

HCUP CENTRAL DISTRIBUTOR USER GUIDE

To access the HCUP Central Distributor Online Reporting System, see: https://cdors.ahrq.gov/

For assistance with obtaining HCUP databases, contact the HCUP Central Distributor Team at HCUP-RequestData@ahrq.gov

For technical assistance with payment, or using the HCUP databases and tools, contact HCUP-User Support at HCUP@ahrq.gov

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Before You Submit a Data Purchase Request

Know the HCUP Databases You Need for Research

AHRQ offers Healthcare Cost and Utilization Project (HCUP) <u>Nationwide Databases</u> and <u>State Databases</u> for purchase for research, analytics and aggregate statistical analyses. HCUP databases are available for purchase online through the <u>HCUP Central Distributor Online Reporting System</u> by applicants who complete the <u>HCUP Data Use Agreement (DUA) Training</u> and sign an HCUP DUA.

HCUP includes five (5) Nationwide Databases:

- National Inpatient Sample (NIS)
- Kids' Inpatient Database (KID)
- Nationwide Readmission Database (NRD)
- Nationwide Emergency Department Sample (NEDS)
- Nationwide Ambulatory Surgery Sample (NASS)

HCUP includes three (3) State Databases:

- State Inpatient Database (SID)
- State Emergency Department Database (SEDD)
- State Ambulatory Surgery and Services Database (SASD)

HCUP also releases <u>Supplemental files</u>, which are hospital-level or discharge-level files that augment the information contained in the HCUP Nationwide and State databases. Refer to the HCUP Supplemental Files section of the <u>Research Tools</u> page for detailed information about the types of supplemental files available.

HCUP Supplemental Files for use with Nationwide include:

- Cost-to-Charge Ratio (CCR) Files*
- Hospital Market Structure (HMS) Files*
- NIS-Trend Weights Files (1993-2011)**
- NIS Hospital Ownership Files (1998-2007)**
- NIS 1993-2002 Discharge-Level Supplemental Files (1993-2002)*
- KID-Trend File (1997)**

HCUP Supplemental Files for use with State databases include:

- American Hospital Association (AHA) Linkage Files**(see special requirements for IA, MN, and NE)
- Cost-to-Charge Ratio (CCR) Files*
- Supplemental Variables for Revisit Analyses***
- Hospital Market Structure (HMS) Files*

^{*}Available through the <u>HCUP Central Distributor Online Reporting System</u>

^{**}Available for download on HCUP-US

^{***} Recent years included in core database files with purchase; older years (2003-2008) available through the HCUP Central Distributor Online Reporting System

The following Supplemental files are frequently used by researchers, and require a little more explanation:

HCUP AHA Linkage Files

HCUP AHA Linkage Files are used to supplement the HCUP State databases (SID, SEDD, and SASD) with hospital-level information from the AHA Annual Survey Databases. The AHA Annual Survey Databases are purchased separately from the American Hospital Association. The HCUP AHA Linkage Files allow for richer empirical analysis especially where hospital characteristics may be important factors. They include the hospital identifier used on the AHA Annual Survey Databases and the HCUP hospital identifier for those HCUP Partner States that release hospital identifiers.

The HCUP AHA Linkage Files can be linked to the HCUP SID, SEDD, and SASD Core Files using the HCUP data source hospital identification number (data element DSHOSPID). Then, subsequently, users can merge the data elements of interest from the AHA Annual Survey Databases to the HCUP AHA Linkage Files using the AHA hospital identifier (data element AHAID).

For those states that allow hospital identifiers, the HCUP AHA Linkage Files are <u>available for download</u> from HCUP-US for the HCUP Central Distributor SID, SEDD, and SASD beginning with 2006 data, <u>with the exception of AHA Linkage Files for Iowa, Minnesota, and Nebraska</u>. The AHA Linkage Files are updated annually. The HCUP AHA Linkage Files prior to 2006 were included on the data DVDs provided with purchase. Please note that not all HCUP Partner States release hospital identifiers.

HCUP Cost-to-Charge Ratio Files

HCUP <u>Cost-to-Charge Ratio (CCR) Files</u> are hospital-level files designed to supplement the data elements in the Nationwide (NIS, KID, NEDS, NRD) and State (SID and SEDD) databases. <u>The Nationwide databases (NIS, KID, NEDS, or NRD) come with the complementary CCR Supplemental file</u> applicable to that database. The <u>CCR files for the SID or SEDD must be ordered separately</u>.

The <u>CCR Files</u> are linkable files developed by AHRQ that enable the conversion of total charges (defined as the amount a hospital billed for services) into how much the hospital services actually cost. Cost information was obtained from the hospital accounting reports in the Healthcare Cost Report Information System (HCRIS) files collected by the Centers for Medicare & Medicaid Services (CMS). Some imputations for missing values were necessary. The CCR Files are hospital-level files designed to supplement the data elements in HCUP inpatient and emergency department databases.

Each CCR File contains hospital-specific cost-to-charge ratios based on all-payer inpatient or emergency department cost for nearly every hospital in the corresponding database. The CCR Files are updated annually for the SID, NIS, and NRD and every 3 years for the KID beginning with 2001 data and the SEDD and NEDS beginning with 2012 data.

The CCR Files can be linked to records in the HCUP databases using the HCUP hospital identification number, which is a unique hospital number exclusive to the HCUP data. The name of the data element representing the hospital identification number varies by database and data year.

For Nationwide database CCR Files (CCR-NIS, CCR-KID, CCR-NRD, and CCR-NEDS), the CCR records can be merged directly with the records in the corresponding database using the database's hospital identification number (HOSP_NIS, HOSP_KID, HOSP_NRD, and HOSP_ED, respectively).

For States that release an HCUP AHA Linkage File, linkage between the CCR File and the SID or SEDD is achieved in two steps. First by linking records from the CCR for SID or SEDD file to the HCUP AHA Linkage File by the data element HOSPID. For lowa, Minnesota, and Nebraska, this linkage is achieved using the data element KEY. Second, by linking the resulting file to the SID or SEDD by State (data element Z013) and data element DSHOSPID.

For States that do not release an HCUP AHA Linkage File, HOSPID is included directly on their SID or SEDD file. For these States, the data elements from the CCR File can be merged onto the SID or SEDD by HOSPID.

HCUP Supplemental Variables for Revisit Analyses

The <u>HCUP Supplemental Variables for Revisit Analyses</u>, or revisit variables, are additional variables that were developed by AHRQ. They facilitate analyses to track patients across time and hospital settings exclusively in the State databases (SID, SEDD, and SASD) while adhering to strict privacy guidelines.

There are two HCUP supplemental variables:

- Synthetic person-level identifiers that have been verified against the patient's date of birth and gender and examined for completeness (HCUP variable VisitLink).
- A timing variable that can be used to determine the days between hospital events for an individual without the use of actual dates (admission, discharge, or birth) (HCUP variable DaysToEvent).

Beginning with 2009 data, the Revisit Variables are included in the Core file of the SID, SEDD, and SASD databases for select States that are purchased through the HCUP Central Distributor. For 2003-2008 data, the Revisit Variables are provided free of charge as a separate file with the applicable State databases.

Appendix A of the <u>HCUP Supplemental Variables for Revisit Analyses User Guide</u> provides a detailed list of which States, years, and types of data are available.

Please note, it is possible that over time, some HCUP Partners will modify the encryption routines used for their synthetic patient linkage numbers. If this occurs, there will be a one-time disruption in the ability to track a patient over time. For more information, review Appendix C of the HCUP Supplemental Variables for Revisit Analyses User Guide to determine the consistency of VisitLink over time.

Database Catalog - Know the Cost and Size of HCUP Databases

Availability and Pricing Information

Database <u>availability</u> and pricing is available in the <u>Database Catalog</u> posted on the <u>HCUP Central Distributor</u> <u>Online Reporting System.</u>

The HCUP Nationwide databases (NIS, KID, NASS, NEDS, and NRD) are offered by AHRQ at a regular and a discounted price for students. See additional information for <u>student-priced data requirements and</u> restrictions.

The HCUP State Databases (SID, SEDD, SASD) are provided by participating data organizations. These organizations set the price of their State data. Some data organizations offer reduced pricing for AHRQ grantees, students, and/or non-profit organizations. If your order is based on these pricing categories, you may be asked to provide documentation of affiliation or AHRQ grantee status before your order may be fulfilled. See additional information for <u>student-priced data requirements and restrictions</u>.

Supplemental files are available to HCUP data users free of charge, and may be accessed through the <u>HCUP</u> <u>Central Distributor Online Reporting System</u> or downloaded from HCUP-US. See <u>Know the HCUP Databases</u> You Need for Research for further details.

Processing fees and shipping costs are included in the price of the databases. The HCUP Central Distributor does not collect Federal or State taxes. Customs and other duty charges for international delivery are not included. The HCUP Central Distributor does not calculate or collect duties or international taxes.

Size of Nationwide databases

The size of each Nationwide database file varies by type of database and year. Nationwide databases range from 3 GB to 20 GB in the unzipped format. The KID and NASS are \sim 3 GB, the NIS is \sim 12 GB and the NEDS and NRD are \sim 20 GB.

Size of State databases

The size of each State database file varies by State, type of file, and year. More information on the size of the databases in the unzipped format is available on the HCUP-US <u>Database Documentation</u> page.

- SID database sizes
- SASD database sizes
- SEDD database sizes

Know the Equipment and Software Required to Access the Data

DVD Drive

HCUP State databases are shipped on DVDs, as this time. You will need a DVD drive to access the files.

Unzipping utilities to access the data

HCUP databases use a process that compresses and encrypts the files into a password-protected file (in either zip or exe format) which only can be extracted or unzipped using a third-party zip utility such as SecureZIP®, 7-zip, ZIP Reader, WinZip™, SecureZIP® for Mac, Stufflt Expander®, or Keka. Attempts to extract files using the built-in zip utilities in Windows® (Windows Explorer) or Mac (Archive Utility) will produce an error message warning of incorrect password and/or corrupted file or folder errors.

Third-party zip utilities are available from the following reputable vendors on their official websites.

• ZIP Reader (Windows) (free download offered by PKWARE®, Inc.)

- SecureZIP® and SecureZIP for Mac (free evaluation and licensed/fee software offered by PKWARE, Inc.)
- WinZip (Windows) (evaluation and fee versions offered by the WinZip corporation)
- Stuffit Expander® (Mac) (free evaluation and licensed/fee software offered by Smith Micro corporation)
- 7-Zip (Windows) (free download offered by the 7-Zip organization)
- Keka (Mac) (free download through Mac App Store)

Note: encryption software and operating system utilities are evolving rapidly. Older versions of zip software may not be effective with newer operating systems, and vice versa. In particular, newer versions of Mac may experience difficulties with any utility other than SecureZip for Mac.

To extract the zipped files, please follow these steps using 7-Zip (PC) or Keka (Mac):

- 1. Right-click the compressed file (the outer layer, e.g., KID_YYYY).
- 2. Open with "7-Zip" from the context menu.
- 3. Choose "Extract to "outer layer/"".
- 4. Enter the password for specific file.
- 5. Then, extract the second layer using the same way as above.

Statistical software to process the data

In addition, you will need SAS®, SPSS®, Stata®, or similar analysis software for processing the data, and all such processing requires several times as much disk capacity as the core file to perform typical processing steps. Because of variations in processing methods, analysis software varies greatly in how much disk space will be required. The amount of disk space required by your project will depend on which analysis software you are using, which database is involved, and the number of elements you use from the database.

Software programs to convert ASCII files are provided for each specific database on the HCUP-US. Please see the <u>Database Information</u> page (File Specification and Load Programs) for additional details.

Understand the Privacy and Security of the Data

Each request for publicly accessible restricted access databases requires taking <u>HCUP Data Use Agreement</u> (<u>DUA</u>) <u>Training</u> and signing an HCUP DUA. Protecting the privacy and security of individuals and institutions and safe handling of the data is critical to the success of HCUP.

- HCUP Data Use Agreement for the Nationwide Databases (PDF file, 260 KB; HTML)
- HCUP Data Use Agreement for the State Databases (PDF file, 251 KB; HTML)
- HCUP Responsibilities of the Data Purchaser (<u>PDF</u> file, 107 KB; <u>HTML</u>)

All users of HCUP data must agree to the terms of the HCUP Data Use Agreement (DUA). Being the data purchaser carries additional responsibilities to which you must agree.

Unless otherwise designated and agreed upon by AHRQ, the data purchaser is considered the "Data Custodian" of HCUP data. The Data Custodian is responsible for ensuring that the HCUP data are kept

secured, that only authorized users have access to the data, and that HCUP data are used in a way that is consistent with the DUA.

The Data Custodian is responsible for verifying proof of DUA training and signed HCUP DUAs from anyone who has access to the data or output that contains small cell sizes, individual records, or identifies hospitals. Training completion certificates and DUAs must be submitted to the HCUP Central Distributor before access is granted to these individuals.

The Data Custodian is held accountable for the proper use of the HCUP data that they have purchased, even by other individuals to whom they have given access. As a result, the Data Custodian is also responsible for any possible misuse of the data (unintended or otherwise) along with the data user.

The Nationwide and State Data Use Agreements define the rules and limitations under which any HCUP data may be used; a DUA is required for every person with access to the data regardless of the nature of the project. The DUA was developed based on the agreements that AHRQ holds with each of the HCUP State Partners. As a result, HCUP does not make modifications to the DUAs.

Accessing and Purchasing HCUP Data

Overview

Many of the HCUP databases are available for purchase online through the <u>HCUP Central Distributor Online</u> <u>Reporting System.</u> Statistics and data tables from HCUP's Nationwide and select State databases can be obtained from <u>HCUPnet</u>, a free, online query system. Statistics and data tables on select topics are also available through <u>HCUP Fast Stats</u> and <u>HCUP Summary Trend Tables</u>.

HCUP is a voluntary partnership between the Federal government and State data organizations (<u>HCUP</u> <u>Partners</u>). Each Partner determines how its data are used in HCUP; thus, not all States participate in the HCUP Central Distributor, <u>HCUPnet</u>, and/or Fast Stats.

Steps to Submitting an Application to Purchase HCUP Data through the HCUP Central Distributor Online Reporting System

- Register for a User Account on the <u>HCUP Central Distributor Online Reporting System</u>, including submitting the certificate number from required <u>HCUP DUA Training</u> and the completion date of training.
- 2. Select the data you wish to purchase from the <u>HCUP Central Distributor Online Reporting System</u>. See <u>Database Catalog</u>. <u>Nationwide and State database purchases **must** be in separate orders</u>. Be sure to also observe the special requirements regarding the purchase of California, Colorado, and Georgia databases, and access to the AHA Linkage and Cost-to-Charge Ratio Files for Iowa, Minnesota, and Nebraska. See the section on Special Requirements for Some State Databases below.
- 3. Read and confirm the Data Use Agreements, Responsibility of Data Purchaser, and Indemnification Clause. See <u>Data Use Info & Agreements</u>.
- 4. For the purchase of State databases, complete Statement of Intended Use online.

- 5. Complete Applicant Information as it relates to the specific data purchase, including billing and shipping (for State orders only) information.
- 6. If applicable, submit student verification information.
- 7. Pay for the databases, once the application is approved. The online system accepts credit card from <u>US banks, ACH</u>, and direct payment methods (e.g., wire transfers, purchase orders).
- 8. Nationwide databases will be available to download from My Account in the HCUP Central Distributor Online Reporting System. State databases will be shipped on DVDs to you via the United Parcel Service (UPS) (tracked and requiring an adult signature).

NOTE: On occasion, a manual application to purchase data may need to be completed. Please see Applications under Quick References on the <u>HCUP-US Request Data</u> page, complete the application and submit it to <u>HCUP-RequestData@ahrq.qov</u>

Statement of Intended Use for State Databases

A <u>Statement of Intended Use</u> is required, if you requested SID, SEDD, and/or SASD files from the HCUP Central Distributor. AHRQ and the HCUP Central Distributor Team facilitate access to the State-level HCUP data (i.e., SID, SEDD and SASD), which are owned and regulated by the individual Data Organizations participating in HCUP. Under AHRQ's agreements with these Data Organizations, AHRQ reviews and approves all intended uses of the State-level data on behalf of the <u>HCUP Partners</u>. In some cases, the HCUP Partners also review the Statement of Intended Use before approval is granted, and in all cases, orders that include State databases are provided in full to the respective data organizations. The AHRQ reviewers will place your application on hold and request clarification from you if your Statement of Intended Use is insufficient for review and approval.

The Statement of Intended Use defines your specific project plans. It should include enough information for reviewers to understand the subject area of interest, how the data will be used, level of analysis, intended audiences, and anticipated end products (e.g., tables and charts, internal reports, peer-reviewed journal articles), as well as to demonstrate understanding of and compliance with the HCUP Data Use Agreement (DUA).

Special Requirements for Some State Databases

California

The purchase of **California** databases comes with special eligibility requirements and other restrictions beginning with data year 2018, as defined in the Additional Requirements from the State of California (PDF file, 112 KB; HTML). Beginning with 2018, **applicants must be academic researchers employed by a college or University located in the United States or a US territory whose project has undergone review by their academic institution's Institutional Review Board (IRB).** In addition, the data has a "single-use" project requirement:

• The data may *only* be used for the project described in the application. This project must have undergone review by your academic institution's Institutional Review Board (IRB) prior to application submission.

• The approved use of these files expires three years after the order was submitted. At the end of the three years, you will be required to certify the destruction of the databases or obtain an extension from the HCAI. Please refer to the Additional Requirements from the State of California document for details and contact information for the HCAI.

Note: **California files must be ordered separately** to facilitate collection of the acknowledged Additional Requirements document and management of the "Single Use" file expiration.

Further limitations on the project and intended use apply; refer to the Additional Requirements from the State of California for the full terms. For questions about these California-specific data use restrictions, please contact DataandReports@HCAI.CA.gov.

Colorado

Colorado data are **only available for purchase by not-for-profit researchers**. For-profit affiliated users may contact the <u>Colorado Hospital Association</u>.

<u>Georgia</u>

Georgia data are **only available for purchase by not-for-profit researchers.** Georgia data are **not** available for purchase by **for-profit entities or by students**.

Following AHRQ review of all applications that include any Georgia database, the application is forwarded to the Georgia Hospital Association for review. **The Georgia Hospital Association reviews and must approve any request for GA HCUP files**. AHRQ cannot guarantee the timeliness of responses from outside organizations. Further, the HCUP Central Distributor cannot partially fill or split orders, so if your order includes GA data, your entire order will be put on hold until the GA Partner provides guidance to AHRQ. If your project involves data from additional States and is particularly large or time-sensitive, you may wish to submit a separate order for the GA files.

AHA Linkage Files for Iowa, Minnesota, and Nebraska

HCUP Partners control the availability of American Hospital Association (AHA) Linkage Files for their State data. Iowa, Minnesota, and Nebraska restrict the distribution of AHA Linkage Files to purchasers whose organizational affiliation and intended use meet the Partner's eligibility criteria. To be eligible to receive these files with your order, your primary organizational affiliation must be college/university/government and your intended use of the data may NOT involve product development, market research, or commercial applications.

The AHA Linkage Files for Iowa, Minnesota, and Nebraska are available through the <u>HCUP Central Distributor</u> Online Reporting System for certain approved purchasers whose use of the data is consistent with the Partner organization's requirements. If you did not order these AHA Linkage files at the time of your state databases order and believe you meet the eligibility criteria, you can submit a separate order in the system. Please note the original order number for the purchase of the State databases in the submission of your Statement of Intended Use for the AHA Linkage files.

The Iowa, Minnesota, and Nebraska AHA Linkage Files are constructed using discharge records rather than hospitals as the unit, and there is a match for every record in the data file. For these three States, the AHA Linkage Files can be linked directly to the SID, SEDD, and SASD Core Files using the HCUP record identifier (data element KEY).

All other available AHA Linkage Files for all other State databases are downloaded from the <u>AHA Linkage Files</u> page.

Student-Priced Data Requirements and Restrictions

HCUP data purchased at student pricing may only be used for projects led by the student purchaser. To be eligible for student pricing, the purchaser must provide proof of current enrollment in a degree-seeking program at an institution of higher learning or proof of appointment as a medical resident or postdoctoral fellow. Student-priced data may not be used by or transferred to another individual for any other projects. Student-priced data may be retained by the student purchaser for personal use on other projects upon leaving their current institution, but the data may not be left with any entity or institution.

Student-priced State-level data may be used by the student purchaser for other projects as long as the standard re-use request process is followed. The student purchaser must be the lead on any data re-use project requested.

To be eligible for student pricing, students must provide proof of current enrollment in a degree-seeking program or proof of appointment as a medical resident or postdoctoral fellow at an institution of higher learning.

- 1. Acceptable forms of proof include documents that demonstrate current enrollment dates, institution, and student name (e.g., letter from professor advisor, registrar's office, or program director).
- 2. Any sensitive personal information (e.g., student account number, SSN, birthdate, phone, etc.) must be masked or redacted prior to sending. The system has not been approved to take this kind of information.

Payment Methods

The <u>HCUP Central Distributor Online Reporting System</u> accepts payments by American Express®, Discover®, MasterCard®, and Visa® credit cards issued by **US banks**, ACH and direct payments (wire transfer, purchase <u>orders</u>). Databases will not be shipped or activated for download until payment is received and processed. Detailed payment instructions will be included in your order status emails, if applicable.

The vendor that processes payments for the HCUP Central Distributor is NORC at the University of Chicago. When completed, the credit card or ACH charge will list NORC as the merchant. You may obtain your full order invoice with detailed vendor information by logging in to the HCUP Central Distributor Online Reporting System and viewing the order details under My Account > Orders.

The <u>HCUP Central Distributor Online Reporting System</u> does not retain credit card or ACH information; only the card authorization is saved. <u>Authorize.net</u> <u>P</u> is used as the payment gateway for processing credit card and ACH transactions. Authorize.net is on Visa's Global Registry of Payment Card Industry Data Security Standard (PCI DSS) <u>Validated Service Providers</u>. <u>Providers</u> For credit card processing, only the Transaction ID and Authorization Code from Authorize.net are stored.

For purchasing nationwide databases using direct payment methods (wire transfer, purchase orders), you will receive an email invoice with instructions to complete payment.

For purchasing state databases using credit card, ACH or direct payment methods (wire transfer, purchase orders) you will receive an invoice with instructions to complete payment after your application is approved.

For purchase orders, please send the purchase order document and the invoice to the payment processing contractor (NORC) at HCUP@ahrq.gov. Please be sure to include the order number in the subject line of your email. The invoice can be found at the end of the email sent at the time of check out (or application approval, for state orders), and can also be downloaded from the HCUP Central Distributor Online Reporting System – see order details under My Account > Orders.

Vendor Set-up and receiving W-9 Forms

The payment processing contractor (NORC) will provide a W-9 form upon request to HCUP@ahrq.gov. Before NORC can fulfill more extensive vendor set-up requests, you will need to create an order and receive an invoice during check-out in the <a href="https://hcup.com

Vendor Setup Frequently Asked Questions		
NORC Legal Name	National Opinion Research Center	
Business Address	55 East Monroe Street, 20th Floor, Chicago, IL 60603	
ACH/Wire Transfer Information	Located on your invoice.	
Does NORC accept check payments?	Check payments are not available. Sending unsolicited checks will result in delays in processing your payment and shipping your order.	
Things NORC can do upon request	NORC can provide their W-9, complete vendor setup portals, and answer any other payment processing questions not addressed here.	
What if NORC is already set up in our system as a vendor unrelated to HCUP?	NORC requests that you set up a new account for HCUP to make sure your payments are credited to the right place.	

Does NORC accept purchase orders (PO)?	Yes. Purchase orders must be initiated by your institution and then sent to NORC at hcup@ahrq.gov . Please include the HCUP order number on the PO so that NORC can tie it to the order. Payment must be received before orders can be fulfilled.
How long will it take to process my vendor setup request?	Vendor setup requests may take 1-3 weeks for NORC to process.
Will NORC accept an addendum to the indemnification clause?	No, NORC is unable to accept addenda to the indemnification clause. The release of Healthcare Cost and Utilization Project (HCUP) data is made possible through a Federal-State-Industry partnership sponsored by Agency for Healthcare Research and Quality (AHRQ). As AHRQ's primary contractor for HCUP, NORC processes payments for the purchase of HCUP data.
Something else?	Please contact NORC at

Receiving and Using HCUP Data

Timing of Receipt of Databases

HCUP Nationwide databases (NIS, KID, NASS, NEDS, and NRD) and related supplemental files are available via digital download within a business day of processing payment.

HCUP State databases are delivered on a DVD and sent via the United Parcel Service (UPS) within 5 business days after the application has met all requirements including processing payment and when required the application has been approved by AHRQ.

Credit card payments generally take 1-2 business days to process, while other direct payment methods can take up to 5 business days to process.

Method of Shipment of Databases

Nationwide databases and related Supplemental Files

HCUP Nationwide databases (NIS, KID, NASS, NEDS, and NRD) and related supplemental files are delivered in compressed, password-encrypted "zip" or "exe" format via digital download. Each product's zip or exe file is downloaded from the HCUP Central Distributor Online Reporting System under My Account > Orders > Database Downloads, after you are notified that your products have been activated for download. The site uses secure socket layer (SSL) protocol; therefore, as long as you are using a secure network at work or home to log in, the download is secure. You will receive detailed instructions, including passwords, via email. Please be aware that download links are active for only seven (7) days and is limited to three (3) download attempts. Please make every effort to seek assistance before your download link expires.

If your download link has expired, you have received an error message indicating there was a problem with the download, or you have experienced any other problem preventing you from successfully downloading your products, please contact hcup-RequestData@ahrq.gov for assistance in identifying and resolving the problem.

Downloading Information:

To download the HCUP Nationwide databases, log in and access the Order-Download page using the 'Chrome' browser for downloading file. Please ensure that you have a stable and high-speed network while downloading. Do not refresh the page or lock the screen or work on other tasks during the downloading (indicated by a spinning circle), especially the main file.

You are given 7 days and 3 attempts from the time the link for the database is activated. The download link will expire after the download is complete, or after three attempts or after 7 days, whichever happens first.

The length of time to download the Nationwide databases can vary. Download performance depends on several highly variable factors including the following: 1) internet connection speed and bandwidth, 2) global and regional internet traffic demand at the time of your download, 3) other users' demand on your network or internet service provider (ISP) resources at the time of your download, and 4) the size of the file to be downloaded (some files are ~2GB that take around 4 minutes to complete on a stable and fast internet).

For optimal download performance, try to control the following variables to the extent possible:

- <u>Use a wired connection</u> (e.g., Ethernet cable) if possible. Wired is much faster than wireless on the same network/internet service.
- Avoid 'sleep' mode: Make sure your computer is not set to go to sleep. The download will be paused if your computer goes to sleep but can be resumed upon waking.
- <u>Use times of low demand on your network or local internet service provider (e.g., at work, try the download in the evening; at home, avoid evenings when other users of your ISP are likely to be online).</u>
- Avoid high-demand sites or activities on your computer during the download.
- <u>Avoid Virtual Private Networks (VPNs)</u>: If you use a VPN to connect to a secure work environment but could connect to the <u>HCUP Central Distributor Online Reporting System</u> directly (using a secure private/home or work network) while the VPN is not running, do so. VPNs significantly slow download speeds.

You can check your internet connection speed/bandwidth at a given point in time using a site such Google's speed test at: https://www.google.com/search?q=download+speed Typical benchmarks are as follows: Wired, no VPN (26 MB per second), Wireless, no VPN (18 MB per second), VPN, wired or wireless (3 MB per second).

State databases and related Supplemental Files

HCUP State databases (SID, SEDD, and SASD) and related supplemental files are delivered in compressed, password-encrypted "zip" or "exe" format on a DVD and sent via the United Parcel Service (UPS) to the shipping address specified in the application to purchase data. For security reasons, the packages are tracked, and require an adult signature. The HCUP data may only be delivered to the data purchaser who also signed the HCUP Data Use Agreement that accompanied the data order.

Unzipping Files

HCUP databases use a process that compresses and encrypts the files into a password-protected file (in either zip or exe format) which only can be extracted or unzipped using a third-party zip utility such as SecureZIP®, 7-zip, ZIP Reader, WinZip™, SecureZIP® for Mac, Stufflt Expander®, or Keka. Attempts to extract files using the built-in zip utilities in Windows® (Windows Explorer) or Mac (Archive Utility) will produce an error message warning of incorrect password and/or corrupted file or folder errors.

Third-party zip utilities are available from the following reputable vendors on their official websites.

- ZIP Reader (Windows) (free download offered by PKWARE®, Inc.)
- SecureZIP® and SecureZIP for Mac (free evaluation and licensed/fee software offered by PKWARE, Inc.)
- WinZip (Windows) (evaluation and fee versions offered by the WinZip corporation)
- Stuffit Expander® (Mac) (free evaluation and licensed/fee software offered by Smith Micro corporation)
- 7-Zip (Windows) (free download offered by the 7-Zip organization)
- Keka (Mac) (free download through Mac App Store)

Note: encryption software and operating system utilities are evolving rapidly. Older versions of zip software may not be effective with newer operating systems, and vice versa. In particular, newer versions of Mac may experience difficulties with any utility other than SecureZip for Mac.

Nationwide databases

The size of each purchased file varies. The compressed database files range from 300 MB to 2 GB when downloaded, as shown in the table below.

Each Nationwide database product you download will contain several files when unzipped, including the core database file in comma-delimited or ASCII format, additional database files such as hospital or severity files, and support files such as database documentation. The amount of space required to unzip each database product is shown in the table below, based on the largest year of data for each database type.

Database	Download (Zip) Size	Unzipped Size
NIS	800 MB	12 GB
KID	300 MB	3 GB
NASS	330 MB	3 GB
NEDS	2 GB	20 GB
NRD	2 GB	20 GB

Please note that you will need SAS®, SPSS®, Stata®, or similar analysis software for processing the data, and all such processing requires *several times as much disk capacity as the core file* to perform typical processing steps. Because of variations in processing methods, analysis software varies greatly in how much disk space will be required. The amount of disk space required by your project will depend on which analysis software

you are using, which database is involved, and the number of elements you use from the database. To determine minimum data analysis space requirements, please refer to the documentation for each specific database you will be using. Database documentation can be found on the <u>Database Information</u> page of the HCUP-US website.

State databases

The size of each purchased file varies. The compressed State database files range from 5 KB to 1,950 MB. The unzipped size of each State database file varies by State, type of file, and year (<u>SID database sizes</u>, <u>SEDD database sizes</u>). More information on the databases is available on the HCUP-US <u>Database Documentation</u> page.

Troubleshooting Password Issues

If you are receiving a password error, please first ensure you are using the correct password for the specific database by referring to the email that you received along with the purchase of the data.

When your order for HCUP Nationwide databases is activated for download, or your HCUP State database products are shipped, you will receive follow-up emails from the HCUP Central Distributor containing your order invoice, order status updates, and all necessary instructions for order fulfillment.

A separate email contains the passwords for unzipping all database products in the order. The passwords are shown in a numbered list. You must compare that list to the list of databases and files in your order invoice; the password list uses the same sequence as the list of databases in the order.

- The order invoice is embedded in each order status update email you received; it can also be printed from the Order Details in the HCUP Central Distributor Online Reporting System.
- The Order Details screen also lists the databases in sequence. In the <u>HCUP Central Distributor Online</u> Reporting System, view the Orders tab under <u>My Account</u>.

In the list of databases, an asterisk follows the database name if there is a corresponding password. Files that do not need a password (e.g., supplemental CCR files) do not have an asterisk.

During the unzip/extraction process, error messages about corrupted files, folder errors, or incorrect passwords are typically caused by attempting to extract the database using the built-in zip utilities that come with Windows® or Mac operating systems. You must use a third-party zip utility to unzip the files, because the HCUP databases are compressed with a higher level of encryption than the standard utilities support. For additional information about third-party zip utilities, refer to the following question.

Resources for Using HCUP data

HCUP produces a number of online query systems, publications and reports featuring HCUP data and tools that may be useful references in the completion of your project.

To quickly determine if the estimates you are deriving in your analysis are consistent with the information produced by the Agency for Healthcare Research and Quality, please see the following:

HCUP Database Documentation

<u>HCUP Database Documentation</u> on HCUP-US. Each specific database documentation page includes the following information:

- Description of the Database
- <u>File compositions</u> to understand what was originally provided from the State.
- File Specifications and Load Programs (SAS, SPSS, and Stata)
- Availability and Description of Data Elements
- <u>Summary Statistics</u>: contents of all files including means of numeric variables, frequency distributions, and univariates on continuous variables.
- Known Data Issues
- <u>Label and Format Programs</u> for use with the files
- <u>Supplemental File information</u>

HCUPnet

<u>HCUPnet</u> is a free, online query system that provides statistics and data tables based on HCUP data. Its easy, step-by-step process allows users to explore many healthcare topics relating to hospital inpatient services and emergency department settings. Users also may generate tables and graphs on national and regional statistics including hospital readmissions and trends on hospital and emergency department use in the United States. In addition, State-specific statistics, including information at the county-level, are available for States that have agreed to participate in <u>HCUPnet</u>.

<u>HCUPnet</u> can access statistics from all HCUP databases: the <u>NIS</u>, the <u>NRD</u>, the <u>NRD</u>, the <u>NEDS</u>, selected <u>SID</u> and selected <u>SEDD</u>.

Information in HCUPnet includes:

- Diagnosis and procedure classifications (e.g., diagnosis-related groups [MS-DRGs], CCSR categories, major diagnostic categories [MDCs])
- Patient demographic characteristics
- Hospital characteristics Expected payer
- Discharge status
- Length of stay
- In-hospital mortality for diagnosis and procedure classifications
- Trends in inpatient and outpatient access, charges, and outcomes
- Utilization by special populations
- Most common conditions and procedures
- Variations in medical practice
- Quality of care and patient safety

- Differences in outcomes between hospital type
- National estimates of hospital readmissions
- Online z-test calculator to test statistical significance of differences between two weighted counts, means, or percentages
- Validation of results obtained from the HCUP databases

Additional Online HCUP Data Sources

The HCUP-US website also offers readily available statistics in the form of downloadable tables/figures or interactive data visualizations. Examples include the following:

- <u>HCUP Summary Trend Tables</u>, which provide downloadable tables containing State-specific monthly trends in hospital utilization derived from the HCUP SID and SEDD
- HCUP Fast Stats, which is an online query tool that uses visual displays to compare national or State statistics on a range of healthcare topics
- HCUP Diagnosis and Procedure Frequency Tables, which provide frequencies of ICD-9-CM and ICD-10-CM/PCS codes (individually and by clinical categories) for the HCUP Nationwide databases (NIS, KID, NASS, NEDS, NRD)
- <u>HCUP Visualization of Inpatient Trends in COVID-19 and Other Conditions</u>, which displays Statespecific monthly trends in inpatient stays related to COVID-19 and other conditions.

Additional AHRQ Products

In addition, the following examples provide publications and reports that can provide ready-made sources of statistics and guidance on a range of healthcare related subjects.:

- <u>HCUP Statistical Briefs</u>, which present simple, descriptive reports on a variety of specific, healthcare related issues
- HCUP Methods Series Reports, which feature a broad array of methodological information on the HCUP databases and software tools
- HCUP Topical Reports, which provide information on various priority populations
- HCUP Infographics, which provide a visual representation of HCUP Statistical Briefs and other data
- HCUP Data Visualizations provide access to interactive visual displays of select HCUP data.
- <u>HCUP Findings-At-A-Glance</u> provides snapshots covering a broad range of health policy issues related to hospital use and costs.
- Additionally, the HCUP-US website has an HCUP <u>Publications Search</u> feature, which allows visitors to search keywords for peer-reviewed articles and AHRQ reports that used HCUP data or products to support their research. The HCUP-US website showcases high-quality examples of articles in its <u>Research Spotlights</u> feature.

Publishing with HCUP data

Before you publish results based on any HCUP database, confirm that the manuscript follows the requirements of the HCUP Data Use Agreement (DUA). For publications using the NIS, KID, NASS, NEDS, and/or NRD, refer to the <u>HCUP DUA for Nationwide Databases</u>; for publications using the SID, SEDD, and/or SASD, refer to the <u>HCUP DUA for State Databases</u>. Both DUAs are available on the <u>DUA Training</u> page.

Avoid common errors and pitfalls related to the use of the HCUP Nationwide data by reviewing the relevant Checklist as you prepare your manuscript for publication.

- <u>Checklist for Working with the NIS</u>, these guidelines also apply to the use of the KID
- Checklist for Working with the NEDS
- Checklist for Working with the NRD
- Checklist for Working with the NASS

Privacy Protections

Verify the following privacy protections:

- You have not identified individual persons in your publication, either directly or indirectly.
- You *have not* identified hospitals in your publication. All aggregate statistical reporting has at least two hospitals in any individual cell.
- You *have* avoided publication of cell sizes less than or equal to 10.

HCUP Citations

The HCUP DUAs also require citation of HCUP and the specific databases: **Verify** that the Healthcare Cost and Utilization Project (HCUP) and the HCUP database(s) are correctly cited in the abstract and manuscript. Review <u>citation examples</u> for specific details.

<u>Acknowledgement of HCUP Data Partners</u>

- HCUP Nationwide databases (NIS, KID, NRD, NEDS, and NASS)
 - o If space allows in the manuscript, please acknowledge all of the HCUP Data Partners that contribute to HCUP. A current list of the HCUP Data Partners is provided (<u>Word</u> file, 30 KB; <u>PDF</u> file, 71 KB; <u>HTML</u>). As an alternative, include in the manuscript a link to the HCUP-US web page that contains the list of State organizations (<u>www.hcup-us.ahrq.gov/hcupdatapartners.jsp</u>).
- HCUP State databases (SID, SEDD and SASD)
 - At a minimum, reference the State name(s) and the HCUP databases used. If space allows in the manuscript, please acknowledge the HCUP Data Partner(s) by name. A list of HCUP Data Partners for reference in publications is provided (<u>Word</u> file, 30 KB; <u>PDF</u> file, 71 KB; <u>HTML</u>).

Submitting a Data Use Agreement (DUA) without a Purchase

If you will be collaborating on another person's data project, or otherwise using data you do not own, you must submit the appropriate DUA(s) prior to gaining access to the data. See the <u>Data Use Info & Agreements</u> tab for details and instructions. To submit a DUA without a data purchase, please complete the Additional <u>HCUP Data Use Agreements (DUAs) document</u> and email <u>HCUP-RequestData@ahrq.gov</u>. Please include the order number of the original purchase in all correspondence.

Re-Using the Data Purchased for More than One Project

Each application and approval for **State-level data** is **project-specific**. If you have State-level HCUP data from a previous project and wish to use the data for a purpose other than that originally approved, or as concrete projects emerge from approved exploratory work, the Data Custodian must submit a "Data Re-

Use Request" to the HCUP Central Distributor for review and approval by AHRQ before work may begin on the new project. To submit a data re-use request, please complete the HCUP-Request Data@ahrq.gov. Please include the order number of the original data purchase in your email. NOTE: Data Re-Use Requests are note necessary for Nationwide databases.

Transferring the Custodianship of the Data to Another Person

You are the custodian for all data you purchase. If you want to transfer custody to another person, you may request a data custodian transfer by contacting the HCUP Central Distributor Team at hcup-central.com/hcup-central

Destruction of HCUP Databases

Please remember that individuals, not entities, are responsible for the use and security of the HCUP data, so the data purchaser remains responsible for any use or potential misuse unless and until custody is formally transferred to another individual or the data are destroyed. If you no longer need access to your data and you do not intend to transfer custodianship of the data to another person, you should physically destroy the data and dispose of the CD/DVDs and remove it from your laptop and/or servers. Please send an email to the HCUP Central Distributor Team at https://hcup-requestData@ahrq.hhs.gov to confirm that you destroyed the data and are no longer custodian of the data and that no one else has access to the data.