.24	64	66	25	25	38	41	46	52	*9	10	*9	1*
Appendectomy, excluding incidental .47.0	68	60	36	31	32	28	50	47	*8	*6	*10	1*
Hemorrhoidectomy .49.43–49.46	24	20	*12	11	*12	9	20	17	*	1*	*	1*
Cholecystectomy .51.2	130	119	36	32	94	86	93	93	16	12	20	13
Repair of inguinal hernia .53.0–53.1	82	77	72	69	*10	8	63	62	*8	8	*11	1*
Division of peritoneal adhesions .54.5	84	77	*12	9	72	68	62	61	15	11	*7	1*
Operations on the urinary system .55–59	473	425	285	256	188	169	367	344	55	46	51	35
Endoscopies through natural orifice .55.21–55.22, 56.31,57.32,58.22	157	155	114	115	44	39	123	128	18	16	16	11
Operations on the male genital organs .60–64	178	175	178	175	...	...	132	142	19	19	27	213
Prostatectomy .60.2–60.6	108	104	108	104	...	...	82	83	*7	10	18	11
Operations on female genital organs .65–71	763	644	...	...	763	644	531	466	140	119	93	59
Oophorectomy and salpingo-oophorectomy .65.3–65.6	138	117	...	...	138	117	102	90	18	15	18	12
Bilateral destruction or occlusion of fallopian tubes .66.2–66.3	100	92	...	...	100	92	61	54	26	27	*13	11

Hysterectomy .68.3–68.7	176	146	...	...	176	146	127	112	25	22	24	12
Dilation and curettage of uterus .69.0	96	73	...	...	96	73	64	51	23	15	*9	1*
Repair of cystocele and rectocele .70.5	43	36	...	...	43	36	32	31	*	1*	*7	1*
Obstetrical procedures .72–75	1,358	1,440	...	...	1,358	1,440	895	982	264	272	199	186
Episiotomy with or without forceps or vacuum extraction .72.1,72.21,72.31, 72.71,73.6	455	404	...	...	455	404	312	285	73	67	71	52
Cesarean section .74.0–74.2,74.4,74.99	233	227	...	...	233	227	153	153	51	46	29	28
Repair of current obstetric laceration .75.5–75.6	161	168	...	...	161	168	107	114	29	34	25	20
Operations on the musculoskeletal system .76–84	904	775	456	406	448	369	650	613	129	2*88	125	2*74
Open reduction of fracture, except jaw .76.79, 79.2–79.3,79.5–79.6	127	115	63	55	64	60	91	88	19	15	18	12
Other reduction of fracture, except jaw .76.70,76.78, 79.0–79.1,79.4	47	41	24	20	23	21	36	34	*	1*	*7	1*
Excision or destruction of intervertebral disc and spinal fusion .80.5,81.0	107	79	63	50	44	29	81	65	*11	*7	14	1*
Arthroplasty and replacement of knee .81.41–81.47	51	55	26	29	25	26	38	45	*	*5	*8	1*
Arthroplasty and replacement of hip .81.5,81.6	52	54	18	21	34	33	40	46	*	1*	*8	1*
Operations on muscles, tendons, fascia, and bursa .82–83.1,83.3–83.9	86	71	52	44	34	27	61	54	*11	10	14	1*
Operations on the integumentary system .85–86	396	365	145	148	251	217	280	266	68	61	48	37
Mastectomy .85.4	39	38	*	1*	38	37	28	29	*	1*	*7	1*
Excision or destruction of lesion or tissue of skin or subcutaneous tissue .86.2–86.4	144	115	68	63	76	52	106	84	26	23	12	1*
Skin graft (except lip or mouth) .86.6–86.7	36	34	19	22	17	13	26	24	*7	*7	*	1*
Miscellaneous diagnostic and therapeutic procedures .87–99	2,831	2,805	1,378	1,375	1,453	1,430	2,159	2,162	426	441	247	202
Computerized axial tomography (CAT scan) .87.03, 87.41,87.71,88.01,88.38	441	424	211	215	230	209	341	333	66	64	34	27
Pyelogram .87.73–87.75	80	82	44	50	36	32	66	67	*7	10	*7	1*
Arteriography and angiocardiography using contrast material .88.4–88.5	361	403	222	252	138	151	282	320	38	41	40	42
Diagnostic ultrasound .88.7	451	413	188	156	263	257	328	284	86	93	37	37
Circulatory monitoring .89.6	256	244	131	121	125	123	200	185	38	46	18	12
Radioisotope scan .92.0–92.1	200	191	93	89	106	103	148	147	30	30	21	15

[1]Difference between estimates using old and new methods not tested.

[2]Difference from estimate using old method significant at the $p < .05$ level.

Table 27. Number of all-listed procedures for patients discharged from short-stay hospitals using old and new survey methods, by region and procedure category: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Procedure category and ICD–9–CM code	All regions		Northeast		Midwest		South		West	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of all-listed procedures in thousands									
All procedures	10,199	9,848	2,156	2,492	2,677	2,339	3,096	3,234	2,270	1,783
Operations on the nervous system .01–05	244	225	48	63	66	49	81	66	49	47
Spinal tap .03.31	106	90	22	26	27	18	38	26	19	20
Operations on the endocrine system .06–07	28	25	*7	*5	*7	8	*8	8	*7	*5
Operations on the eye .08–16	116	117	22	[1]43	47	[1]18	30	36	16	21
Extraction of lens .13.1–13.6	15	25	*	[2]12	*	[2]*	*	[2]*5	*	[2]*5
Insertion of prosthetic lens (pseudophakos) .13.7	13	23	*	[2]13	*	[2]*	*	[2]*	*	[2]*
Operations on the ear .18–20	51	52	15	24	16	9	*12	10	*8	9
Operations on the nose, mouth, and pharynx .21–29	231	220	53	77	77	57	70	59	31	27
Rhinoplasty and repair of nose .21.8	27	30	*	[2]10	*12	9	*7	*6	*	[2]*5
Tonsillectomy with or without adenoidectomy .28.2–28.3	58	58	*12	18	22	18	20	17	*	[2]*6
Operations on the respiratory system .30–34	264	256	61	76	68	55	77	82	58	43
Bronchoscopy .33.21–33.23	45	37	*10	10	*11	8	14	11	*10	*7
Operations on the cardiovascular system .35–39	835	907	130	186	269	243	269	313	168	165
Removal of coronary artery obstruction .36.0	52	50	*7	*5	17	15	17	15	*10	15
Direct heart revascularization .36.1	82	93	*7	17	32	26	25	31	18	19
Cardiac catheterization .37.21–37.23	226	232	34	43	70	64	85	80	37	45
Pacemaker insertion, replacement, removal, and repair .37.7–37.8	65	69	15	16	19	18	17	26	*13	10
Operations on the hemic and lymphatic system .40–41	94	100	22	26	28	24	24	33	20	16
Operations on the digestive system .42–54	1,435	1,315	306	322	379	318	475	490	276	185
Esophagoscopy and gastroscopy (natural orifice) .42.23,44.13	34	34	*8	10	*9	*6	*11	13	*	[2]5
Partial gastrectomy and resection of intestine .43.5–43.8,45.6–45.8	87	68	20	19	23	14	27	27	18	*7
Endoscopy of large intestine (natural orifice) .45.24	64	66	14	18	19	18	23	24	*7	*6
Appendectomy, excluding incidental .47.0	68	60	*12	11	19	16	22	21	14	11
Hemorrhoidectomy .49.43–49.46	24	20	*	[2]*5	*	[2]*	*10	8	*	[2]*
Cholecystectomy .51.2	130	119	26	24	34	31	42	45	29	19
Repair of inguinal hernia .53.0–53.1	82	77	20	22	25	22	27	26	*10	8
Division of peritoneal adhesions .54.5	84	77	15	14	21	21	33	34	15	8
Operations on the urinary system .55–59	473	425	102	132	109	97	152	138	111	[1]57
Endoscopies through natural orifice .55.21–55.22, 56.31,57.32,58.22	157	155	44	47	39	38	48	55	26	14
Operations on the male genital organs .60–64	178	175	39	43	50	46	49	63	40	23
Prostatectomy .60.2–60.6	108	104	20	22	31	29	28	39	29	15
Operations on female genital organs .65–71	763	644	132	139	182	147	294	246	155	112
Oophorectomy and salpingo-oophorectomy .65.3–65.6	138	117	19	22	32	27	54	48	33	19
Bilateral destruction or occlusion of fallopian tubes .66.2–66.3	100	92	17	16	21	17	44	41	17	17

Hysterectomy .68.3–68.7	176	146	24	25	44	37	67	60	41	24
Dilation and curettage of uterus .69.0	96	73	30	24	16	15	34	21	17	12
Repair of cystocele and rectocele .70.5	43	36	*7	*5	*11	14	15	12	*11	*6
Obstetrical procedures .72–75	1,358	1,440	240	278	315	375	415	454	358	332
Episiotomy with or without forceps or vacuum extraction .72.1,72.21,72.31,72.71,73.6	455	404	85	80	116	104	145	133	110	88
Cesarean section .74.0–74.2,74.4,74.99	233	227	45	41	49	48	82	90	57	48
Repair of current obstetric laceration .75.5–75.6	161	168	29	33	38	42	46	55	48	38
Operations on the musculoskeletal system .76–84	904	775	161	212	238	173	287	252	218	138
Open reduction of fracture, except jaw .76.79, 79.2–79.3,79.5–79.6	127	115	23	26	32	26	45	43	27	20
Other reduction of fracture, except jaw .76.70,76.78, 79.0–79.1,79.4	47	41	*10	13	15	*7	15	16	*8	*5
Excision or destruction of intervertebral disc and spinal fusion .80.5,81.0	107	79	*11	12	26	21	43	32	26	13
Arthroplasty and replacement of knee .81.41–81.47	51	55	*8	13	*11	12	*12	19	20	11
Arthroplasty and replacement of hip .81.5,81.6	52	54	*11	12	17	12	*13	21	*10	10
Operations on muscles, tendons, fascia, and bursa .82–83.1,83.3–83.9	86	71	18	21	23	16	20	21	24	13
Operations on the integumentary system .85–86	396	365	84	103	112	82	115	123	84	57
Mastectomy .85.4	39	38	*9	8	*11	10	*9	10	*10	9
Excision or destruction of lesion or tissue of skin or subcutaneous tissue .86.2–86.4	144	115	31	36	40	27	45	39	29	13
Skin graft (except lip or mouth) .86.6–86.7	36	34	*	[2]11	*11	*6	*11	14	*8	[2]*
Miscellaneous diagnostic and therapeutic procedures .87–99	2,831	2,805	735	763	686	637	738	862	672	543
Computerized axial tomography (CAT scan) .87.03, 87.41,87.71,88.01,88.38	441	424	136	137	105	82	113	139	87	66
Pyelogram .87.73–87.75	80	82	21	23	19	19	31	31	*9	9
Arteriography and angiocardiography using contrast material .88.4–88.5	361	403	64	83	116	113	119	125	62	82
Diagnostic ultrasound .88.7	451	413	130	113	110	102	96	110	114	88
Circulatory monitoring .89.6	256	244	65	74	34	31	54	72	104	66
Radioisotope scan .92.0–92.1	200	191	69	58	42	41	49	54	39	38

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

Table 28. Number of all-listed procedures for patients discharged from short-stay hospitals using old and new survey methods, by hospital bed size and procedure category: United States, January–March 1988

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Procedure category and ICD–9–CM code	All sizes		6–99 beds		100–199 beds		200–299 beds		300–499 beds		500 beds or more	
	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method	Old method	New method
	Number of all-listed procedures in thousands											
All procedures	10,199	9,848	987	1,050	1,450	[1]2,155	2,773	[1]1,966	2,550	3,081	2,439	[1]1,596
Operations on the nervous system .01–05	244	225	13	16	37	46	58	50	66	69	70	[1]45
Spinal tap .03.31	106	90	*	[2]11	20	22	25	14	28	25	27	18
Operations on the endocrine system .06–07	28	25	*	[2]*	*	[2]*	*9	[2]*	*9	8	*7	[2]*
Operations on the eye .08–16	116	117	27	[1]13	*7	[1]33	26	22	24	31	31	18
Extraction of lens .13.1–13.6	15	25	*	[2]*	*	[2]*	*	[2]*	*	*7	*	[2]*
Insertion of prosthetic lens (pseudophakos) .13.7	13	23	*	[2]*	*	[2]*	*	[2]*	*	[2]*6	*	[2]*
Operations on the ear .18–20	51	52	*	[2]*	*	[2]17	16	11	15	16	*13	8
Operations on the nose, mouth, and pharynx .21–29	231	220	28	24	47	64	56	41	46	64	53	[1]26
Rhinoplasty and repair of nose .21.8	27	30	*	[2]*	*7	9	*	[2]*	*	[2]8	*	[2]*
Tonsillectomy with or without adenoidectomy .28.2–28.3	58	58	*8	[2]*	*13	21	16	13	*9	16	*12	[2]*
Operations on the respiratory system .30–34	264	256	12	24	44	51	70	55	74	78	64	48
Bronchoscopy .33.21–33.23	45	37	*	[2]*	*9	*7	*11	8	*12	12	*11	*6
Operations on the cardiovascular system .35–39	835	907	19	32	62	[1]130	170	162	294	374	290	[1]209
Removal of coronary artery obstruction .36.0	52	50	–	–	*	[2]10	*9	[2]*	22	24	19	11
Direct heart revascularization .36.1	82	93	–	[2]*	*	[2]9	16	11	29	45	37	28
Cardiac catheterization .37.21–37.23	226	232	*	[2]*	*10	[1]33	43	39	85	104	87	[1]55
Pacemaker insertion, replacement, removal, and repair .37.7–37.8	65	69	*	[2]*	*	[2]16	18	11	22	23	*13	12
Operations on the hemic and lymphatic system .40–41	94	100	*	[2]12	*12	20	25	23	24	27	27	17
Operations on the digestive system .42–54	1,435	1,315	185	176	266	336	376	281	303	363	306	[1]158
Esophagoscopy and gastroscopy (natural orifice) .42.23,44.13	34	34	*	[2]*	*	[2]9	*9	9	*10	9	*	[2]*
Partial gastrectomy and resection of intestine .43.5–43.8,45.6–45.8	87	68	*7	[2]*	17	20	21	14	21	21	21	[1]8
Endoscopy of large intestine (natural orifice) .45.24	64	66	*	[2]10	*13	16	15	12	14	21	16	[1]*7
Appendectomy, excluding incidental .47.0	68	60	14	11	14	21	*12	10	14	11	14	[1]*7
Hemorrhoidectomy .49.43–49.46	24	20	*	[2]*	*	[2]*	*	[2]*	*	[2]*7	*	[2]*
Cholecystectomy .51.2	130	119	22	21	23	28	38	28	26	30	22	12
Repair of inguinal hernia .53.0–53.1	82	77	*11	18	16	18	20	14	17	17	18	9
Division of peritoneal adhesions .54.5	84	77	*11	[2]*	16	21	24	16	16	22	16	8
Operations on the urinary system .55–59	473	425	44	45	70	96	151	[1]90	117	132	90	62
Endoscopies through natural orifice .55.21–55.22, 56.31,57.32,58.22	157	155	18	17	20	36	46	34	36	48	36	[1]19
Operations on the male genital organs .60–64	178	175	23	25	28	43	54	44	37	42	36	21
Prostatectomy .60.2–60.6	108	104	15	16	17	27	36	23	20	28	19	11

Operations on female genital organs 65–71	763	644	121	81	115	145	214	[1]135	157	182	155	[1]101
Oophorectomy and salpingo-oophorectomy 65.3–65.6	138	117	27	15	21	28	39	27	25	32	25	15
Bilateral destruction or occlusion of fallopian tubes 66.2–66.3	100	92	19	11	14	22	25	17	22	27	19	15
Hysterectomy 68.3–68.7	176	146	33	19	27	34	49	33	30	39	37	[1]21
Dilation and curettage of uterus. 69.0	96	73	*12	[2]*	*13	16	34	[1]14	20	22	19	13
Repair of cystocele and rectocele 70.5	43	36	*8	[2]*	*	[2]8	*11	8	*9	8	*9	[2]*
Obstetrical procedures 72–75	1,358	1,440	163	172	151	[1]314	363	269	321	[1]438	359	[1]248
Episiotomy with or without forceps or vacuum extraction 72.1,72.21,72.31,72.71,73.6	455	404	63	55	63	93	129	[1]76	102	117	98	[1]63
Cesarean section 74.0–74.2,74.4,74.99	233	227	25	27	26	[1]55	69	46	58	69	56	[1]31
Repair of current obstetric laceration 75.5–75.6	161	168	23	21	17	[1]38	45	32	39	50	37	26
Operations on the musculoskeletal system 76–84	904	775	109	83	162	186	228	161	202	229	202	[1]115
Open reduction of fracture, except jaw 76.79, 79.2–79.3,79.5–79.6	127	115	*12	10	17	32	35	24	36	36	29	[1]13
Other reduction of fracture, except jaw 76.70,76.78, 79.0–79.1,79.4	47	41	*	[2]10	*9	9	14	[2]*	*11	12	*7	[2]*
Excision or destruction of intervertebral disc and spinal fusion 80.5,81.0	107	79	*11	[2]*	17	11	27	23	29	29	23	15
Arthroplasty and replacement of knee. 81.41–81.47	51	55	*	[2]*	*7	14	14	10	*8	[1]19	17	[1]8
Arthroplasty and replacement of hip 81.5,81.6	52	54	*	[2]*	*	[2]16	*13	13	*11	14	15	*7
Operations on muscles, tendons, fascia, and bursa 82–83.1,83.3–83.9	86	71	*9	11	15	21	24	12	22	17	15	10
Operations on the integumentary system 85–86	396	365	49	44	52	63	97	75	94	123	104	[1]59
Mastectomy 85.4	39	38	*	[2]*	*7	8	*8	[2]*	*8	11	*10	9
Excision or destruction of lesion or tissue of skin or subcutaneous tissue 86.2–86.4	144	115	16	13	20	21	40	30	35	35	32	[1]15
Skin graft (except lip or mouth) 86.6–86.7	36	34	*	[2]*	*	[2]*	*8	8	*10	15	*13	*6
Miscellaneous diagnostic and therapeutic procedures 87–99	2,831	2,805	186	[1]298	387	[1]608	860	542	767	902	632	[1]456
Computerized axial tomography (CAT scan) 87.03, 87.41,87.71,88.01,88.38	441	424	23	37	68	98	135	99	120	126	95	[1]63
Pyelogram 87.73–87.75	80	82	*10	10	*11	21	25	19	22	25	*12	8
Arteriography and anglocardiography using contrast material 88.4–88.5	361	403	*	[2]*	*11	[1]59	75	73	144	171	127	98
Diagnostic ultrasound 88.7	451	413	28	47	76	89	133	65	122	140	91	73
Circulatory monitoring. 89.6	256	244	15	[1]42	41	55	113	40	55	76	32	31
Radioisotope scan 92.0–92.1	200	191	*9	[1]26	33	39	66	33	47	61	45	32

[1]Difference from estimate using old method significant at the $p < .05$ level.

[2]Difference between estimates using old and new methods not tested.

Table 29. Number of discharges and days of care and average length of stay for newborn infants discharged from short-stay hospitals using old and new survey methods, by sex and region: United States, January–March 1988

[Discharges from non-Federal hospitals.]

Sex and region	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
All newborn infants . . .	992	883	3,445	3,137	3.5	3.6
Sex						
Male.	512	[1]437	1,838	1,515	3.6	3.5
Female	480	445	1,606	1,622	3.3	3.6
Region						
Northeast	174	172	678	801	3.9	4.7
Midwest	231	206	853	704	3.7	3.4
South	336	306	1,159	1,136	3.5	3.7
West	251	198	755	[1]496	3.0	2.5

[1]Difference from estimate using old method significant at the $p < 0.05$ level.

Table 30. Number of discharges and days of care and average length of stay for newborn infants discharged from short-stay hospitals using old and new survey methods, by sex and health status: United States, January–March 1988

[Discharges from non-Federal hospitals.]

Sex and region	Discharges		Days of care		Average length of stay	
	Old method	New method	Old method	New method	Old method	New method
	Number in thousands				Number of days	
All newborn infants . . .	992	883	3,445	3,137	3.5	3.6
Well	612	[1]524	1,515	1,314	2.5	2.5
Sick	380	359	1,930	1,823	5.1	5.1
Male.	512	[1]437	1,838	1,515	3.6	3.5
Well	307	[1]252	754	624	2.5	2.5
Sick	205	186	1,085	891	5.3	4.8
Female	480	445	1,606	1,622	3.3	3.6
Well	305	272	762	690	2.5	2.5
Sick	175	173	845	932	4.8	5.4

[1]Difference from estimate using old method significant at the $p < 0.05$ level.

Table 31. Number of all-listed diagnoses for sick newborn infants discharged from short-stay hospitals using old and new survey methods, by category of diagnosis and sex: United States, January–March 1988

[Discharges from non-Federal hospitals. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).]

Diagnostic category and ICD–9–CM code	All-listed diagnoses	
	Old method	New method
	Number in thousands	
Sick newborn infant diagnoses[1]	624	599
Congenital anomalies 740–759	60	48
Male.	33	27
Female	28	21
Disorders relating to short gestation and unspecified low birthweight. 765	31	23
Male.	17	[2]8
Female	15	14
Disorders relating to long gestation and high birthweight. 766	55	46
Male.	31	28
Female	24	19
Birth trauma 767	32	32
Male.	19	18
Female	13	14
Respiratory distress syndrome and other respiratory conditions of fetus and newborn 769–770	61	62
Male.	36	32
Female	25	29
Hemolytic disease of fetus or newborn, due to isoimmunization and other perinatal jaundice 773–774	161	149
Male.	85	75
Female	76	74

[1]Includes data for diagnoses not shown in table.

[2]Difference from estimate using old method significant at the $p < 0.05$ level.

Appendixes

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Appendix I
Technical notes on methods

Comparability study

The National Center for Health Statistics (NCHS) has conducted the National Hospital Discharge Survey (NHDS) continuously since 1965. In 1988, NCHS redesigned the NHDS to integrate it with other surveys conducted by NCHS and to improve efficiency through use of information and technologies that were not available when the survey was first designed. As described in the text chapter, "Changes in NHDS methods," the redesigned or "new" survey differs in sample design, data collection, and estimation procedures from the original or "old" survey.

From January through March of 1988, two sets of NHDS data were collected: one using the old survey methods and the second using the new survey methods. The old sample consisted of 558 hospitals, of which 66 were out of scope (ineligible) because they had gone out of business or because they failed to meet the definition of a short-stay hospital. Of the 492 in-scope (eligible) hospitals, 370 participated in the survey during the first 3 months of 1988, and they provided approximately 43,000 abstracts of medical records.

The new sample contained 542 hospitals, 11 of which were out of scope. Among the 531 hospitals that were eligible to participate, 422 responded. NCHS collected data for at least half of the number of sample discharges expected in half or more of the months these hospitals were in scope. Approximately 68,000 abstracts of medical records were obtained from the 422 participating hospitals for January through March of 1988.

Data collection and processing

Data collection—Two data collection procedures were used as part of both the old and the new survey methods. One was a manual system of sample selection and data abstraction. The other was an automated method that involved the purchase of data tapes from abstracting service organizations. In the first 3 months of 1988, 14 percent of respondent hospitals in the old sample and 37 percent of respondent hospitals in the new sample submitted data through abstracting services. Data from abstracting services made up 19 percent of sampled records in the old sample and 71 percent in the new sample.

In the manual system of data collection, sample selection and the transcription of information from the hospital records to abstract forms were performed at the hospitals. The completed forms, along with sample selection control sheets, were then forwarded to NCHS for coding, editing, and weighting. A few of these hospitals submitted their data via computer printout or tape. Of the hospitals using the manual system, about half of those in the old sample and two-thirds of those in the new sample had the work performed by their own medical record staff. In the remaining hospitals using the manual system, personnel of the U.S. Bureau of the Census did this work on behalf of NCHS. For the automated system, NCHS purchased tapes containing machine-readable medical record data from abstracting service organizations and selected sample discharges from these tapes.

The information collection form used in 1988 is shown in figure I. This form and the records on abstract service data tapes contained items relating to personal characteristics of the patient, including birth date, sex, race, ethnicity, marital status, ZIP Code (but not name and address), and expected sources of payment; administrative information including admission and discharge dates, discharge status, and medical record number; and medical information, including diagnoses, surgical and nonsurgical operations or procedures, and dates of surgery. These data items conform with the Uniform Hospital Discharge Data Set (UHDDS) (17). The PSU, hospital name, medical record number, and patient ZIP Code and birth date are confidential and thus are not available to the public.

Medical coding and editing—The medical information collected in the manual system was coded by NCHS staff. A minimum of one and a maximum of seven diagnoses were coded for each sample abstract; in addition, if the medical information included surgical or nonsurgical procedures, a maximum of four procedures were coded. The system used for coding the diagnoses and procedures on the medical abstract forms, as well as the data that appear on the commercial abstracting services data tapes, was the *International Classification of Diseases, 9th Revision, Clinical Modification*, or ICD–9–CM (4). The third edition of ICD–9–CM was used to code the 1988 data. All of the diagnostic codes and procedure codes in the ICD–9–CM were used with the exception of selected procedure codes in chapter 16 (see appendix II).

With two exceptions, the order of diagnoses and procedures for sampled discharges was preserved to reflect the order on the medical record face sheet or in the

OMB No. 0937-0004: Approval Expires November 30, 1990

CONFIDENTIAL — All information which would permit identification of an individual or of 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.

FORM **HDS-1** (12-6-89)

DEPARTMENT OF HEALTH AND HUMAN SERVICES
U.S. PUBLIC HEALTH SERVICE
NATIONAL CENTER FOR HEALTH STATISTICS

MEDICAL ABSTRACT — NATIONAL HOSPITAL DISCHARGE SURVEY

A. PATIENT IDENTIFICATION

1. Hospital number . . . . . ☐☐☐☐
2. HDS number . . . . . ☐☐☐☐
3. Medical record number _____

4. Date of admission . . . Month ☐☐ – Day ☐☐ – Year ☐☐
5. Date of discharge . . . Month ☐☐ – Day ☐☐ – Year ☐☐
6. Residence ZIP code . . ☐☐☐☐☐

B. PATIENT CHARACTERISTICS

7. Date of birth — Month ☐☐ – Day ☐☐ – Year ☐☐☐☐

8. Age *(Complete only if date of birth not given)* . . . . . Units ☐☐☐ 1 ☐ Years 2 ☐ Months 3 ☐ Days

9. Sex *(Mark (X) one)* — 1 ☐ Male 2 ☐ Female 3 ☐ Not stated

10. Race — 1 ☐ White 2 ☐ Black 3 ☐ American Indian/Eskimo/Aleut 4 ☐ Asian/Pacific Islander 5 ☐ Other *(Specify)* _____ 6 ☐ Not stated

11. Ethnicity *(Mark (X) one)* — 1 ☐ Hispanic origin 2 ☐ Non-Hispanic 3 ☐ Not stated

12. Marital status *(Mark (X) one)* — 1 ☐ Married 2 ☐ Single 3 ☐ Widowed 4 ☐ Divorced 5 ☐ Separated 6 ☐ Not stated

13. Expected source(s) of payment

		Principal *(Mark one only)*	Other additional sources *(Mark accordingly)*
Government sources	1. Worker's compensation	☐	☐
	2. Medicare	☐	☐
	3. Medicaid	☐	☐
	4. Title V	☐	☐
	5. Other government payments		
Private sources	6. Blue Cross	☐	☐
	7. Other private or commercial insurance	☐	☐
	8. Self pay	☐	☐
Other sources	9. No charge	☐	☐
	10. Other *(Specify)* _____	☐	☐

☐ **No source of payment indicated**

14. Status/Disposition of patient *(Mark (X) appropriate box(es))*

Status: 1 ☐ Alive → Disposition: a. ☐ Routine discharge/discharged home; b. ☐ Left against medical advice; c. ☐ Discharged, transferred to another short-term hospital; d. ☐ Discharged, transferred to long-term care institution; e. ☐ Other disposition/not stated

2 ☐ Died

3 ☐ Status not stated

C. FINAL DIAGNOSES (including E-code diagnoses)

Optional — ICD-9-CM Nos.

Principal: _____

Other/additional: _____

☐ See reverse side for additional diagnoses

D. SURGICAL AND DIAGNOSTIC PROCEDURES

		Date: Month	Day	Year
Principal:	1.			
Other/additional:	2.			
	3.			
	4.			

☐ NONE ☐ See reverse side for additional procedures

Completed by _____ Date _____

Figure I. Medical abstract for the National Hospital Discharge Survey, 1988.

abstracting service file. One exception was for women admitted for delivery. In this case, a code of V27 from the supplemental classification was assigned as the first diagnosis. In the other exception, a decision was made to reorder some acute myocardial infarction diagnoses based on accepted medical coding practice. Whenever an acute myocardial infarction was encountered with other circulatory diagnoses and was other than the first entry, it was reordered to the first position.

A quality control program was undertaken on the coding and entering of data from abstracts to machine-readable form. Approximately 5 percent of the abstracts were independently recoded by an NHDS coder, with discrepancies resolved by the chief coder. The error rate for records manually coded by NCHS for the entire 1988 data year was 2.8 percent for medical (ICD–9–CM) coding and entering and 0.4 percent for demographic coding and entering. Similar error rates would be expected for the abstracts in the new and old 3-month samples coded manually by NCHS.

Following the conversion of the data on the medical abstract to computer tape and combining the data with the automated data tapes, a final medical edit was performed by computer inspection and by a manual review of rejected abstracts. If the sex or age of the patient was incompatible with the recorded medical information, priority was given to the medical information in the editing process.

Presentation of estimates

Grouping of diagnoses and procedures—The broadest groupings of diseases and injuries shown correspond to the ICD–9–CM chapters 1–17 and the supplementary classification of factors influencing health status and contact with health services. The broad procedure groupings used were the groups numbered 1–16 in the ICD–9–CM section entitled "Procedure classification." Within the diagnostic chapters and procedure groups, some categories were selected for presentation because of large frequencies or because they are of special interest.

Patient characteristics not stated—Age or sex of the patient were not stated for approximately 1 percent of sample discharges using old survey methods and 2 percent using new survey methods. These data were imputed by assigning the patient an age or sex consistent with the age or sex of other sampled patients with the same diagnostic code. Data on race were not available for 12 percent of discharges using old survey methods and for 9 percent using new survey methods. These missing values were not imputed. Using both the old and the new survey methods, 0.08 percent of the sampled records lacked an admission or discharge date. For these cases a length of stay was imputed based on age unless the discharge was a newborn or a female with delivery. In these cases, a length of stay was assigned that was similar to the length of stay of sampled cases in these categories. In addition to the editing performed by NCHS, data obtained through the automated system may have been edited and imputed by an abstract service.

Rounded numbers—Estimates in this report have been rounded. Therefore, detailed figures may not add to totals. Average lengths of stay were calculated using unrounded figures and may not agree with computations made from the rounded data.

Published and flagged estimates—Estimates were not presented unless a reasonable assumption regarding the probability distribution of the sampling error was possible based on the Central Limit Theorem. This theorem states that, given a sufficiently large sample, the sample estimate approximates the population estimate. Upon repeated sampling, its distribution would be approximately normal.

Based on consideration of the complex sample design of the NHDS, the following guidelines were used for presenting the NHDS estimates:

- If the relative standard error of an estimate was larger than 30 percent, the estimate was not shown. Only an asterisk (*) appears in the tables.
- If the sample size was less than 60, the value of the estimate should not be assumed to be reliable. The estimate is preceded by an asterisk (*) in the tables.

Reliability of estimates

Nonsampling errors—As with any survey, results were subject to nonsampling errors, which include errors due to sampling frame errors, hospital nonresponse, missing abstracts, and recording/processing errors. Nonsampling errors were kept to a minimum by methods built into the survey procedures, such as training the data collectors in sampling and data abstraction, quality checks of sampling and abstracting, manual and computer editing, and verification of keypunching and coding. Some nonsampling errors were discussed under "Presentation of estimates."

Sampling errors—Because the statistics presented in this report were based on a sample, they may differ from the figures that would be obtained if a complete count had been taken using the same forms, definitions, instructions, and procedures. However, the probability design of NHDS permits the calculation of sampling errors. The standard error is primarily a measure of sampling variability that occurs by chance because only a sample rather than the entire population is surveyed. The standard error, as calculated for the NHDS, also reflects part of the variation that arises in the measurement process, but does not include estimates of any systematic bias. The chances are about 68 in 100 that an estimate from the sample would differ from a complete count by less than one standard error. The chances are about 95 in 100 that the difference would be less than twice the standard error, and about 99 in 100 that it would be less than 2.5 times as large.

The relative standard error (RSE) of an estimate is obtained by dividing the standard error by the estimate. The resulting value is multiplied by 100, which expresses the relative standard error as a percent of the estimate.

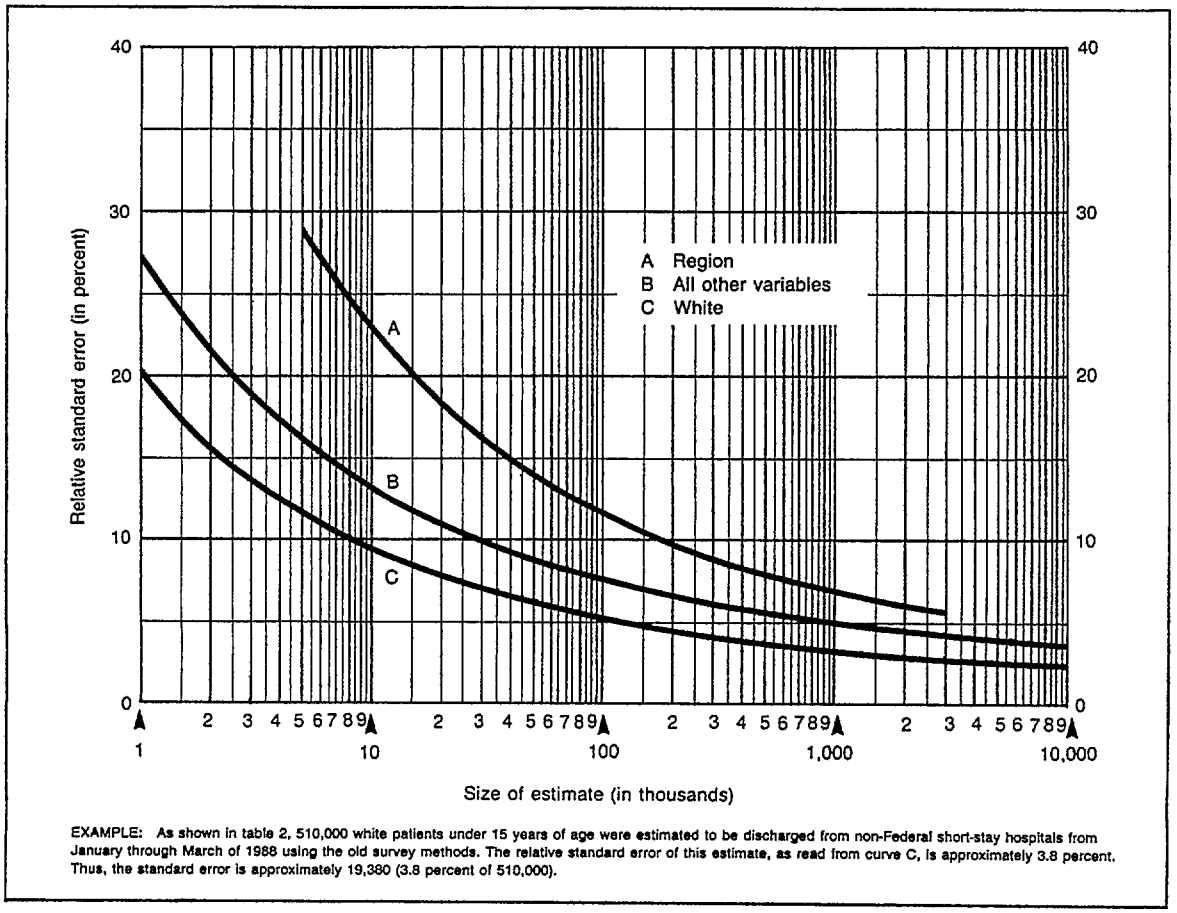


Figure II. Approximate relative standard errors of estimated numbers of patients discharged, or first-listed diagnoses, and of all-listed diagnoses, by selected patient and hospital characteristics: Old survey methods

Relative standard errors for data using old methods—Relative standard errors for data obtained using the old survey methods were computed as they were in previous years. That is, the errors were calculated using a customized computer routine based on a rigorously unbiased algebraic estimator of the variance (6). The standard error of one statistic generally is different from that of another. Using approximations, standard errors were prepared that were applicable to a wide variety of statistics presented in this report.

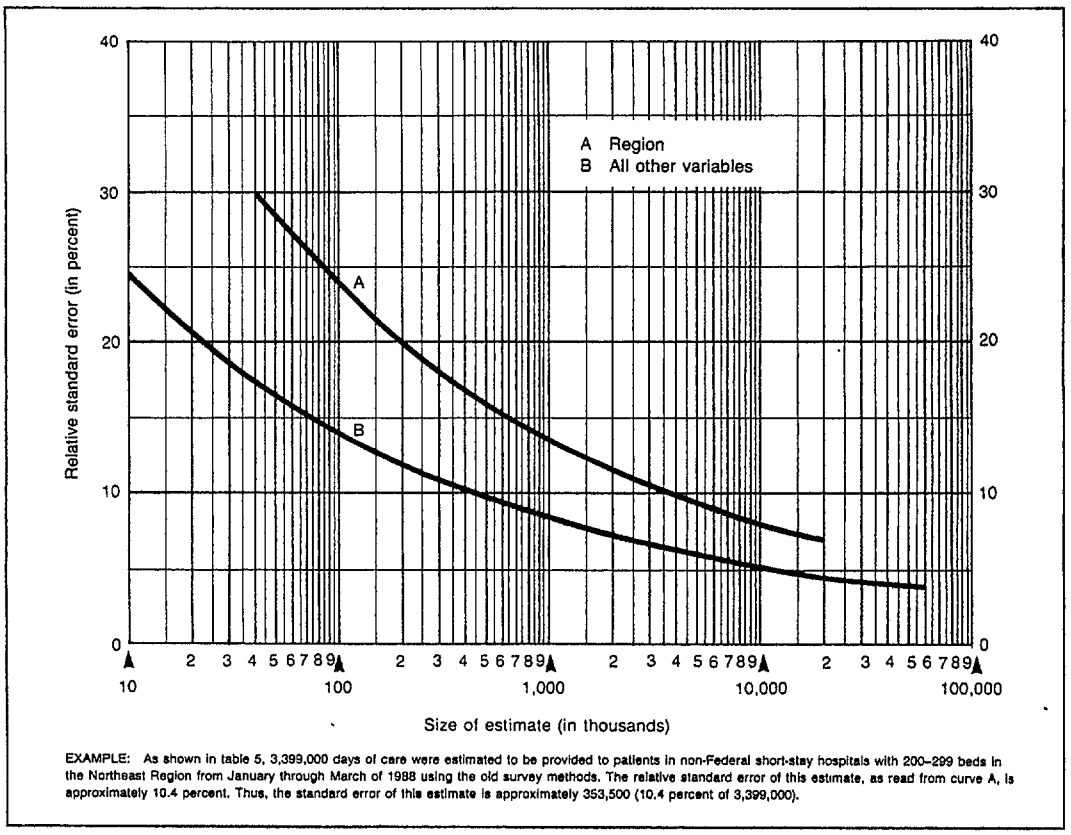
Approximate relative standard errors were calculated for measuring the variances applicable to estimates of patients discharged or first-listed diagnoses and all-listed diagnoses (figure II), days of care (figure III), and procedures (figure IV). The curves for relative standard errors of the estimates in each figure relate to the variables presented in this report. In these figures, the relative standard errors relevant to most of the estimates are in the curve for "all other variables." Separate curves are shown for a few variables that have different relative standard errors. For example, one curve is applicable only to estimates of discharges by region and another curve is for discharges of white patients.

Relative standard errors for data using new survey methods—Estimates of sampling variability for data obtained using the new survey methods were calculated with SESUDAAN software, which computes standard errors by using a first-order Taylor approximation of the deviation of estimates from their expected values. A description of the software and its approach has been published (18).

The relative standard error [RSE (X)] of an estimate X may be estimated from the formula:

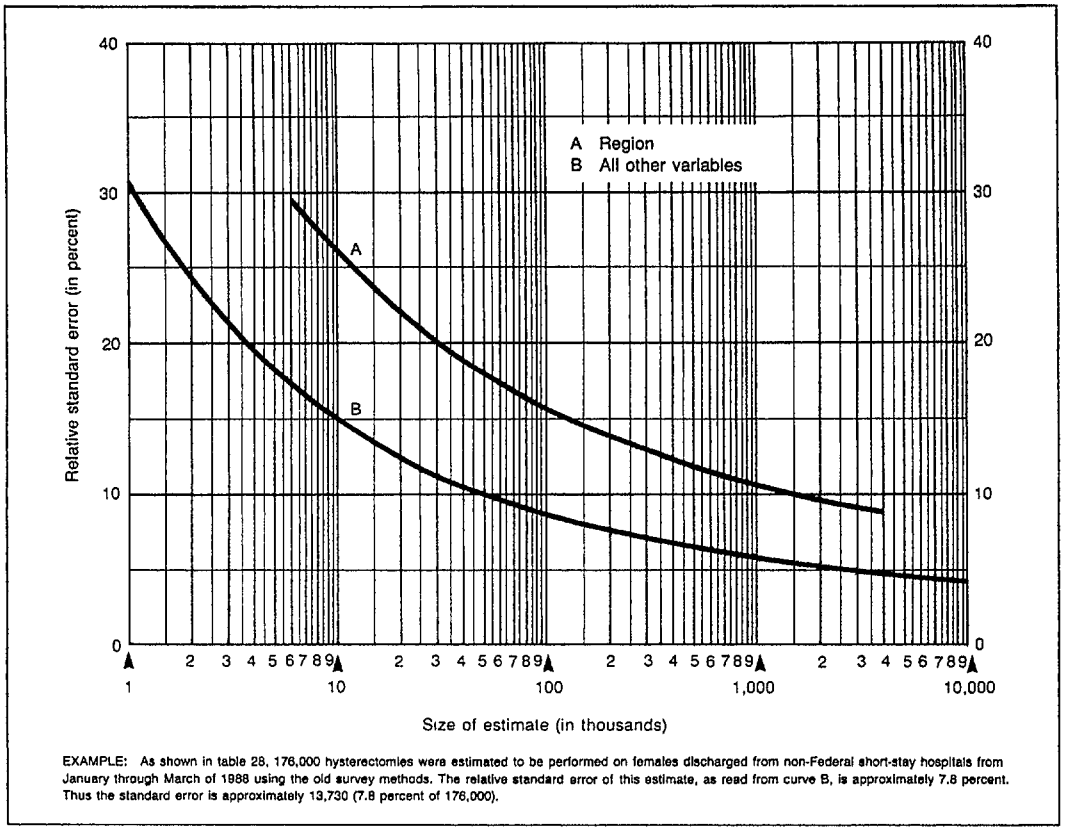
$$\mathrm{RSE}(X) = \sqrt{a + b/X}.$$

Values for a and b are shown in table I. The parameter values for relative standard errors of numbers of patients discharged or first-listed diagnoses and of all-listed diagnoses are shown in the first section of table I. The second section pertains to numbers of days of care and the third section pertains to numbers of procedures. The parameter values in each section are for variables presented in this report. The values for "all other variables" are applicable to most types of estimates, but separate values are shown for a few variables that have different relative standard errors. For example, a different set of parameter values is provided for estimates of discharges in the Northeast Region, for estimates of days of care for patients 65 years of age and over, and for estimates of procedures for patients in hospitals with 500 beds or more.



EXAMPLE: As shown in table 5, 3,399,000 days of care were estimated to be provided to patients in non-Federal short-stay hospitals with 200–299 beds in the Northeast Region from January through March of 1988 using the old survey methods. The relative standard error of this estimate, as read from curve A, is approximately 10.4 percent. Thus, the standard error of this estimate is approximately 353,500 (10.4 percent of 3,399,000).

Figure III. Approximate relative standard errors of estimated numbers of days of care by selected patient and hospital characteristics: Old survey methods



EXAMPLE: As shown in table 28, 176,000 hysterectomies were estimated to be performed on females discharged from non-Federal short-stay hospitals from January through March of 1988 using the old survey methods. The relative standard error of this estimate, as read from curve B, is approximately 7.8 percent. Thus the standard error is approximately 13,730 (7.8 percent of 176,000).

Figure IV. Approximate relative standard errors of estimated numbers of procedures by selected patient and hospital characteristics: Old survey methods

Table I. Parameter values for relative standard error equations for National Hospital Discharge Survey statistics, by selected characteristics: New survey methods

Characteristic	Constant a	Constant b
	Number of patients discharge first-listed diagnoses, or all-listed diagnoses	
Northeast Region	0.002630	207.9238
100–299 beds or 500 beds or more	0.008394	393.3333
Race not stated or 6–99 beds or proprietary ownership	0.005872	651.8695
All other variables	0.003430	328.8042
	Number of days of care	
65 years of age and over	0.003479	2,124.8529
Race not stated or 6–99 beds or proprietary ownership	0.037967	1,300.5837
All other variables	0.005662	1,169.8373
	Number of procedures	
500 beds or more	0.006094	493.0777
Under 15 years of age or 100–299 beds	0.013170	485.3958
Race not stated or 6–99 beds or proprietary or government ownership	0.011540	706.3036
All other variables	0.004975	380.0595

NOTE: The relative standard error for an estimate (X) can determined from the equation $\text{RSE}(X) = \sqrt{a + b/X}$.

Relative standard errors for estimates of percents—The relative standard errors for estimates of percents based on either the old or the new survey methods can be computed using the formula:

$$\text{RSE}\ (p = Y/X) = \sqrt{[\text{RSE}\ (Y)]^2 - [\text{RSE}\ (X)]^2}.$$

Relative standard errors for estimates of percents based on the new survey methods also can be calculated directly using the formula:

$$\text{RSE}(p) = 100\sqrt{b\,(1-p)/(pX)}$$

where 100p is the percent of interest, X is the base of the percent, and b is the parameter b in the formula for approximating the RSE(X). The values for b are given in table I. These approximations are valid if the relative standard error of the denominator is less than 0.05 or the relative standard error of the numerator and denominator are both less than 0.10 (19, 20).

Relative standard errors for average length of stay and other averages or ratios—If the numerator X and the denominator Y are both estimated from the NHDS (using old or new survey methods), then the relative standard error of the ratio X/Y is approximated by

$$\text{RSE}\ (X/Y) = \sqrt{[\text{RSE}(X)]^2 + [\text{RSE}(Y)]^2}.$$

This approximation is valid if the relative standard error of the denominator is less than 0.05 or the relative standard errors of the numerator and denominator are both less than 0.10 (19, 20).

Estimates of differences between two statistics—The relative standard errors 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 accurately represents the standard error for the difference between separate and uncorrelated characteristics, although it is only a rough approximation in most other cases.

Appendix II
Definitions of terms

Hospitals and hospitalization

Hospitals—Hospitals eligible for inclusion in the National Hospital Discharge Survey (NHDS) are those with an average length of stay of less than 30 days for all patients. In the new survey design, hospitals whose specialty is general (medical or surgical) or children's general are also included, even if the average length of stay of all patients in the hospital is 30 days or more. Federal hospitals, hospital units of institutions, and hospitals with less than six beds staffed for patients' use are not included.

Bed size of hospital—In the old survey design, size was measured by the number of staffed beds, which are beds, cribs, and pediatric bassinets regularly maintained (set up and staffed for use) for patients. Bassinets for newborn infants are not included. In the new survey design, the number of short-term staffed beds is used, if reported.

Ownership of hospital—The type of ownership is determined by the organization that controls and operates the hospital. Hospitals are grouped as follows:

- *Voluntary nonprofit*—Hospitals operated by a church or another nonprofit organization.
- *Government*—Hospitals operated by State or local governments.
- *Proprietary*—Hospitals operated by individuals, partnerships, or corporations for profit.

Patient—A person who is formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment. The terms "patient" and "inpatient" are used synonymously.

Newborn infant—A patient admitted by birth to a hospital.

Discharge—The formal release of a patient by a hospital; that is, the termination of a period of hospitalization by death or by disposition to place of residence, nursing home, or another hospital. The terms "discharges" and "patients discharged" are used synonymously.

Days of care—The number of patient days accumulated at the time of discharge by a patient. A stay of less than one day (patient admission and discharge on the same day) is counted as one day in the summation of total days of care. For patients admitted and discharged on different days, the number of days of care is computed by counting all days from (and including) the date of admission to (but not including) the date of discharge.

Average length of stay—The number of days of care accumulated by patients discharged during the year divided by the number of these patients.

Diagnoses

Diagnosis—A disease or injury (or factor that influences health status and contact with health services that is not itself a current illness or injury) listed on the medical record of a patient.

Principal diagnosis—The condition established after study to be primarily responsible for causing the admission of the patient to the hospital for care.

First-listed diagnosis—The diagnosis identified as the principal diagnosis or listed first on the face sheet or discharge summary of the medical record if the principal diagnosis cannot be identified. The number of first-listed diagnoses is equivalent to the number of discharges.

All-listed diagnoses—The number of diagnoses on the face sheet of the medical record. In the NHDS a maximum of seven diagnoses are coded.

Procedures

Procedure—A surgical or nonsurgical operation, diagnostic procedure, or special treatment reported on the medical record of a patient. The following ICD–9–CM procedure codes are not used in the NHDS:

08.19, 16.21, 18.01, 18.11, 18.19, 21.21, 21.29, 22.19, 24.19, 25.09, 25.91, 26.19, 27.29, 27.91, 29.19, 31.48–31.49, 37.29, 41.38–41.39, 42.29, 44.19, 45.19, 45.28–45.29, 48.23, 48.29, 49.21, 49.29, 49.41, 58.29, 61.19, 64.19, 64.91, 64.94, 69.92, 70.21, 73.91–73.92, 75.35, 85.19, 86.19, 86.92, 87.09–87.12, 87.16–87.17, 87.22–87.29, 87.36–87.37, 87.39, 87.43–87.49, 87.69, 87.79, 87.85–87.89, 87.92, 87.95–87.99, 88.09, 88.16–88.31, 88.33, 88.35, 88.37, 88.39, 89.01–89.13, 89.15–89.16, 89.26–89.31, 89.33–89.39, 89.45–89.53, 89.55–89.59, 89.66, 89.7, 90.01–91.99, 93.01–93.25, 93.27–93.28, 93.31–93.39, 93.42–93.44, 93.61–93.91, 93.94, 93.96, 93.99–94.23, 94.25, 94.29–95.03, 95.05–95.11, 95.14–95.15, 95.31–95.49, 96.09–96.19, 96.26–96.28, 96.34–97.04, 97.14–97.69, 97.72–97.89, 99.02–99.24, 99.26–99.59, 99.71–99.79, 99.82–99.99.

All-listed procedures—The number of procedures on the face sheet of the medical record. In the NHDS a maximum of four procedures are coded.

Demographic terms

Age—The patient's age at birthday prior to admission to the hospital.

Race—Patients are classified into two groups: "white" and "all other." The "all other" classification includes all categories other than white. No race was stated on the face sheet of the record for 12 percent of patients in the old survey and for 9 percent of patients in the new survey.

Geographic region—Hospitals are classified by location into one of the four geographic regions of the United States that correspond to those used by the U.S. Bureau of the Census.

Region	*States included*
Northeast	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
Midwest	Michigan, Ohio, Illinois, Indiana, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas
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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