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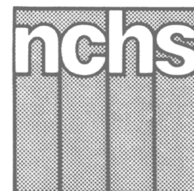

Public Use Data Tape Documentation

NHANES I Epidemiologic Followup Study, 1982–84

Revised Health Care Facility Stay

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control

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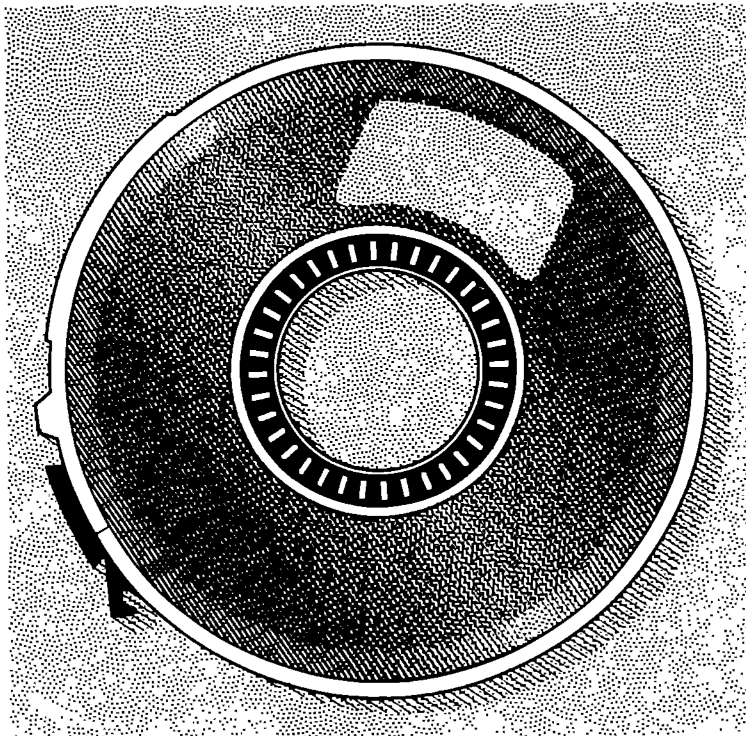

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
National Center for Health Statistics

Hyattsville, Maryland
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The NHEFS originated as a joint project between the National Center for Health Statistics (NCHS) and NIA. The 1982-84 followup of the cohort was funded primarily by NIA, with additional financial support from the following components of the National Institutes of Health (NIH) and other Public Health Service agencies: the National Cancer Institute; the National Institute of Child Health and Human Development; the National Heart, Lung, and Blood Institute; the National Institute on Alcohol Abuse and Alcoholism; the National Institute of Mental Health; the National Institute of Diabetes and Digestive and Kidney Diseases; the National Institute of Arthritis and Musculoskeletal and Skin Diseases; the National Institute of Allergy and Infectious Diseases; and, the National Institute of Neurological and Communicative Disorders and Stroke.

CONTENTS

	Page
Use of NHEFS Data	1
Errors in the Data Tapes	2
NHANES I Epidemiologic Followup Study, 1982-84	3
Revised 1982-84 NHEFS Health Care Facility Stay Data Tape Characteristics	7
Description of Tape Revision	8
Medical Coding Specifications	13
Revised 1982-84 NHEFS Health Care Facility Stay Public Use Tape Documentation	20
Figure 1: Health Care Facility Record Layout	47
Figure 2: Example of Matching Process and Record Status Codes	48
Appendix A: Record Status Codes	49
Appendix B: Numeric Codes for Reported Conditions	51

USE OF NHEFS DATA

With the goal of mutual benefit, NCHS requests the cooperation of recipients of data tapes in certain actions related to their use:

A. Any published material derived from the data should acknowledge the National Center for Health Statistics (NCHS) as the original source. It should also include a disclaimer which credits any analyses, interpretations, or conclusions reached to the author (recipient of the tape) and not to NCHS, which is responsible only for the initial data.

B. Consumers who wish to publish a technical description of the data will make a reasonable effort to insure that the description is not inconsistent with that published by NCHS. This does not mean, however, that NCHS will review such descriptions.

C. Authors should provide NCHS with a reprint of published articles which utilize the 1982-84 NHEFS data. Please send reprints to :

NHEFS Data Management Staff
Division of Analysis
National Center for Health Statistics
Presidential Building, Room 1080
6525 Belcrest Road
Hyattsville, MD 20782

ERRORS IN THE DATA TAPES

The NHEFS Public Use data tapes have been subjected to a great deal of careful editing. However, due to the large volume of data in the series, it is likely that a small number of errors or discrepancies remain undetected.

Some continuous data items have extremely high or low values and we have verified that the values have not been incorrectly keyed.

In general, the NHEFS data management team has not attempted to resolve substantive data discrepancies that may exist 1) within the 1982-84 NHEFS data tapes, or 2) between the 1982-84 NHEFS data tapes and the data tapes of the original National Health and Nutrition Examination Survey (NHANES I) and other NHEFS followup waves.

NHANES I EPIDEMIOLOGIC FOLLOWUP STUDY, 1982-84

I. NHEFS BACKGROUND INFORMATION

The first National Health and Nutrition Examination Survey (NHANES I) collected data from a national probability sample of the civilian noninstitutionalized population. The survey, which included a standardized medical examination and questionnaires that covered various topics, took place from 1971 through 1974 and was augmented by an additional national sample in 1974-75. The NHANES I sample included 20,729 persons 25 to 74 years of age, 14,407 (70 percent) of whom underwent the medical examination.

Although NHANES I provides a wealth of information on the prevalence of health conditions and risk factors, the cross-sectional nature of the original survey limits its usefulness in studying the effects of clinical, environmental, and behavioral factors and in tracing the natural history of disease. Therefore, the NHANES I Epidemiologic Followup Study (NHEFS) was designed to investigate the association between factors measured at the baseline with the development of specific health conditions.

The followup study originated as a joint project between the National Center for Health Statistics (NCHS) and the National Institute on Aging (NIA). The 1982-84 initial followup of the cohort was funded primarily by NIA, with additional financial support from the following components of the National Institutes of Health (NIH) and Public Health Service agencies: National Cancer Institute; National Institute of Mental Health; National Institute on Alcohol Abuse and Alcoholism; National Heart, Lung, and Blood Institute; National Institute of Neurologic and Communicative Disorders and Stroke; National Institute of Arthritis, Diabetes, Digestive, and Kidney Diseases; National Institute of Allergy and Infectious Diseases; and the National Institute of Child Health and Human Development. All of these agencies were involved in both developing topics of import in their specialty areas and designing procedures to collect data that would address these issues.

The size and scope of the population in the NHEFS provides a unique opportunity to examine causal relationships in a large, heterogeneous, nationally representative population. The followup study population included the 14,407 participants who were 25 to 74 years of age when they were examined in NHANES I (1971-75). Tracing of subjects began in 1981. Data collection for the followup was conducted from 1982 to 1984, with all data collection completed in August 1984.

Copies of all pertinent study materials (tracing materials, questionnaires, authorization forms, and health facility data collection forms) can be found in Appendix VI of the Plan and Operation of the NHANES I Epidemiologic Followup Study 1982-84, (Vital and Health Statistics), Series 1, No. 22.

The design of NHEFS consisted of five steps:

tracing the subjects or their proxies to a current address;

acquiring death certificates;

performing in-depth interviews with the subjects or with their proxies;

taking pulse, blood pressure, and weight measurements of surviving subjects;

obtaining hospital and nursing home records, including pathology reports and electrocardiograms.

The first phase of the project was to trace and locate all subjects in the cohort and to determine their vital status. All persons who could not be traced were considered lost to followup. The fact of death had to be confirmed by a death certificate or a proxy interview. In some cases, information about the death of a subject was obtained from neighbors or other tracing contacts. Although this information was noted in the record, these persons were considered lost to followup unless the information was verified by a proxy interview or a death certificate.

For subjects who had died, date and place of death were obtained through the tracing process. This information was used to obtain a copy of the death certificate from the appropriate State Vital Statistics office. The tracing process was also used to obtain the current address of surviving subjects as well as to identify a knowledgeable proxy respondent for deceased subjects. Respondents who were identified and located through the tracing procedure were then contacted and asked to participate in a personal interview. In a few cases, respondents who had been traced successfully could not be relocated for the interview. Only vital status as of tracing was available for those subjects.

Attempts were made to interview all subjects identified during tracing. Interviews were conducted wherever the respondent resided, including in nursing homes, prisons, mental health facilities, or occasionally at some other convenient location (for example, a parent's home). For surviving subjects, attempts were made to measure the subject's pulse rate, blood pressure (three consecutive readings), and weight. After the physical measurements were completed, the subjects were given written reports of the measurements.

The interview was designed to gather information on selected aspects of the subject's health history since the time of the NHANES I exam. This information included a history of the occurrence or recurrence of selected medical conditions, an assessment of behavioral, social, nutritional, and medical risk factors believed to be associated with these conditions, and an assessment of various aspects of functional status. Whenever possible, the questionnaire was designed to retain item comparability between NHANES I and NHEFS in order to measure change over

time. However, questionnaire items were modified, added, or deleted when necessary to take advantage of current improvements in questionnaire methodology.

Parts D, E, and G of the questionnaire contain items to determine whether or not the subject had an overnight stay in a health care facility after 1970. If a stay was reported, information on the name and address of the facility, the date of the stay, and the reason for the stay was recorded on a special Hospital and Health Care Facility (HHCF) chart on the back cover of the self-administration booklet. The hospitals and nursing homes in which study subjects had reported stays were later contacted and asked to review the subjects's medical records for all stays occurring between January 1 of the year of the NHANES I exam up to the date of the 1982-84 interview and to return information abstracted from their records. Limited data were requested on the hospital and nursing home abstract forms. The major items requested were the dates of admission and discharge, the discharge diagnoses and any procedures that may have been performed. For nursing homes the admission diagnoses were reported. In addition to completing abstract forms, facilities were requested to submit photocopies of the "face sheet", and "discharge summary", the third day EKG for myocardial infarction diagnoses, (410 in the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)) and of pathology reports for any admission where a new malignancy was diagnosed. Respondents who reported facility stays were asked to sign a Medical Authorization Form that would be used to request the release of hospital record information. These authorization forms were retained on file and a photocopy was sent to each hospital that the respondent had identified during the interview. This data collection was conducted between April 1983 and August 1984. The resulting facility abstract records were released in 1987 as the Health Care Facility Record file.

As of August 1984, 13,383 (93 percent) of the 14,407 members of the 1982-84 NHEFS cohort had been successfully traced. Interviews were conducted for 12,220 subjects (91 percent of those successfully traced). In addition, 17,127 facility stay records were collected for 6,477 subjects using information obtained from the interview, death certificate, or some other source. Death certificates were obtained for 1,935 (96 percent) of the 2,022 subjects who were known to have died since the NHANES I examination.

The data collected from the 1982-84 NHEFS are stored on four separate tapes, the first three of which have been available since 1987.

1) Vital and Tracing Status tape -- contains summary information about the status of the cohort,

2) Interview tape -- contains the data collected from the 1982-84 NHEFS subject and proxy interviews,

3) Mortality Data tape -- contains data abstracted from the death certificates for 1982-84 decedents.

4) Revised Health Care Facility Stay tape -- contains information collected on reports of stays in hospitals and non-hospital health care facilities (e.g., nursing home, mental health care facility) as well as information abstracted from facility medical records. This fourth file, originally titled the Health Care Facility Record Data Tape and released in 1987, has been substantially revised. The revised tape contains 25,436 health care facility stay records for 8,270 subjects. The tape is described in detail in the following pages.

Revised 1982-84 NHEFS HEALTH CARE FACILITY STAY DATA TAPE CHARACTERISTICS

Title:	Revised 1982-84 NHEFS Health Care Facility Stay Data Tape
Data Set Name:	NHEFS1.FACILREV
Record Length:	429
Blocksize:	31746
Number of Records:	25,436
Number of Reels:	1
Recording Mode:	FIXED BLOCK, EBCDIC
Density:	6250 bpi
Channel:	9 TRACK
Created by:	Office of Analysis and Epidemiology Division of Analysis National Center for Health Statistics Presidential Building, Room 1080 6525 Belcrest Road Hyattsville, Maryland 20782

Description of Tape Revision

The 1982-84 Health Care Facility Record tape has been restructured to produce the Revised 1982-84 Health Care Facility Stay Data Tape. The original file contained only the coded medical abstracts obtained from health care facilities. However, the Health Care Facility Stay data files produced for the 1986 and 1987 followups include both the descriptive information reported by the respondent and the medical information returned from the health care facility. This new format includes information about all possible stays in health care facilities whether or not an actual health care facility record was obtained. It was created to facilitate the use of the health care facility data.

At the time that the 1986 and 1987 Health Care Facility Stay files were constructed, a comparable 1982-84 Health Care Facility Stay file did not exist. However, it has been possible to reconstruct such a file for 1982-84 because most of the information needed to replicate the content and processing of the 1986 and 1987 files was available. The 1982-84 interview contained detailed reports of the conditions leading to each stay in a health care facility, the dates of each stay and the names of the facilities where the stays occurred. This information could be linked to the medical records that were obtained from the facilities and which appeared on the 1982-84 Health Care Facility Record file as it was originally released.

In addition, during data collection for the 1986 and 1987 files, additional medical records for the 1982-84 followup period were obtained. These have been included in the revised file. The resulting data set is more complete than the original; it can be used in conjunction with Facility Stay files for later followup periods; and it provides information on stays in health care facilities that were reported but not confirmed by the receipt of a facility abstract.

The Revised 1982-84 NHEFS Health Care Facility Stay (HCFS) file contains information on all overnight health care facility stays for members of the 1982-84 Followup cohort. The 1982-84 Followup cohort consisted of the 14,407 subjects who were between 25 and 74 years old at their NHANES I examination. Followup cohort members who have either an interview or a death certificate on the 1982-84 NHEFS data files or who returned a mail questionnaire were eligible for the health care facility records component. The aim of this component was to present a complete set of health care facility (i.e., hospital and nursing home) records for each 1982-84 Followup cohort member. These records are intended to cover the period from the NHANES I examination to the date of the 1982-84 interview for surviving subjects and the period from exam to the date of death for deceased subjects. This is referred to as the "in-scope" period. Stays that were reported prior to or after the in-scope period were defined as out-of-scope for the 1982-84 followup. The procedures for constructing this file are briefly described below.

Restructuring the 1982-84 Health Care Facility Record File:

When the 1986 NHANES I Epidemiologic Followup was designed, it was decided to combine the information which respondents reported concerning overnight health care facility stays with the abstracted information received from the facilities. The resulting file was built using a computerized tracking system. In order to reprocess the 1982-84 data file and make it comparable with the 1986 format, it was necessary to review the 1982-84 interviews and enter the data into the tracking system developed for the 1986 wave. Abstracts that had been received during the 1982-84 followup were matched to the interview information that had been entered into the tracking system in the same manner as the 1986 and 1987 abstracts were being matched to interview information. The results of the matching process were then used to build the revised 1982-84 file. Occasionally, facilities which were being contacted as part of the 1986 or 1987 followups would send abstracts for stays that had been reported in the 1982-84 followup, but for which an abstract had not been received during the appropriate collection period. These abstracts were also entered into the tracking system. The resulting restructured file was renamed the Revised 1982-84 Health Care Facility Stay file and is comparable in format to the 1986 and 1987 Health Care Facility Stay files.

Matching Records:

When the abstracts were reviewed, they were checked against report information in the tracking system to determine if the abstract "matched" any of the reported stays. Date of admission and diagnosis were used as matching criteria but exact matches on date or diagnosis were not required for a stay to be considered matched. Abstracts were matched to reports if the reported date of admission was within a year of the actual date of admission and if the reported reason for admission involved the same body system as at least one of the diagnoses present on the abstract. Cases that did not meet these specific criteria were reviewed by NCHS staff and matched when appropriate. Since the matching rules allowed for an admission date of up to one year before or after the reported date of admission, some stay records are present on the file with an out-of-scope report date, but an in-scope date on the matched abstract. These records are identified by a Type C flag in position 199 of the record (see further explanation of the Type C flag below).

Each record on the file represents an overnight facility stay. Therefore, one or more records will exist for some 1982-84 Followup cohort subjects, while other subjects will have no records on the file. The structure of the data file reflects the system used to obtain and process stay information. The record is divided into four major sections: 1) the report section, 2) the record status section, 3) the abstract section and, 4) the related stay section. An example of the record layout is provided in figure 1.

The subject identification number (i.e. the sample sequence number) is in positions 1-5 on each record. This number is unique for each subject and is used when linking the Health Care Facility Stay tape to all other NHEFS and NHANES I Public Use Data Tapes. The total number of records per subject is found in positions 6-7 on the file. The first section of the record is the

report section (positions 29-59 and 63-204) which contains information from the reporting source as well as stay identification numbers assigned by NCHS. Each stay entered into the report section is assigned a health care facility stay id number (positions 29-33). When used in conjunction with the sample sequence number, this number uniquely identifies each record on the file. The reported date of admission is found in positions 47-54. This date is used in conjunction with the date of exam to determine whether reported stays were in-scope for the NHEFS 1982-84 survey (position 199).

The record status section (positions 60-62) contains a code for the result of the abstract review, i.e. match or non-match status. If there existed an abstract that matched a report then a record status code of MAT (match) was assigned. An abstract that did not match any report but was in-scope for the 1982-84 survey period was assigned the record status code of ASF (additional stay found). If no matching abstract was found, the appropriate non-match code was assigned.

The abstract section (positions 205-379) contains the information obtained from the facility records including actual dates of admission, discharge and diagnoses. The diagnoses on the abstracts were coded using the ICD-9-CM according to the medical coding specifications detailed in the following section of this codebook. The abstract section of each record is similar to the original 1982-84 NHEFS Health Care Facility record file released in August 1987. The other three sections are those that were added for comparability with the 1986 and 1987 HCFS files.

Information will be present in one or more sections of the record depending on whether a report was obtained, and whether an abstract was received. The presence or absence of information in the first three sections results in three different record profiles. Figure 2 illustrates these three profiles. The first is the successfully matched stay record, where an abstract was received which matched a report. Abstract information is added to the report and the code of MAT was entered into the record status section. Complete information is available in the first three sections of the record for these stays. The second type occurs when an abstract was not matched to a report and, therefore, no data is contained in the abstract section. The appropriate non-match code was entered in the record status section. The third type of record is one which was generated solely by the existence of a facility abstract. This type of record resulted from an existing in-scope abstract that did not match with any report on the tracking system. When this occurred, the abstract was entered on the file, and stay identifiers were assigned in the report section of the record but no other information in the report section is present. An ASF (additional stay found) code was entered in the record status section.

In some cases requests were made to facilities for information about stays with reported admission dates that preceded the date of the NHANES I exam (i.e., were out-of-scope). This was done to maximize the collection of reports of hospital or nursing home stays. Reports of stays with a reported date of admission more than one year prior to the exam were retained on the file when they represented the only mention of visits to a specific health care facility for a given subject. These were flagged with a Type D in

position 199. All stays with reported dates within the year immediately preceding the exam were kept and flagged with a Type C in position 199.

After the receipt of information from the health care facility, it was necessary to remove stays from the tracking system that had been out-of-scope and to incorporate information on in-scope stays that was generated from the "out-of-scope" reports. If an in-scope abstract was received from a facility named on a Type D report, the in-scope stay was added to the file with a record status code of ASF and the Type D report was deleted from the file. The Type D report was also deleted from the file if the facility responded to the Type D request, but sent no in-scope abstracts. In this case it was presumed that the respondent had correctly reported the date as out-of-scope. In 47 cases the Type D reports remain on the final version of the file. This occurred when it had been impossible to contact the facility or when authorization to obtain hospital records had not been granted. These records for unconfirmed reports of out-of-scope stays can be eliminated from analyses at the analysts' discretion. In the case of Type C reports, if an in-scope abstract was returned which matched the Type C report, the report was assigned a record status code of MAT (n=144). (Recall the matching rules permitted an admission date of up to one year before or after the reported date of admission.) If the facility responded but no in-scope abstract was received, the Type C report was removed from the file. Again it was assumed that the correct date had been reported and the stay was truly out-of-scope. There are 42 type C reports that remain on the file. These reports were given by respondents who did not grant permission to obtain abstracts or they involved facilities that could not be contacted, refused to participate or did not respond. These unconfirmed reports of out-of-scope stays are identified by the non-match status in positions 60-62 and a Type C flag in position 199.

The final section of the record contains related stay codes (positions 380-429). These related stay codes are used to identify stays which are contained within other stays. This occurred most often when nursing home residents had a brief hospital stay but then returned to the nursing home. A detailed example of the related stay section is presented below. In panel A, a chronologic history of a subject's hospital and nursing home stays is presented in order to facilitate the discussion of the related stay codes. This subject was admitted to the nursing home on March 1, 1981, and discharged to the hospital on April 1, 1981. He returned to the original nursing home on April 8 and stayed until April 22 when he required readmission to the hospital. He returned from the hospital to the nursing home on April 25, 1981 where he remained until April 30, 1981.

Panel A: Chronologic profile of hospital and nursing home stays:

Location	Admission	Discharge
Nursing home	03/01/81	04/01/81
Hospital	04/01/81	04/08/81
Nursing home	04/08/81	04/22/81
Hospital	04/22/81	04/25/81
Nursing home	04/25/81	04/30/81

Panel B illustrates how these stays are present in the final file. The three nursing home stays were collapsed into one long stay with two related hospitalizations. The related stay codes were added to demonstrate the relationship between the hospital and nursing home stays.

Panel B: Final file layout

Variable Position:					
29-33	209	210-215	216-221	380-384	385-389
Variable Name:					
Stay Number	Type	Admit	Dis-charge	First Related	Second Related
10201	N. Home	03/01/81	04/30/81	10101	10102
10101	Hosp	04/01/81	04/08/81	10201	
10102	Hosp	04/22/81	04/25/81	10201	

MEDICAL CODING SPECIFICATIONS

Medical coding for the NHEFS 1982-84 data tape was based on the International Classification of Diseases-9th Revision-Clinical Modification (ICD-9-CM). The health care facility was asked to abstract all diagnoses and procedures onto a special form. In most cases, a copy of the hospital discharge summary and/or medical records facesheet was attached to the abstract. The diagnoses and procedures listed on the discharge summary or facesheet were then compared with those provided on the abstract form. In most instances, discrepancies were resolved by coding the diagnoses or procedures as provided on the discharge summary or the facesheet.

All diagnoses were coded to the highest level of specificity possible. The fourth-digit subcategory for diagnosis and procedure codes was used whenever possible. The fifth-digit subclassification of disease for diagnosis codes was also used when appropriate. A three-digit ICD code was used only if it could not be further subdivided. The following rules were used to code diagnoses and procedures.

Rules Governing Medical Coding of Diagnoses:

All medical diagnoses listed on the health care facility abstract form or the discharge summary are coded in the order in which the diagnoses were listed. The principal diagnosis is the condition established after study to be chiefly responsible for occasioning the admission of the patient to the health care facility. The admitting diagnosis is not used as the principal diagnosis unless the admitting and discharge diagnoses are the same.

> Ex: Patient admitted with a diagnosis of bronchopneumonia. After workup and treatment, x-ray findings, etc., the patient was discharged with a final diagnosis of bronchopneumonia. The principal diagnosis is coded 485 for bronchopneumonia.

Note that the facility was asked to select the principal diagnosis and no review of the records was made to determine if the correct diagnosis was selected.

All other diagnoses or conditions existing at the time of admission or that developed subsequently during the stay are coded.

> Ex: Patient was admitted with a diagnosis of uncontrolled diabetes mellitus, and during the course of examination and treatment, phlebitis was discovered. The diabetes and the phlebitis are coded.

Diagnoses documented as probable, possible, suspected, question of, suggestive of, compatible with, or questionable are coded and prefixed with a "P".

> Ex: If the diagnosis is stated possible myocardial infarction, the diagnosis code is P410.9.

If a diagnosis is stated as "rule out" or "R/O", the condition is coded as if it exists and the "P" prefix is not used. If a diagnosis is stated as "ruled out", the condition is not coded.

> Ex: If "R/O M.I." appears on the facesheet, the code is 410.9
> If "M.I. ruled out" appears, the condition is not coded.

When the abstract included an infection as one of the discharge diagnoses and it was clear from other information in the abstract or the final diagnoses sections of the facesheet and discharge summary that the infection was a result of a hospital procedure, the appropriate external cause of injury code was added.

Malignant neoplasms are coded according to ICD-9-CM coding specifications which indicate primary site of origin.

Injuries and poisonings are coded, where applicable, using both the nature of the injury and the external cause of injury code (E800-E999).

> Ex: Patient sustained comminuted fracture of the femur due to a fall down stairs. Nature of injury code is 821.00 and external cause of injury code is E880.9

"History of" conditions are not coded with the following exceptions:

> Old myocardial infarction (more than 8 weeks since last occurrence)
>
> Status post bypass surgery
>
> Malignant neoplasm (cancer in remission or under treatment)
>
> Old cerebrovascular accident
>
> Sterilization
>
> Normal pregnancy undelivered
>
> Manipulation of an IUD

These diagnoses are coded using "V" codes and were used on a limited basis. Recurrent malignancy codes are prefixed with an "R".

Symptoms (ICD-9-CM codes 7800-7999) were coded using the following guidelines:

1. When the only diagnosis listed on the abstract form, facesheet, and/or discharge summary is a symptom, the symptom is coded.

   Ex: The only discharge diagnosis listed is "chest pain". The code number 786.50 (chest pain, unspecified) is assigned.

2. When a symptom is listed that is unrelated to any of the diagnoses listed, the symptom is coded.

   Ex: The discharge diagnoses listed are acute myocardial infarction, diabetes mellitus, and hepatomegaly. The hepatomegaly is also coded.

3. When a symptom is listed and is <u>related</u> to a listed discharge diagnosis the symptom is not coded.

   Ex: The discharge diagnoses listed are diabetes mellitus, acute appendicitis, severe abdominal pain. Only the diabetes and the appendicitis are coded. The abdominal pain is not coded.

Rules Governing Medical Codes for Procedures:

The same general rules apply to coding procedures as to coding diagnoses. Medical procedures are coded and sequenced in accordance with the principal and secondary procedures described on the health care facility abstract form or the discharge summary/facesheet.

The principal procedure is the primary procedure most related to the principal diagnosis and is performed for definitive treatment as opposed to diagnostic and/or exploratory purposes.

Ex: Diagnosis = uterine fibroids.
Procedures = biopsy of uterus, total abdominal hysterectomy, incidental appendectomy.

The hysterectomy is coded as the principal procedure and the appendectomy and the biopsy are coded as secondary procedures.

All procedures documented on the discharge summary and/or facesheet are coded if they fall into the following categories:

Biopsies (if related to the principal diagnosis and procedure or if related to other listed diagnoses)

Surgical procedures

Cardiac catheterizations

D and C (following delivery or abortion only)

The following procedures are not coded:

Surgical approach

Operative cholangiogram

Lumbar puncture

CT scan

Endoscopy

Diagnostic D and C

Diagnostic radiology

Examination (under anesthesia, physical exam, etc.)

Manipulations

Physical therapy

Application or removal of casts, splints, etc.

Medical Coding Conventions:

Diagnostic codes--Up to ten diagnoses are coded for each hospital and nursing home stay. The format for each diagnosis code is six positions. The following conventions were used when entering diagnostic codes on the data tape:

1. ICD-9-CM diagnostic codes (including "V" codes) were entered beginning with the second position of the variable field continuing through the sixth position. There is an implied decimal point between the fourth and fifth positions of the variable field.

2. If the diagnoses code required less than five digits the remaining tape positions are blank.

3. Prefix codes "P" and "R" are coded in the first tape position. If the diagnosis code has no prefix the first position is blank.

Ex. 1: _ 4 2 2 9 0 Code is 422.90

Ex. 2: _ V 7 1 1 _ Code is V71.1

Ex. 3: _ 4 3 6 _ _ Code is 436

Ex. 4: P 1 8 0 0 _ Code is P180.0

Ex. 5: R 1 7 4 9 _ Code is R174.9

4. E codes - External cause of injury codes
An external cause of injury code is provided, when applicable, immediately after the medical diagnosis code which describes the nature of the injury. E codes were entered on the data tape beginning in the first position of the variable field and continuing through the fifth position. There is an implied decimal point between the fourth and fifth positions of the variable field. If an E code required less than five positions the remaining positions are blank. If an E code is not applicable (i.e. the medical diagnosis code is not a nature of injury code) or could not be coded, the variable field is blank.

Ex. 1: E 9 0 6 1 Code is E906.1

Ex. 2: E 8 5 1 _ Code is E851

Procedure codes--Up to five procedures are coded for each health care facility record. Each procedure code is formatted in a field containing four positions. Procedure codes were entered beginning with the first position of the variable field continuing through the fourth position. There is an implied decimal point between the second and third positions of the variable field. If a procedure code required less than four positions the remaining positions are blank.

Ex. 1: 4 2 9 2 Code is 42.92

Ex. 2: 0 3 1 _ Code is 03.1

Tape Position	Frequencies	Variable Description and Codes
(1-28)		**SUBJECT INFORMATION**
1-5	25,436	NHANES I Sample Sequence Number
6-7		Record Count
	25,436	01-55 = Total number of records
		Note: Each record on the file represents an overnight stay in a health care facility (hospital or nursing home). This variable identifies for each subject the total number of records on the file. It will be the same for each record the subject has on the file.
8-28	25,436	Blank

Tape Position	Frequencies	Variable Description and Codes
(29-59, 63-204)		**STAY IDENTIFIERS AND REPORTED INFORMATION ON FACILITY STAYS**
		Note: The report section of the record (positions 29-59 and 63-204) contains the information on health care facility stays that was reported on the questionnaire, on a death certificate, on another hospital/nursing home abstract form, or obtained from other sources.
(29-33)		<u>Health Care Facility Stay ID Number</u>
		Note: When used in conjunction with the sample sequence number this number uniquely identifies each record on the tape. It is composed of three variables: Survey Period Identifier, Facility Number and Stay Number Within Facility. For example: a Stay Number of 10102 refers to a facility stay reported during the NHEFS 1982-84 wave (1) in the first facility reported for that subject (01) but the second admission to that facility (02).
29		<u>Survey Period Identifier</u>
	25,436	1 = NHEFS 1982-84
		Note: This variable identifies the survey period in which the stay data were collected. A facility stay reported during the NHEFS 1982-84 wave will be identified with a code number "1". All records on this file are coded "1" in this field.
30-31		<u>Facility Number</u>
	25,436	01-09 = Hospital/nursing home number
		Note: For each NHEFS subject, a two digit number was assigned to each facility in which a stay occurred. Thus, if a subject had multiple stays at the same facility, all stays will have the same facility number.
		Facility numbers were assigned consecutively. However, due to tape editing, there are missing numbers in the sequence of facility numbers.

Tape Position	Frequencies	Variable Description and Codes
32-33		Stay Number Within Facility
	25,389	01-45 = Stay number
	47	00 = D stay record
		Note: The two digit stay numbers were assigned to identify different stays in the same facility. Type D stay records were assigned a stay number of "00". A type D stay record is defined as a stay with a reported admission date more than one year prior to the date of the NHANES I Examination (see position 199).
		Stay numbers within facilities were assigned consecutively. However, due to tape editing, there are missing numbers in the sequence of stay numbers within facilities.
34-35		Facility ID Prefix
	24,457	01 = Hospital
	664	02 = Nursing home
	315	03 = Out of country, don't know, or not ascertained
		Note: This variable identifies the type of facility to which the request for a stay record was mailed.
36-46	25,436	Blank

Tape Position	Frequencies	Variable Description and Codes
(47-54)		Reported Admission Date/Range
		Respondents were asked to provide information on the month, day and year of admission for each stay to a facility. A range of years was coded when the respondent was unable to recall the exact year of admission. When the year of admission was reported as a range, the beginning year of the range is found in positions 51-52 and the ending year of the range is found in positions 53-54. Except for type D (position 199) records the reported date of admission is present for all source code 2 and 4 records (see position 200).
47-48		Reported Month of Admission
	1,136	01-12 = Month of admission
	4	98 = Don't know
	18,453	99 = Not ascertained
	5,843	Blank = Type D (position 199), record status code ASF (positions 60-62), or source code 1 or 3 (position 200)
49-50		Reported Day of Admission
	188	01-31 = Day of admission
	3	98 = Don't know
	19,402	99 = Not ascertained
	5,843	Blank = Type D (position 199), record status code ASF (positions 60-62), or source code 1 or 3 (position 200)

Tape Position	Frequencies	Variable Description and Codes
51-52		Reported Year of Admission or Beginning Year of Range
	18,973	68-84 = Year of admission or beginning year of range (1968-1984)
	505	98 = Don't know
	115	99 = Not ascertained
	5,843	Blank = Type D (position 199), record status code ASF (positions 60-62), or source code (position 200) 1 or 3
53-54		Reported Year of Admission - Ending Year of Range
	1,452	70-84 = Ending year of range (1970-1984)
	23,984	Blank = No range given for reported year of admission, type D (position 199), record status code ASF (positions 60-62), or source code (position 200) 1 or 3
55-59	25,436	Blank

Tape Position	Frequencies	Variable Description and Codes
(60-62)		**RECORD STATUS**
		Note: The record status section of the record (positions 60-62) contains information on the outcome of the request for a health care facility stay.
60-62		Record Status Code
		Note: See Appendix A for an explanation of the record status codes.
	25,436	ANO - XRD = Record status code

Tape Position	Frequencies	Variable Description and Codes
(63-198)		Reported Conditions and Codes
		During the process of completing the Hospital and Health Care Facility Chart (HHCF) respondents described the conditions that led to their overnight facility stays. This information is included as a text field on the stay record. Space is allotted for the recording of up to four reasons for the hospital or nursing home stay (see positions 67-96, 101-130, 135-164 and 169-198).
		A numeric code was assigned to each text description to aid the researcher in the use of this information (see positions 63-66, 97-100, 131-134, 165-168). These variables should be used in conjunction with information in the abstract section, i.e, ICD-9-CM diagnosis codes, present on records with a record status code of MAT or ASF. Appendix B contains a complete description of these fields along with guidelines for their use.
(63-96)		First Reported Condition
63-66		Condition Code
	19,388	01-37 = Condition code (See Appendix B)
	6,048	Blank = Source Code not equal to 4, D stay record, or Record Status Code ASF
67-96		Condition Text
	19,388	Description of reason for facility stay
	6,048	Blank = Source Code not equal to 4, D stay record, or Record Status Code ASF

Tape Position	Frequencies	Variable Description and Codes
(97-130)		Second Reported Condition
97-100		Condition Code
	5,748	01-37 = Condition code (See Appendix B)
	19,688	Blank = Source Code not equal to 4, D stay record, or Record Status Code ASF, or only one condition reported.
101-130		Condition Text
	5,748	Description of reason for facility stay
	19,688	Blank = Source Code not equal to 4, D stay record or Record Status Code ASF, or only one condition reported.
(131-164)		Third Reported Condition
131-134		Condition Code
	1,346	01-37 = Condition code (See Appendix B)
	24,090	Blank = Source Code not equal to 4, D stay record or Record Status Code ASF, or less than three conditions reported.
135-164		Condition Text
	1,346	Description of reason for facility stay
	24,090	Blank = Source Code not equal to 4, D stay record or Record Status Code ASF, or less than three conditions reported.

Tape Position	Frequencies	Variable Description and Codes
(165-198)		Fourth Reported Condition
165-168		Condition Code
	288	01-37 = Condition code (See Appendix B)
	25,148	Blank = Source Code not equal to 4, D stay record or Record Status Code ASF, or less than four conditions reported.
169-198		Condition Text
	288	Description of reason for facility stay
	25,148	Blank = Source Code not equal to 4, D stay record or Record Status Code ASF, or less than four conditions reported.

Tape Position	Frequencies	Variable Description and Codes
199		Type of Stay Flag
	186	C = A reported stay with admission date up to one year prior to the date of NHANES I Examination.
	47	D = A reported stay with admission date more than one year prior to date of NHANES I exam. If there were multiple reported stays in the same facility that were all type D (more than one year prior to exam) these stays were consolidated into one entry in the tracking system. If an in-scope abstract was received in response to a type D report, the abstract was never matched to the type D report, but was assigned a record status code of ASF (positions 60-62). The type D report was then removed from the file. The 47 type D reports that remain on the file were unable to be resolved either because the facility could not be contacted (status of FNC) or because authorization to collect facility data was not obtained (status of ANO).
	25,203	Blank = In-scope stay; a reported date of admission after the exam date. This field is also blank for records with status codes of ASF.
		Note: This variable identifies reported facility stays as in-scope or out-of-scope for the NHEFS 1982-84 interview period. Reported dates of admission of don't know (989898) or not ascertained (999999) in positions 47-52 were considered in-scope.
200		Source of Report of Stay that Initiated Request for Abstract
	126	1 = Information from death certificate
	205	2 = Information from hospital abstract report
	141	3 = Information from other source
	19,435	4 = Information from NHEFS 1982-84 interview
	5,529	Blank = Not a requested stay. Additional stay information obtained from facility (record status code ASF positions 60-62). ASF may also be coded as source code 3.

Tape Position	Frequencies	Variable Description and Codes
201-204	25,436	Blank
(205-379)		**ABSTRACT DATA**
		Note: The abstract data portion of the record (positions 205-379) contains information obtained from an abstract form returned by the facility. This section of the stay record (excluding positions 207-208) will be blank when a facility did not return an abstract form for a stay (n=6933).
205-206		Abstract Number
	18,503	01-53 = Number of abstract
	6,933	Blank = Stay reported, no abstract form received
		Note: For each subject, a two digit number was assigned consecutively to each abstract form received.
207-208		Total Number of Abstracts Received
	25,436	00-53 = Total number of abstracts received
		Note: This number represents the total number of abstracts received for each subject. The total number is repeated on each subject record.
209		Facility Record Type
	18,085	1 = Hospital
	418	2 = Nursing home
	6,933	Blank = Stay reported, no abstract form received
(210-215)		Date of Admission
210-211		Month of Admission
	18,501	01-12 = Month of admission
	2	99 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
212-213		Day of Admission
	18,497	01-31 = Day of admission
	6	99 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received

Tape Position	Frequencies	Variable Description and Codes
214-215		Year of Admission
	18,503	71-84 = Year of admission (1971-1984)
	6,933	Blank = Stay reported, no abstract form received
(216-221)		Date of Discharge
		Note: When a subject had a brief break in a nursing home stay, the nursing home stays were combined into one long stay with the latest discharge date assigned to the stay. The information contained in the report and abstract sections of the stay is from the earliest abstract. For example: subject A was in a nursing home from 10-31-81 to 12-22-81. The subject was readmitted to the same nursing home 1-3-82 and stayed until his death 3-5-82. No information is available for 12-22-81 to 1-3-82. These 2 stays would appear on the file as 1 stay from 10-31-81 to 3-5-82. Length of stay would be calculated on the entire stay (see positions 222-225). If the break in the nursing home was due to an interspersed hospitalization, the nursing home stays were collasped as described above and a code was entered in the related stay section (see positions 380-429).
216-217		Month of Discharge
	18,350	01-12 = Month of discharge
	145	97 = Inapplicable (still at facility on date of 1982-84 interview)
	8	99 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
218-219		Day of Discharge
	18,346	01-31 = Day of discharge
	145	97 = Inapplicable (still at facility on date of 1982-84 interview)
	12	99 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received

Tape Position	Frequencies	Variable Description and Codes
220-221		Year of Discharge
	18,353	71-84 = Year of discharge (1971-1984)
	145	97 = Inapplicable (still at facility on date of 1982-84 interview)
	5	99 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
222-225		Length of Record Stay
	80	0000 = Died on day of admission
	18,263	0001-3380 = Total number of days in facility
	145	9997 = Inapplicable (still at facility on date of 1982-84 interview)
	15	9999 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
		Note: Length of stay is calculated by subtracting the date of admission from the date of discharge. For subjects with nursing home stays, brief breaks were collapsed into one continuous nursing home stay (see positions 216-221). For subjects with information coded in the related stays section (see positions 380-429) length of stay will include time spent in other facilities. Length of stay is not ascertained if either the admission or discharge date contains a code of 99.
226		Was the Patient in Cardiac Intensive Care Unit?
	1,124	1 = Yes
	15,811	2 = No
	418	7 = Inapplicable (facility is a nursing home)
	1,150	9 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received

Tape Position	Frequencies	Variable Description and Codes
227-229		Number of Days in Cardiac Intensive Care Unit
	1,053	000-076 = Number of days
	17,379	997 = Inapplicable (position 226 = 2,7, or 9)
	71	999 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
		Note: A length of stay of 0 days occurred when a subject was admitted to the CCU and was discharged on the day of admission.
230		Was the Patient In Other Intensive Care Unit?
	877	1 = Yes
	14,979	2 = No
	418	7 = Inapplicable (facility is a nursing home)
	2,229	9 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
231-233		Number of Days in Other Intensive Care Unit
	832	000-129 = Number of days
	17,626	997 = Inapplicable (Position 230 = 2,7, or 9)
	45	999 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
		Note: A length of stay of 0 days occurred when a subject was admitted to the ICU and was discharged on the day of admission.
234		Patient Admitted to Nursing Home From:
	99	1 = Private residence
	235	2 = Acute care hospital
	8	3 = Chronic disease hospital
	58	4 = Other nursing home
	18,085	7 = Inapplicable (facility is a hospital)
	18	9 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received

Tape Position	Frequencies	Variable Description and Codes
235		Disposition of Hospital Patient
	15,819	1 = Routine discharge/discharged home
	70	2 = Left against medical advice
	883	3 = Discharged/transferred to another facility or organization
	215	4 = Discharged/referred to organized home care service
	729	5 = Died
	15	6 = Not discharged/still in hospital on the date of 1982-84 interview
	418	7 = Inapplicable (facility is a nursing home)
	354	9 = Subject discharged, disposition not ascertained
	6,933	Blank = Stay reported, no abstract form received
236		Disposition of Nursing Home Patient
	130	1 = Not discharged/still in a nursing home on date of 1982-84 interview
	23	2 = Discharged to private residence/referral to organized home care services
	122	3 = Died
	59	4 = Discharged to private residence/no referral
	81	5 = Transferred to another facility
	18,085	7 = Inapplicable (facility is a hospital)
	3	9 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
237		Transferred to Another Health Care Facility
	41	1 = Acute care hospital
	32	2 = Other nursing home
	0	3 = Chronic disease hospital
	5	4 = Other
	18,422	7 = Inapplicable (Position 236 = 1,2,3,4, 7 or 9)
	3	9 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received

Tape Position	Frequencies	Variable Description and Codes
238-239		Number of Diagnoses
	18,493	01-21 = Number of diagnoses
	10	99 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
		Note: This variable identifies the total number of diagnoses entered on the abstract. The number of coded diagnoses may exceed the maximum number (10) allowed on the data tape.
240-245		Principal Diagnosis
	18,493	ICD-9-CM Code
	10	999999 = Not ascertained
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
246-250		Principal Diagnosis E Code
	1,380	ICD-9-CM Code
	24,056	Blank = Stay reported, no abstract form received or principal diagnosis does not require E code
		Note: See medical coding specifications.
251-256		Second Diagnosis
	13,083	ICD-9-CM Code
	5,420	999997 = Inapplicable (only one diagnosis coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
257-261		Second Diagnosis E Code
	376	ICD-9-CM Code
	5,420	99997 = Inapplicable (only one diagnosis coded)
	19,640	Blank = Stay reported, no abstract form received or second diagnosis does not require E code
		Note: See medical coding specifications.

Tape Position	Frequencies	Variable Description and Codes
262-267		Third Diagnosis
	8,552	ICD-9-CM Code
	9,951	999997 = Inapplicable (less than three diagnoses coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
268-272		Third Diagnosis E Code
	214	ICD-9-CM Code
	9,951	99997 = Inapplicable (less than three diagnoses coded)
	15,271	Blank = Stay reported, no abstract form received or third diagnosis does not require E code
		Note: See medical coding specifications.
273-278		Fourth Diagnosis
	5,420	ICD-9-CM Code
	13,083	999997 = Inapplicable (less than four diagnoses coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
279-283		Fourth Diagnosis E Code
	163	ICD-9-CM Code
	13,083	99997 = Inapplicable (less than four diagnoses coded)
	12,190	Blank = Stay reported, no abstract form received or fourth diagnosis does not require E code
		Note: See medical coding specifications.
284-289		Fifth Diagnosis
	3,300	ICD-9-CM Code
	15,203	999997 = Inapplicable (less than five diagnoses coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.

Tape Position	Frequencies	Variable Description and Codes
290-294		Fifth Diagnosis E Code
	100	ICD-9-CM Code
	15,203	99997 = Inapplicable (less than five diagnoses coded)
	10,133	Blank = Stay reported, no abstract form received or fifth diagnosis does not require E code
		Note: See medical coding specifications.
295-300		Sixth Diagnosis
	1,956	ICD-9-CM Code
	16,547	999997 = Inapplicable (less than six diagnoses coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
301-305		Sixth Diagnosis E Code
	72	ICD-9-CM Code
	16,547	99997 = Inapplicable (less than six diagnoses coded)
	8,817	Blank = Stay reported, no abstract form received or sixth diagnosis does not require E code
		Note: See medical coding specifications.
306-311		Seventh Diagnosis
	1,039	ICD-9-CM Code
	17,464	999997 = Inapplicable (less than seven diagnoses coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
312-316		Seventh Diagnosis E Code
	37	ICD-9-CM Code
	17,464	99997 = Inapplicable (less than seven diagnoses coded)
	7,935	Blank = Stay reported, no abstract form received or seventh diagnosis does not require E code
		Note: See medical coding specifications.

Tape Position	Frequencies	Variable Description and Codes
317-322		Eighth Diagnosis
	568	ICD-9-CM Code
	17,935	999997 = Inapplicable (less than eight diagnoses coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
323-327		Eighth Diagnosis E Code
	12	ICD-9-CM Code
	17,935	99997 = Inapplicable (less than eight diagnoses coded)
	7,489	Blank = Stay reported, no abstract form received or eighth diagnosis does not require E code
		Note: See medical coding specifications.
328-333		Ninth Diagnosis
	310	ICD-9-CM Code
	18,193	999997 = Inapplicable (less than nine diagnoses coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
334-338		Ninth Diagnosis E Code
	9	ICD-9-CM Code
	18,193	99997 = Inapplicable (less than nine diagnoses coded)
	7,234	Blank = Stay reported, no abstract form received or ninth diagnosis does not require E code
		Note: See medical coding specifications
339-344		Tenth Diagnosis
	165	ICD-9-CM Code
	18,338	999997 = Inapplicable (less than ten diagnoses coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.

Tape Position	Frequencies	Variable Description and Codes
345-349		Tenth Diagnosis E Code
	2	ICD-9-CM Code
	18,338	99997 = Inapplicable (less than ten diagnoses coded)
	7,096	Blank = Stay reported, no abstract form received or tenth diagnosis does not require E code
		Note: See medical coding specifications.
350-351		Number of Procedures
	18,085	00-05 = Number of procedures
	418	97 = Inapplicable (facility is a nursing home)
	6,933	Blank = Stay reported, no abstract form received
		Note: This variable identifies the total number of procedures coded on the facility abstract.
352-355		First Procedure
	7,264	ICD-9-CM Code
	11,239	9997 = Inapplicable (facility is a nursing home or no procedures coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
356-359		Second Procedure
	2,635	ICD-9-CM Code
	15,868	9997 = Inapplicable (facility is a nursing home or only one procedure coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
360-363		Third Procedure
	774	ICD-9-CM Code
	17,729	9997 = Inapplicable (facility is a nursing home or less than three procedures coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.

Tape Position	Frequencies	Variable Description and Codes
364-367		Fourth Procedure
	234	ICD-9-CM Code
	18,269	9997 = Inapplicable (facility is a nursing home or less than four procedures coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
368-371		Fifth Procedure
	55	ICD-9-CM Code
	18,448	9997 = Inapplicable (facility is a nursing home or less than five procedures coded)
	6,933	Blank = Stay reported, no abstract form received
		Note: See medical coding specifications.
(372-373)		Presence of Documents
372		Pathology Report
	560	1 = Required and present
	119	2 = Required and not present
	17,406	6 = Not required
	418	7 = Inapplicable (facility is a nursing home)
	6,933	Blank = Stay reported, no abstract form received
373		Third Day EKG Report
	377	1 = Required and present
	151	2 = Required and not present
	17,557	6 = Not required
	418	7 = Inapplcable (facility is a nursing home)
	6,933	Blank = Stay reported, no abstract form received
374-379	25,436	Blank

Tape Position	Frequencies	Variable Description and Codes
(380-429)		**RELATED STAY CODES**

Note: Residents in nursing homes are often admitted to hospitals during the course of their stays in the nursing home. The related stay section of the record cross-links nursing home stays with interspersed hospital stays.

In the case of nursing home records, this set of variables identifies hospital stays that occurred during the nursing home stay. Up to 10 related stays can be listed.

In the case of hospital records, this set of variables identifies the nursing home stay within which the hospital stay occurred.

The Related Stay is identified by the Health Care Facility Stay ID Number (positions 29-33) of that stay.

An example of the usage of the related stay section is found in the introduction to this codebook.

Tape Position	Frequencies	Variable Description and Codes
(380-384)		ID of First Related Stay
380		Survey Period Identifier
	231	1 = NHEFS 1982-84
	25,205	Blank = No related stays
381-382		Facility Number
	231	01-07 = Hospital/nursing home number
	25,205	Blank = No related stays
383-384		Stay Number Within Facility
	231	01-20 = Stay number
	25,205	Blank = No related stays

Tape Position	Frequencies	Variable Description and Codes
(385-389)		ID of Second Related Stay
385		Survey Period Identifier
	34	1 = NHEFS 1982-84
	25,402	Blank = No second related stay
386-387		Facility Number
	34	01-07 = Hospital/nursing home number
	25,402	Blank = No second related stay
388-389		Stay Number Within Facility
	34	01-18 = Stay number
	25,402	Blank = No second related stay
(390-394)		ID of Third Related Stay
390		Survey Period Identifier
	15	1 = NHEFS 1982-84
	25,421	Blank = No third related stay
391-392		Facility Number
	15	02-07 = Hospital/nursing home number
	25,421	Blank = No third related stay
393-394		Stay Number Within Facility
	15	01-11 = Stay number
	25,421	Blank = No third related stay

Tape Position	Frequencies	Variable Description and Codes
(395-399)		ID of Fourth Related Stay
395		Survey Period Identifier
	6	1 = NHEFS 1982-84
	25,430	Blank = No fourth related stay
396-397		Facility Number
	6	02-03 = Hospital/nursing home number
	25,430	Blank = No fourth related stay
398-399		Stay Number Within Facility
	6	01-07 = Stay number
	25,430	Blank = No fourth related stay
(400-404)		ID of Fifth Related Stay
400		Survey Period Identifier
	25,436	Blank = No fifth related stay
401-402		Facility Number
	25,436	Blank = No fifth related stay
403-404		Stay Number Within Facility
	25,436	Blank = No fifth related stay

Tape Position	Frequencies	Variable Description and Codes
(405-409)		ID of Sixth Related Stay
405		Survey Period Identifier
	25,436	Blank = No sixth related stay
406-407		Facility Number
	25,436	Blank = No sixth related stay
408-409		Stay Number Within Facility
	25,436	Blank = No sixth related stay
(410-414)		ID of Seventh Related Stay
410		Survey Period Identifier
	25,436	Blank = No seventh related stay
411-412		Facility Number
	25,436	Blank = No seventh related stay
413-414		Stay Number Within Facility
	25,436	Blank = No seventh related stay

Tape Position	Frequencies	Variable Description and Codes
(415-419)		ID of Eighth Related Stay
415		Survey Period Identifier
	25,436	Blank = No eighth related stay
416-417		Facility Number
	25,436	Blank = No eighth related stay
418-419		Stay Number Within Facility
	25,436	Blank = No eighth related stay
(420-424)		ID of Ninth Related Stay
420		Survey Period Identifier
	25,436	Blank = No ninth related stay
421-422		Facility Number
	25,436	Blank = No ninth related stay
423-424		Stay Number Within Facility
	25,436	Blank = No ninth related stay

Tape Position	Frequencies	Variable Description and Codes
(425-429)		ID of Tenth Related Stay
425		Survey Period Identifier
	25,436	Blank = No tenth related stay
426-427		Facility Number
	25,436	Blank = No tenth related stay
428-429		Stay Number Within Facility
	25,436	Blank = No tenth related stay

Figure 1

NHANES I Epidemiologic Followup Study (NHEFS)
Health care facility record layout

Report Section	Record Status Section	Abstract Section	Related Stay section
. Facility identifiers . Reported date of admission . Reported cause of admission . Source of report	Match or reason for non-match	. Actual dates admission and discharge . ICD-9-CM diagnoses . Discharge status from hospitals and nursing homes	. Codes assigned by NCHS to identify stays contained within other stays

Figure 2

NHANES I Epidemiologic Followup Study (NHEFS)
Examples of matching process and record status codes

Record status code

Record status code			
Match	Report Section	Mat	Abstract Section
Non-match	Report Section	non-match code	No Abstract received
Additional abstract found	No report section	ASF	Abstract Section

APPENDIX A

RECORD STATUS CODES

Code	Frequency	Description
ANO -	268	"Authorization Not Obtained." This code indicates that the subject or proxy refused to sign the Medical Authorization Form (MAF). Information on these stays were not requested from the reported facilities.
ASF -	5668	"Additional Stay Found." This code was assigned when a returned in-scope abstract could not be matched to a reported stay. This code was also assigned to in-scope abstracts that were received as a result of an inquiry generated by a type D report (Position 199). The type D report was deleted from the final file.
FNC -	407	"Facility Never Contacted." This code was assigned when the facility was not contacted for the following reasons: the respondent could not recall the name of the facility; the facility was closed; the facility could not be located; and facility was located outside the United States.
MAT -	12,835	"Record Match." This code was assigned when a received abstract matched a reported stay. This code was assigned to in-scope and type C (position 199) reports, but never to type D reports. In-scope abstracts that were received as the result of a type D report were assigned an ASF code. (See ASF.)
ONR -	1196	"Other Non-Response." This code was assigned to a stay when no response for the stay request had been received from the facility by the end of the study period.
REF -	184	"Refused." This code was assigned if a facility refused to send back the abstract requested. It is record, not subject specific. For example, a facility may have sent some abstracts for a subject but refused to send others.
XNH -	587	"Subject Never at Facility." This code was used when the facility indicated that the patient was never admitted to that facility.

Code	Frequency	Description
XNS -	4194	"Other - No Stay Found." This code was assigned when a facility responded it was unable to send abstracts because no in-scope stay was found at the facility, or when the facility returned the request form without abstracts and provided no explanation for the failure to do so.
XRD -	97	"Record Destroyed or No Longer Available." This code was assigned if the facility attempted to locate the abstract but stated that it no longer existed, i.e., was destroyed, or lost.

NOTE: Additional information concerning the assignment of the record status codes is found in the introduction to this codebook.

APPENDIX B

NUMERIC CODES FOR REPORTED CONDITIONS ON HEALTH CARE FACILITY STAY RECORDS

Code for reported Condition	Condition Description
01	Arthritis
02	Gout
03	Heart attack
04	Another heart condition besides heart attack
05	Coronary bypass surgery
06	Pacemaker repair, insertion and/or replacement
07	T.I.A, small stroke
08	Stroke or CVA (cerebrovascular accident)
09	Diabetes
10	High blood pressure
11	Cancer and/or cancer treatment
12	Fractured hip
13	Another type of bone fracture besides a hip fracture
14	Pneumonia or influenza
15	Surgery
16	Don't know
17	Not ascertained
18	Tests/observation/x-rays/physical exam

Code for reported Condition	Condition Description
19	Digestive/endocrine condition
1901	Colon condition
1902	Ulcers
1903	Liver condition
1904	Colitis or enteritis
1905	Diverticulitis
1907	Gallbladder disease
20	Respiratory condition (other than influenza and pneumonia)
2001	Asthma
2002	Chronic bronchitis or emphysema
21	Infection
22	Kidney/bladder/urinary condition
23	Debility/pain
2301	Headache
24	Male reproductive condition
25	Musculoskeletal problem or injury other than a fracture
2501	Neck pain
2502	Back pain
2503	Hip pain
2504	Dislocated hip
2505	Other joint pain
26	Circulatory condition
27	Female reproductive condition
28	Mental illness
2801	Nervous breakdown
29	Neurologic condition
2901	Parkinson's disease
2902	Multiple sclerosis
2903	Epilepsy
30	Nutritional condition or dehydration
31	Bleeding or blood disorder
32	Skin condition
33	Condition not elsewhere coded

Code for reported Condition	Condition Description
34	Admission to a facility other than an acute care hospital
35	In a facility at time of death
36	Cataracts
3601	Glaucoma
3602	Detached retina
3603	Eye problem other than cataracts, detached retina or glaucoma
37	A fall

Background

During the process of completing the Hospital and Health Care Facility (HHCF) chart respondents were asked to described the conditions that led to their facility stays and this information is included as a text field on the stay record. The text portion of the reported condition contains standard nomenclature for certain conditions (see Type A conditions below) or the respondent's own words. If necessary the respondent's description was edited to fit into the 30 positions available in the record. A numeric code was also assigned to each description. This was done so that users would not have to deal with alphabetic description fields when investigating reasons for facility stays. Space is allotted on the report section of the facility stay record for recording of up to four reasons for the hospitalization or nursing home stay (positions 63-198 of the HCFS record).

Note that code 1906 is not included in the coding structure for the 1982-84 file. This code had been designated for reports of overnight hospital stays for thyroid disease. No such stays were reported.

Reported conditions and their associated codes can be divided into six types depending on where in the interview the stay was reported and the amount of information obtained: specific conditions included in either the subject or proxy interview (Type A); conditions which are well-defined but for which no question exists in the interview (Type B); unknown conditions (Type C); conditions about which there is no specific question in the interview but for which sufficient information is available to attribute them to disorders of a major body system (Type D); conditions that are broadly defined and/or cannot be attributed to a single major body system (Type E); and conditions that cannot be classified into any of the above categories (Type F). Each condition type, the associated codes and the rules for assigning the reported conditions to the categories of the coding structure are described in detail below.

Type A - Conditions about which the respondent was asked in the interview. For example, if a respondent answered "yes" to question G-26 ("Since 1970, had (he/she) ever stayed overnight in a hospital for arthritis?"), then a condition code of "01" and a text field containing "arthritis" would be included on the facility stay record. Type A conditions are listed below with the corresponding interview question number in parentheses. Unless otherwise indicated, the question is found in both the subject and proxy questionnaires.

01	Arthritis (G-26 of the proxy questionnaire)
03	Heart attack (G-17)
04	Other heart conditions (G-15 and G-16)
07	T.I.A., small stroke (G-21)
08	Stroke (G-22)
09	Diabetes (G-40 on the subject questionnaire and G- 23 on proxy questionnaire)
10	High blood pressure (D-5)
11	Cancer (D-65 and D-54 on the subject questionnaire and D-22 on the proxy questionnaire)
12	Fractured hip (E-94 on the subject questionnaire)
1901	Colon problem (G-8)
1902	Ulcers (G-5)
1903	Cirrhosis of the liver (G-9)
1904	Colitis or enteritis (G-14)
1905	Diverticulitis (G-13)
1907	Gallbladder disease (D-47 on the subject questionnaire and D-14 on the proxy questionnaire)
2001	Asthma (G-1)
2002	Chronic bronchitis and emphysema (G-2)
22	Kidney, bladder or urinary problem (G-6 and G-7)
2301	Headache (G-3)
2501	Neck pain (E-26 on the subject questionnaire)
2502	Back pain (E-46 on the subject questionnaire)
2503	Hip pain (E-59 on the subject questionnaire)
2504	Dislocated hip (E-99 on the subject questionnaire)
2505	Other joint problem (E-89 on the subject questionnaire)
2801	Nervous breakdown (G-12)
2901	Parkinson's disease (G-10)
2902	Multiple sclerosis (G-11)
2903	Epilepsy (G-50 on the subject questionnaire G-25 on the proxy questionnaire)
34	Care in non-acute care facility (G-62 on the subject questionnaire and G-31 on the proxy questionnaire)
35	In a facility at death (V-3 on the proxy questionnaire)
36	Cataracts (G-18)
3601	Glaucoma (G-19)
3602	Detached retina (G-20)

Complete agreement between responses to the questions in the interview and Type A condition codes on the facility stay file should not be expected. There are several reasons for a lack of agreement between these two data sources.

First, the respondent may report a facility stay for a given condition in the interview and yet no facility stay record containing the condition may appear on the HCFS file. This would result if: (1) it was determined that the hospitalization did not last overnight causing the stay to be deleted from the HCFS file; or (2) the reported stay was found to be "out-of-scope". (See the introduction to this codebook and the Plan and Operation for definitions of out-of-scope stays.)

Second, data may be inconsistent between the interview and the HCFS file if the respondent remembered and reported a condition after responding to the corresponding question in the interview. This tended to occur at the time the interviewer was recording information on the HHCF chart. For example, while recording information on a stay for high blood pressure, the respondent may add that he/she was also hospitalized at that time for a heart condition. The respondent may not have reported the hospitalization when asked about heart conditions in question G- 15 and the Section G information may not have been updated to reflect this additional condition However, heart condition would appear on the HCFS file.

Type B - Conditions which do not have a corresponding question in the interview but for which sufficient descriptive information is available to allow them to be easily coded:

02 Gout
05 Coronary bypass surgery
06 Procedures for pacemakers
13 Bone fracture
14 Pneumonia and influenza
18 Tests and observation
37 A fall

Type C - Unknown conditions:

16 Don't know
17 Not ascertained

Type D - Conditions for which there is not a specific question in the interview but which can be attributed to disorders of a major body system:

19	A condition of the digestive/endocrine system not found in the detailed conditions of the 1900 series codes (see Type A)
20	Respiratory conditions other than pneumonia, influenza, chronic bronchitis, emphysema or asthma
24	The male reproductive system
25	A condition of the musculoskeletal system not found in the detailed conditions of the 2500 series codes (see Type A)
26	The circulatory system (except strokes)
27	The female reproductive system
29	A neurologic disorder not found in the detailed conditions of the 2900 series codes (see Type A)
31	Blood disorders and bleeding
32	Skin problem
3603	Eye problem other than cataracts, detached retina or glaucoma

Type E - Conditions which are broadly defined or are attributed to problems of more than one major body system:

15	Surgery
21	Infections
23	Debility and pain other than headache
28	Mental illness other than nervous breakdown
30	Nutrition and dehydration

Type F - All conditions that cannot be assigned to one of the above codes:

33	Other conditions

Additional information on reasons for a facility stay is available in the abstract section of the record (positions 205- 379) if an abstract has been matched to the report. In general, information from the abstract is considered a more accurate determination of the conditions associated with the stay than are the reported conditions. The condition codes in the report section of stay records do provide useful information in the absence of a medical abstract. Both flexibility and caution should be exercised when selecting stays based on these codes. In order to help the analyst use these condition codes effectively, a description of the code assignment procedure along with an example is provided.

Rules for Assignment

The numeric codes were assigned to the respondent's non- technical descriptions by trained medical coders. In order to minimize variation among the coders assigning these codes, precedence rules were defined. Generally, a condition was coded to the most specific category in which it could be placed. The assignment rules are described below in priority order, e.g. Rule 2 was used only if Rule 1 did not apply and so forth.

Rule 1: If a condition was one about which there was a specific question in either the subject or proxy interview, the code appropriate for that question was assigned. (Type A conditions)

Rule 2: If the textual description could be coded to a narrowly defined condition not referenced in the interview or to the unknown category, the appropriate Type B or Type C code was assigned.

Rule 3: Conditions that could not be coded to a specific question but could be coded to a major body system were assigned the appropriate Type D code.

Rule 4: General descriptions, symptoms and conditions not coded by rules 1 through 3 were coded at the discretion of the medical coder, again with emphasis on as much specificity as possible. For example, "PAIN IN THE KNEES" would be coded to "25 - musculoskeletal problem or injury", not to "23 - Debility and pain". (Type D or Type E conditions)

Rule 5: Everything that could not be assigned a code after applying the above rules was coded to "33 - Other conditions". (Type F conditions)

Considerations for the data user

These precedence rules were used for all three followups. However, since the questionnaires used in each followup differed slightly, the assignment of codes also differed. Questions about specific conditions were not always included in all three questionnaires. For example, Question B-63 in the 1986 interview asked about overnight stays for surgery making condition code "15 -Surgery" a Type A condition in the 1986 followup. There is no similar question in the 1982-84 or 1987 interview, therefore, surgery is a Type E condition in the 1982-84 and 1987 files. In other cases, groups of conditions are combined into one question on one questionnaire but asked separately on another. For example, T.I.A.'s and other strokes are combined in one question in 1987. Since it was not possible to separate reports of T.I.A.'s from other strokes in the 1987 file, there are no conditions assigned to codes "07" in this file. There are reports assigned to "07" in the 1982-84 and 1986 files since separate T.I.A. and stroke questions were asked. An attempt was made to include as much detail in the code as possible.

The questionnaire in the 1982-84 followup included enough detail to separate specific digestive conditions, such as colitis and gallbladder problems, from the general category of digestive disorders. Therefore, the 1982-84 HCFS data file, includes sub-codes under "19 - Digestive/endocrine system". Thus, analysts interested in colitis can identify cases from the reported condition section of the 1982-84 file but not from the 1986 or 1987 files. However, all files can be used to identify cases of the digestive/endocrine system in general. The analyst should refer to the questionnaire and the condition coding structure in the HCFS data tape codebook for the period of interest in order to obtain the maximal amount of information available.

In using the condition codes to select records of interest, two characteristics of the coding structure should be considered: (1) the condition of interest may be found under more than one numeric code and (2) each numeric code covers more than one condition.

To illustrate the first situation, consider a search for all reported stays with breast biopsies. A respondent might report a breast biopsy in response to the question relating to cancer and cancer treatment. In this case the textual field would contain a description such as "BIOPSY OF RIGHT BREAST" and the numeric code assigned would be 11 (indicating a response to the cancer stay question). Breast biopsies could also be reported in response to the surgery question in the 1986 followup and be assigned the code of 15. If the biopsy was reported in response to question G-61 on the 1982-84 questionnaire, "Have you stayed in a hospital for any other reason...?", it would be assigned to code 18 - Tests and observation". To identify breast biopsy cases it would be necessary to search the alphabetic fields for codes 11, 15 and 18. In addition, the reports of breast biopsies include several wording variations, for example, "BREAST BIOPSY", "BIOPSY OF BREAST". The analysts needs to investigate all possible wordings.

To illustrate the second situation, consider code 18 - "Tests and observation". Over 250 different verbal descriptions have been coded to this category including a variety of radiological procedures, surgeries and physical examinations. Selecting just on code 18 will result in a wide variety of procedures. Those of a specific interest need to be identified by the textual description.

Analysts who wish to use these reports, should print and review all the reported condition codes and alphabetic descriptions from the Health Care Facility Stay data files. Such a review will aid in (1) finding all the numeric condition codes under which the condition of interest will be found and (2) insuring that, within any numeric condition code, only the reports of interest will be selected.

Finally, the condition codes in the report section should be used in conjunction with the information in the abstract section if it is available. Returned abstracts were matched to reports if one of the reported conditions matched one of the discharge diagnoses on the abstract. Other conditions reported for the same stay may or may not be confirmed in the matched medical abstract. If the condition of interest is not indicated as a discharge diagnosis on the medical record, the analyst may not want to accept the reported condition as a reason for the stay. Similarly, conditions may be listed as discharge diagnoses that do not appear on the report section. See the introduction to this codebook for a description of the match criteria.