# TECHNICAL SUPPLEMENT 12:
# FILE COMPOSITION FOR THE HCUP NATIONWIDE INPATIENT SAMPLE

## OVERVIEW

The Healthcare Cost and Utilization Project (HCUP) Nationwide Inpatient Sample (NIS) is designed to be a 20 percent sample of U.S. community hospitals, as defined by the American Hospital Association (AHA). The AHA defines community hospitals as "all nonfederal, short-term, general and other specialty hospitals, excluding hospital units of institutions." The HCUP sample is a stratified probability sample of hospitals in the frame, with sampling probabilities proportional to the number of U.S. community hospitals in each stratum. The frame is limited by the availability of data.

The hospital universe is defined using the AHA Annual Survey of Hospitals. This universe of hospitals is divided into strata using five hospital characteristics: ownership/control, bedsize, teaching status, rural/urban location, and U.S. region. Hospitals from HCUP participating states (the sampling frame) are selected to represent these strata, and all discharges from sampled hospitals are included in the database. To allow for the production of national estimates, both hospital and discharge weights are provided along with information necessary to calculate the variance of estimates. The weights were developed from the same AHA-defined characteristics that define HCUP sampling strata.

### States in the NIS

The NIS is comprised of selected states that have agreed to provide the project with all-payer data on hospital inpatient stays. Different releases of the NIS span different years and include different numbers of states:

- NIS, Release 6 contains 1997 data from 22 states;
- NIS, Release 5 contains 1996 data from 19 states;
- NIS, Release 4 contains 1995 data from 19 states;
- NIS, Release 3 contains 1994 data from 17 states;
- NIS, Release 2 contains 1993 data from 17 states; and
- NIS, Release 1 covers the years 1988 through 1992 and is drawn from 11 states (only 8 states are included 1988).

The NIS contains all discharges from hospitals sampled from these states.

### NIS Data Files

There are two different types of NIS data:

- Data on inpatient stays; and
- Data on hospitals, in the Hospital Weights file.

There are three main collections of NIS inpatient data:

- 100% of inpatient records for each sampled hospital; and
- Two non-overlapping 10% subsamples of inpatient records from all NIS hospitals.

Inpatient data elements include linkage elements, patient demographics, clinical information, and payment information. For more information on the structure of the NIS Inpatient Stay files, refer to the release-specific NIS Documentation.

The NIS Hospital Weights file contains one observation per year for each hospital included in the NIS. This file contains data elements for linkage, strata definitions, and sample weights. Strata variables are based on information from the AHA Annual Survey of Hospitals. Sample weights were developed separately for hospital- and discharge-level analyses for each year. Three hospital-level weights were developed to weight NIS hospitals to the state, frame, and universe. Likewise, three discharge-level weights were developed to weight NIS discharges to the state, frame, and universe. When linked with the NIS Inpatient Stay file by the HCUP hospital identifier (HOSPID), the Hospital Weights file provides all the data elements required to produce national estimates, including the variance of estimates.

For detailed information about the development and use of discharge and hospital weights, see the release-specific Technical Supplements on *Design of the HCUP Nationwide Inpatient Sample.*

## HCUP CRITERIA

### Criteria for Including Hospitals in HCUP

The American Hospital Association (AHA) Annual Survey definition of a community hospital is used to determine which facilities are eligible for inclusion in the HCUP database. If the AHA Annual Survey considers a hospital to be a community hospital, then all of its discharges are eligible for inclusion in the HCUP sample.

The AHA Annual Survey definition of a hospital may not always coincide with the definition of a hospital used by data sources. Specific examples of discrepancies include:

- If a data source reports inpatient data for two or more separate facilities which are considered by the AHA to be a single hospital, HCUP treats them as a single hospital.
- If a data source reports inpatient data from a hospital that cannot be identified in the AHA Annual Survey, that hospital is excluded from the HCUP database.

Federal and Veterans hospitals are excluded from the HCUP database because HCUP data sources do not consistently collect information on these hospitals.

### Definition of a Community Hospital

The AHA Annual Survey definition of a community hospital includes nonfederal short-term hospitals whose facilities are available to the public. Short-term is defined as hospitals with an average length of stay less than 30 days. Both general and specialty hospitals (e.g., obstetrics and gynecology, rehabilitation, orthopedics, and eye, ear, nose and throat) are included. There are some hospitals for which the average length of stay for records in the HCUP database is greater than 30 days.

### Opened and Closed Hospitals

Hospital openings and closures may be reflected at different times in the supplied inpatient data and the AHA Annual Survey.

**Openings.** A hospital is included in the HCUP database only when the hospital is recognized by the AHA Annual Survey for that year. This means that inpatient data received from a data source for an opening hospital are excluded from the HCUP database until the hospital is recognized by the AHA Annual Survey. The lag between hospital openings and recognition in the AHA Annual Survey may be more than one year.

**Closures.** A hospital included in the HCUP database continues to be included if there are inpatient data supplied by the source, even if the AHA Annual Survey considers the hospital to have closed. This means that inpatient data will continue to be included in the HCUP database after the AHA Annual Survey ceases to recognize the hospital, unless there is strong evidence that the hospital has ceased to be a community hospital.

### Inclusion of Stays in Special Units

Hospitals may vary in their reporting of discharges from special units (e.g., psychiatric, rehabilitation, long-term care). If information about such reporting is available, it is documented under File Composition by State. No attempt has been made to delete records from special units within hospitals.

## "SPECIAL" HOSPITALS WITH ZERO WEIGHTS

To allow for longitudinal analysis of special events such as hospital closures, mergers, and splits, the sample is adjusted to keep these "special" hospitals in the database over time. When hospitals are kept in the database solely because they are "special," zero weights are associated with them (i.e., these hospitals will not be counted in nationally weighted estimates).

Zero-weight hospitals are included in the 1988-1992 data for NIS, Release 1.

Because relatively few hospitals were affected and the complexity of including these hospitals entailed considerable processing burden and costs, no zero-weight hospitals are included after 1992 in NIS Release 2, 3, 4, 5 and 6.

## STATES IN THE NIS

The following section lists all states participating in the NIS and provides details about the sources of the data, inclusion of hospital stays in special units, exclusion of ambulatory surgery records, and special precautions required by some states for maintaining confidentiality of hospitals.

| Arizona |
|---|

The HCUP Arizona files were constructed from the Arizona Hospital Inpatient Database from the Cost Reporting and Review Section of the Arizona Department of Health Services. Arizona supplied discharge abstract data for inpatient stays in acute care and rehabilitation hospitals with more than 50 beds. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 3% of the community hospitals in Arizona were not received.

Arizona data are included in HCUP beginning in 1989.

**Inclusion of Stays in Special Units**. The source documentation supplied by Arizona does not indicate whether stays in special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) are included.

## California

The HCUP California files were constructed from the confidential files received from the Office of Statewide Health Planning and Development (OSHPD). California supplied discharge abstract data for inpatient stays in general acute care hospitals, acute psychiatric hospitals, chemical dependency recovery hospitals, psychiatric health facilities, and state-operated hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 1% of the community hospitals in California were not received. California excluded inpatient stays that, after processing by OSHPD, did not contain a complete and "in-range" admission date or discharge date. California also excluded inpatient stays that had an unknown or missing date of birth.

California data are included in HCUP beginning in 1988.

**Inclusion of Stays in Special Units**. Included with the general acute care stays in community hospitals are stays in skilled nursing, intermediate care, rehabilitation, alcohol/chemical dependency treatment, and psychiatric units. Stays in these different types of units can be identified by the first digit of the source hospital identifier (DSHOSPID):

| | | |
|---|---|---|
| 0 | = | Type of unit unknown (beginning in 1996) |
| 1 | = | General acute care |
| 2 | = | Not a valid code |
| 3 | = | Skilled nursing and intermediate care (long term care) |
| 4 | = | Psychiatric care |
| 5 | = | Alcohol/chemical dependency recovery treatment |
| 6 | = | Acute physical medicine rehabilitation care. |

The reliability of this indicator for the type of care depends on how it was assigned.

**Prior to 1995**. The type of care was assigned by California based on the hospital's licensed units and the proportion of records in a batch of submitted records that fall into each Major Diagnostic Category (MDC). Hospitals were permitted to submit discharge records in one of two ways: submit separate batches of records for each type of care OR bundle records for all types of care into a single submission. How a hospital submitted its records to California determined the

accuracy of the type of care indicated in the first digit of DSHOSPID. Consider a hospital which is licensed for more than one type of care:

- If the hospital submitted one batch of records per type of care, then the distribution of each batch of discharges into MDCs would clearly indicate the type of care (acute, psychiatric, etc.). The data source could then accurately assign the first digit of DSHOSPID.

- If the same hospital submitted all of its records in one batch, then the distribution of discharges into MDCs would be a mixture of acute and other types of care. The first digit of DSHOSPID would be set to "general acute care" (value = 1) on all records and would not distinguish the types of care.

Prior to 1995, most hospitals submitted only one batch of records to California which meant that the type of care indicated in the first digit of DSHOSPID did not distinguish among types of care.

**Beginning in 1995**. Hospitals were required to assign type of care codes to individual records for certain discharges. These discharges included:

- general acute care (value = 1),
- skilled nursing and intermediate care (value = 3), and
- rehabilitation care (value = 6).

For discharges from facilities licensed as psychiatric care (value = 4) or alcohol/chemical dependency recovery treatment (value = 5), California continued to assign the type of care code to all discharges from the facility.

## Colorado

The HCUP Colorado files were constructed from the Discharge Data Program (DDP) files. The Colorado Health and Hospital Association supplied discharge abstract data from Colorado acute care hospitals, including swing beds and distinct part units. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 1.5% of the community hospitals in Colorado were not received.

Colorado data are included in HCUP beginning in 1988.

From 1988 to 1990, abstracts for all ambulatory surgeries were also supplied in the source files, but these were excluded from the HCUP inpatient database, as described below.

Starting in 1991, Colorado supplied inpatient and ambulatory surgery records in separate files.

**Inclusion of Stays in Special Units**. The Colorado Health and Hospital Association does not require hospitals to submit information from their SNFs and ICFs, but no attempt has been made to verify their exclusion.

**Exclusion of Ambulatory Surgery Records**. For 1988 through 1990, the data source supplied a mixture of inpatient and ambulatory surgery records distinguished by a record type indicator. Only the inpatient discharges were retained in the HCUP files. The table below explains how the inpatient discharges were identified.

**Table b. How Inpatient Records Were Identified in Colorado Data**

| Record Type | Value of Record Type Indicator on Discharge Abstract | Inclusion in HCUP Data |
|---|---|---|
| Inpatient | 1 | Include |
| Ambulatory surgery | 2 | Exclude |
| Unknown | 0 | Exclude if all of the following conditions are true (i.e., assumed to be an ambulatory surgery record):<br>• Length of stay is 0;<br>• Principal procedure is present;<br>• Total charges are nonmissing;<br>• Routine (room and nursing) charges are missing; and<br>• Age in days is not equal to 0.<br>Otherwise, include as an inpatient record. |

## Connecticut

The HCUP Connecticut files were constructed from files from the Connecticut Health Information Management and Exchange (CHIME), an affiliate of the Connecticut Hospital Association. The files consist of discharge abstract data for inpatient and same-day surgical stays in Connecticut acute care hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 6% of the community hospitals in Connecticut were not received.

Connecticut data are included in HCUP beginning in 1993.

**Sample Restrictions**. CHIME was to be notified if more than 50% of their hospitals appeared in any year of NIS data. From 1993-1997, the NIS contains less than 50% of the Connecticut hospitals.

**Exclusion of Records**. The following records were excluded from the HCUP Connecticut data:

- Ambulatory surgery records (records with Patient Type = "A", same-day surgical) were excluded from the HCUP inpatient database.

- Beginning in 1997, discharges with a disposition indicating "patient was admitted as an inpatient to this hospital" were excluded from the HCUP inpatient database. This disposition was not used prior to 1997 and no exclusion was necessary for those years.

**Inclusion of Stays in Special Units**. Stays in special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) are included in the file.

**Shortfall of Discharges in 1995**. In 1995, discharges in October are noticeably fewer than in other months by about 25%. This pattern is consistent across all hospitals in the state. No explanation of the shortfall was available from Connecticut Health Information Management and Exchange.

## Florida

The HCUP Florida files were constructed from the Florida Hospital Discharge Data Confidential Information received from the Florida Agency for Health Care Administration. The Florida confidential files consist of discharge abstract data from non-federal Florida hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 6% of the community hospitals in Florida were not received.

Florida data are included in HCUP beginning in 1988.

**Confidentiality of Records**. Florida requested that admission day of week (ADAYWK) be set to missing for all records in the NIS beginning with 1993.

**Inclusion of Stays in Special Units**. Inpatient stays in special units (e.g., psychiatric, rehabilitation, long-term care) may be included in the HCUP Florida inpatient data. Florida instructs hospitals to submit records only for stays in acute facilities and to exclude records from special units, but according to Florida AHCA, not all hospitals follow these instructions.

## Georgia

The HCUP Georgia files were constructed from inpatient files received from GHA - An Association of Hospitals and Health Systems. Inpatient discharge data was provided for hospitals that are a member of GHA. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from all of the community hospitals in Georgia were received.

Georgia data are included in HCUP beginning in 1997.

**Confidentiality of Records**. Georgia requested that the race of the patient (RACE) be set to missing for all records in the NIS.

**Confidentiality of Physicians**. Georgia requested that physician identifiers (MDID_S) be set to missing for all records in the NIS.

**Confidentiality of Hospitals**. The sample of Georgia hospitals included in the HCUP NIS may not be representative of Georgia hospitals overall because some Georgia hospitals were dropped from the sampling frame to meet confidentiality requirements. Hospitals were dropped from the

sampling frame whenever there were fewer than two hospitals in the sampling stratum. This resulted in the exclusion of one hospital from the 1997 sampling frame.

Georgia requested that hospitals not be identified in the NIS database. As a result, the following information was set to missing for all Georgia hospitals:

- Data source hospital identifier (DSHOSPID)
- Hospital state, county FIPS code (HOSPSTCO)
- AHA hospital identifier without leading 6 (IDNUMBER)
- AHA hospital identifier with leading 6 (AHAID)
- Hospital name (HOSPNAME)
- Hospital city (HOSPCITY)
- Hospital address (HOSPADDR), and
- Hospital zip code (HOSPZIP).

The HCUP hospital identifier (HOSPID) can be used to group inpatient records that belong to the same hospital.

In order to further ensure the confidentiality of hospitals, stratifier variables

- Ownership/Control (H_CONTRL),
- Location (H_LOC),
- Teaching status (H_TCH),
- Bedsize (H_BEDSZ), and
- Location, teaching status combined (H_LOCTCH)

were set to missing if the cell defined by H_CONTRL, H_LOC, H_TCH, and H_BEDSZ had fewer than 2 hospitals in the universe of Georgia hospitals. This affected one hospital in 1997.

**Exclusion of Records**. Records with a discharge disposition of "still a patient" were excluded from the HCUP Georgia data.

**Inclusion of Stays in Special Units**. The documentation supplied by Georgia does not indicate whether stays in special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) are included in the file.

## Hawaii

The HCUP Hawaii files were constructed from inpatient files received from the Hawaii Health Information Corporation (HHIC). Inpatient discharge data was provided for hospitals that are a member of HHIC. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 15% of the community hospitals in Hawaii were not received.

Hawaii data are included in the HCUP SID beginning in 1996 and in the HCUP NIS beginning in 1997.

**Confidentiality of Hospitals**. The sample of Hawaii hospitals included in the HCUP NIS may not be representative of Hawaii hospitals overall because some Hawaii hospitals were dropped from the

Illinois hospitals are required to report 100 percent of discharge records for inpatient stays of at least 24 hours. The IHCCCC reports better than 98 percent compliance with this mandate. If an adjunct skilled nursing facility or nursing home is operated at the same site, these records are not included in the submission to the IHCCCC.

Illinois excludes records with inconsistent data that have not been corrected and records with missing data in IHCCCC-defined required fields from the Illinois source inpatient data.

**Sample Restrictions**. Illinois requested that no more than 40% of Illinois data appear in any discharge quarter of NIS data.

**Confidentiality of Physicians**. For 1988-1994, physician identifiers (MDID_S and SURGID_S) for Illinois were set to missing in the NIS data. Beginning in 1995, Illinois does not supply physician identifiers for HCUP.

**Inclusion of Stays in Special Units**. Stays in skilled nursing facilities or nursing homes attached to a hospital are excluded by Illinois. Stays in other special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) are included in the inpatient discharge data. Stays in specialty hospitals (e.g., children's hospitals, rehabilitation hospitals, etc.) are included in the HCUP Illinois data.

## Iowa

The HCUP Iowa files were constructed from the Association of Iowa Hospitals and Health Systems Statewide Database. Iowa supplied discharge abstract data and some uniform bills for acute inpatient discharges from member hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from all of the community hospitals in Iowa were received.

Iowa data are included in HCUP beginning in 1988.

**Inclusion of Stays in Special Units**. The documentation supplied by the data source indicates that the data include stays in acute exempt units, but exclude stays in swing bed and long-term care units.

## Kansas

The HCUP Kansas files were constructed from the Kansas Hospital Association inpatient discharge files. These data include inpatient discharge data from general acute care hospitals that are a member of the Kansas Hospital Association. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 8% of the community hospitals in Kansas were not received.

Kansas data are included in HCUP beginning in 1993.

sampling frame to meet confidentiality requirements. Hospitals were dropped from the sampling frame whenever there were fewer than two hospitals in the sampling stratum. This resulted in the exclusion of six hospitals from the 1997 sampling frame.

Hawaii requested that hospitals not be identified in the NIS database. As a result, the following information was set to missing for all Hawaii hospitals:

- Data source hospital identifier (DSHOSPID)
- Hospital state, county FIPS code (HOSPSTCO)
- AHA hospital identifier without leading 6 (IDNUMBER)
- AHA hospital identifier with leading 6 (AHAID)
- Hospital name (HOSPNAME)
- Hospital city (HOSPCITY)
- Hospital address (HOSPADDR), and
- Hospital zip code (HOSPZIP).

The HCUP hospital identifier (HOSPID) can be used to group inpatient records that belong to the same hospital.

In order to further ensure the confidentiality of hospitals, stratifier variables

- Ownership/Control (H_CONTRL),
- Location (H_LOC),
- Teaching status (H_TCH),
- Bedsize (H_BEDSZ), and
- Location, teaching status combined (H_LOCTCH)

were set to missing if the cell defined by H_CONTRL, H_LOC, H_TCH, and H_BEDSZ had fewer than 2 hospitals in the universe of Hawaii hospitals. This affected no hospitals in 1997.

**Exclusion of Records**. Records with a discharge disposition of "still a patient" and "admitted as an inpatient to this hospital" were excluded from the HCUP Hawaii data.

**Inclusion of Stays in Special Units**. The documentation supplied by Hawaii does not indicate whether stays in special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) are included in the file.

## Illinois

The HCUP Illinois files were constructed from the Illinois confidential files received from the Illinois Health Care Cost Containment Council (IHCCCC). The Illinois confidential files consist of uniform bills for inpatient stays from Illinois general acute care and specialty hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 0.5% of the community hospitals in Illinois were not received.

Illinois data are included in HCUP beginning in 1988.

**Confidentiality of Hospitals**. Kansas requested that hospitals not be identified in the NIS database. As a result, the following information was set to missing for all Kansas hospitals:

- Data source hospital identifier (DSHOSPID)
- Hospital state, county FIPS code (HOSPSTCO)
- AHA hospital identifier without leading 6 (IDNUMBER)
- AHA hospital identifier with leading 6 (AHAID)
- Hospital name (HOSPNAME)
- Hospital city (HOSPCITY)
- Hospital address (HOSPADDR), and
- Hospital zip code (HOSPZIP).

The HCUP hospital identifier (HOSPID) can be used to group inpatient records that belong to the same hospital.

**Inclusion of Stays in Special Units**. The documentation provided by the data source indicates that hospitals are not required to report non-acute discharges, including those from long term care units and facilities. The documentation does not specify whether these discharges and discharges from other special units within a hospital (e.g., psychiatric, rehabilitation, etc.) are excluded from the supplied data.

## Maryland

The HCUP Maryland files were constructed from the confidential files received from the State of Maryland's Health Services Cost Review Commission (HSCRC). Demographic and utilization data for inpatient stays in Maryland acute care hospitals were supplied by HSCRC in the Uniform Hospital Discharge Abstract Data Set. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from all of the community hospitals in Maryland were received.

Maryland data are included in the HCUP SID beginning in 1990 and in the HCUP NIS beginning in 1993.

**Inclusion of Stays in Special Units**. The documentation provided by the data source does not indicate whether stays in special units within a hospital (e.g., psychiatric, rehabilitation, long-term care) are included in the data.

## Massachusetts

The HCUP Massachusetts files were constructed from the Massachusetts confidential Case Mix Database files received from the Massachusetts Division of Health Care Finance and Policy. Massachusetts supplied discharge abstract data for inpatient stays from general acute care hospitals in Massachusetts. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 13% of the community hospitals in Massachusetts were not received.

Massachusetts data are included in HCUP beginning in 1988.

**Confidentiality of Physicians**. All physician identifiers (MDID_S and SURGID_S) for Massachusetts were set to missing in the NIS data starting in 1994.

**Inclusion of Stays in Special Units**. The documentation provided by the data source indicates that inclusion of discharges from special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) varies by hospital.

## Missouri

The HCUP Missouri files were constructed from the Hospital Industry Data Institute (HIDI) inpatient stay files. Missouri supplied discharge abstract data for inpatient stays from Missouri general acute care and specialty hospitals (e.g., children's hospitals, rehabilitation hospitals, and cancer hospitals). Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 12% of the community hospitals in Missouri were not received.

Missouri data are included in HCUP beginning in 1995.

**Sample Restrictions**. The sample of Missouri hospitals included in the HCUP NIS may not be representative of Missouri hospitals overall because some Missouri hospitals were dropped from the sampling frame. Hospitals were dropped from the sampling frame if they did not give their permission to be included. This resulted in the exclusion of 35 hospitals from the 1995, 1996, and 1997 sampling frame.

**Exclusion of Records**. Records with a discharge disposition of "still a patient" were excluded from the HCUP Missouri data.

**Inclusion of Stays in Special Units**. Missouri supplied discharges from special units within hospitals including psychiatric, rehabilitation, skilled nursing, intermediate care, other long-term care, swing-bed, hospice, and other unspecified inpatient units. Records for these different types of care cannot be identified from data elements included in the HCUP Missouri data.

## New Jersey

The HCUP New Jersey files were received from the New Jersey Department of Health and Senior Services. The New Jersey files consist of discharge abstract data for all inpatient and same-day stays. New Jersey supplied discharge abstract data for inpatient stays from general acute care hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 8% of the community hospitals in New Jersey were not received.

New Jersey data are included in HCUP beginning in 1988.

**Inclusion of Stays in Special Units**. The documentation provided by the data source does not indicate whether stays in special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) are included.

**Exclusion of Ambulatory Surgery Records**. New Jersey supplied a mixture of inpatient and ambulatory surgery records, which were not distinguished by a record type indicator. Ambulatory surgery records were excluded from the HCUP inpatient database based on a definition supplied by New Jersey. The definition of ambulatory surgery records supplied by New Jersey is:

- Same-day stay (LOS = 0),
- Non-zero charges to operating room or same-day surgery, and
- Discharged to home (DISP = 1).

## New York

The HCUP New York files were constructed from the New York State Department of Health's Statewide Planning and Research Cooperative System (SPARCS) Master File. The New York files contain inpatient discharges from acute care hospitals in the state, excluding long-term care units of short-term hospitals and Federal hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 1% of the community hospitals in New York were not received.

New York data are included in the HCUP SID beginning in 1988 and in the HCUP NIS beginning in 1993.

For 1988-1993, New York supplied their Master File which consists of Discharge Data Abstracts (DDAs) matched to Uniform Billing Forms (UBFs) for inpatient stays from all hospitals in the state excluding long-term care units of short-term hospitals and Federal hospitals.

For 1988-1993, New York created the Master File by matching DDAs and UBFs based on Permanent Facility Identifier, Medical Record Number, Admitting Number, Admit Date, and Discharge Date. If the DDA and UBF records matched, the information from the DDA and UBF was included in the Master File. If there was no match, the information from the DDA was included in the Master File. Due to an administrative change in the collection of billing records for 1989, a large percentage of the DDAs could not be matched to a UBF. When there was no match, charge information, which would have come from the UBF, is missing. The match rate improves over time and stabilizes after 1991. The percentage of DDA records that have a matching UBF record in the Master File are as follows:

| | |
|---|---|
| 1988 | 77.2% |
| 1989 | 26.3% |
| 1990 | 62.8% |
| 1991 | 93.7% |
| 1992 | 91.8% |
| 1993 | 95.5%. |

Beginning in 1994, hospitals submitted discharge records to New York in a new format, using Universal Data Set (UDS) specifications. This format combines the old UBF and DDA data into a single submission record. In these years, New York supplied records for HCUP that contain complete discharge and uniform billing data corresponding to the "matched" records in earlier years.

**Exclusion of Records**. The following New York records were excluded from the HCUP inpatient database:

- For all years, interim records for patients who had not been discharged.
- For 1988-1992, records with a transaction code indicating "Deletion of a Record Previously Accepted" were excluded. These records were incorrect versions of accurate records included elsewhere in the SPARCS files. This was not a problem in subsequent years' data.
- For 1988-1993, Uniform Billing Forms (UBFs) that could not be matched to Discharge Data Abstracts (DDAs) were excluded. Matched DDA and UBF records and unmatched DDA records (without charges) were retained in the data.
- Beginning in 1994, records with a discharge disposition of "still a patient."

**Inclusion of Stays in Special Units**. The documentation supplied by the data source indicates that the data include stays in detoxification (alcohol and drug abuse), alcohol rehabilitation, mental retardation, mental rehabilitation, rehabilitation, alternate level of care, and psychiatric (acute and long term) units within community hospitals. Records for these different types of care cannot be identified from the data elements available in the HCUP New York inpatient data.

## Oregon

The 1993-1995 HCUP Oregon files were constructed from the Office for Oregon Health Plan Policy and Research discharge files. Beginning in 1996, HCUP Oregon files were constructed from discharge files supplied by the Oregon Association of Hospitals and Health Systems. The Oregon files consist of discharge abstract data for inpatient stays from member hospitals. Beginning in 1995, discharges from Veteran's Administrations facilities are not reported by the source. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 3% of the community hospitals in Oregon were not received.

Oregon data are included in HCUP beginning in 1993.

**Exclusion of Records**. Beginning in 1995, the source reports the discharge disposition of "still a patient." These records were excluded from the HCUP Oregon data.

**Inclusion of Stays in Special Units**. Stays in special units within Oregon hospitals (e.g., psychiatric, rehabilitation, long-term care) are included in the source data and therefore in the HCUP inpatient database.

## Pennsylvania

The HCUP Pennsylvania files were constructed from the Pennsylvania Health Care Cost Containment Council files. Pennsylvania supplied uniform bills from general acute care, state psychiatric, and rehabilitation facilities and from children's and specialty hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 3% of the community hospitals in Pennsylvania were not received.

Pennsylvania data are included in HCUP beginning in 1989.

**Confidentiality of Records**. Pennsylvania requested that patient age (AGE and AGEDAY) be set to the midpoint of 5-year intervals for records in the NIS with the following sensitive conditions: abortion, AIDS, mental illness, and substance abuse. See Pennsylvania note under the data elements AGE and AGEDAY for information on how these conditions were defined.

**Exclusion of Records**. Records with a discharge disposition of "still a patient" were excluded from the HCUP Pennsylvania data.

**Inclusion of Stays in Special Units**. Pennsylvania supplied discharges from psychiatric, drug and alcohol, and rehabilitation units of general acute care hospitals. Records for these different types of care cannot be identified from data elements included in the HCUP Pennsylvania data.

## South Carolina

The HCUP South Carolina files were constructed from confidential data files supplied by the South Carolina State Budget and Control Board. The data include inpatient stays from South Carolina acute care hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 8% of the community hospitals in South Carolina were not received.

South Carolina data are included in HCUP beginning in 1993.

**Confidentiality of Hospitals**. The sample of South Carolina hospitals included in the HCUP NIS may not be representative of South Carolina hospitals overall because some South Carolina hospitals were dropped from the sampling frame to meet confidentiality requirements. Hospitals were dropped from the sampling frame whenever there were fewer than two hospitals in the sampling stratum. This resulted in the exclusion of:

- five hospitals from 1993,
- four hospitals from 1994,
- four hospitals from 1995,
- six hospitals from 1996, and
- six hospitals from the 1997 sampling frame.

South Carolina requested that hospitals not be identified in the NIS database. As a result, the following information was set to missing for all South Carolina hospitals:

- Data source hospital identifier (DSHOSPID)
- Hospital state, county FIPS code (HOSPSTCO)
- AHA hospital identifier without leading 6 (IDNUMBER)
- AHA hospital identifier with leading 6 (AHAID)
- Hospital name (HOSPNAME)
- Hospital city (HOSPCITY)
- Hospital address (HOSPADDR), and
- Hospital zip code (HOSPZIP).

The HCUP hospital identifier (HOSPID) can be used to group inpatient records that belong to the same hospital.

In order to further ensure the confidentiality of hospitals, stratifier variables

- Ownership/Control (H_CONTRL),
- Location (H_LOC),
- Teaching status (H_TCH),
- Bedsize (H_BEDSZ), and
- Location, teaching status combined (H_LOCTCH)

were set to missing if the cell defined by H_CONTRL, H_LOC, H_TCH, and H_BEDSZ had fewer than 2 hospitals in the universe of South Carolina hospitals. This affected three hospitals in 1993, and one hospital in 1994-1997.

**Exclusion of Records**. The following records were excluded from the HCUP South Carolina data:

- Beginning in 1994, discharges with disposition of "still a patient" were excluded from the HCUP inpatient database. This disposition was not used in 1993 and no exclusion was necessary for that year.

- Beginning in 1996, discharges with a disposition indicating "patient was admitted as an inpatient to this hospital" were excluded from the HCUP inpatient database. This disposition was not used prior to 1997, and no exclusion was necessary for those years.

**Inclusion of Stays in Special Units**. The documentation supplied by South Carolina indicates that stays in long term care units and facilities were excluded by South Carolina from the supplied data.

## Tennessee

The HCUP Tennessee files were constructed from the inpatient files received from THA - An Association of Hospitals and Health Systems. These data include inpatient discharge data from Tennessee general acute care and some specialty facilities (e.g., children's hospitals, rehabilitation hospitals, state psychiatric facilities, etc.) that are members of THA. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 22% of the community hospitals in Tennessee were not received.

Tennessee data are included in HCUP beginning in 1995.

**Confidentiality of Hospitals**. The sample of Tennessee hospitals included in the HCUP NIS may not be representative of Tennessee hospitals overall because some Tennessee hospitals were dropped from the sampling frame to meet confidentiality requirements. Hospitals were dropped from the sampling frame whenever there were fewer than two hospitals in the sampling stratum. This resulted in the exclusion of:

- six hospitals from 1995,
- four hospitals from 1996, and
- five hospitals from the 1997 sampling frame.

Tennessee requested that hospitals not be identified in the NIS database. As a result, the following information was set to missing for all Tennessee hospitals:

- Data source hospital identifier (DSHOSPID)
- Hospital state, county FIPS code (HOSPSTCO)
- AHA hospital identifier without leading 6 (IDNUMBER)
- AHA hospital identifier with leading 6 (AHAID)
- Hospital name (HOSPNAME)
- Hospital city (HOSPCITY)
- Hospital address (HOSPADDR), and
- Hospital zip code (HOSPZIP).

The HCUP hospital identifier (HOSPID) can be used to group inpatient records that belong to the same hospital.

In order to further ensure the confidentiality of hospitals, stratifier variables

- Ownership/Control (H_CONTRL),
- Location (H_LOC),
- Teaching status (H_TCH),
- Bedsize (H_BEDSZ), and
- Location, teaching status combined (H_LOCTCH)

were set to missing if the cell defined by H_CONTRL, H_LOC, H_TCH, and H_BEDSZ had fewer than 2 hospitals in the universe of Tennessee hospitals. This affected no hospitals in 1995-1997.

**Exclusion of Records**. The following records were excluded from the HCUP Tennessee data:

- Records with a discharge disposition of "still a patient."

- Continuation records that only contained information on additional detailed charges.

- Beginning in 1996, discharges with a disposition indicating "patient was admitted as an inpatient to this hospital" were excluded from the HCUP inpatient database. Due to an error in HCUP processing, these records were retained in the 1995 HCUP Tennessee inpatient data. These affected discharges in 1995 can be identified by the discharge disposition of invalid (DISP = .A).

**Inclusion of Stays in Special Units**. The documentation supplied by Tennessee indicates that stays in special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) are included in the file.

## Utah

The HCUP Utah files were constructed from inpatient files received from Office of Health Data Analysis, Utah Department of Health. These data include inpatient discharge data from Utah general acute care and some specialty facilities (e.g., children's hospitals, rehabilitation hospitals, state psychiatric facilities, etc.) associated with acute care hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 2% of the community hospitals in Utah were not received.

Utah data are included in HCUP beginning in 1997.

**Confidentiality of Physicians**. Utah requested that physician identifiers (MDID_S and SURGID_S) be set to missing for all records in the NIS.

**Inclusion of Stays in Special Units**. The documentation supplied by Utah does not indicate whether stays in special units within the hospital (e.g., psychiatric, rehabilitation, long-term care) are included in the file.

## Washington

The HCUP Washington files were constructed from the Washington Comprehensive Hospital Abstract Reporting System (CHARS) data received from the Washington State Department of Health. Washington supplied uniform bills for inpatient stays from all acute care units, alcohol dependency units, bone marrow transplant units, extended care units, psychiatric units, rehabilitation units, group health units, and swing bed units. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from 1% of the community hospitals in Washington were not received.

Washington data are included in HCUP beginning in 1988.

**Inclusion of Stays in Special Units**. The documentation provided by the data source indicates that stays in special units within a hospital are included in the data. Records for these different types of care can be identified by the fourth digit of the source-supplied hospital identifier (DSHOSPID) on each patient record:

| | | |
|---|---|---|
| None | = | General acute care |
| A | = | Alcohol Dependency Unit |
| B | = | Bone Marrow Transplant Unit |
| E | = | Extended Care Unit |
| H | = | Tacoma General/Group Health Combined |
| I | = | Group Health only at Tacoma Hospital |
| P | = | Psychiatric Unit |
| R | = | Rehabilitation Unit |
| S | = | Swing Bed Unit |

Washington assigns this value to DSHOSPID based upon the type of unit discharging the patient.

## Wisconsin

The HCUP Wisconsin files were constructed from confidential files received from the Bureau of Health Information, Wisconsin Department of Health and Family Services. Wisconsin supplied discharge data abstract and uniform bills for non-federal Wisconsin hospitals. Some community hospitals, as defined by the AHA Annual Survey of Hospitals, may not be included in the HCUP Inpatient Databases because their data were not provided by the data source. In 1997, data from all of the community hospitals in Wisconsin were received.

Wisconsin data are included in HCUP beginning in 1989.

**Inclusion of Stays in Special Units**. The documentation supplied by the data source does not indicate whether stays in special units within a hospital (e.g., psychiatric, rehabilitation, long-term care) are included in the data.