NATIONAL SURVEY OF AMBULATORY SURGERY

PUBLIC USE DATA TAPE DOCUMENTATION

ABSTRACT

This material provides information for users of the public use data tapes for the National Survey of Ambulatory Surgery (NSAS). NSAS was conducted by the National Center for Health Statistics (NCHS) in 1994, 1995, and 1996. It covered ambulatory surgery procedures performed in hospitals and free-standing ambulatory surgery centers in the United States.

Section I of this document describes the survey and includes information on the history and scope of the NSAS; the survey methodology, data collection and medical coding procedures; population estimates, measurement errors, and sampling errors.
Section II provides technical details of the data tapes.
Section III provides a detailed description of the contents of each data record.

Appendix A defines certain terms used in this document; Appendix B contains the ICD-9-CM Addenda; Appendix C describes population estimates obtained from the U.S. Bureau of the Census, which allow the user to calculate rates; Appendix D provides unweighted and weighted frequencies for selected variables. Files to accompany Appendix C are provided in LOTUS spreadsheets on a separate diskette accompanying this documentation. Also on the diskette are LOTUS files containing tables of estimated parameters for relative standard error equations, described below in this documentation. These files are named RSEXX.WK4, with the XX replaced by the last two digits of the data year.

DESCRIPTION OF THE NATIONAL SURVEY OF AMBULATORY SURGERY

INTRODUCTION. This document describes the National Survey of Ambulatory Surgery (NSAS) and provides information for users of the 1994, 1995, and 1996 NSAS public use data files. This survey, conducted by the National Center for Health Statistics (NCHS), covered ambulatory surgery procedures performed in hospitals and in free-standing ambulatory surgery centers in the United States. A brief description of the survey design and data collection procedures is given below. A more detailed description of the survey design, data collection procedures, and the estimation process has been published (1).

HISTORY. The National Survey of Ambulatory Surgery was undertaken to obtain information about the use of ambulatory surgery. Ambulatory, or outpatient, surgery has increased in the United States since the early 1980's. Two major reasons for this increase were advances in medical technology and cost containment initiatives.

On the medical side, many surgeries performed for hospital inpatients have moved to outpatient settings. This is due, in part, to the fact that improvements in anesthesia and better analgesics for relief of pain have made surgery less complex and risky (2). Also, minimally invasive and non-invasive procedures, such as laser surgery, laparoscopy, and endoscopy, have been developed and are being performed with increasing frequency.

On the cost side, concern about rising health care costs led to changes in the Medicare program that encouraged the use of ambulatory surgery (3). In 1982 the Medicare program was expanded to cover care in ambulatory surgery centers. In 1983, a prospective payment system based on diagnosis-related groups (DRG's) was adopted for hospital inpatient care. This system created strong financial incentives for hospitals to perform less complex surgery in an ambulatory setting. In the mid-1980's, the peer review organizations for Medicare established outpatient settings as the norm for certain surgeries and denied Medicare payment for hospital admissions deemed inappropriate or medically unnecessary. Many State Medicaid plans and private insurers followed the lead of the Medicare program and adopted similar policies.

As these changes went into effect, freestanding ambulatory surgery centers increased in number, from 239 centers that performed 380,000 procedures in 1983, to over 1,800 centers performing more than 3.2 million procedures ten years later (4). The number of ambulatory surgery procedures done in hospitals and freestanding settings combined rose from 5.4 million in 1983 to 16.2 million in 1993 (5).

The National Hospital Discharge Survey (NHDS), which has been conducted by the National Center for Health Statistics every year since 1965, includes information on procedures performed on inpatients (6). The NHDS remains a good source of data for surgical procedures, such as open-heart surgery or cesarean sections, that must be done on an inpatient basis. But for surgeries that can be performed on an ambulatory basis, NHDS estimates are incomplete. Thus the National Survey of Ambulatory Surgery was undertaken to provide data on the increasing use of this type of health care.

SURVEY METHODOLOGY

SOURCE OF THE DATA. The NSAS covered ambulatory surgery procedures performed in hospitals and free-standing ambulatory surgery centers (FSASC).

The hospital universe included noninstitutional hospitals exclusive of Federal, military, and Department of Veterans Affairs hospitals, located in the 50 States and the District of Columbia. Only short-stay hospitals (hospitals with an average length of stay for all patients of less than 30 days) or those whose specialty was general (medical or surgical) or children's general were included in the survey. These hospitals must also have had six beds or more staffed for patient use. This universe definition was the same as that used for the National Hospital Discharge Survey. The sampling frame for the hospital universe consisted of eligible hospitals listed in the 1993 SMG Hospital Market Database (7).

The universe of freestanding facilities included FSASCs that were regulated by the States or certified by HCFA, the Health Care Financing Administration, for Medicare participation. The sampling frame consisted of facilities listed in the 1993 Freestanding Outpatient Surgery Center Database (8) and Medicare-certified facilities included in the HCFA Provider-of-Services (POS) file (9). Facilities specializing in dentistry, podiatry, abortion, family planning, or birthing were excluded. However, these procedures were not excluded from in-scope locations.

SAMPLE DESIGN AND DATA COLLECTION. The NSAS sampled facilities using a multi-stage probability design with some facilities selected with certainty and others sampled with varying selection probabilities. Independent samples of hospitals and free-standing ambulatory surgery centers were drawn. The sample included with certainty facilities which performed a high volume of ambulatory surgeries annually. Non-certainty facilities were selected using a stratified, cluster design, where the clusters were 198 primary sampling units (PSUs) that comprised the sample of PSUs used in the 1985-1996 National Health Interview Survey (NHIS). PSUs were counties or groups of counties, or county equivalents, or towns and townships (the latter in New England and Hawaii).

Noncertainty facilities were stratified by facility type (hospital versus freestanding), ambulatory surgery status of hospitals (i.e. whether or not the hospital performed such surgery), facility specialty, and geographic region. From each stratum containing fewer than six facilities, up to three facilities were selected by means of systematic random sampling, with selection probabilities proportional to size, where size was the number of ambulatory surgeries performed annually. For strata containing six or more facilities, first stage sampling involved selection of 112 PSUs, which were a probability subsample of the 198 PSUs in the 1985-94 NHIS sample. Some of these PSUs were sampled with certainty. Selection of noncertainty PSUs was performed within PSU strata defined within the four geographic regions by the number of people in the 1980 Census of Population and NHIS stratification variables. From each PSU stratum, the PSUs were selected with probability proportional to the projected 1985 population. The hospital sample was clustered within a probability subsample of 112 of those PSUs.

The second stage of the cluster design consisted of selection of noncertainty facilities from the sampled PSUs, using systematic random sampling with probabilities proportional to the annual number of ambulatory surgeries performed. For both hospitals and FSASCs, up to three facilities of each type and specialty were selected from each non-certainty PSU and up to 15 facilities were selected across the combined certainty PSUs in each region. For the stratum of hospitals which, according to the sampling frame data, did not have ambulatory surgery, a national sample of 50 hospitals was selected to permit estimates of surgery in hospitals that either changed their status or differed from frame data. Any sampled facility which performed less than 50 ambulatory surgeries in the year prior to the data collection year was considered out-of-scope for the data collection year.

Within sampled facilities, a sample of ambulatory surgery visits was selected using a systematic random sampling procedure. Selection of visits within each facility was performed separately for each location where ambulatory surgery was performed. These locations included main operating rooms, dedicated ambulatory surgery units, cardiac catherization laboratories, laser procedure rooms, endoscopy and laparoscopy rooms, etc. Locations within facilities that specialized in or were dedicated to inpatients, dentistry, abortion, podiatry, pain block, or small procedures were excluded. However, as mentioned above, these procedures were not excluded from in-scope locations.

Following selection of ambulatory surgery visits, data was abstracted from the medical record for each visit. The Medical Abstract Form used in data collection contained items relating to the personal characteristics of the patient, including birth date or age, sex, race, zipcode, but not name and address; administrative information, including the date of the surgery, dispostion of the patient, and medical record number; principal and other additional expected sources of payment; and medical information, including diagnoses and surgical and nonsurgical procedures performed, as well as types of anesthesia administered and by whom. The medical record number, date of birth, and patient zip code, were confidential information and were not made available to the public.

RESPONSE RATE.	1994	1995	1996
Number of Sampled FSASCs	333	333	332
Number of Sampled Hospitals	418	418	418
Total Sampled Facilities	751	751	750
Number In-Scope	617	610	600
Number Responding	494	489	488
Percent of Hospitals Responding	88%	89%	91%
Percent of FSASCs Responding	70%	70%	70%

MEDICAL CODING AND EDIT. The medical information abstracted from the sampled medical records was coded centrally by NCHS contract staff. A maximum of seven diagnostic codes and six procedure codes was assigned for each sampled abstract. The system used for coding the diagnoses and procedures on the medical abstract forms was the International Classification of Diseases, 9th Revision, Clinical Modification, or ICD-9-CM (10).

Following conversion of the data on the medical abstract to computer tape, a final medical edit was accomplished by computer inspection and by a manual review of rejected records. Priority was given to medical information in the editing decision.

Users of the NSAS diagnostic and/or procedure data must take into account annual ICD-9-CM addenda. The addenda lists new codes, new fourth or fifth digits to existing codes, as well as other modifications. Changes go into effect October 1 of the calendar year. However, in order to preserve consistent coding throughout the data year, the NSAS coding for a given data year was consistent with the Addendum which became effective on October 1 of the previous year. Accordingly, Appendix B lists the changes through October 1, 1995.

POPULATION ESTIMATES. Appendix C describes LOTUS spreadsheets accompanying this documentation which provide Census Bureau population estimates of the U.S. civilian resident population as of July l of the calendar year. These population estimates are consistent with those published in Current Population Reports, Series

P-25; however, they are not official population estimates of the Bureau of the Census.

MEASUREMENT ERRORS AND LIMITATIONS OF THE DATA. As in any survey, results were subject to nonsampling or measurement errors, which included errors due to facility nonresponse, missing abstracts, information incompletely or inaccurately recorded on abstract forms, and processing errors.

In a very small number of records, the age or sex of the patient was missing. For these records, a legitimate value was imputed in such a way as to preserve the original, known distribution of the variable. Fewer than two percent of the records had an imputed age or sex value. Forty-two percent of the records were missing a value for race of the patient. No attempt was made to impute for these missing values.

The determination of whether an ambulatory surgery facility was a hospital or a freestanding center was based on the SMG universe from which the facility was selected. In most cases it was apparent whether a facility was a hospital or a freestanding ambulatory surgery center, but some facilities were not easily classified. For example, a "freestanding" facility may have been owned by a hospital but located some distance away. If such a facility was separately listed in the 1993 SMG Freestanding Outpatient Surgery Center Database and was selected into the NSAS sample from this universe, it was considered a freestanding facility.

The distinction between ambulatory and inpatient surgery was not always clear. According to the 1996 NSAS, an estimated 1.9 percent of ambulatory surgery visits were for patients subsequently admitted to the hospital as inpatients. Some of these patients had procedures which were performed exclusively on inpatients, such as coronary artery bypass graft, in addition to diagnostic procedures such as cardiac catheterization. These visits and their suspected "inpatient" procedures were not eliminated from the data file because they were operationally part of the survey design. It is left to the prerogative of the researcher whether or not to include these procedures in an analysis. However, in NCHS publications for the 1994 NSAS, patients discharged to inpatient status were included in estimates of visits and procedures. For the 1995 and 1996 NSAS, these visits were excluded from all published tabulations.

SAMPLING ERRORS. Statistics from the NSAS were derived by a multistage estimation procedure that produced essentially unbiased estimates. The estimation procedure had three basic components: (a) inflation by reciprocals of the probabilities of sample selection, (b) adjustment for nonresponse, and (c) population weighting ratio adjustments.

The standard error of a statistic is primarily a measure of sampling variability that occurs by chance because only a sample rather than the entire universe is surveyed. The relative standard error of the estimate is obtained by dividing the standard error by the estimate itself. When the resulting value is multiplied by 100, the relative standard error (RSE) is expressed as a percent of the estimate. Estimates of sampling variability were calculated with SUDAAN software, which computes standard errors by using a first-order Taylor series approximation of the deviation of estimates from their expected values. A description of the software and the approach it uses has been published (11).

To provide error estimates that would be applicable to a wide variety of statistics, numerous variances were calculated and the best fit formula was derived. The formula was based on an empirically determined relationship between the size of an estimate X and its relative variance. The relative standard error can then be derived by taking the square root of the relative variance. The formulae needed to

perform the calculations of relative standard errors for aggregate statistics and for percents are given below. These formulae use parameter estimates that are applicable to first-listed diagnosis and all-listed procedures, for the total sample and for hospitals and free-standing ambulatory surgery centers separately. Specific parameters have been derived for selected categories of demographic variables, such as males and females, four geographic regions, four standard age groups, and selected expected source of payment groups. Tables containing these parameter estimates are provided in LOTUS files on a separate diskette accompanying this documentation.

RELATIVE STANDARD ERRORS FOR AGGREGATE ESTIMATES

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

$$RSE(X) = SQRT [a + (b/X)]$$

with a and b provided in the accompanying LOTUS tables. When multiplied by 100, the RSE(X) is expressed as a percent of the estimate.

For example, in 1996 the estimated number of ambulatory surgery visits to hospitals and free-standing ambulatory surgery centers by persons aged 65 and over with a first-listed diagnosis of cataracts (ICD-9-CM code 366) was 1,952,000 (excluding those visits admitted to hospitals as inpatients). Using the applicable constants for estimates by age given in the accompanying table produces:

$$RSE(1,952,000) = .0658$$

When multiplied by 100, the relative standard error for the estimate of interest becomes 6.58 percent. From this the standard error is obtained by multiplying the relative standard error by the estimate:

$$SE(1,952,000) = 1,952,000 * 6.58 \% = 128,442$$

The standard error can be employed to generate confidence intervals for statistical testing. In this example, the 95% confidence interval for the estimate of the total number visits by persons aged 65 and over with a first-listed diagnosis of cataracts is:

LOWER LIMIT: 1,952,000 - 2 * 128,442 = 1,695,116
UPPER LIMIT: 1,952,000 + 2 * 128,442 = 2,208,884

RELATIVE STANDARD ERRORS FOR ESTIMATES OF PERCENTS

Approximate relative standard errors for estimates of percents may be calculated from the accompanying LOTUS tables also. The relative standard error for a percent, 100 p (0<p<1), may be calculated using the formula:

$$RSE(p) = SQRT [b * (1 - p) / (p * X)]$$

where 100p is the percent of interest, X is the base of the percent, and b is the parameter value, b, given in the accompanying table. When multiplied by 100, the RSE(p) is expressed as a percent of the estimate, p.

For example, in 1996 the estimated number of ambulatory surgery visits by persons 65 years old and over was 6,998,000 (excluding those admitted to hospitals as inpatients). This is 33.6 percent of the estimated 20,838,000 visits for that year.

Using the applicable constants from the accompanying tables for estimates by age produces:

RSE (.336) = 0.00655

When multiplied by 100, the relative standard error for the estimate of interest becomes 0.655 percent. From this the standard error is obtained by multiplying the relative standard error by the estimate:

SE(.336) = .336 * 0.655% = .0022

The standard error can be employed to generate confidence intervals for statistical testing. In this example, the 95% confidence interval for the estimate of the percentage of ambulatory surgery visits by persons in the 65 and over age group is:

LOWER LIMT = .336 - 2 * .0022 = .332 = 33.2%
UPPER LIMIT = .336 + 2 * .0022 = .340 = 34.0%

PRESENTATION OF ESTIMATES. Publication of estimates for the NSAS was based on the relative standard error of the estimate and the number of sample records on which the estimate was based. Estimates were not presented in NCHS reports unless a reasonable assumption regarding the probability distribution of the sampling error is possible.

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

If the sample size was less than 30, the value of the estimate was not reported.

If the sample size was 30-59, the value of the estimate was reported but should not be assumed reliable.

If the sample size was 60 or more and the relative standard error was less than 30 percent, the estimate was reported.

If the relative standard error of any estimate is over 30 percent, the estimate is considered to be unreliable. It is left to the author to decide whether or not to present it. However, if the author chooses to present the unreliable estimate, the consumer of the statistic must be informed that the statistic is not reliable.

HOW TO USE THE DATA TAPE. The NSAS records were weighted to allow inflation to national or regional estimates. The weight applied to each record is found in tape location 21-25. To produce an estimate of the number of visits, the weights for the desired records must be summed.
Appendix D contains unweighted and weighted frequencies for selected variables on the data tape. These may be used as a cross-check when processing the data on the user's system.

Questions. Questions concerning data on the tape should be directed to:

Jen Popovic, M.A.
Centers for Disease Control and Prevention
National Center for Health Statistics
Division of Health Care Statistics
Hospital Care Statistics Branch
6525 Belcrest Road, Room 956
Hyattsville, Maryland 20782

Phone: 301.458.4321
Fax: 301.458.4032
Email: jpopovic@cdc.gov

For more information about the NHDS, visit our website:
http://www.cdc.gov/nchs/about/major/hdasd/nhds.htm

For email discussions and dissemination of NHDS data, join our Hospital Discharge and Ambulatory Surgery Data listserv (HDAS-DATA). In the body of an email message (leaving the subject line blank), type:
subscribe hdas-data Your Name

Send this message to:
listserv@cdc.gov

REFERENCES

1. McLemore T and Lawrence L. Plan and Operation of the National Survey of Ambulatory Surgery. Vital and Health Statistics, Series 1, No. 37. Hyattsville, MD: National Center for Health Statistics. 1997.
2. New surgical technologies reshape hospital strategies. Hospitals 66(9):30-36, 38, 40-42. 1992.
3. Leader S and Moon M. Medicare trends in ambulatory surgery. Health Affairs Spring: 158-170. 1989.
4. Durant G. Ambulatory surgery centers: surviving, thriving into the 1990's. Medical Group Management Journal 36(2): 16-18, 20. 1989.
5. SMG Marketing Group, Inc. Outpatient surgery centers exceed 3 million cases. SMG Market Letter 8(5). 1996.
6. Graves EJ and Gillum BS. 1996 summary: National Hospital Discharge Survey. Advance data from Vital and Health Statistics; no 278. Hyattsville, Maryland: National Center for Health Statistics. 1996.
7. SMG Marketing Group, Inc. Hospital Market Database. Chicago: Healthcare Information Specialists. April 1993.
8. SMG Marketing Group, Inc. Freestanding Outpatient Surgery Centers Database. Chicago: Healthcare Information Specialists. 1993.
9. Health Care Financing Administration. Provider of Services Public Use File. Baltimore: 1993.
10. Public Health Service and Health Care Financing Administration. International Classification of Diseases, 9th Revision, Clinical Modification. Washington: Public Health Service. 4th ed. 1991.
11. Shah BV, Barnwell BG, Bieler GS. SUDAAN User's Manual: Software for Analysis of Correlated Data, Release 6.40. Research Triangle Park, NC: Research Triangle Institute. 1996.

II. TECHNICAL DESCRIPTION OF TAPE

Data Set Name----------BG00.NSASXX.PU
Number of REELS or CARTRIDGES----------1
Number of Recording Tracks, REEL----------9
Number of Recording Tracks, CARTRIDGE----------18
Density for REEL (bpi)----------6,250
Density for CARTRIDGE (bpi)----------38,000
Language----------EBCDIC
Parity----------Odd
Record Length----------97
Number of Records----------364,858

XX in the data set name may be replaced by the last two digits of the data year, (i.e. 94, for 1994). Data files for each year are contained on separate cartridge tapes.

Data Year	Number of Records
1994	117,861
1995	121,564
1996	125,433

III. RECORD FORMAT: Location and Coding of Data Elements

This section provides detailed information for each sampled record on the tape, with a description of each item included in the record. Data elements are arranged sequentially according to their physical location on the tape record. Data are derived from the abstract form; the SMG Hospital Market Tape is an alternative source of data; some items are computer generated.

VARIABLE	POSITION	COMMENTS
Survey Year	1-2	2-digit indicator for Survey Year (i.e. 94, 95, or 96)
Facility Type	3	Indicator for Type of Facility 1 = Hospital 2 = Freestanding Ambulatory Surgery Center
Units for Age	4	Units in which age (col 5-6) is expressed 1 = Years 2 = Months 3 = Days
Age	5-6	Age in years, months, or days: If Units = Years: 00-99 If Units = Months: 01-11 If Units = Days: 00-31 NOTE: Ages 100 years and over were recoded to 99 years.
Age Flag	7	1 = Value for Age was Imputed 2 = Value for Age was Not Imputed
Sex	8	1 = Male 2 = Female
Sex Flag	9	1 = Value for Sex was Imputed 2 = Value for Sex was Not Imputed
Race	10	1 = White 2 = Black 3 = American Indian/Eskimo 4 = Asian/Pacific Islander 5 = Other 9 = Race Not Stated
Discharge Status	11	1 = Routine discharge to customary residence 2 = Discharge to observation status 3 = Discharge to recovery care center 4 = Admitted to hospital as inpatient 5 = Surgery cancelled or terminated 6 = Other, specified 9 = Discharge Status Not Stated

VARIABLE	POSITION	COMMENTS
Month of Surgery	12-13	01 = January . . . 12 = December
Geographic Region	14	1 = NorthEast 2 = MidWest 3 = South 4 = West
Principal Expected Source of Payment	15-16	00 = No Charge 01 = Worker's Compensation 02 = Medicare 03 = Medicaid 04 = CHAMPUS 05 = Other Government Payments 06 = Blue Cross 07 = HMO/PPO 08 = Other Private/Commercial Ins. 09 = Self-Pay 10 = Other, specified 11 = Payment Not Stated
Additonal Expected Source of Payment #1	17-18	Same coding as principal, above
Additonal Expected Source of Payment #2	19-20	Same coding as principal, above
Analysis Weight	21-25	Use to Obtain Weighted Estimates
Type of Anesthesia	26-35	1 = Type/Option Checked 0 = Not Checked/Blank

10 Types of Anesthesia:

Topical/Local	26
IV Sedation	27
Monitored Anesthesia Care	28
Regional, Epidural	29
Regional, Spinal	30
Regional, Retrobulbar Block	31
Regional, Peribulbar Block	32
Regional, Block	33
General	34
Other, specified	35

VARIABLE	POSITION	COMMENTS
Anesthesia Administrator	36-38	1 = Administ/Option Checked 0 = Not Checked/Blank
3 Administrators of Anesthesia:		
Anesthesiologist	36	
Certified Registered Nurse Anesthetist	37	
Other Surgeon/Physician	38	
Diagnosis Code #1	39-43	ICD-9-CM Diagnosis Code #1 *
Diagnosis Code #2	44-48	ICD-9-CM Diagnosis Code #2 *
Diagnosis Code #3	49-53	ICD-9-CM Diagnosis Code #3 *
Diagnosis Code #4	54-58	ICD-9-CM Diagnosis Code #4 *
Diagnosis Code #5	59-63	ICD-9-CM Diagnosis Code #5 *
Diagnosis Code #6	64-68	ICD-9-CM Diagnosis Code #6 *
Diagnosis Code #7	69-73	ICD-9-CM Diagnosis Code #7 *
Procedure Code #1	74-77	ICD-9-CM Procedure Code #1 *
Procedure Code #2	78-81	ICD-9-CM Procedure Code #2 *
Procedure Code #3	82-85	ICD-9-CM Procedure Code #3 *
Procedure Code #4	86-89	ICD-9-CM Procedure Code #4 *
Procedure Code #5	90-93	ICD-9-CM Procedure Code #5 *
Procedure Code #6	94-97	ICD-9-CM Procedure Code #6*

* Diagnosis and procedure codes are in compliance with the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM).
For diagnosis codes, there is an implied decimal between the 3rd and 4th digits.
For E-codes, the implied decimal is between the 4th and 5th digits.
For inapplicable 4th or 5th digits of diagnosis codes, a dash (-) is inserted.
For procedure codes, there is an implied decimal between the 2nd and 3rd digits.
For inapplicable 3rd or 4th digits of procedure codes, a dash (-) is inserted.

APPENDIX A

DEFINITION OF TERMS

HOSPITALS---Short-stay hospitals or hospitals whose specialty was general (medical or surgical), or children's general. Hospitals must have had 6 beds or more staffed for patient use. Federal hospitals and hospital units of institutions were not included.

FREE-STANDING AMBULATORY SURGERY CENTERS---Facilities listed in the 1993 Freestanding Outpatient Surgery Center Database and Medicare-certified facilities included in the HCFA Provider-of-Services (POS) file. Facilities specializing in dentistry, podiatry, abortion, family planning, or birthing were excluded.

AMBULATORY SURGERY---Scheduled outpatient surgery performed in any of the following locations: general or main operating room, satelitte operating room, cystoscopy room, endoscopy room, cardiac catherterization lab, laser procedures room.

FIRST-LISTED DIAGNOSIS---The coded diagnosis which was listed first on the face sheet of the medical record. The number of first-listed diagnoses was equivalent to the number of ambulatory surgery visits.

PROCEDURES---Surgical or nonsurgical operations, procedures, or special treatments listed by the physician on the medical record. In the NSAS, all terms listed on the face sheet (summary sheet) of the medical record under the caption "operation," "operative procedures," "operations and/or special treatment," and the like were transcribed in the order listed. A maximum of six procedures was coded.

RATE OF PROCEDURES---The ratio of the number of procedures during a year to the number of persons in the civilian population on July 1 of that year.

AGE---The age of the patient on the birthday prior to the date of surgery.

POPULATION---Civilian population was the resident population excluding members of the Armed Forces.

GEOGRAPHIC REGION---Hospitals were classified by location in one of the four geographic regions of the United States corresponding to those used by the U.S. Bureau of the Census:

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

APPENDIX B

The International Classification of Diseases, 9th Revision, Clinical Modification was the system used for coding medical data in the NSAS. Each year the ICD-9-CM classification system undergoes updating. The changes include assignment of new diagnostic and procedure codes, fourth and fifth digit expansion of codes, as well as code deletions. These changes are published in an Addendum and become effective October 1 of the calendar year. Addenda are developed by the ICD-9-CM Coordination and Maintenance Committee and approved by the Director of NCHS and the Administrator of the Health Care Financing Administration.

All data collected for the NSAS were coded using the third edition of the ICD-9-CM. Because the Addendum changes go into effect in October of the calendar year, estimates for codes that have been changed would not be accurate, as the original and the revised code would be applicable for only part of the year. However, to circumvent this problem, in the NSAS it was decided not to implement the October coding changes during the calendar year they were introduced. Instead, because NSAS data represent the calendar year, coding for 1994, 1995, and 1996 is consistent with the Addendum that went into effect in October of the previous year and those codes were used throughout the entire data year. This was done to avoid the problem of partial year estimates being mistaken for full year estimates.

In order to assist users in data retrieval, a conversion table is provided that shows for each new code, its date of introduction and the previously assigned code equivalent, which had been used for reporting the selected diagnosis or procedure prior to issuance of the new code. This table shows coding changes up to October 1995.

DIAGNOSIS CODES

Current code(s) assignment	Effective October 1	Previous code(s) assignment
005.81	1995	005.8
005.89	1995	005.8
008.00-008.09	1992	008.0
008.43-008.47	1992	008.49
008.61-008.69	1992	008.6
041.00-041.09	1992	041.0
041.10-041.19	1992	041.1
041.81-041.89	1992	041.8
041.86	1995	041.84
042	1994	042.0-042.2,042.9,043.0-043.3, 043.9,044.0,044.9
042.0-042.9	1986	279.19
043.0-043.9	1986	279.19
044.0-044.9	1986	279.19
070.20-070.21	1991	070.2
070.22	1994	070.20
070.23	1994	070.21
070.30-070.31	1991	070.3
070.32	1994	070.30
070.33	1994	070.31
070.41-070.49	1991	070.4
070.44	1994	070.41
070.51-070.59	1991	070.5
070.54	1994	070.51
077.98-077.99	1993	077.9
078.10-078.11,078.19	1993	078.1
078.88	1993	078.89
079.4	1993	079.8
079.50-079.53,079.59	1993	079.8
079.81	1995	079.89
079.88-079.89	1993	079.8

079.98-079.99	1993	079.9
088.81,088.89	1989	088.8
088.82	1993	088.89
099.40-099.49	1992	099.4
099.50-099.59	1992	078.89
112.84-112.85	1992	112.89
114.4-114.5	1993	114.3
176.0-176.9	1991	173.0-173.9
203.00	1991	203.0
203.01	1991	V10.79
203.10	1991	203.1
203.11	1991	V10.79
203.80	1991	203.8
203.81	1991	V10.79
204.00	1991	204.0
204.01	1991	V10.61
204.10	1991	204.1
204.11	1991	V10.61
204.20	1991	204.2
204.21	1991	V10.61
204.80	1991	204.8
204.81	1991	V10.61
204.90	1991	204.9
204.91	1991	V10.61
205.00	1991	205.0
205.01	1991	V10.62
205.10	1991	205.1
205.11	1991	V10.62
205.20	1991	205.2
205.21	1991	V10.62
205.30	1991	205.3
205.31	1991	V10.62
205.80	1991	205.8
205.81	1991	V10.62
205.90	1991	205.9
205.91	1991	V10.62
206.00	1991	206.0
206.01	1991	V10.63
206.10	1991	206.1
206.11	1991	V10.63
206.20	1991	206.2
206.21	1991	V10.63
206.80	1991	206.8
206.81	1991	V10.63
206.90	1991	206.9

206.91	1991	V10.63
207.00	1991	207.0
207.01	1991	V10.69
207.10	1991	207.1
207.11	1991	V10.69
207.20	1991	207.2
207.21	1991	V10.69
207.80	1991	207.8
207.81	1991	V10.69
208.00	1991	208.0
208.01	1991	V10.60
208.10	1991	208.1
208.11	1991	V10.60
208.20	1991	208.2
208.21	1991	V10.60
208.80	1991	208.8
208.81	1991	V10.60
208.90	1991	208.9
208.91	1991	V10.60
237.70-237.72	1990	237.7
250.02	1993	250.90
250.03	1993	250.91
250.12	1993	250.10
250.13	1993	250.11
250.22	1993	250.20
250.23	1993	250.21
250.32	1993	250.30
250.33	1993	250.31
250.42	1993	250.40
250.43	1993	250.41
250.52	1993	250.50
250.53	1993	250.51
250.62	1993	250.60
250.63	1993	250.61
250.72	1993	250.70
250.73	1993	250.71
250.82	1993	250.80
250.83	1993	250.81
250.92	1993	250.90
250.93	1993	250.91
278.00-278.01	1995	278.0
283.10-283.11,283.19	1993	283.1
305.1	1994	305.10,305.11,305.12, 305.13 (delete code)
312.81-312.82,381.89	1994	312.8
320.81-320.89	1992	320.8

333.92-333.93	1994	333.99
337.20-337.22,337.29	1993	337.9
342.00-342.02	1994	342.0
342.10-342.12	1994	342.1
342.80-342.82	1994	342.9
342.90-342.92	1994	342.9
344.00-344.04,344.09	1994	344.0
344.30-344.32	1994	344.3
344.40-344.42	1994	344.4
344.81,344.89	1993	344.8
345.00-345.01	1989	345.0
345.10-345.11	1989	345.1
345.40-345.41	1989	345.4
345.50-345.51	1989	345.5
345.60-345.61	1989	345.6
345.70-345.71	1989	345.7
345.80-345.81	1989	345.8
345.90-345.91	1989	345.9
346.00-346.01	1992	346.0
346.10-346.11	1992	346.1
346.20-346.21	1992	346.2
346.80-346.81	1992	346.8
346.90-346.91	1992	346.9
355.71	1993	354.4
355.79	1993	355.7
371.82	1992	371.89
374.87	1990	374.89
403.00-403.01	1989	403.0
403.10-403.11	1989	403.1
403.90-403.91	1989	403.9
404.00-404.03	1989	404.0
404.10-404.13	1989	404.1
404.90-404.93	1989	404.9
410.00-410.02	1989	410.0
410.10-410.12	1989	410.1
410.20-410.22	1989	410.2
410.30-410.32	1989	410.3
410.40-410.42	1989	410.4
410.50-410.52	1989	410.5
410.60-410.62	1989	410.6
410.70-410.72	1989	410.7
410.80-410.82	1989	410.8
410.90-410.92	1989	410.9

411.81	1989	410.9
411.89	1989	411.8
414.00-414.01	1994	414.0
414.02-414.03	1994	996.03
415.11	1995	997.3 & 415.1
415.19	1995	415.1
429.71	1989	410.0-410.9
429.79	1989	410.0-410.9
433.00-433.01	1993	433.0
433.10-433.11	1993	433.1
433.20-433.21	1993	433.2
433.30-433.31	1993	433.3
433.80-433.81	1993	433.8
433.90-433.91	1993	433.9
434.00-434.01	1993	434.0
434.10-434.11	1993	434.1
434.90-434.91	1993	434.9
435.3	1995	435.0 & 435.1
437.7	1992	780.9
440.20-440.22	1992	440.2
440.23	1993	440.20 & 707.1 or 707.8 or 707.9
440.24	1993	440.20 & 785.4
440.29	1993	440.20
440.30-440.32	1994	996.1
441.00-441.03	1994	441.0
441.6	1993	441.1 & 441.3
441.7	1993	441.2 & 441.4
446.20-446.21,446.29	1990	446.2
451.82-451.84	1993	451.89
458.2	1995	997.9 & 458.9
482.30-482.39	1992	482.3
482.81-482.89	1992	482.8
483.0	1992	483
483.8	1992	483
491.20-491.21	1991	491.2

493.20	1989	493.90
493.21	1989	493.91
512.1	1994	997.3
518.81	1987	799.1
518.82-518.89	1987	518.8
524.00-524.09	1992	524.0
524.10-524.19	1992	524.1
524.60-524.69	1991	524.6
524.70-524.79	1992	524.8
530.10-530.11, 530.19	1993	530.1
530.81	1993	530.1
530.82-530.84, 530.89	1993	530.8
535.00-535.01	1991	535.0
535.10-535.11	1991	535.1
535.20-535.21	1991	535.2
535.30-535.31	1991	535.3
535.40-535.41	1991	535.4
535.50-535.51	1991	535.5
535.60-535.61	1991	535.6
536.3	1994	536.8
537.82	1990	537.89
537.83	1991	537.82
556.0-556.6	1994	556
556.8-556.9	1994	556
562.02	1991	562.00
562.03	1991	562.01
562.12	1991	562.10
562.13	1991	562.11
569.60-569.61	1995	569.6
569.69	1995	569.6
569.84	1990	557.1
569.85	1991	569.84
593.70-593.73	1994	593.7
596.51-596.53	1992	596.5
596.54	1992	344.61
596.55-596.59	1992	596.5
599.81-599.89	1992	599.8
645.0	1991	645
651.30-651.31,651.33	1989	651.00-651.01,651.03

651.40-651.41,651.43	1989	651.10-651.11,651.13
651.50-651.51,651.53	1989	651.20-651.21,651.23
651.60-651.61,651.63	1989	651.80-651.81,651.83
654.20-654.21,654.23	1990	654.2,654.9
654.90-651.94	1990	654.2,654.9
657.0	1991	657
659.60,659.61,659.63	1992	659.80-659.81,659.83
665.10,665.11	1992	665.10,665.11,665.12,665.14 Note: This title for the subcategory, 665.1 has been changed, making the fifth-digit subclassification, 665.12 and 665.14 invalid.
670.0	1991	670
672.0	1991	672
677	1994	There was no previous code assignment for this code.
690.10	1995	690
690.11	1995	691.8 & 704.8
690.12	1995	691.8
690.18	1995	690
690.8	1995	690
692.72-692.74	1992	692.79
692.82-692.83	1992	692.89
702.0-702.8	1991	702
702.11,702.19	1994	702.1
704.02	1993	704.09
709.00-709.01,709.09	1994	709.0
710.5	1992	288.3,729.1
728.86	1995	729.4
733.10-733.16, 733.19	1993	733.1
738.10-738.19	1992	738.1
747.60-747.64, 747.69	1993	747.6
747.82	1993	747.89
753.10-753.17,753.19	1990	753.1
759.81-759.89	1989	759.8
759.83	1994	759.89

760.75	1991	760.79
760.76	1994	760.79
764.00-764.09	1988	764.0
764.10-764.19	1988	764.1
764.20-764.29	1988	764.2
764.90-764.99	1988	764.9
765.00-765.09	1988	765.0
765.10-765.19	1988	765.1
780.01-780.09	1992	780.0
780.03	1993	780.01
780.57	1992	780.51,780.53
781.8	1994	781.9
787.01-787.03	1994	787.0
787.91	1995	558.9
787.99	1995	787.9
788.20-788.21, 788.29	1993	788.2
788.30-788.39	1992	788.3
788.41-788.43	1993	788.4
788.61-788.62, 788.69	1993	788.6
789.00-789.07, 789.09	1994	789.0
789.30-789.37, 789.39	1994	789.3
789.40-789.47, 789.49	1994	789.4
789.60-789.67, 789.69	1994	789.6
790.91	1993	790.9
790.92	1993	286.9
790.93, 790.99	1993	790.9
795.71	1994	795.8 (delete code)
795.79	1994	795.7
795.8	1986	795.7
864.05	1992	864.09
864.15	1992	864.19
909.5	1994	909.9
925.1-925.2	1993	925
989.81-989.84	1995	989.8
989.89	1995	989.8
995.60-995.69	1993	995.0

996.04	1994	996.09
996.51-996.59	1987	996.5
996.60-996.69	1989	996.6
996.70-996.79	1989	996.7
996.80-996.89	1987	996.8
996.85	1990	999.8
997.00-997.01	1995	997.0
997.02	1995	997.9 & 430-434, 436
997.09	1995	997.0
997.91	1995	997.9
997.99	1995	997.9
998.81-998.82, 998.89	1994	998.8
V03.81-V03.82, V03.89	1994	V03.8
V05.3-V05.4	1993	V05.8
V06.5-V06.6	1994	V06.8
V07.31,V07.39	1994	V07.3
V07.4	1992	V07.8
V08	1994	044.9, 795.8 (delete code)
V09.0-V09.91	1993	There were no previous code assignments for these codes.
V12.00-V12.03, V12.09	1994	V12.0
V12.50-V12.52	1995	V12.5
V12.59	1995	V12.5
V12.70-V12.72, V12.79	1994	V12.7
V13.00-V13.01, V13.09	1994	V13.0
V15.82	1994	305.13 (delete code)
V15.84-V15.86	1995	V15.89
V25.43	1992	V25.49
V25.5	1992	V25.8
V29.0-V29.8	1992	V71.8
V29.9	1992	V71.9
V30.00-V30.01	1989	V30.0
V31.00-V31.01	1989	V31.0
V32.00-V32.01	1989	V32.0

V33.00-V33.01	1989	V33.0
V34.00-V34.01	1989	V34.0
V35.00-V35.01	1989	V35.0
V36.00-V36.01	1989	V36.0
V37.00-V37.01	1989	V37.0
V39.00-V39.0l	1989	V39.0
V43.60-V43.66, V43.69	1994	V43.6
V43.81-V43.82	1995	V43.8
V43.89	1995	V43.8
V45.00	1994	V45.89
V45.01	1994	V45.0
V45.02, V45.09	1994	V45.89
V45.51	1994	V45.5
V45.52, V45.59	1994	V45.89
V45.82	1994	V45.89
V45.83	1995	V45.89
V49.60-V49.67	1994	V49.5
V49.70-V49.77	1994	V49.5
V50.41-V50.42, V50.49	1994	V50.8
V53.31	1994	V53.3
V53.32, V53.39	1994	V53.9
V56.1	1995	V58.89
V57.21-V57.22	1994	V57.2
V58.41, V58.49	1994	V58.4
V58.61	1995	V67.51
V58.69	1995	V67.51
V58.81, V58.89	1994	V58.8
V58.82	1995	V58.89
V59.01-V59.02	1995	V59.0
V59.09	1995	V59.0
V59.6	1995	V59.8
V65.40-V65.45, V65.49	1994	V65.4
V69.0-V69.3	1994	No previous code assignments for these codes.
V69.8-V69.9	1994	No previous code assignments for these codes.
V72.81-V72.85	1993	V72.8

V73.88-V73.89	1993	V73.8
V73.98-V73.99	1993	V73.9
E854.8	1995	E858.8
E869.4	1994	E869.8
E880.1	1995	E884.9
E884.3-E884.4	1995	E884.2
E884.5-E884.6	1995	E884.9
E906.5	1995	E906.3
E908.0-E908.4	1995	E908
E908.8-E908.9	1995	E908
E909.0-E909.4	1995	E909
E909.8-E909.9	1995	E909
E920.5	1995	E920.4
E924.2	1995	E924.0
E968.5	1995	E968.8

Procedure codes

Current code(s) assignment	Effective October 1	Previous code(s) assignment
02.96	1992	89.19
03.90	1987	03.99 (Insertion of Catheter)
05.25	1995	39.7 (delete)
11.75	1989	11.79
11.76	1989	11.62
20.96-20.98	1986	20.95
22.12	1988	22.11
26.12	1988	26.11
29.31	1991	83.02
29.32	1991	29.3
29.33	1991	29.3
29.39	1991	29.3
31.45	1988	31.43-31.44
31.95	1989	31.75
32.01	1989	32.0
32.09	1989	32.0
32.22	1995	32.29, 32.9
32.28	1989	32.29
33.27	1987	33.22 + 33.27
33.28	1987	33.27
33.29	1987	33.28-33.29
33.50	1995	33.5
33.51	1995	33.5
33.52	1995	33.5
33.6	1990	33.5 + 37.5
34.05	1994	34.99
35.84	1988	35.82
35.96	1986	35.03
36.00-36.03	1986	36.0
36.04	1986	39.97
36.05	1987	36.01
36.05	1986	36.01 (1), 36.02
36.06	1995	36.01, 36.02, 36.03, 36.05

36.09		1986		36.0
36.09		1991		36.00 (code deleted)
37.26-37.27		1988		37.29
37.34		1988		37.33
37.65		1995		37.62
37.66		1995		37.62
37.70	(Leads only)	1987	(Leads/Device)	37.70
37.71-37.72	(Leads only)	1987	(Leads/Device)	37.74
37.73	(Leads only)	1987	(Leads/Device)	37.73
37.74	(Leads only)	1987	(Leads/Device)	37.76
37.75	(Leads only)	1987	(Leads/Device)	37.89
37.76	(Leads only)	1987	(Leads/Device)	37.81
37.77	(Leads only)	1987	(Leads/Device)	37.83-37.84
37.78		1987		37.71-37.72
37.79		1987		86.09
37.80-37.87		1992		89.49 (2)
37.80	(Device only)	1987	(Leads/Device)	37.73-37.77
37.81	(Device only)	1987	(Leads/Device)	37.73-37.77
37.82	(Device only)	1987	(Leads/Device)	37.73-37.77
37.83	(Device only)	1987	(Leads/Device)	37.73-37.77
37.85-37.87		1987		37.85
37.89		1987		37.86+37.89
37.94-37.98		1986		37.99
38.22		1986		38.29
38.44 (Abdominal Aorta Only)		1986		38.44 (Entire Aorta)
38.45 (Thoracic Aorta Added)		1986		38.44-38.45
38.95		1989		38.93
39.28		1991		39.29
39.50		1995		39.59
39.65		1988		39.61
39.66		1990		39.65
41.00-41.03		1988		41.0
41.04		1994		99.79
42.25		1988		42.24
42.33		1989		42.32, 42.39
42.33		1990		42.91
43.11		1989		43.1
43.19		1989		43.1, 43.2
43.41		1989		43.41,43.49
44.21		1986		44.2
44.22		1986		44.99

44.29	1986	44.2
44.43	1989	43.49,45.32
44.44	1989	38.86
44.49	1989	43.0
44.93-44.94	1986	44.99
45.16	1988	45.14 (45.15 before 1987)
45.30	1989	45.31,45.32
45.42	1988	45.41
45.43	1989	45.49
45.75 (Hartmann Resection Added)	1988	48.66 (code deleted)
45.95	1987	45.93
46.13	1992	46.12 (code deleted)
46.32	1989	46.39
46.85	1989	46.99
48.36	1995	45.42
49.31	1989	49.3
49.39	1989	49.3
51.10	1989	51.97
51.11	1989	51.11,51.97
51.14	1989	51.12
51.15	1989	51.97
51.22	1991	51.21 (code deleted),51.22
51.23	1991	51.22
51.64	1989	51.69
51.84-51.88	1989	51.97
51.97	1986	52.91,51.99, or 51.82
51.98	1986	51.99
52.13	1989	51.97,52.91
52.14	1989	52.11
52.21	1989	52.2
52.22	1989	52.2
52.93	1989	52.93 + 52.91
52.94	1989	52.09
52.97	1989	52.91
52.98	1989	52.91
52.99	1989	52.93,52.94,52.99
54.24	1987	54.23
54.25	1993	54.98
55.03-55.04	1986	55.02
56.33-56.34	1987	56.33
56.35	1987	45.12
57.17-57.18	1989	57.21
57.22	1989	57.22,57.82

58.31	1990	58.3
58.39	1990	58.3
58.93	1986	57.99
59.72	1995	59.79
59.96	1986	59.95
60.21	1995	60.2
60.29	1995	60.2
60.95	1991	60.99
64.97	1986	64.95
66.01	1992	66.0
66.02	1992	66.73
68.15	1987	68.14
68.16	1987	68.13
68.9	1992	68.4
74.3	1992	69.11 (code deleted)
77.56	1989	77.89,78.49,81.18
77.57	1989	77.89,80.48,81.18,83.85
77.58	1989	77.59,81.18
78.10	1991	78.40
78.11	1991	78.41
78.12	1991	78.42
78.13	1991	78.43
78.14	1991	78.44
78.15	1991	78.45
78.16	1991	78.46
78.17	1991	78.47
78.18	1991	78.48
78.19	1991	78.49
78.20	1991	78.10,78.20,78.30
78.21	1991	78.11,78.31
78.22	1991	78.12,78.22,78.32
78.23	1991	78.13,78.23,78.33
78.24	1991	78.14,78.34
78.25	1991	78.15,78.25,78.35
78.27	1991	78.17,78.27,78.37
78.28	1991	78.18,78.38
78.29	1991	78.11,78.16,78.19,78.29,78.39
78.39	1991	78.31
78.90 (3)	1987	78.40
78.91 (3)	1987	78.41
78.92 (3)	1987	78.42
78.93 (3)	1987	78.43
78.94 (3)	1987	78.44
78.95 (3)	1987	78.45
78.96 (3)	1987	78.46

78.97 (3)	1987	78.47
78.98 (3)	1987	78.48
78.99 (3)	1987	78.49
80.50-80.59	1986	80.5
81.03	1989	81.02
81.04-81.05	1989	81.03,81.04,81.05
81.06-81.07	1989	81.06,81.07
81.08	1989	81.06,81.07,81.08
81.09	1989	81.08
81.40	1989	81.69
81.51	1989	81.51,81.59
81.52	1989	81.61,81.62,81.63,81.64
81.53	1989	81.51,81.59,81.61,81.62, 81.63,81.64
81.54-81.55	1989	81.41
81.56	1989	81.48
81.57	1989	81.31,81.39
81.59	1989	81.39
81.72	1989	81.79
81.73-81.74	1989	81.86
81.75	1989	81.87
81.79	1989	81.79,81.87
81.80	1989	81.81
81.97	1992	81.59
85.95	1987	85.99
85.96	1987	85.99
86.06	1987	86.09
86.07	1990	86.09
86.27	1986	86.22-86.23
86.28	1988	86.22
86.93	1987	86.89
88.90	1986	88.39
88.91	1986	89.15
88.92	1986	89.39
88.93	1986	89.15
88.94	1986	89.39
88.95	1986	89.29
88.97	1989	88.99
88.98	1989	88.90
88.99	1986	89.39
89.10	1989	89.15
89.17-89.18	1988	89.15
89.19	1989	89.15
89.50	1991	89.54
92.3	1995	01.59, 04.07, 07.63, 07.68
93.90	1988	93.92
94.61-94.69	1989	94.25

96.6	1986	96.35
96.70	1991	93.92 (code deleted)
96.71	1991	93.92 (code deleted)
96.72	1991	93.92 (code deleted)
97.05	1989	51.97
98.51-98.52	1989	59.96 (code deleted)
98.59	1989	59.96 (code deleted)
99.00	1995	99.02
99.15	1986	99.29
99.28	1994	99.25
99.71-99.79 (4)	1988	99.70
99.85	1987	93.35
99.86	1987	93.39
99.88	1988	99.83

(1) Before October 1986 contents of current code 36.05 would have been assigned to 36.0.

(2) Code 89.49 deleted; this procedure is included in the code for pacemaker insertion/replacement.

(3) Codes 78.90-78.99 were retitled as "Insertion of bone growth stimulator" in October 1987; the previous contents of codes 78.90-78.99 were reassigned to codes 78.40-78.49.

(4) Codes 99.71-99.79 were deleted in October 1987; their contents were not transferred elsewhere. In the October 1988 revision, codes 99.71-99.79 were reclassified as "Therapeutic apheresis."

APPENDIX C

This appendix describes the population files included on the diskette accompanying this documentation. These files contain Census Bureau estimates of the U. S. civilian resident population, as of July 1, for the years 1994 through 1996. There are two types of files, named either 1YRxx.WK1 or REGxx.WK1. To select a given year, the "xx" can be replaced by the last two-digits of the year desired between 1994 and 1996 (e.g. 94). These estimates are consistent with the population estimates published in Current Population Reports, Series P-25.

There are separate tables for estimates disaggregated by sex, race, and single-year age groupings and those disaggregated by sex, region, and single-year age groupings. All figures are unrounded. These population estimates have been adjusted based on the 1990 decennial census.

LOTUS tables to accompany Appendix C :

1YR94.WK1	Civilian Population of the United States, Estimates by Age, Sex, and Race, July 1, 1994
1YR95.WK4	Civilian Population of the United States, Estimates by Age, Sex, and Race, July 1, 1995
1YR96.WK4	Civilian Population of the United States, Estimates by Age, Sex, and Race, July 1, 1996
REG94.WK1	Civilian Population of the United States, Estimates by Age, Sex, and Region, July 1, 1994
REG95.WK4	Civilian Population of the United States, Estimates by Age, Sex, and Region, July 1, 1995
REG96.WK4	Civilian Population of the United States, Estimates by Age, Sex, and Region, July 1, 1996

APPENDIX D

The material provided in this appendix is for users who wish to verify their data tabulations. Unweighted and weighted frequencies for selected variables are given for each data year, i.e. 1994, 1995, and 1996. If any discrepancies are found between the frequencies given below and the user's calculations, please notify Jen Popovic at 301.458.4321 or jpopovic@cdc.gov.

FREQUENCIES FOR SELECTED VARIABLES --
NATIONAL SURVEY OF AMBULATORY SURGERY, 1996

	UNWEIGHTED N	WEIGHTED ESTIMATE
SURVEY YEAR		
1996	125,433	21,236,913
FACILITY TYPE		
1 = Hospital	76,950	17,916,916
2 = Freestanding ASC	48,483	3,319,997
UNITS FOR AGE		
1 = Years	123,764	21,054,628
2 = Months	1,616	171,456
3 = Days	53	10,829
AGE FLAG		
1 = Imputed Value	614	126,787
2 = No Imputation	124,819	21,110,126
SEX		
1 = Male	54,389	9,304,189
2 = Female	71,044	11,932,724
SEX FLAG		
1 = ImputedValue	933	121,327
2 = No Imputation	124,500	21,115,586
RACE		
1 = White	63,688	13,003,559
2 = Black	6,501	1,223,369
3 = AmInd/Esk/AlNat	272	44,435
4 = Asian/PI	1,632	192,794
5 = Other	1,136	210,091
9 = Race Not Stated	52,204	6,562,665
DISPOSITION STATUS		
1 = Routine	115,019	19,090,255
2 = Observation Status	3,108	757,730
3 = Recovery Care Center	1,340	185,491
4 = Inpatient Admission	1,595	399,277
5 = Surgery Cancelled	144	32,551
6 = Other	562	145,839
9 = Status Not Status	3,665	625,770
MONTH OF SURGERY		
01 = January	10,212	1,730,415
02 = February	10,142	1,745,564
03 = March	10,514	1,821,931
04 = April	11,119	1,904,785
05 = May	11,200	1,923,352
06 = June	10,266	1,758,782
07 = July	10,758	1,830,425
08 = August	10,647	1,750,547
09 = September	9,941	1,680,831

10 = October	11,017	1,816,678
11 = November	9,939	1,640,753
12 = December	9,678	1,632,850
REGION		
1 = NorthEast	26,405	4,612,713
2 = MidWest	28,058	5,377,620
3 = South	45,844	7,021,243
4 = West	25,126	4,225,337
PRINCIPAL EXPECTED SOURCE OF PAYMENT		
00 = No Charge	692	91,473
01 = Workers' Comp	2,865	485,710
02 = Medicare	39,826	6,572,537
03 = Medicaid	8,530	1,320,669
04 = CHAMPUS	528	95,207
05 = Other Government	1,029	183,961
06 = Blue Cross	14,095	2,554,866
07 = HMO/PPO	19,836	3,645,498
08 = Other Priv/Comm	25,728	4,213,419
09 = SelfPay	3,635	528,601
10 = Other	1,909	333,594
99 = Payment Not Stated	6,760	1,211,378

FIRST-LISTED DIAGNOSIS		
VCODES	8,398	1,456,986
CHAPTER 1	574	100,639
CHAPTER 2	10,462	1,929,480
CHAPTER 3	1,081	151,166
CHAPTER 4	496	119,526
CHAPTER 5	142	23,995
CHAPTER 6	32,602	4,052,289
CHAPTER 7	3,910	1,015,821
CHAPTER 8	5,086	917,383
CHAPTER 9	18,383	3,512,901
CHAPTER 10	13,133	2,306,248
CHAPTER 11	1,399	229,990
CHAPTER 12	2,870	465,430
CHAPTER 13	11,337	2,062,377
CHAPTER 14	1,691	189,815
CHAPTER 15	13	2,399
CHAPTER 16	6,947	1,379,229
CHAPTER 17	6,909	1,321,239

ALL-LISTED PROCEDURES	32,266,752
CHAPTER 1	1,249,575
CHAPTER 2	37,294
CHAPTER 3	5,319,085
CHAPTER 4	847,949
CHAPTER 5	2,127,174
CHAPTER 6	440,275
CHAPTER 7	1,059,585
CHAPTER 8	167,445
CHAPTER 9	7,033,405
CHAPTER 10	1,473,423
CHAPTER 11	555,110
CHAPTER 12	2,037,569
CHAPTER 13	16,677
CHAPTER 14	4,320,869
CHAPTER 15	2,416,204
CHAPTER 16	3,165,113

FREQUENCIES FOR SELECTED VARIABLES --
NATIONAL SURVEY OF AMBULATORY SURGERY, 1995

	UNWEIGHTED N	WEIGHTED ESTIMATE
SURVEY YEAR		
95	121,564	19,959,255
FACILITY TYPE		
1=Hospital	73,995	16,726,675
2=Freestanding ASC	47,569	3,232,580
AGEUNITS		
1=Years	119,938	19,788,501
2=Months	1,567	160,458
3=Days	59	10,296
AGEFLAG		
1=Imputed Value	815	122,712
2=No Imputation	120,749	19,836,543
SEX		
1=Male	52,746	8,674,346
2=Female	68,818	11,284,909
SEXFLAG		
1=Imputed Value	1,274	143,213
2=No Imputation	120,290	19,816,042
RACE		
1=White	61,911	11,955,685
2=Black	6,007	1,082,836
3=AmInd/Esk/AlNat	223	48,042
4=Asian/PI	1,611	186,576
5=Other	1,205	136,397
9=Race Not Stated	50,607	6,549,719
DISPOSITION STATUS		
1=Routine	110,390	17,871,611
2=Observation Status	2,903	648,098
3=Recovery Care Center	1,637	210,314
4=Inpatient Admission	1,430	320,946
5=Surgery Cancelled	160	26,768
6=Other	828	148,756
9=Status Not Stated	4,216	732,762
SURGERY MONTH		
01=January	9,899	1,629,814
02=February	9,473	1,571,370
03=March	10,993	1,809,082
04=April	9,621	1,556,813
05=May	10,725	1,730,103
06=June	10,799	1,797,695
07=July	9,386	1,512,699
08=August	10,948	1,767,936
09=September	9,587	1,584,050

10=October	10,283	1,704,943
11=November	10,448	1,714,100
12=December	9,402	1,580,650
REGION		
1=NorthEast	25,562	4,506,940
2=MidWest	27,687	4,994,613
3=South	44,263	6,782,334
4=West	24,052	3,675,368
PRINCPAY		
00=No Charge	760	88,614
01=Workers' Comp	2,867	461,431
02=Medicare	38,690	6,122,975
03=Medicaid	8,640	1,227,583
04=CHAMPUS	566	82,048
05=Other Government	984	151,321
06=BlueCross/BlueShield	13,819	2,514,622
07=HMO/PPO	17,110	3,109,001
08=Other Priv/Comm	26,346	4,107,608
09=SelfPay	3,416	470,899
10=Other	1,845	408,417
12=Payment Not Stated	6,521	1,214,736

FIRST-LISTED DIAGNOSIS		
VCODES	7,935	1,457,669
CHAPTER 1	606	112,633
CHAPTER 2	10,118	1,839,311
CHAPTER 3	1,028	119,150
CHAPTER 4	481	108,713
CHAPTER 5	114	30,079
CHAPTER 6	32,964	3,883,810
CHAPTER 7	3,322	749,374
CHAPTER 8	5,282	887,571
CHAPTER 9	17,840	3,289,356
CHAPTER 10	12,987	2,276,781
CHAPTER 11	1,379	224,693
CHAPTER 12	2,765	436,775
CHAPTER 13	10,464	1,905,708
CHAPTER 14	1,614	185,177
CHAPTER 15	25	3,510
CHAPTER 16	5,920	1,210,742
CHAPTER 17	6,720	1,238,203
ALL-LISTED PROCEDURES		30,039,632
CHAPTER 1		1,086,690
CHAPTER 2		24,664
CHAPTER 3		4,961,750
CHAPTER 4		861,134
CHAPTER 5		2,089,970
CHAPTER 6		395,530
CHAPTER 7		775,865
CHAPTER 8		139,931
CHAPTER 9		6,508,575
CHAPTER 10		1,417,362
CHAPTER 11		508,606
CHAPTER 12		2,093,870
CHAPTER 13		9,609
CHAPTER 14		4,092,447
CHAPTER 15		2,209,449
CHAPTER 16		2,864,180

FREQUENCIES FOR SELECTED VARIABLES --
NATIONAL SURVEY OF AMBULATORY SURGERY, 1994

	UNWEIGHTED N	WEIGHTED ESTIMATE
SURVEY YEAR		
94	117,861	18,849,556
FACILITY TYPE		
1=Hospital	71,521	15,972,629
2=Freestanding ASC	46,340	2,876,927
UNITS FOR AGE		
1=Years	116,089	18,652,656
2=Months	1,718	189,619
3=Days	54	7,281
AGE FLAG		
1=Imputed Value	1,056	272,188
2=No Imputation	116,805	18,577,368
SEX		
1=Male	50,941	8,178,160
2=Female	66,920	10,671,396
SEX FLAG		
1=Imputed Value	715	103,341
2=No Imputation	117,146	18,746,215
RACE		
1=White	58,374	11,409,374
2=Black	6,089	1,118,206
3=AmInd/Esk/AlNat	261	67,768
4=Asian/PI	1,417	180,743
5=Other	1,192	138,030
9=Race Not Stated	50,528	5,935,435
DISPOSITION		
1=Routine	106,588	16,887,324
2=Observation Status	2,772	580,532
3=Recovery Care Center	2,026	234,252
4=Inpatient Admission	1,551	310,740
5=Surgery Cancelled	98	17,498
6=Other	1,050	140,717
9=Status Not Stated	3,776	678,493
SURGERY MONTH		
01=January	8,957	1,499,478
02=February	8,964	1,492,826
03=March	10,717	1,754,314
04=April	9,938	1,637,671
05=May	10,151	1,637,262
06=June	10,528	1,698,481
07=July	9,277	1,454,186
08=August	10,498	1,630,010
09=September	9,550	1,483,253

10=October	9,780	1,509,868
11=November	9,977	1,546,426
12=December	9,524	1,505,781

REGION		
1=NorthEast	23,991	4,232,868
2=MidWest	27,126	4,896,485
3=South	43,990	6,251,021
4=West	22,754	3,469,182

PRINCIPAL EXPECTED SOURCE OF PAYMENT		
00=No Charge	768	69,740
01=Workers Comp	2,862	449,207
02=Medicare	36,521	5,690,802
03=Medicaid	8,607	1,245,640
04=CHAMPUS	633	92,071
05=Other Government	846	135,824
06=BC/BS	13,471	2,435,412
07=HMO/PPO	13,669	2,620,924
08=Oth Priv/Comm	27,891	4,209,070
09=SelfPay	3,690	492,910
10=Other	1,991	399,418
99=Not Stated	6,912	1,008,538

FIRST-LISTED DIAGNOSIS		
VCODES	5,744	1,067,976
CHAPTER 1	609	100,650
CHAPTER 2	10,806	1,967,591
CHAPTER 3	983	123,088
CHAPTER 4	399	95,707
CHAPTER 5	95	22,494
CHAPTER 6	32,254	3,574,897
CHAPTER 7	3,265	736,477
CHAPTER 8	5,331	878,391
CHAPTER 9	17,203	3,115,965
CHAPTER 10	13,079	2,334,545
CHAPTER 11	1,479	234,250
CHAPTER 12	2,717	476,383
CHAPTER 13	10,151	1,693,298
CHAPTER 14	1,965	226,970
CHAPTER 15	22	3,472
CHAPTER 16	5,139	1,010,504
CHAPTER 17	6,620	1,186,898
ALL-LISTED PROCEDURES		28,278,404
CHAPTER 1		978,651
CHAPTER 2		22,746
CHAPTER 3		4,551,265
CHAPTER 4		870,328
CHAPTER 5		2,007,437
CHAPTER 6		340,801
CHAPTER 7		687,571
CHAPTER 8		132,589
CHAPTER 9		6,173,966
CHAPTER 10		1,414,804
CHAPTER 11		548,528
CHAPTER 12		2,059,938
CHAPTER 13		12,218
CHAPTER 14		3,726,752
CHAPTER 15		2,271,455
CHAPTER 16		2,479,355