Databases and Related Tools From the Healthcare Cost and Utilization Project (HCUP)

The mission of AHRQ is to improve the quality, safety, efficiency, and effectiveness of health care by:

- Using evidence to improve health care.
- Improving health care outcomes through research.
- Transforming research into practice.

Background

The Healthcare Cost and Utilization Project (HCUP) is a family of health care databases and related software tools developed through a Federal-State-Industry partnership to build a multi-State health data system for health care research and decisionmaking.

HCUP is sponsored by the Agency for Healthcare Research and Quality (AHRQ) as part of its mission to improve the quality, safety, efficiency, and effectiveness of the Nation's health care system. This fact sheet summarizes current HCUP resources.

Databases

HCUP databases contain a core set of clinical and nonclinical information found in a typical discharge abstract including all-listed diagnoses and procedures, discharge status, patient demographics, and charges for all patients, regardless of payer (e.g., Medicare, Medicaid, private insurance, uninsured). The information is translated into a uniform format to facilitate both multi-State and national-State comparisons and analyses.

Further details, future updates, and links to all HCUP databases are available at: http://www.hcup-us. ahrq.gov/databases.jsp.

State Inpatient Databases (SID)

The SID contain the universe of inpatient discharge abstracts from data organizations. Currently 44 States participate in the SID. Together, the SID encompass 95 percent of all U.S. community hospital discharges; some States include hospital and county identifiers or discharges from specialty facilities such as psychiatric hospitals. Most States that participate in the SID make their data available for purchase through the HCUP Central Distributor. Files are available beginning with data year 1990.

State Ambulatory Surgery Databases (SASD)

The SASD contain data from ambulatory care encounters in hospital-affiliated (and sometimes freestanding) ambulatory surgery sites. Currently, 29

States participate in the SASD. Most SASD States make their data available for purchase from the HCUP Central Distributor. Files are available beginning with data year 1997.

State Emergency Department Databases (SEDD)

The SEDD contain data from hospital-affiliated emergency department (ED) abstracts for visits that do not result in a hospitalization. Currently, 29 States participate in the SEDD; a few SEDD States make their data available for purchase from the HCUP Central Distributor. Files are available beginning with data year 1999.

Nationwide Inpatient Sample (NIS)

The largest all-payer inpatient care database in the United States, the NIS contains data from approximately 8 million hospital stays from roughly 1,000 hospitals; this approximates a 20-percent stratified sample of U.S. community hospitals. NIS data releases are available for purchase from the HCUP Central Distributor for data years beginning in 1988. The number of States participating in the NIS varies by year.

Nationwide Emergency Department Sample (NEDS)

The NEDS is the largest all-payer ED database in the United States. It was constructed using records from both the SEDD and the SID to capture information both on ED visits that do not result in an admission and on ED visits that result in an admission to the same hospital. The NEDS contains more than 25 million unweighted records for ED visits at about 1,000 U.S. community hospitals and approximates a 20-percent stratified sample of U.S. hospital-based EDs. Files are available beginning with data year 2006.

Kids' Inpatient Database (KID)

The KID is the only all-payer inpatient care database for children in the United States. KID data releases are available for purchase from the HCUP Central Distributor for data years 1997, 2000, 2003, and 2006; the number of participating States and discharges varies by year. The 2006 KID contains a sample of over 3 million discharges for children age 20 and younger from more than 3,500 U.S. community hospitals.

Ordering Information

HCUP databases come in ASCII format and can be run on computers with CD-ROM readers. To use the data on the CD set, a statistical software package such as SAS® or SPSS® is needed. SAS® and SPSS® users are provided programs for converting ASCII files. Purchasers and all persons with access to HCUP databases are required to read and sign a data use agreement. For details on purchasing the databases, contact HCUP Central Distributor:
E-mail: HCUPDistributor@ahrq.gov
Phone toll free: 866-556-4287
Fax: 866-792-5313

Software Tools

AHRQ has developed free software tools that can be used not only with the HCUP databases listed above, but also with other administrative databases. These tools can be downloaded without charge and are described below.

AHRQ Quality Indicators (QIs)

The AHRQ QIs are measures of health care quality that utilize readily available hospital inpatient administrative data. The AHRQ QIs consist of four modules:

- Prevention Quality Indicators—Identify hospital admissions that evidence suggests could have been

avoided, at least in part, through high-quality outpatient care.

- Inpatient Quality Indicators—Reflect quality of care inside hospitals, including inpatient mortality for medical conditions and surgical procedures.

- Patient Safety Indicators—Reflect quality of care inside hospitals but also focus on potentially avoidable complications and iatrogenic events.

- Pediatric Quality Indicators—Reflect quality of care for children under age 18 and for newborns receiving care in hospitals and identify potentially avoidable hospitalizations among children.

More information on the AHRQ QIs and instructions on downloading them are available at: http://qualityindicators.ahrq.gov/.

Clinical Classifications Software (CCS) for ICD-9-CM

This tool provides a method for classifying diagnoses or procedures from the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) into clinically meaningful categories. These categories can be used for various types of aggregate statistical reporting.

An overview of CCS for ICD-9-CM and downloading information are available at: http://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp.

Clinical Classifications Software (CCS) for ICD-10

This tool provides a method for classifying diagnoses from the International Statistical Classification of Disease and Related Health Problems, 10th Revision (ICD-10) into clinically meaningful categories. These categories can be used for various types of aggregate statistical reporting.

An overview of CCS for ICD-10 and

downloading information are available at: http://www.hcup-us.ahrq.gov/toolssoftware/icd_10/ccs_icd_10.jsp.

Clinical Classifications Software (CCS) for Services and Procedures

This tool provides a method for classifying Current Procedural Terminology codes and Healthcare Common Procedure Coding System codes into clinically meaningful procedure categories.

An overview of the CCS for Services and Procedures and downloading information are available at: http://www.hcup-us.ahrq.gov/toolssoftware/ccs_svcsproc/ccssvcproc.jsp.

Mental Health and Substance Abuse Clinical Classifications Software (CCS-MHSA)

This tool defines variables that identify general categories for mental health and substance abuse-related ICD-9-CM diagnoses in hospital discharge records. It can be used with any data that include ICD-9-CM diagnosis information.

An overview of CCS-MHSA and downloading information are available at: http://www.hcup-us.ahrq.gov/toolssoftware/mhsa/mhsa.jsp.

Comorbidity Software

This tool assigns variables that identify coexisting conditions on hospital discharge records using the ICD-9-CM diagnosis codes.

An overview of the Comorbidity Software and downloading information are available at: http://www.hcup-us.ahrq.gov/toolssoftware/comorbidity/comorbidity.jsp.

Procedure Classes

Procedure Classes permit categorizing ICD-9-CM procedure codes into one of four broad categories: minor

diagnostic, minor therapeutic, major diagnostic, and major therapeutic.

An overview of the Procedure Classes and downloading information are available at: http://www.hcup-us.ahrq.gov/toolssoftware/procedure/procedure.jsp.

Chronic Condition Indicator

This tool provides users an easy way to categorize ICD-9-CM diagnosis codes into one of two categories: chronic or not chronic. It can also assign ICD-9-CM diagnosis codes into 1 of 18 body system categories.

An overview of the Chronic Condition Indicator and downloading information are available at: http://www.hcup-us.ahrq.gov/toolssoftware/chronic/chronic.jsp.

Utilization Flags

Utilization Flags reveal additional information about use of health care services by combining information from Uniform Billing (UB-92) revenue codes and ICD-9-CM procedure codes to create flags, or indicators, of utilization. Use of procedures and services such as intensive care unit, cardiac care unit, neonatal intensive care unit, and specific diagnostic tests and therapies can be assessed with these Utilization Flags.

An overview of Utilization Flags and downloading information are available at http://www.hcup-us.ahrq.gov/toolssoftware/util_flags/utilflag.jsp.

Supplemental Files

HCUP Supplemental Files provide additional information that is valuable to users of HCUP data for research and reporting.

Cost-to-Charge Ratio Files

These hospital-level files are designed to supplement the data elements in the HCUP NIS and SID databases and permit conversion of hospital total charge data to cost estimates.

An overview of the Cost-to-Charge Ratio Files and availability information are at: http://www.hcup-us.ahrq.gov/db/state/costtocharge.jsp.

Hospital Market Structure Files

The HCUP Hospital Market Structure Files are hospital-level files designed to supplement the data elements in HCUP's NIS, KID, and SID. The Hospital Market Structure Files contain various measures of hospital market competition. These measures are aggregate and are meant to broadly characterize the intensity of competition that hospitals may be facing under various definitions of market area.

An overview of Hospital Market Structure Files and availability information are at:
http://www.hcup-us.ahrq.gov/toolssoftware/hms/hms.jsp

HCUPnet

HCUPnet is a free Web-based query system for identifying, tracking, analyzing, and comparing statistics on hospital care. HCUPnet generates statistics using data from HCUP's NIS, KID, NEDS, SID and SEDD for States that participate.

HCUPnet also provides statistics based on AHRQ's Quality Indicators that have been applied to the NIS and includes a "Quick Statistics" option that provides ready-to-use tables with commonly requested information. HCUPnet data years are available beginning with 1997. Trend

information is available beginning with 1993.

HCUPnet is available at: http://hcupnet.ahrq.gov/.

MONAHRQ: Input Your Data—Output Your Web Site

MONAHRQ (my own network, powered by AHRQ) is a software product that enables organizations—such as State and local data organizations, Chartered Value Exchanges, hospital systems, and health plans—to input their own hospital administrative data and generate a data-driven Web site. MONAHRQ analyzes, summarizes, and presents information on quality of care, preventable hospitalizations, rates of conditions and procedures, and health care utilization in a format ready for use by consumers and other decisionmakers. Any organizations with inpatient hospital administrative data can use MONAHRQ to generate their own Web site for internal use or public release. Information on MONAHRQ is available at http://monahrq.ahrq.gov.

For More Information

The HCUP User Support Web site at http://www.hcup-us.ahrq.gov/ provides additional information on the HCUP products described above as well as other HCUP resources.