MONAHRQ Host User Guide

Version 2.0.4

March 19, 2012

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INTRODUCTION

MONAHRQ is a free Windows-based software product that enables host users—such as state and local data organizations, chartered value exchanges, hospitals, and health plans—to input their own raw inpatient hospital administrative data and/or the Centers for Medicare and Medicaid Service's (CMS) Hospital Compare data and generate a data-driven Website. This tool was developed by the Agency for Healthcare Research and Quality (AHRQ), the Federal Government's lead agency for health care quality in the United States. MONAHRQ is based on two of AHRQ's most popular and widely respected tools, the Quality Indicators (QIs) and HCUPnet, and it incorporates several other AHRQ tools as well. MONAHRQ version 2.0.4 allows host users to report the publically available Hospital Compare dataset produced by CMS.

This innovative tool allows users to navigate through a series of simple steps to ultimately generate powerful Web-based reports. The Website, with reports in HTML-pages, helps health care professionals and consumers make informed decisions about health care quality and performance.

MONAHRQ analyzes, summarizes, and presents the information in an evidence-driven, easy-to-understand format that can be easily hosted on an organization's Website and is instantly ready for use internally by the organization or externally by consumers and other decision makers.

This user documentation is designed to help host organizations create their own MONAHRQ generated Website. The instructions provided in this document guides users through the process step-by-step to facilitate the installation and implementation of MONAHRQ specific to the needs of each host organization. The document is organized by "user type" to guide the implementation process and allow for a team of specialized personnel to work together while crafting the tool according to the needs of each organization.

- **Download.** Information for **System Administrators** regarding system requirements and instructions for downloading MONAHRQ and any necessary supplemental software (e.g., SQL).

- **Build.** Details for **Programmers** on how to prepare data and load it into MONAHRQ. This process will involve mapping your data elements, uploading hospital data, conducting analyses, and understanding various implications. This process will vary by the type of data you load – you may load your own local discharge data and/or the pre-analyzed CMS Hospital Compare data.

- **Host.** Guidelines and suggestions for **Web masters** on hosting the tool on your organization's Website. This involves learning the many customization options available to users, evaluating output pages, and ultimately refining the pages to meet the organization's primary data interests.

MONAHRQ can be used in a variety of ways to meet the interests of your organization. Here are some examples of how MONAHRQ can be used:

- Within your organization to generate reports and statistics you use internally,
- To create a limited-access Website for member organizations,
- To create an open-access Website to be used by consumers and other decision makers to compare various facilities in an area or to present health care outcomes in a geographic region.

The choice is yours as to how you would like to use MONAHRQ – *your* data on *your* Website.

For more information, please visit http://www.monahrq.ahrq.gov or contact us by email at MONAHRQ@ahrq.gov.

PART I: DOWNLOADING MONAHRQ: INFORMATION FOR A SYSTEM ADMINISTRATOR

This section provides directions for installing MONAHRQ and describes system requirements. MONAHRQ needs .NET and SQL to run successfully, and these instructions will help you determine if you need to download a free version of SQL or .NET. We also provide some helpful hints for system administrators.

Important: MONAHRQ CANNOT be downloaded onto a server. Please load it directly onto your PC. The HTML pages created by the software can later be moved to a server to display on your organization's Website.

Before you begin, make sure that you have the appropriate Administrator permissions to install software on your computer. If a system administrator downloads the software on behalf of another user, ensure that the appropriate access privileges are granted. This is only required during the installation. You should also make sure your Windows operating system has the latest Service Pack and updates applied.

If you have any previous versions of MONAHRQ on your computer, you need to uninstall using **Add/Remove Programs**.

1. Open the **Windows Control Panel** and use the **Add or Remove Program**s utility to get a list of software programs installed on your PC. You can access the Control Panel from the Windows Start button via the "Settings" option.
2. Scroll down the alphabetical list of Programs until you get to MONAHRQ; select MONAHRQ and then select the Remove button.
3. When the program has been removed, close all windows.
4. Restart the system before installing the updated MONAHRQ.

This section will walk you through the process of:

1. Determining whether your system meets hardware and software requirements for MONAHRQ.
2. Installing Microsoft .NET Framework (if needed).
3. Installing Microsoft SQL Server Express (if needed).
4. Installing the AHRQ Quality Indicator Risk Adjustment.
5. Installing MONAHRQ.
6. Verifying that you have all of the appropriate permissions to operate MONAHRQ.

Check That Your System Meets Hardware and Software Requirements

MONAHRQ runs on computers with Windows XP, Windows Vista, Windows Server 2003 operating systems. The following software is required before installing MONAHRQ and can be downloaded from the MONAHRQ download Website (http://www.monahrq.ahrq.gov):

- Microsoft .NET Version 2.0 or higher.
- Microsoft SQL Server Express if a local database is used.

Approximate disk **space requirements** for the three components are:

- Microsoft .NET – 300 MB.
- Microsoft SQL Server Express – 600 MB.
- AHRQ Quality Indicator Risk Adjustment – 2 MB.
- MONAHRQ – 50 MB.
- MONAHRQ data – Requirements vary depending on the number of discharges you wish to process. About 100 MB is typical, but this can be up to 4GB.

MONAHRQ is a single-user desktop application **that requires a SQL Server database** to store data. It has been tested on two versions of Microsoft SQL Server (2005 and 2008). Each of these versions of Microsoft SQL Server has several editions ranging from the free edition that is provided (SQL Server

Express) to the Data Center version. Microsoft SQL Server can be installed on your PC or accessed over a network. Most users prefer to use SQL Server 2005 Express Edition installed on their PC unless local IT policies prohibit this setup. If you have an especially large dataset, it will be more efficient to use the full SQL Server rather than the free Express Edition.

Existing SQL Server
If you choose to use an existing SQL Server, contact your database administrator for the connection host name, login, and password that will be required by the MONAHRQ installer.

Free SQL Server
Microsoft SQL Server 2005 Express and SQL Server 2008 Express R2 Editions are the current free databases from Microsoft. This edition can be downloaded from the same site as MONAHRQ.

Step-by-Step Installation

Step 1
Check that the Microsoft .NET 2.0 Framework is installed on your computer. Open the **Windows Control Panel** and use the **Add or Remove Programs** utility to get a list of software programs installed on your PC. You can access the Control Panel from the Windows Start Button via the "Settings" option. Scroll down the alphabetical list of Programs until you reach Microsoft programs. The image below shows .NET Framework with a service pack. Please note that any service pack level will work.
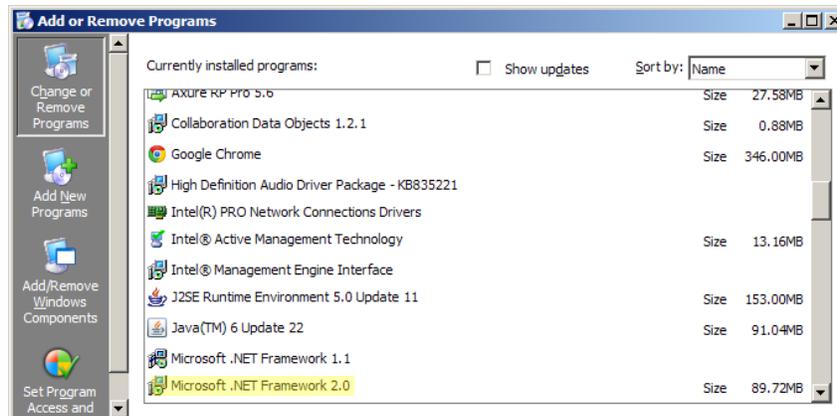
If you do not have the Microsoft .NET 2.0 Framework installed, then download the correct install package (32-bit Microsoft .NET 2.0 Framework or 64-bit Microsoft .NET 2.0 Framework). Most users have a 32-bit version of Windows on their computers, which will use the 32 bit link. If the computer uses a 64-bit version, then the 64-bit version of Microsoft .NET 2.0 Framework must be installed. Select and save the correct version and then run the file.

To check the version of Windows, right-select the **My Computer** icon on your desktop and select **Properties**. You can also select My Computer from the Start Menu and select View System Information. A pop-up box displaying your version of Windows will appear. If it does not say 64 bit, then your system is 32 bit. Below is an example of the Properties dialog box for a system that uses the 32-bit version.
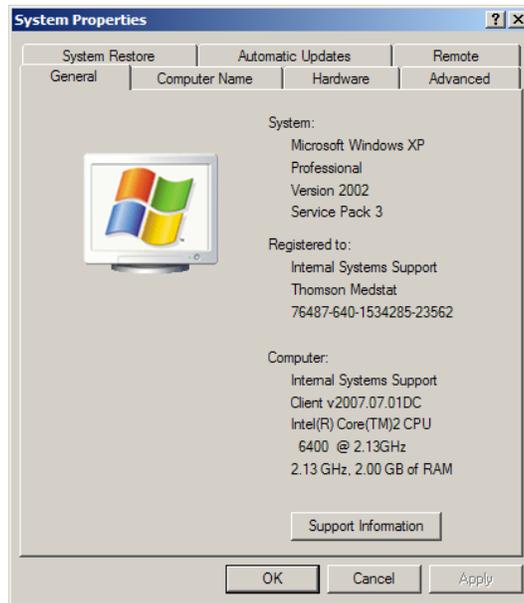
Step 2

Because the software will need to set up a Microsoft SQL Server database, an instance of Microsoft SQL Server 2005 or 2008 (express or server edition) will need to be accessed. If you have access to a copy running on a database server in your network then that instance can be used. If not, a free version of Microsoft SQL Server Express can be obtained from the MONAHRQ download Website. As with the .NET framework, the 64-bit version will need to be used if you are running a 64-bit version of Windows. Step 1 describes how to check your version of Windows. Select and save the correct version and then run the program.

Step 3

The third step is to download and install the AHRQ Quality Indicator Risk Adjustment. MONAHRQ requires that this file be downloaded to correctly calculate the analyses. Select and save the AHRQ Quality Indicator Risk Adjustment file.

Step 4

The fourth step is to download and install MONAHRQ. The install package will prompt you with several questions. If you are using a network copy of Microsoft SQL Server, you will need to know the correct network name of the instance. If you set up a local copy of Microsoft SQL Server Express, you can use the default answer when prompted.

The install process will first load the MONAHRQ software on your PC, then access the Microsoft SQL Server instance and create your MONAHRQ database, and finish by loading baseline data into the database. The process will take up to 15 minutes, depending on the speed of your PC. Progress meters keep you informed on the progress of the setup process.

Note: if you are downloading an upgraded version of MONAHRQ and have previously installed an older version of MONAHRQ, you will first need to uninstall the old version of MONAHRQ in order for the upgraded version to work. To uninstall MONAHRQ, access your Control Panel in the Start menu, select Add or Remove Programs, and remove the appropriate version of MONAHRQ.

Check That You Have all Necessary Permissions

It is important to make sure you have *full* permissions to run MONAHRQ. The following instructions explain how to ensure you have set the appropriate permissions in your Windows operating system and

your Microsoft SQL Server instance.   This process often requires you work closely with administrator or technical personnel in your organization.

Part 1: Setting Permissions in the WINDOWS OPERATING SYSTEM
Certain permissions must be granted to the user who will be running MONAHRQ. These permissions apply only to those files and directions utilized by MONAHRQ.

Please follow the instructions below to set your operating system permissions for proper operation of MONAHRQ.

Step 1 – Find the Installation Directory
A standard MONAHRQ installation places the software in the directory "C:\Program Files\AHRQ\MONAHRQ\". If an alternative installation directory location was used, you will need to modify permissions for that directory instead. For the following instructions, you would need to substitute the name of your alternative installation directory where the name "MONAHRQ" appears.

Step 2 – Open the Security Tab
Right click on the MONAHRQ directory to bring up the context menu.
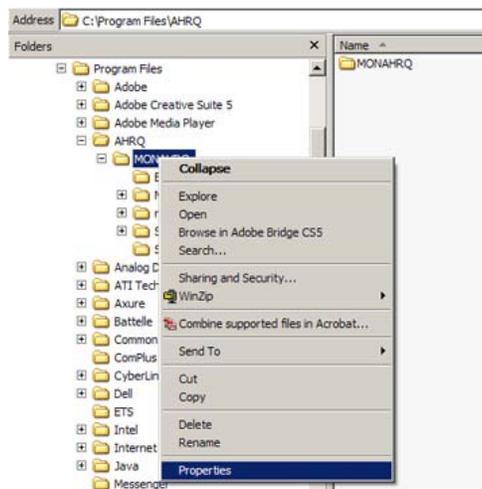
Select "Properties."

You will see a new popup window entitled "MONAHRQ Properties."
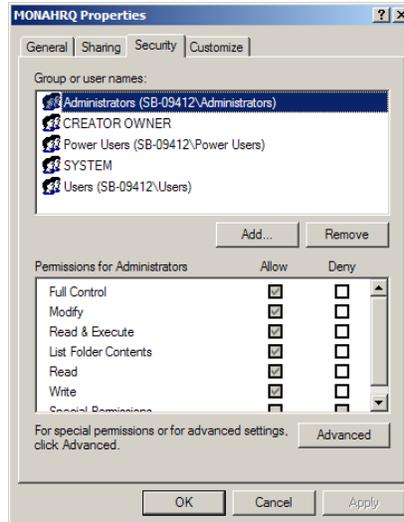
Select the "Security" tab.

Click the "Advanced" button.

Note: If the security tab is not present, you will need to contact your IT administrator for further assistance.

Step 3 – Provide the Proper Permissions
You will see a new popup window entitled "Advanced Security Setting for MONAHRQ."
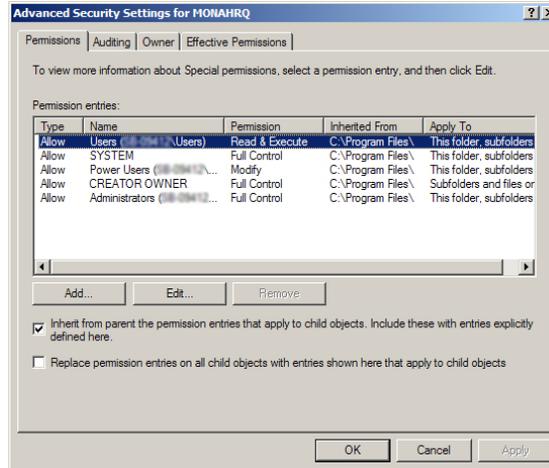
Select the "Permissions" tab.

Find the entry that lists your user name in the "Permission entries" window.

Single click to highlight the entry.

Click the "Edit" button.

You will see a new popup window entitled "Permission Entry for MONAHRQ."
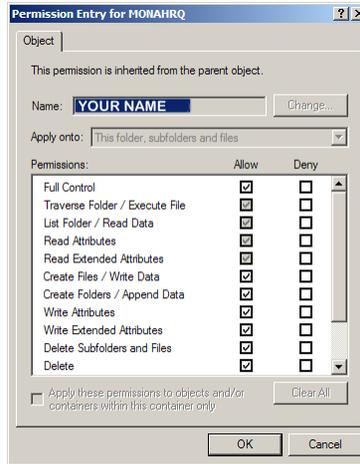
Find the row entry "Full Control."

Select the checkbox under the column labeled "Allow."

Click the "OK" button to close this popup window.

NOTE: IF you are unable to click "Full Control" you will need your IT administrator to provide the necessary permissions.

You will return to the popup window entitled "Advanced Security Setting for MONAHRQ."
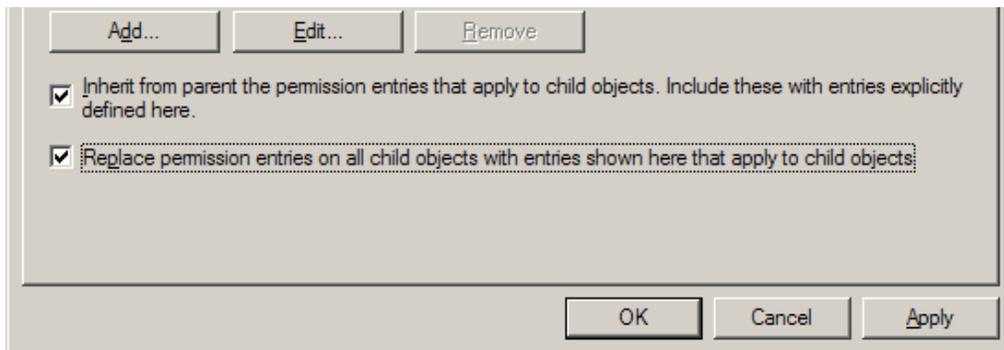
Select the checkbox labeled "Replace permission entries on all child objects…"

Click the "Apply" button.

Click the "OK" button to close this popup window.

Click the "OK" button to close this popup window.

You have now successfully set the permissions in your Microsoft Windows operating system to be able to run MONAHRQ.

PART II: Setting Permissions in MICROSOFT SQL SERVER
MONAHRQ has been tested with the following versions of Microsoft SQL Server. *Other versions of SQL Server may not behave as expected.*

- **SQL Server 2005**

- **SQL Server 2005 Express**
- **SQL Server 2008**
- **SQL Server 2008 Express**
- **SQL Server 2008 R2 Express**

Proper installation of the MONAHRQ software requires that certain permissions be provided during initial setup of the Microsoft SQL Server or SQL Server Express database. These permissions include the ability to create and drop databases.

Please follow the instructions below to set permissions in your SQL Server database for proper operation of MONAHRQ. These instructions apply to both SQL Server and SQL Server Express.

Step 1 – Connect to the SQL Server Instance Using SSMS
Microsoft SQL Server Management Studio (SSMS) is the primary tool for interfacing with the SQL Server. It may be downloaded from Microsoft at the following URL:

http://download.microsoft.com/download/6/7/4/674A281B-84BF-4B49-848C-14873B22F977/SQLManagementStudio_x86_ENU.exe

You may require the assistance of your IT manager to install and use this software.

Open the SQL Server Management Studio (SSMS) application and connect to the database server that was specified during installation. The default database name is "\SQLEXPRESS." If you changed from the default you will need to specify that server name.


Step 2 – Set Database Creation Permissions
You will see a popup window entitled "Microsoft Server Management Studio."

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Right click on the name of the database server to which you are connected in order to bring up the context menu.

Select "Properties."

You will see a new popup window entitled "Server Properties –" plus the name of your database server.
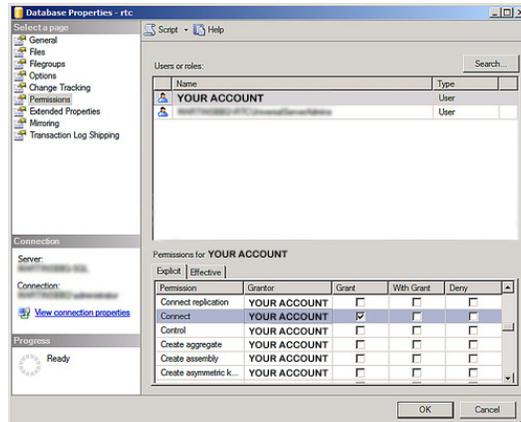
Locate the "Select a page" list on the left side of the popup window.

Select "Permissions."

Locate the "Logins or roles" list in the upper right portion of the popup window.

Find the entry that lists the user name indicated during the initial MONAHRQ installation.

Single click to highlight the entry.

Locate the "Permissions" list in the lower right portion of the popup window.

Select the "Explicit" tab.

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Find the following two rows in the list:

- "Create any database"
- "Alter any database"

Select the checkbox under the column labeled "Grant" in each of these two rows.

Click the "OK" button to commit changes and close the popup window.

Note: If you are unable to change the permissions, please contact your IT administrator for assistance.

You have now successfully set the permissions in your SQL Server database to be able to run MONAHRQ.

Additional Information
If the person installing the MONAHRQ software is *not* the person who will be using MONAHRQ or if there will be more than one MONAHRQ user on the machine, then the **System Administrator** will need to add users to the "MONAHRQ" database. This can be done with a remote SQL Server Manager or by installing a local copy of the SQL Server Management Studio Express Edition and using it to add the required users.

You can download the free SQL Server Management Studio Express Edition from http://www.monahrq.ahrq.gov.

PART II: BUILDING YOUR MONAHRQ WEBSITE: INFORMATION FOR A PROGRAMMER

This section will provide programmers with the critical information they need to **prepare** the data and **run** the software. This easy step-by-step process is demonstrated in a series of basic instructions. We also include detailed screenshots and data tables. You may load your own local inpatient administrative data and/or the CMS Hospital Compare data for your MONAHRQ generated Website.

More specifically, this process will involve:

- Understanding the data elements required and optional for analyses.
- Knowing the implications of missing data elements and how these will affect output pages.
- Understanding the types of analyses and information that will be available in your Website.
- Building a Website for your organization.

Preparing Your Local Administrative Inpatient Data

MONAHRQ uses hospital inpatient administrative data that provides demographics on the patient and the provider, diagnosis codes, procedure codes, and information about the admission, payer(s), and discharge. The software is designed for processing one *calendar year* of data at a time. The software will walk you through a very simple, "point and click" process for mapping your data elements and value codes. The software is designed to be easily usable on raw (i.e., source) administrative data.

The software accepts three common formats for your data:

1. Text (comma-separated values, CSV).
2. Microsoft Access database.
3. Microsoft Excel spreadsheet.

Two key formatting issues are:

- Each row of data represents a separate discharge record.
- Each column of data represents a single variable for all discharges.

CSV files use commas to separate the data values. If you have commas within any data values (for example, "Private, incl. HMO"), you will need to put double quotes around each data element. An exception is the variable "Total Charge". Many data elements in hospital inpatient data have leading zeros; if you are working from Excel, we recommend that all appropriate fields/cells be formatted as text to ensure full conversion of the data.

Input data have specific meaning according to the coding conventions in your organization. The data need to be mapped to the specific meaning used by MONAHRQ. The data elements in MONAHRQ are based on the coding specifications used in the State Inpatient Data (SID) in the Healthcare Cost and Utilization Project (HCUP), which are similar to the Uniform Bill (UB-92/04), but not identical. MONAHRQ's Crosswalk Screen provides the opportunity to map your variable values to the values used in the software. Present on Admission is the only variable with values that are automatically mapped. Please review Table 3 to ensure that your data are coded correctly. You may prepare your dataset in advance by using names and codes that match those in MONAHRQ so the software will automatically recognize data element names and value codes.

Because MONAHRQ is designed to recognize HCUP formatted data, if you are using HCUP formatted data, most data elements and data values will be mapped for you when you load the software. HCUP formatted data are not a requirement of the software. If you would like to further prepare your data, refer to Table 2. If your data elements used the same names and coding values as shown in Table 2, the process of identifying and mapping data elements will be quicker. Table 2 also identifies which data elements are required and what happens if an optional element is missing.

When you prepare your data, it is not necessary to create "dummy variables" or fill in missing values. Your input file may contain extra data that are not required; you do not need to remove extra variables. Any variables that are not used in the Data Mapping Screen will not be imported with your data.

AHRQ Quality Indicators

The AHRQ Quality Indicators (QIs), use hospital administrative data to highlight potential quality concerns, identify areas that need further study and investigation, and track changes over time. The AHRQ QIs are comprised of the Inpatient Quality Indicators (IQIs), Prevention Quality Indicators (PQIs), the Patient Safety Indicators (PSIs), and the Pediatric Quality Indicators (PDIs). MONAHRQ includes the AHRQ Windows Software, Version 4.2 (excluding the PDIs). More information about the AHRQ Quality Indicators including technical specification and analytic methods can be found at http://www.qualityindicators.ahrq.gov/. More information about how the AHRQ QIs are reported in MONAHRQ can be found in Table 4: Measure Details.

Comparing the AHRQ Quality Indicators between MONAHRQ and the SAS Version
If you would like to compare the AHRQ QIs produced by MONAHRQ with the SAS version then you will need to do the following:
- First run your data through MONAHRQ and save your MONAHRQ generated dataset (screen 14 has directions).
- MONAHRQ assigns a DRG for each discharge. The MONAHRQ assigned DRG should be used when you run the QI SAS programs. In the MONAHRQ generated dataset, there are two DRG data elements. When the DRG value is equal to or less than 24, the data element DRGVER should be used for the SAS program. When the DRG value is greater than or equal to 25, the data element DRG_VER should be used for the SAS program.
- We also recommend that you subset the data loaded into the SAS programs to those discharges that were included in MONAHRQ (some discharges may be excluded from MONAHRQ).
- Note that MONAHRQ and SAS round statistics to different levels.

For additional information about the AHRQ SAS QI programs, please visit http://www.qualityindicators.ahrq.gov/.

CMS Hospital Compare Data and Measures

MONAHRQ 2.0.4 incorporated reporting capabilities using the CMS Hospital Compare database. CMS currently reports these data on the Hospital Compare Website (http://www.hospitalcompare.hhs.gov/) and makes these data publically available. The CMS Hospital Compare data provides information on performance ratings for hospitals providing care to patients in the United States.

The CMS Hospital Compare database is pre-analyzed by CMS and available for download on the MONAHRQ site (http://www.monahrq,ahrq.gov/download.shtml). It is important to use the version posted on the MONAHRQ download site because we have made structural alterations to ensure the data will work with the software. MONAHRQ users have the option to load CMS Hospital Compare data into MONAHRQ.

There are four general types of measures included in the CMS Hospital Compare data – Process of Care, Outcome of Care (mortality and readmissions), Patient Experiences, and Structural measures. These measures report on topics such as children's asthma, heart attack, heart failure, pneumonia, and surgical care. For more information about the CMS measures and indicators, reference the **Measures and Analyses** tables in the appendix. If you'd like to learn more about the CMS Hospital Compare data, visit the Hospital Compare website at http://www.hospitalcomare.hhs.gov/.

Building Instructions – Getting Started

This section includes screenshots of the software with helpful hints and background information under each screenshot. This will walk you through the process of loading your data, conducting analyses, and generating a Website.

Screen 1 – MONAHRQ Welcome Page
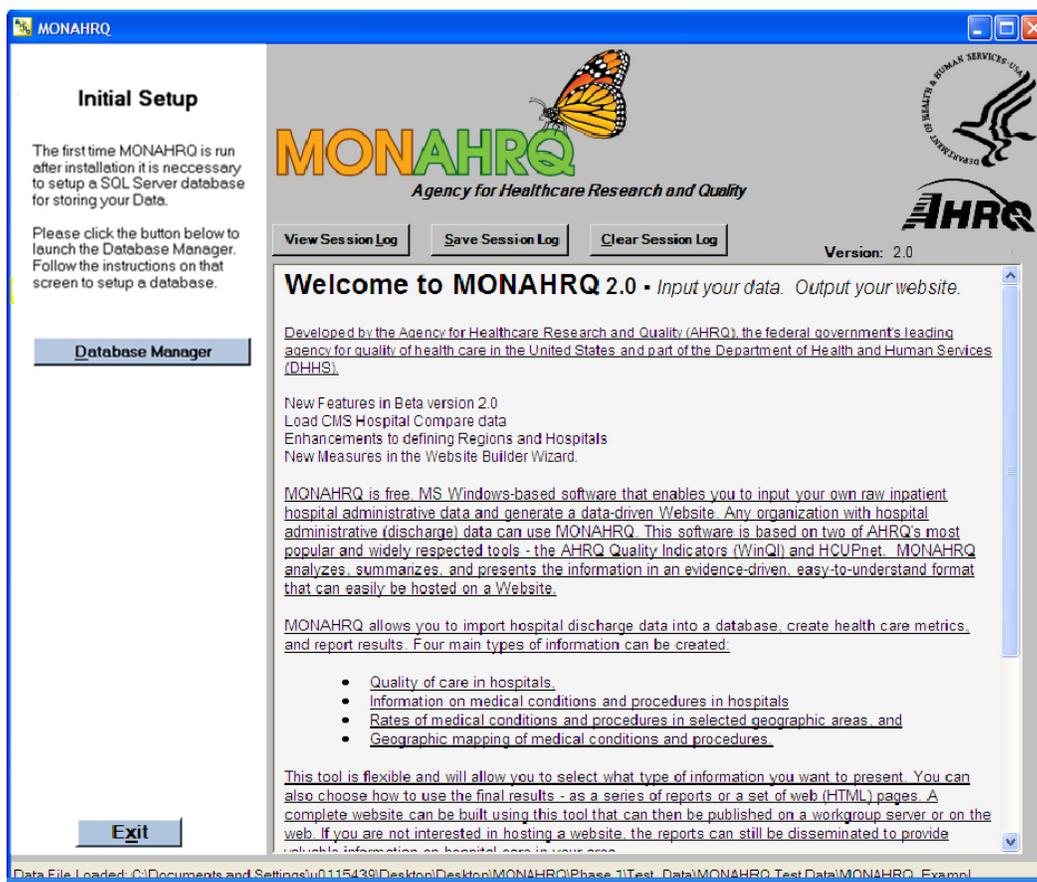
1. Once MONAHRQ has been loaded and the data have been prepared, you will be able to build the Website. On the first screen, select **View Session Log** before choosing an option on the Task Menu. This log will help you or MONAHRQ technical support identify any errors or problems you may have while creating the Website. Please note that you will not be able to access the log once the program, also called a wizard, starts.

Begin by viewing the log session and then select the **Database Manager**. You must identify or create a SQL database before beginning the data import process.

Screen 2 – Database Manager
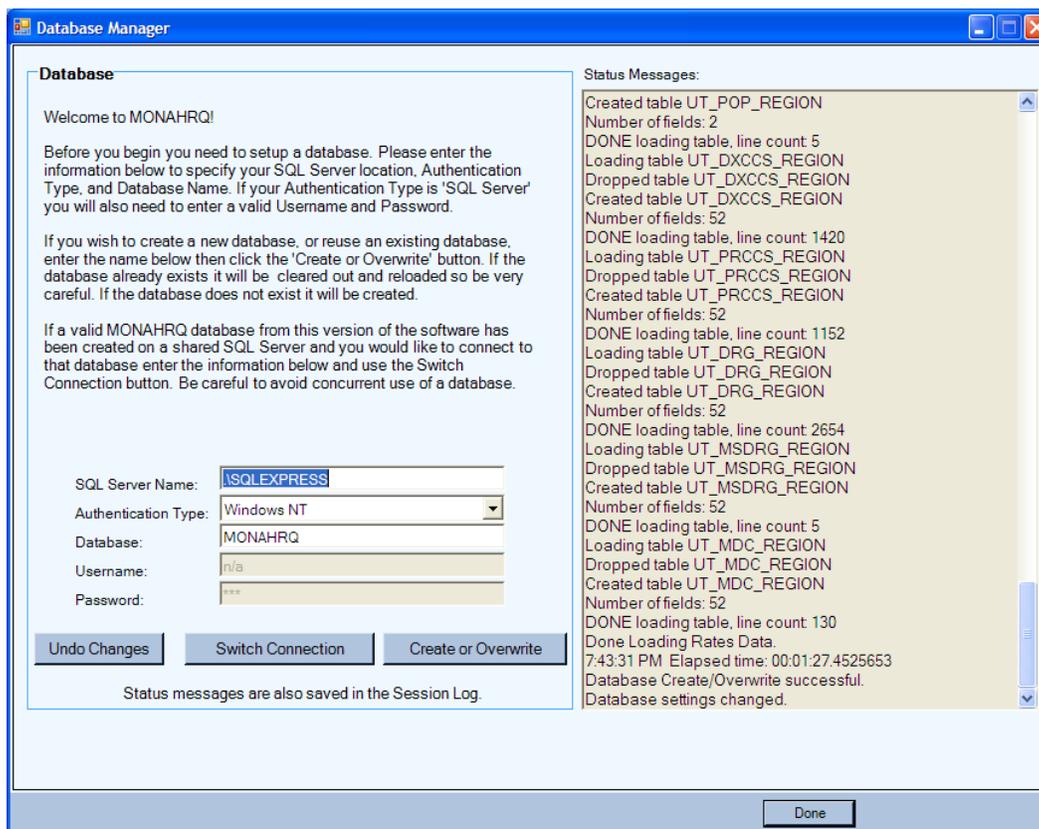
2. You must first create your MONAHRQ SQL database. If you are using SQL Express, the server name and authentication is prefilled for you. If you are using SQL Server, you will need to alter the server name and enter a username and password.

Once you have provided the database information, select **Create or Overwrite** to create a new database. When the process has finished, you may select **Done**.

Each time you generate a different MONAHRQ Website that you would like to potentially alter at a later time, we suggest you create a new SQL database. For example, if you would like to create a MONAHRQ Website for 2006 and another Website for 2007, you would create distinct SQL databases (e.g., MONAHRQ_2006 and MONAHRQ_2007). When you would like to alter a previous Website, you will type in the name of the database and select **Switch Connection** and then **Done**.

Once you have created a database, you will return to the MONAHRQ Welcome Page and can select the type of data you would like to import **(Inpatient Discharge Data or Hospital Compare Data)** to continue. If you would like to load your own Inpatient Discharge Data, please proceed to screen 3. If you would like to load CMS Hospital Compare Data, please proceed to screen 15. Follow the data steps in the order shown on the left side of the page. If you have a particularly large dataset with greater than 400 hospitals then you will need to select the Program Options before proceeding to the Import Data Wizard, screen 25 provides more detail.

Building Instructions – Loading Local Administrative Inpatient Data

This section will walk you step-by-step through the process of loading and analyzing your local inpatient administrative dataset. If you would like to load the CMS Hospital Compare dataset, please proceed to screen 15.

Screen 3 – Import Data Wizard
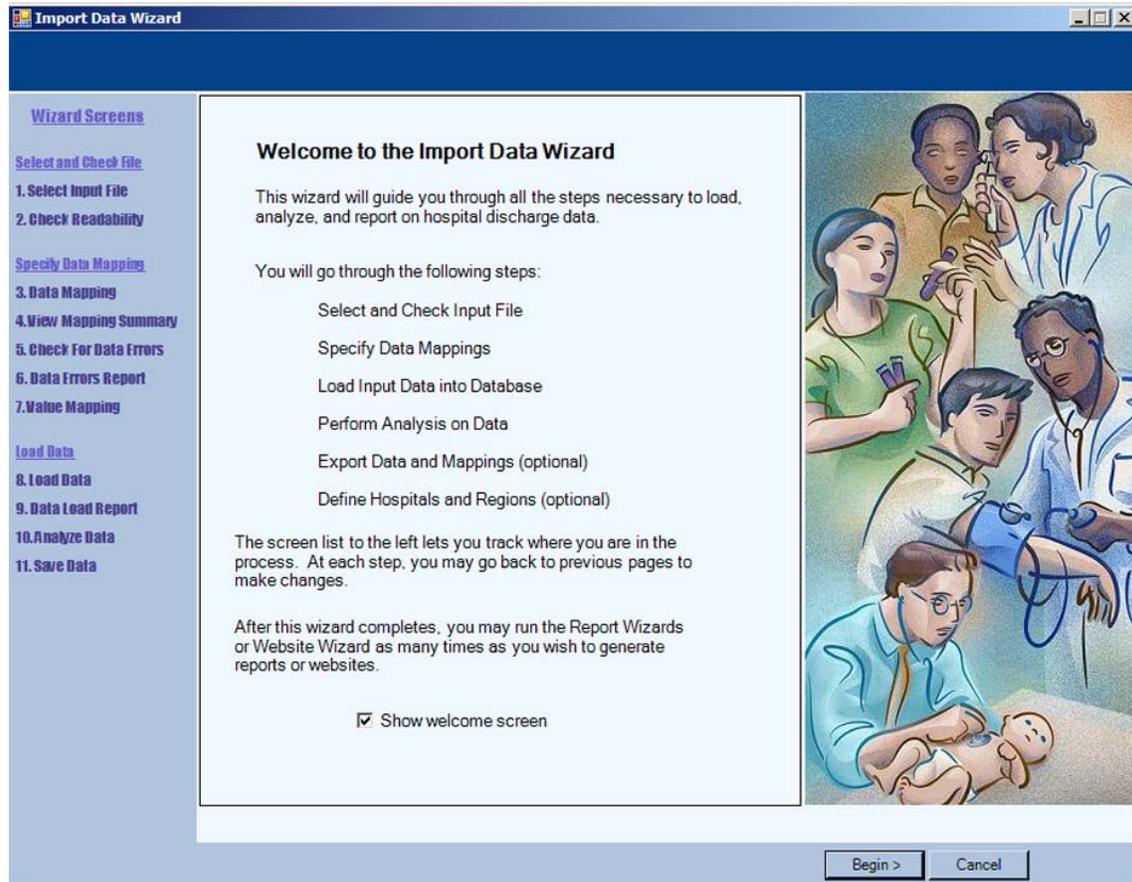
3. This screen explains the Import Data process – select **Begin** to continue.

Screen 4 – Select Input File

4. Select the **Browse** button to locate the discharge data file to be loaded. Once you have found the appropriate file, check an option in the **Import Data File Options (Specific to File Type)** box:

- If applicable, check **First row contains column headings**.
- If you are unsure of data format, check **Values are enclosed in quotes**.

There are three types of files that MONAHRQ accepts: CSV, XLS (Excel), and MDB (MS Access). Users have experienced difficulty using Excel files due to how Excel handles character fields and leading zeroes; we recommend that you confirm that the Excel file has maintained the original data values before loading the file into MONAHRQ.

Then select an option in the **Data Mapping and Crosswalk box:**
- If this is the first time you are loading the data (i.e., you do not have a previously created data mapping file from MONAHRQ), select **Data Layout Unknown.**
- If you previously loaded your data and created a data mapping file in MONAHRQ, select **Browse** to locate the .qim mapping file.
    - o If you are using a .qim file, you can check **Skip data validation and mapping screens**.

Once you have completed this page, select **Next**. You can return to the previous page by using the Back button, which appears on the bottom of this page and subsequent pages.

Screen 5 – Check File Readability
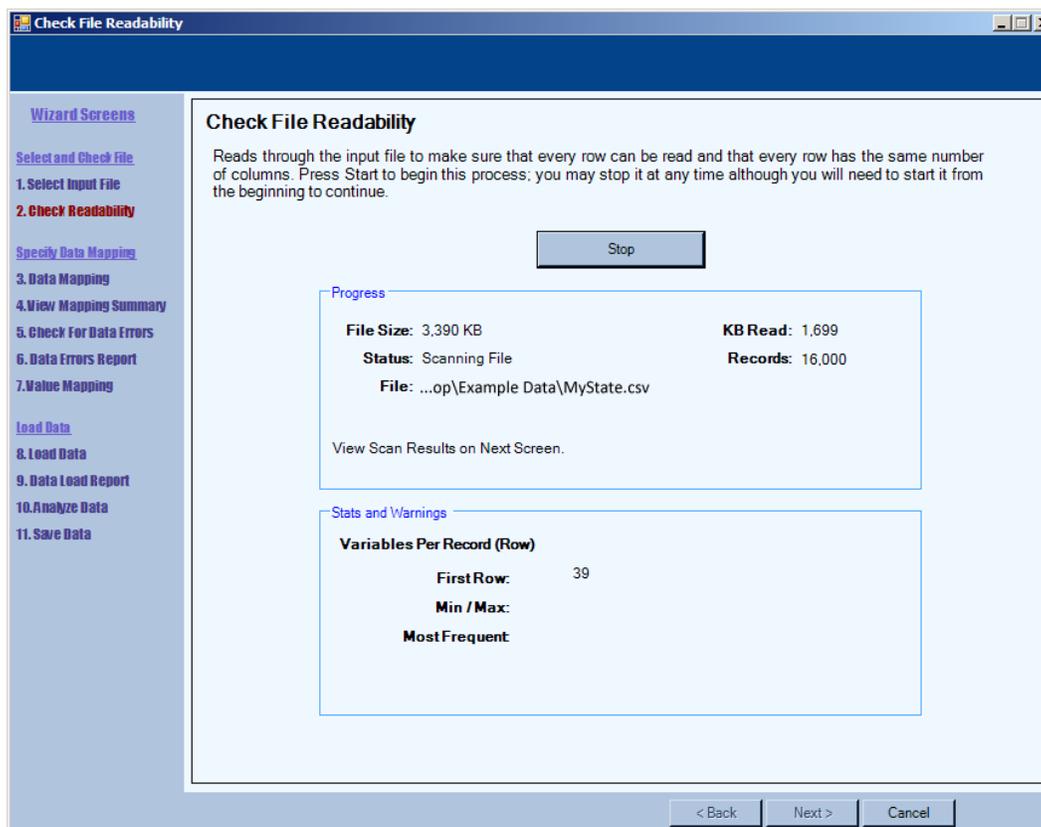
5. Select a file that contains one calendar year of administrative data. MONAHRQ only allows one calendar year of data to be analyzed at a time. If you have fiscal data that span two calendar years and would like to include all records in your analysis, the values in the source data for the variable **Year** will need to be manipulated before loading the data. You may alter the fiscal data to reflect either the later or former calendar year (e.g., 2006-2007 fiscal year data would need to be coded as either 2006 *or* 2007).

MONAHRQ will check to ensure that the data are legible and that each row has the same number of columns. On the Check File Readability screen, verify the file selection shown. If correct, select the **Start** button. The data will automatically start loading. You may select **Stop** to terminate the process (the Start button will change to Stop once the checking process begins).

When the check is complete, the **Status** message will read **Finished**.

Select **Next** to continue.

Screen 6 – Data Mapping

6. Once the data have been loaded, you will be asked to map your dataset to the MONAHRQ variable names. MONAHRQ's Crosswalk Screen (above) provides the opportunity to map your data elements to the data elements used in the software. While a sample of your dataset is provided on the screen, it is useful to either know your element names or have access to your data dictionary.

Drag and drop the **MONAHRQ Variables** to the **Input File Variables** under **Maps to MONAHRQ Variable** columns (right to left). All of the required MONAHRQ variables must be linked to an input file variable. MONAHRQ will not run without all required variables. The optional fields are not required, but as many variables as possible should be mapped to optimize the output. MONAHRQ has been programmed to "automatically guess" some of the mapping options, so it is important that you check these to make sure they are correct.

Data elements in your discharge data that have the same name as MONAHRQ data elements will automatically be mapped for you. Variable names used in MONAHRQ are the same as those that appear in HCUP's State Inpatient Databases (SID). If a variable is mapped incorrectly, simply drag the mapped variable to the correct input file element or drag it back to the MONAHRQ variable column on the right side of the screen.

Please refer to Tables 3 and 4 for a complete listing of variable names, descriptions, and coding. Note that Present on Admission (POA) is automatically mapped by MONAHRQ.

Once you have finished mapping elements, select **Next**.

<u>Screen 7 – Variable Mapping</u>
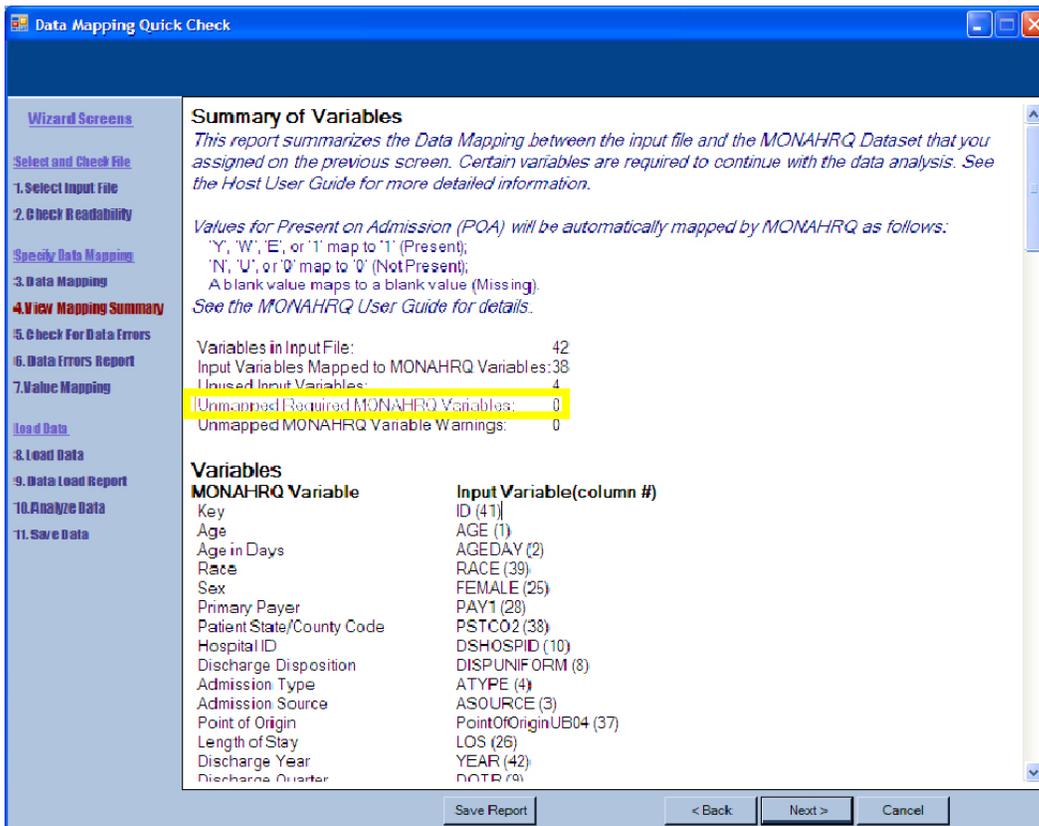
7. On the Summary of Variables screen, it is important to focus on the number of unmapped required variables. **Unmapped Required MONAHRQ Variables** should have a value of zero. If there was a data load error or if you did not crosswalk all of the required variables, it will be another number.

Once the Unmapped Required MONAHRQ Variables number is at zero and the number of variables in the input file match, you may select **Save Report** to create an .rtf file of information on the screen.

Note that the POA value mappings are provided on this screen.

Select **Next** to continue.

Screen 8 – Check for Data Errors
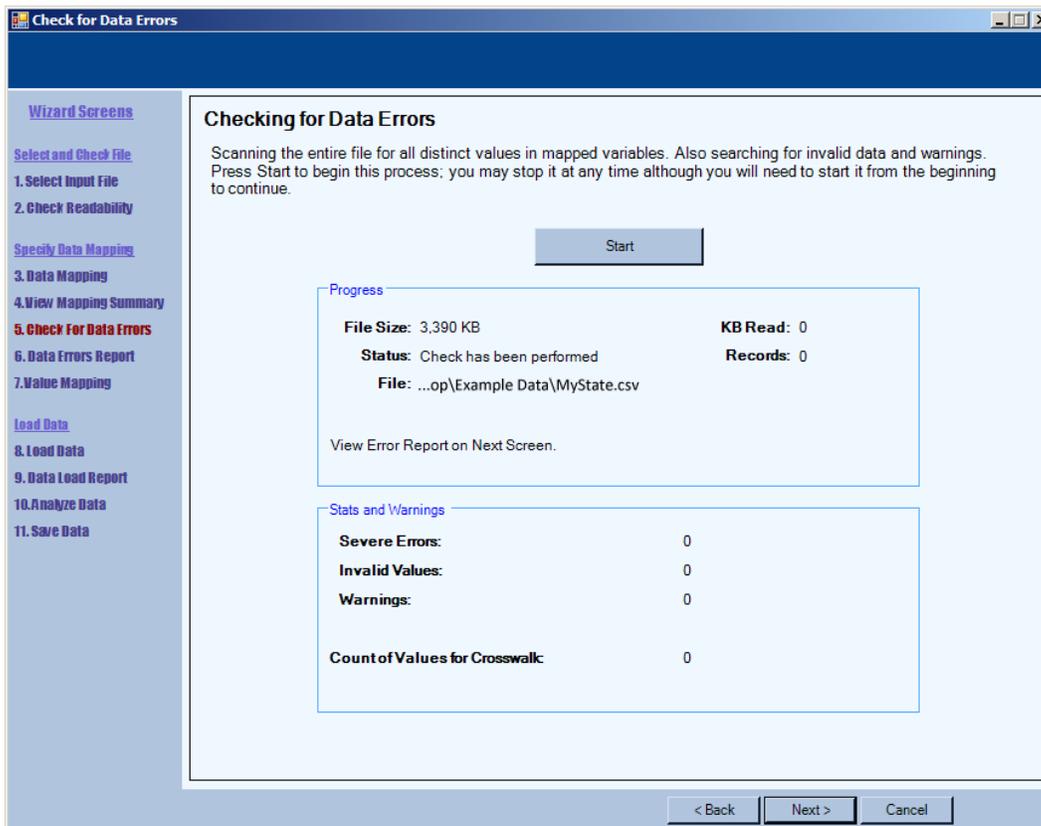
8. To check for errors within the mapped dataset, select the **Start** button. You may select **Stop** to terminate the process (the Start button will change to Stop once the checking process begins).

When the check is complete, **Status** changes to **Finished**.

Select **Next** to continue.

Screen 9 – Data Errors Report
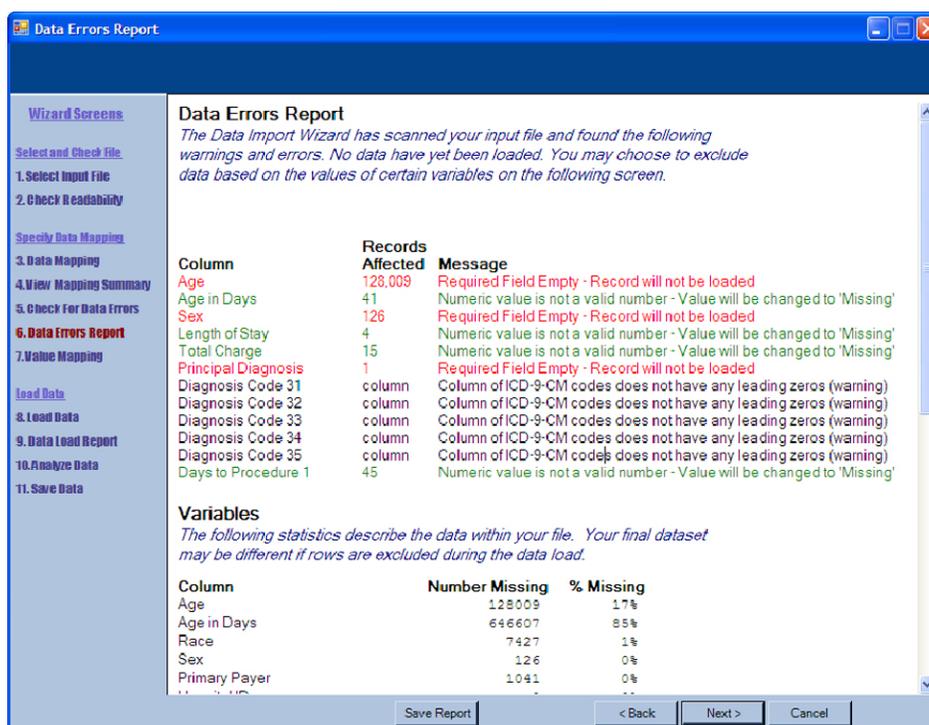
9. The Data Errors Report will show the number of records affected by data errors. If a data error occurs in a required field and affects a large number of records in your data file, the Web pages generated may be incomplete.

Some errors may be acceptable. For example, if the **Age in Days** element is greater than 365, the software uses the **Age** variable. For other elements, the acceptability of an error is based on host user discretion such as if the error only affects a small number of records or if it occurs in a variable that is not required for the analysis. Finally, some errors may require research and/or manipulation of the input data file. If you manipulate the input data file, you will need to start the data load from the beginning. Below are four common errors and guidelines on checking them:

1. **Required field empty – record will not be loaded (highlighted in red).**
   Verify that the count is a small percentage of your discharges. If the error affects a large number of records, make sure that the variable mapping was correct (use the Back button).
2. **Diagnosis Codes/Procedure Codes: Invalid value. Valid codes must be at least 3 characters (highlighted in green).**
   Verify that the count is a small percentage of your discharges and investigate the input data values. For example, how are missing values identified?
3. **Birth Weight Grams: Value less than 200.**
   Value will be changed to 'Missing' and/or Value greater than 7,000.
4. **Age in Days: Age is greater than zero.**
   Age in Days only applies for Age less than 1 year. If the value is greater than 365 days, it will be changed to 'Missing.'

To correct errors, use the **Back** button to return to the Data Mapping screen to review and correct the mapping of MONAHRQ variables to input file variables. Once the results are to your satisfaction, select **Save Report** if you would like to create an .rtf file of information on the screen.

Select **Next** to continue.

Screen 10 – Crosswalk Values

10. Once the data elements are loaded, the values for each element need to be identified. Use your own data documentation to indicate the value label. We recommend that each input value be reviewed to ensure the correct value meaning was assigned to your data.

If your data are formatted in the HCUP standard or you have altered the data according to Table 2, the software will crosswalk values and meanings for you. You should still review the values and meanings for accuracy.

Please note that Present on Admission is automatically mapped by MONAHRQ. Refer to Table 3 for detailed coding information.

Once all variables have been coded, continue by selecting **Next**.

<u>Screen 11 – Load Discharge Data</u>
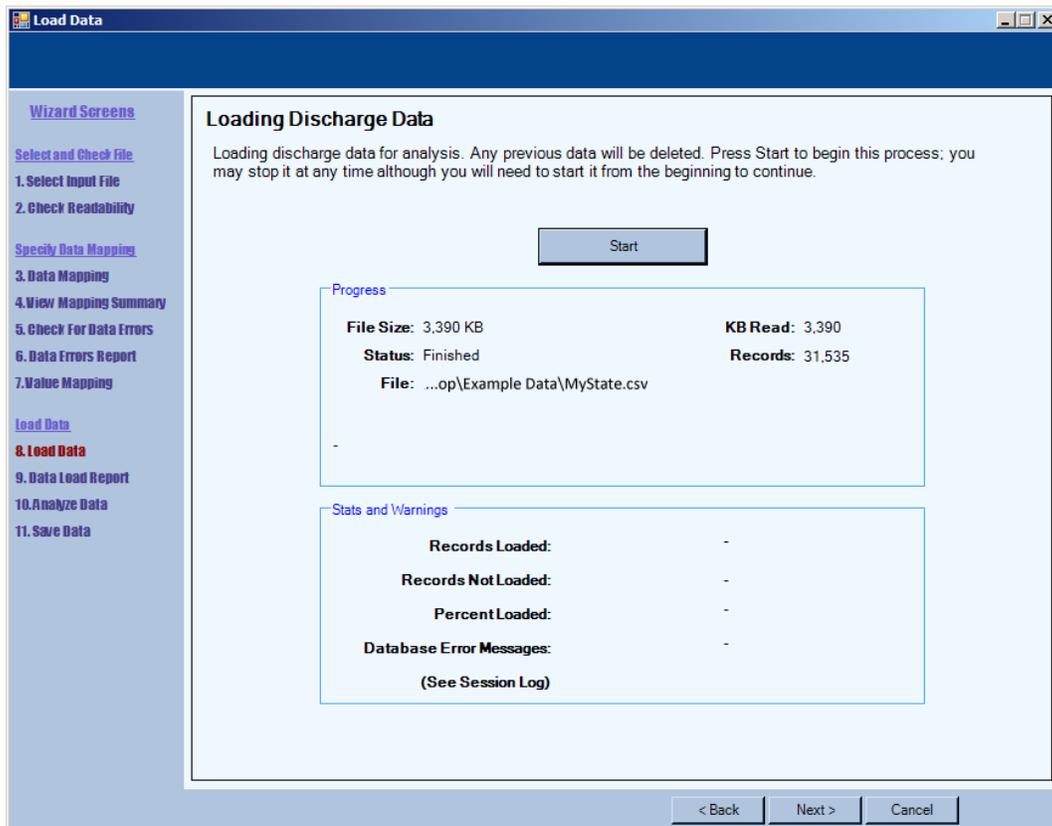
11. To begin loading your discharge data, select the **Start** button. You may select **Stop** to terminate the process (the Start button changes to Stop once the load process begins).

Depending on the number of records, the data load process can take a longer amount of time. When the loading process is complete, the **Status** changes to **Finished**.

Select **Next** to continue.

Screen 12 – Data Load Report

12. Once your data have finished loading, you will be taken to a **Data Load Summary** page. Warning messages are shown in red and green font to indicate inconsistencies with the loaded data that may affect the quality indicator calculations. You may adjust any inconsistencies in your raw data file and reload the data.

In addition, the number of records with **Required field empty – Rows not loaded** should be low. If there are substantial amounts of missing data for any given (or combination of) variables, the overall number of discharges will decrease accordingly. For analyses with small populations, the results may be statistically unreliable.

Select **Save Report** to create an .rtf file of the Data Load Summary information.

Select **Next** to continue.

<u>Screen 13 – Generate Indicator Flags</u>
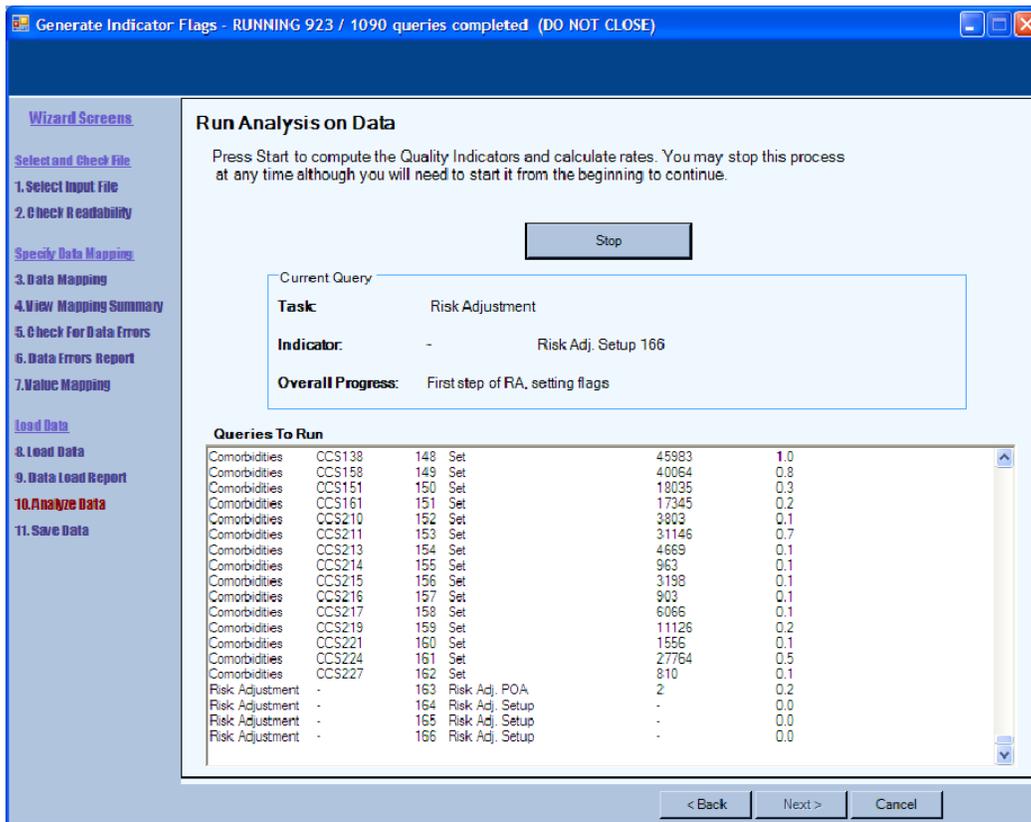
13. To run the analyses on loaded data, select the **Start** button. You may select **Stop** to terminate the process (the Start button will change to Stop once the load process begins).

On some installations, a message box titled "Ordinal Not Found" may appear during the step *Generate Indicator Flags – RUNNING 931/1123 queries completed*. The message can safely be ignored. Select OK to continue.
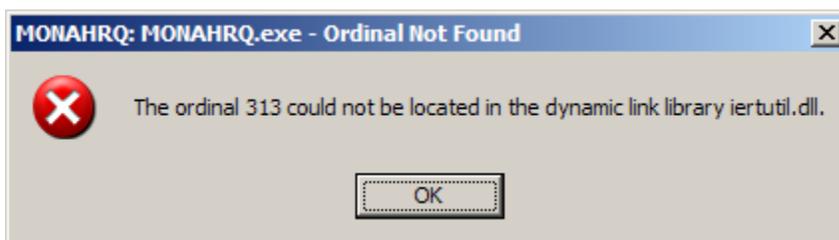
Please note that the analyses may take a *significant* amount of time to run (this varies given the size of the input file – but it may be multiple hours). You may leave MONAHRQ running in the background of your computer and perform other tasks during this time. Certain queries (especially those related to the QI risk adjustment) may take more than an hour to process on a large dataset and it may falsely appear that the software has stalled. For most datasets, the analyses will run within 6-7 hours. If you have a very large dataset, it may take *25-30 hours* to run the analyses and compute the risk-adjustment. When the analyses are complete, the Overall Progress line will read "All 1123 queries completed."

Select **Next** to continue.

<u>Screen 14 – Save Data and Mapping</u>

14. MONAHRQ allows users to save the data, but this step is not required. If you would like to save your MONAHRQ data in a comma-separated values (CSV) format for use outside the tool, select the variables you would like to include and select **Save Data To File (CSV).** This dataset will contain the AHRQ QI flags (a binary coding for each AHRQ QI) that show if discharges were included or excluded from the specific measures. This can be particularly helpful if you are interested in exploring how the AHRQ QIs are calculated and the criteria used for indicator inclusion by discharge.

Please note that MONAHRQ can only load data with fewer than 200 variables. If you are saving data for future use with MONAHRQ, it is recommended that you use the default options as shown. If you choose all checkbox options, the dataset created will have more variables than can be loaded in MONAHRQ.

If you would like to save your data variable and value mappings, select **Recognize Columns by Position** or **Recognize Columns by Column Name**. This will create a .qim file for future use with MONAHRQ. It is recommended that you use default options as shown above. When you have selected an option, select the **Save Mapping** button.

Select **Next** to return to the MONAHRQ welcome screen.

Building Instructions – Loading CMS Hospital Compare Data

This section will walk you step-by-step through the process of loading the pre-analyzed CMS Hospital Compare dataset. The CMS Hospital Compare dataset should be downloaded from the MONAHRQ Website (http://www.monahrq.ahrq.gov). If you do not wish to load the CMS Hospital Compare data and are only loaded your own local discharge data, proceed to screen 17.

Screen 15 –MONAHRQ
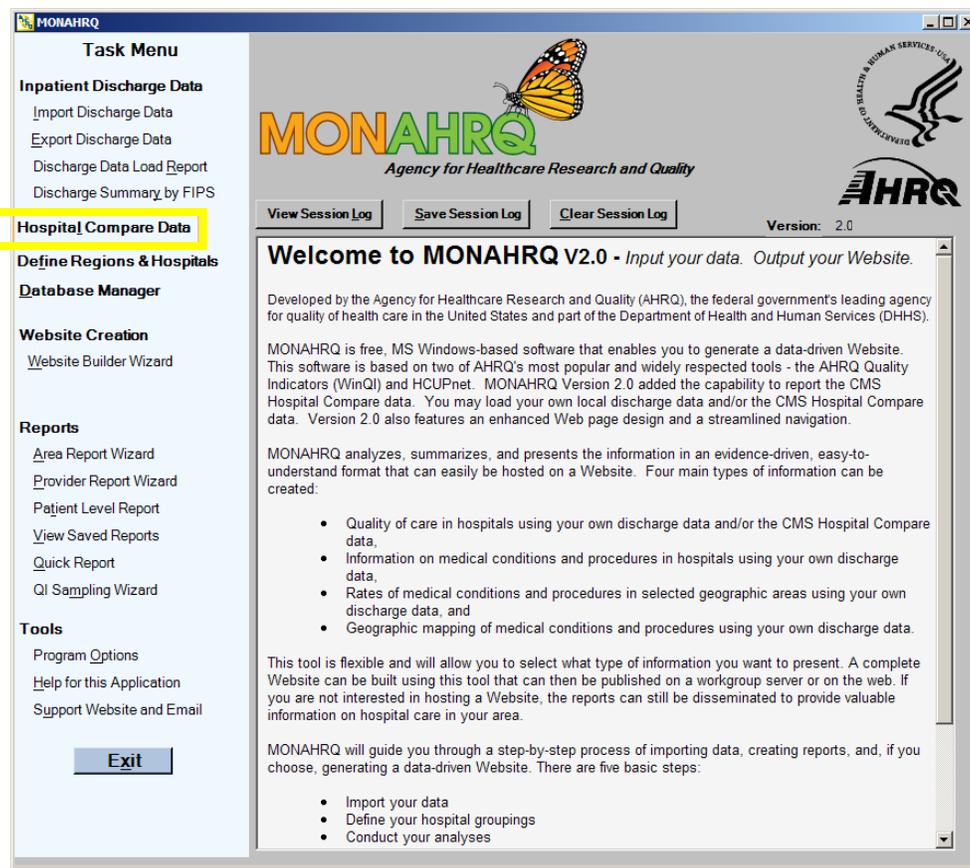
15. If you would like to load the CMS Hospital Compare dataset, select **Hospital Compare Data** on the left menu bar. Please note that you will need to use the CMS Hospital Compare Data file provided on the MONAHRQ Website.

If you do not want to load the CMS Hospital Compare data, proceed to **Screen 17**.

Screen 16 – Load the CMS Hospital Compare Data
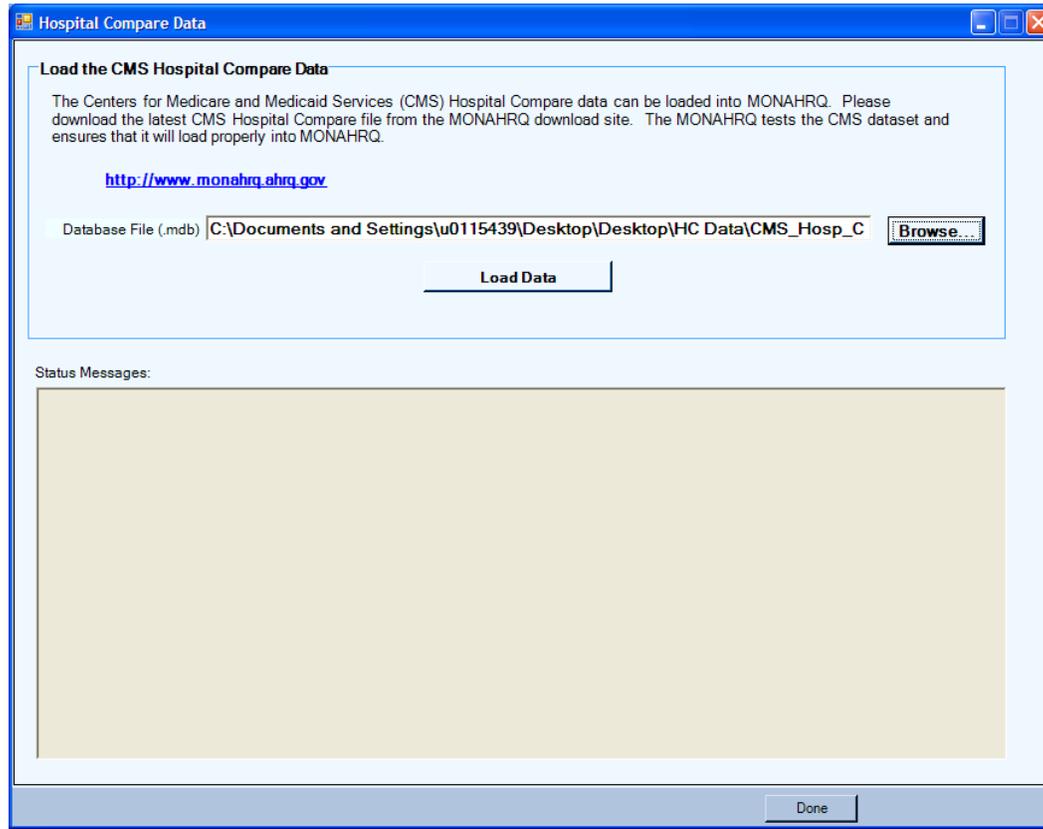
16. Load the CMS Hospital Compare data that you downloaded from the MONAHRQ Website. Alterations were made to the CMS Hospital Compare database for it to load properly in MONAHRQ.

Select the **Browse** button to locate the CMS Hospital Compare file to be loaded. Select **Load Data** and the message "DONE with load process" will appear in the Status Messages box when the process is completed.

Once you have completed the data load, select **Done**.

Building Instructions – Defining Regions and Hospitals Local Administrative Data Only

This section provides step-by-step instructions for defining your regions and hospitals if you only loaded your own local administrative data. The process for defining your regions and hospitals will vary slightly by the type of data you have loaded. If you loaded both CMS Hospital Compare data and your own local inpatient discharge data, please proceed to screen 26. If you loaded only CMS Hospital Compare data, please proceed to screen 22.

Screen 17 – MONAHRQ
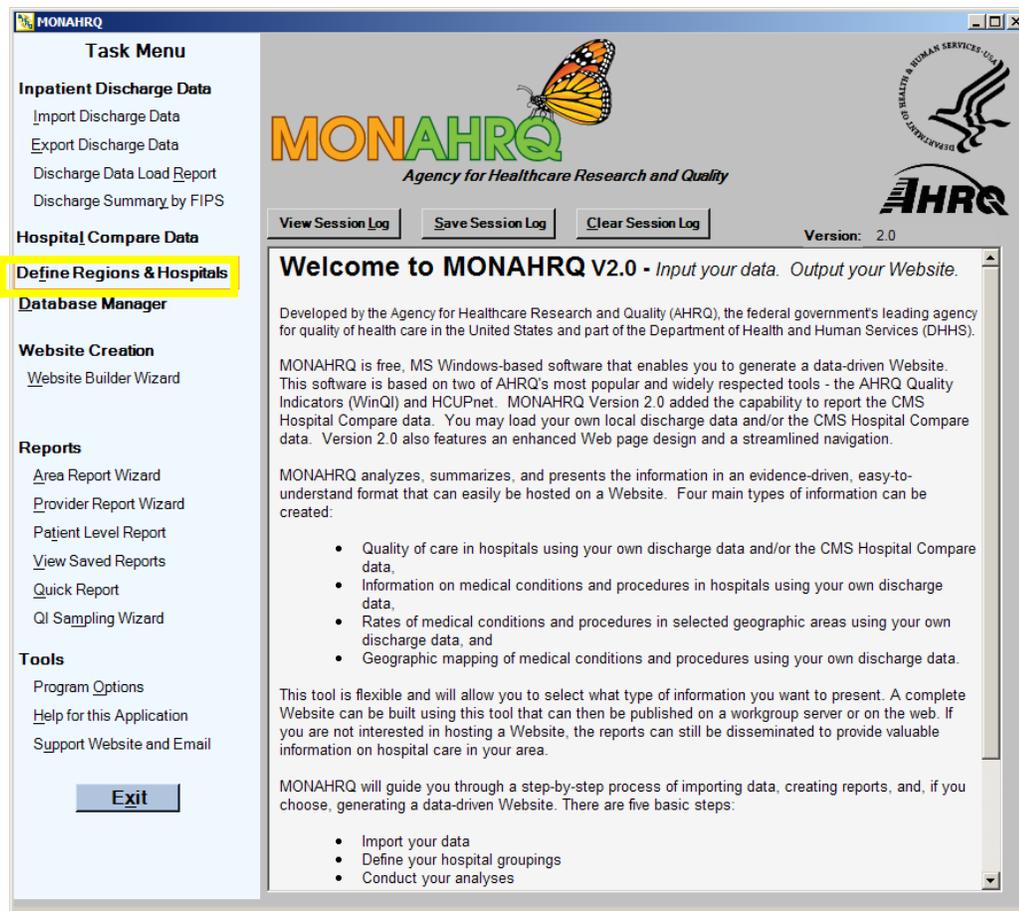
17. After you have completed the data load and analysis process, you will return to the MONAHRQ home screen. From this screen, you may choose to generate a Website or reports.

The following screen will show you the process for creating a MONAHRQ Website. Select **Define Regions and Hospitals** on the left side of the page to continue.

Screen 18 – Define Regions and Hospitals Wizard
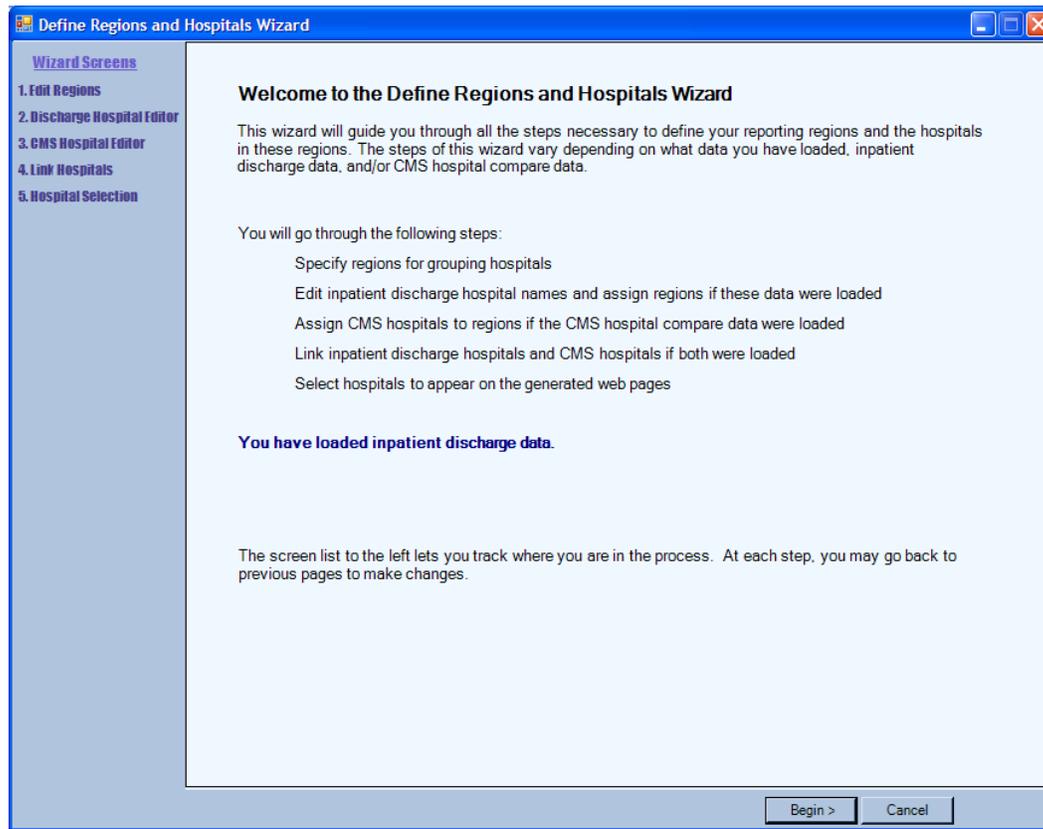
18. This screen explains the Define Regions and Hospitals process – select **Begin** to continue.

<u>Screen 19 – Define Regions for Hospital Groupings</u>

19. Users may define hospital groupings by Dartmouth Atlas Hospital Service Areas (HSAs), Dartmouth Atlas Health Referral Regions (HRRs), a single region, or custom regions. Custom regions may be loaded from a CSV file or you may manually identify the custom regions by mapping hospitals to regions. Begin by selecting a state from the **Choose your state(s)** dropdown box. Then select the button indicating how you would like to group hospitals into regions.

If you would like to manually define regions, type the name into the **Region Name** field and select **Add Named Region**. Repeat this process until all regions have been added. If you would like to remove a region after adding it, select the region and select the left arrow. If you chose to **Load Regions from File,** refer to Screen 19B for detailed instructions.

If you would like to learn more about Dartmouth Atlas HRRs or HSAs, visit http://www.dartmouthatlas.org/.

Select **Next** to continue.

Screen 19B – Define Hospital Groupings; Load Regions From a File

19B. If you chose to load your regions from a CSV formatted external file in **Screen 19**, you will be taken to this screen to load the file.

There are four fields on each line of the CSV file. The first field must be a number that is the Region ID. The next field is the title of the region and must be enclosed in double-quotes if commas appear in this field. The third field is the two-letter state code. The fourth field must be a Y or N to indicate if the region is *selected* for reporting. This last value can be changed on the **Website Builder Wizard**.

A checkbox allows the user to clear existing contents.

Select **Browse** to find the appropriate file and then select **Load File**.

Once this step is complete, select **Close.**

<u>Screen 20 – Define Hospital Groupings</u>

20. This screen allows you to alter the hospital assignment to region. If you chose Dartmouth HSAs or HRRs (as in the above screen), the hospital will already be assigned to a region; however, you may reassign to a different region if you would like. If you chose to load custom regions (manually or with a file), you may use the **Region** dropdown box to assign each hospital to a region. The **County Name** and **Region** dropdown boxes are prefilled; all you need to do is select your mapping choice. You may also edit the hospital **Name** and **Zip Code**.

You may assign a Centers for Medicare & Medicaid Services (CMS) provider ID manually (or by using the option to load from a hospital file), which will allow you to assign the all-payer (based on HCUP methodology) cost-to-charge ratios using CMS data from the Medicare Cost Reports. Once the CMS provider ID has been provided select the **Assign Cost to Charge Ratio** button. We strongly suggest that you review the assigned cost-to-charge ratios and make any appropriate adjustments – these ratios do not limit the range of acceptable values. A ratio of zero (0) will be treated as missing on the Web pages. Alternatively, you may manually (or by using the option to load from a hospital file) assign custom cost-to-charge ratios. In the **Website Wizard**, you will select to display costs or charges as available in the Web pages.

If you would like to randomly assign a masked hospital name, select **Mask Hospital Names** – this option will reassign all hospitals to a blinded or masked name (e.g., Hospital 1, Hospital 2). If you would like to unmask, select **Unmask Hospital Names** (which will appear once you have chosen to mask). Select **Display Hospital List** for a crosswalk of the original hospital names and the masked hospital names. You may want to print this list for future reference or to provide limited access to the MONAHRQ generated Website.

As an alternative, you may load hospital data from a previously created external file that maps the hospital identifier in the discharge data to hospital demographic data. If possible, load the information from a CSV file that lists the Hospital ID, FIPS county code, hospital name, ZIP Code, cost-to-charge ratio (if desired), region (if desired), and CMS provider ID (if desired). The Dartmouth Atlas HSAs will automatically assign county names and regions. To do so, select the **Load From File** button at the bottom of the screen. A window will pop up as shown on **20B**.

Once you have finished altering this page, select **Save** to continue.

<u>Screen 20B – Define Hospital Groupings; Load From a File</u>

Load Hospital Table

Load Hospital Table

Use the browse feature to locate the hospital information file. This file must be a text file with comma separated values (.csv). (Example: C:\data\hospital_info.csv)

[   ] Browse...

Options

☐ Overwrite existing hospital table entries.

☐ Cleanup hospital table. (Remove entries with 0 discharges.)

Load File

File Format

Hospitals must be on separate lines with these fields on each line: hospital ID, FIPS county code, hospital name, ZIP code, cost to charge ratio, region code, and CMS provider ID. The name field must be enclosed in double-quotes if it can contain commas. Cost to charge ratio, region code, and CMS provider ID are optional. Include commas for missing fields.

Example

```
VA10322,51013,General Hospital,22201,0.88,1,2088902
VA10333A,51013,"Arlington Med Ctr, Wing A",22002,,1,208890
```

Close

20B. Once the hospital groupings have been defined, the Load Hospital Table screen will appear. This section provides host users the opportunity to apply demographics to each hospital in the data, such as hospital names, counties, ZIP Codes, cost-to-charge ratios, CMS provider ID, or regions. Information must be in a CSV-formatted file. Select the **Browse** button to locate the hospital file to be loaded.

Detailed instructions for the CSV file format are provided on the software screen.

Select options on how to load the file. We recommend always checking the **Overwrite existing hospital table entries** box. Overwriting is important if you are loading a hospital table for a different dataset where the hospitals may be different.

If you would like to use all hospitals in your dataset, select **Load entire file, including those with 0 discharges**. If you prefer to only include hospitals with discharges, choose **Cleanup hospital table**.

Once this step is complete select **Load File**. You will get a message listing the number of records loaded. Then choose **Close** to return to the previous screen where data will be loaded automatically.

Screen 20C – Define Hospital Groupings; Return to Edit Hospital Table

Edit Discharge Hospital Information

ID	Name	ZIP	County Name	Region	Discharges	Cost to Charge Ratio	CMS Provider ID
123503	Hospital 1	21801	MD - Wicomico		1153	0.0000	
123504	Hospital 9	21804	MD - Wicomico		6	0.0000	210006
123502	Hospital 39	21740	MD - Washington		924	0.0000	210054
123498	Hospital 6	21601	MD - Talbot		524	0.0000	210038
123506	Hospital 14	21817	MD - Somerset		4	0.0000	210048
123457	Hospital 35	20650	MD - St. Mary's		534	0.0000	210035
123459	Hospital 16	20706	MD - Prince George's		122	0.0000	210013
123463	Hospital 23	20744	MD - Prince George's		21	0.0000	
123462	Hospital 28	20735	MD - Prince George's		159	0.0000	
123464	Hospital 32	20785	MD - Prince George's		804	0.0000	210004
123460	Hospital 8	20707	MD - Prince George's		52	0.0000	210060
123466	Hospital 13	20832	MD - Montgomery		532	0.0000	210023
123465	Hospital 15	20814	MD - Montgomery		729	0.0000	210028
123469	Hospital 40	20910	MD - Montgomery		1805	0.0000	210017
123467	Hospital 46	20850	MD - Montgomery		144	0.0000	210015
123470	Hospital 47	20912	MD - Montgomery		1016	0.0000	210032
123500	Hospital 11	21620	MD - Kent		193	0.0000	210018
123472	Hospital 31	21044	MD - Howard		173	0.0000	210024
123474	Hospital 21	21078	MD - Harford		347	0.0000	210025
123471	Hospital 7	21014	MD - Harford		135	0.0000	210011
123497	Hospital 19	21550	MD - Garrett		152	0.0000	210012
123501	Hospital 34	21701	MD - Frederick		983	0.0000	210029
123499	Hospital 27	21613	MD - Dorchester		171	0.0000	210051

Load From File | Unmask Hospital Names | Display Hospital List | Assign Cost to Charge Ratio | < Back | Next > | Cancel

20C. Once you have loaded the hospital demographics from a file, you will return to the Edit Hospital Table. This table will now have the information from the loaded file prefilled. You may edit the hospital name, ZIP Code, cost-to-charge ratios, and CMS provider ID. We recommend you review the county and region assignment for accuracy; some users prefer to slightly alter these assignments.

You may assign a CMS provider ID manually, which will allow you to assign the all-payer (based on HCUP methodology) cost-to-charge ratios using CMS data from the Medicare Cost Reports. Once the CMS provider ID has been provided select the **Assign Cost to Charge Ratio** button. We strongly suggest that you review the assigned cost-to-charge ratios and make any appropriate adjustments – these ratios do not limit the range of acceptable values. A ratio of zero (0) will be treated as missing on the Website. Alternatively, you may manually (or by using the option to load from a hospital file) assign custom cost-to-charge ratios. In the **Website Wizard**, you will select to display costs or charges as available in the Web pages.

If you would like to randomly assign a masked hospital name select **Mask Hospital Names** – this option will reassign all hospitals to a blinded or masked name (e.g., Hospital 1, Hospital 2). If you would like to unmask, select **Unmask Hospital Names** (which will appear once you have chosen to mask). Select **Display Hospital List** for a crosswalk of the original hospital names and the masked hospital names. You may want to print this list for future reference or to provide limited access to the MONAHRQ generated Website.

Once you have finished altering this page, select **Next** to continue.

Screen 21 – Edit and Select Hospitals for Reporting

Edit and Select Hospitals for Reporting

The following hospitals are available for reporting in your MONAHRQ generated Web site. Please review each section of hospitals closely. You may edit the hospital names and select "Save." Use the check boxes to indicate if you would like to report each hospital in the generated Web site. By default, each hospital is selected for reporting. Select the "Back" button to alter the hospital linking. If you choose to report a hospital with ONLY Local Discharge data, only the AHRQ Quality Indicators will be used in the Web site. If you choose to report a hospital with ONLY CMS data, only the CMS Measures will be used in the Web site.

Hospitals with Local Inpatient Discharge Data

Hospital ID	Hospital Name	Region	Report Hospital
123456	Hospital 24	Washington	☑
123457	Hospital 35	Washington	☑
123458	Hospital 43	Washington	☑
123459	Hospital 16	Takoma Park	☑
123460	Hospital 8	Takoma Park	☑
123462	Hospital 28	Washington	☑
123463	Hospital 23	Washington	☑
123464	Hospital 32	Takoma Park	☑
123465	Hospital 15	Washington	☑
123466	Hospital 13	Takoma Park	☑
123467	Hospital 46	Washington	☑
123469	Hospital 40	Takoma Park	☑
123470	Hospital 47	Takoma Park	☑
123471	Hospital 7	Baltimore	☑
123472	Hospital 31	Baltimore	☑
123473	Hospital 38	Baltimore	☑
123474	Hospital 21	Baltimore	☑
123475	Hospital 42	Baltimore	☑
123476	Hospital 4	Baltimore	☑

< Back   Done   Cancel

21. This screen provides a listing of all hospitals loaded in your data file. You may edit hospital names in this screen. By default, all hospitals are selected for reporting. If you do not wish to report a given hospital, unselect the check box.

Once you have finished altering this page, select **Done** to return to the MONAHRQ welcome screen. Proceed to screen 32 for instructions on the Website Wizard.

Building Instructions – Defining Regions and Hospitals CMS Data Only

This section provides step-by-step instructions for defining your regions and hospitals if you only loaded CMS Hospital Compare data. The process for defining your regions and hospitals will vary slightly by the type of data you have loaded. If you loaded both CMS Hospital Compare data and your own local inpatient discharge data, please proceed to screen 26. If you loaded only your own local discharge data, please go to screen 17.

Screen 22 – Define Regions and Hospitals Wizard
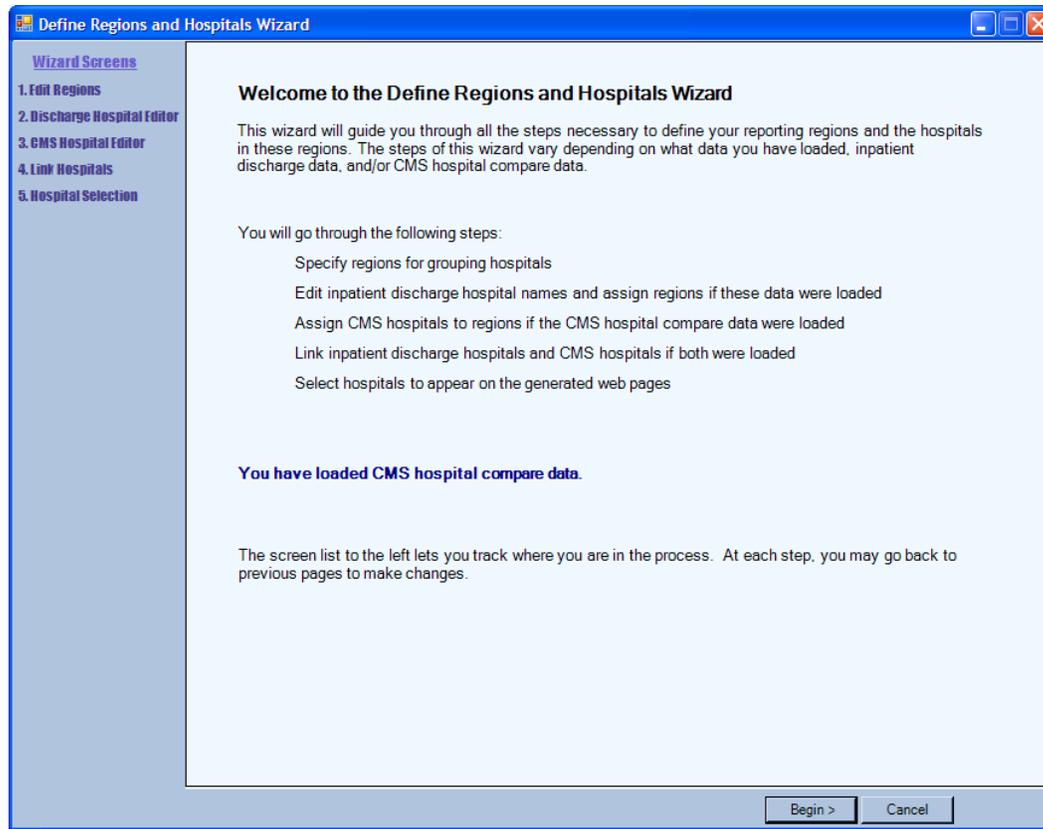
22. Once you have finished loading the CMS Hospital Compare data, you can navigate to the Define Regions and Hospitals Wizard. This screen explains the Define Regions and Hospitals process – select **Begin** to continue.

Screen 23 – Define Regions for Hospital Groupings

23. Users may define hospital groupings by Dartmouth Atlas Hospital Service Areas (HSAs), Dartmouth Atlas Health Referral Regions (HRRs), a single region, or custom regions. Custom regions may be loaded from a CSV file or you may manually identify the custom regions by mapping hospitals to regions. Begin by selecting a state from the **Choose your state(s)** dropdown box. Then select the button indicating how you would like to group hospitals into regions.

If you would like to manually define regions, type the name into the **Region Name** field and select **Add Named Region**. Repeat this process until all regions have been added. If you would like to remove a region after adding it, select the region and select the left arrow. If you chose to **Load Regions from File,** refer to Screen 19Bfor detailed instructions.

If you would like to learn more about Dartmouth Atlas HRRs or HSAs visit http://www.dartmouthatlas.org/.

Select **Next** to continue.

Screen 24 – CMS Hospital Editor

24. This screen provides a listing of the hospitals found in the CMS Hospital Compare dataset based on your state and region selections. You may edit hospital names in this screen. Verify that the hospitals were assigned to the correct region.

Once you have finished altering this page, select **Next.**

Screen 25 – Edit and Select Hospitals for Reporting

Edit and Select Hospitals for Reporting

The following hospitals are available for reporting in your MONAHRQ generated Web site. Please review each section of hospitals closely. You may edit the hospital names and select "Save." Use the check boxes to indicate if you would like to report each hospital in the generated Web site. By default, each hospital is selected for reporting. Select the "Back" button to alter the hospital linking. If you choose to report a hospital with ONLY Local Discharge data, only the AHRQ Quality Indicators will be used in the Web site. If you choose to report a hospital with ONLY CMS data, only the CMS Measures will be used in the Web site.

Hospitals with CMS Hospital Comparison Data

CMS Provider ID	CMS Hospital Name	Region	Report Hospital
210001	WASHINGTON COUNTY HOSPITAL	Washington	☐
210002	UNIVERSITY OF MARYLAND MEDICAL CENTER	Baltimore	☐
210003	PRINCE GEORGES HOSPITAL CENTER	Takoma Park	☐
210004	HOLY CROSS HOSPITAL	Takoma Park	☐
210005	FREDERICK MEMORIAL HOSPITAL	Washington	☐
210006	HARFORD MEMORIAL HOSPITAL	Baltimore	☐
210007	SAINT JOSEPH MEDICAL CENTER	Baltimore	☐
210008	MERCY MEDICAL CENTER INC	Baltimore	☐
210009	THE JOHNS HOPKINS HOSPITAL	Baltimore	☐
210011	SAINT AGNES HOSPITAL	Baltimore	☐
210012	SINAI HOSPITAL OF BALTIMORE	Baltimore	☐
210013	BON SECOURS HOSPITAL	Baltimore	☐
210015	FRANKLIN SQUARE HOSPITAL CENTER	Baltimore	☐
210016	WASHINGTON ADVENTIST HOSPITAL	Takoma Park	☐
210017	GARRETT COUNTY MEMORIAL HOSPITAL	Morgantown	☐
210018	MONTGOMERY GENERAL HOSPITAL INC	Takoma Park	☐
210019	PENINSULA REGIONAL MEDICAL CENTER	Salisbury	☐
210022	SUBURBAN HOSPITAL	Washington	☐
210023	ANNE ARUNDEL MEDICAL CENTER	Washington	☐

< Back   Done   Cancel

25. This screen allows you to select which hospitals you would like reported in your Website. If you need to change a region assignment, select **Back**. You may edit hospital names on this screen.

Once you have finished altering this page, select **Done** to return to the MONAHRQ welcome screen. Proceed to screen 32 for instructions on the Website Wizard.

Building Instructions – Defining Regions and Hospitals Local Data and CMS Data

This section provides step-by-step instructions for defining your regions and hospitals if you loaded both your own local administrative data and the CMS Hospital Compare data. The process for defining your regions and hospitals will vary slightly by the type of data you have loaded. If you loaded only your own local inpatient discharge data, please go to screen 17. If you loaded only CMS Hospital Compare data, please go to screen 22.

Screen 26 – Define Regions and Hospitals Wizard
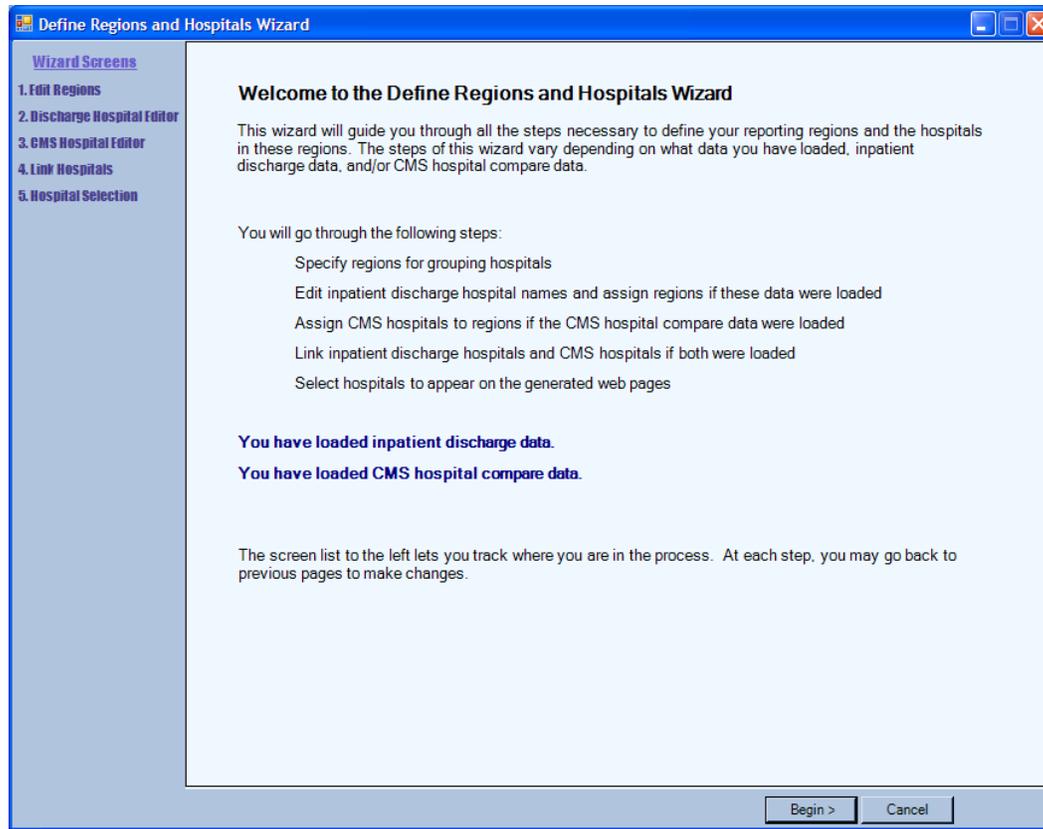
26. Once you finish loading your inpatient discharge data and the CMS Hospital Compare data, you can navigate to the Define Regions and Hospitals Wizard. This screen explains the Define Regions and Hospitals process.

Select **Begin** to continue.

Screen 27 – Define Regions for Hospital Groupings

27. Users may define hospital groupings by Dartmouth Atlas Hospital Service Areas (HSAs), Dartmouth Atlas Health Referral Regions (HRRs), a single region, or custom regions. Custom regions may be loaded from a CSV file or you may manually identify the custom regions by mapping hospitals to regions. Begin by selecting a state from the **Choose your state(s)** dropdown box. Then select the button indicating how you would like to group hospitals into regions. All CMS data from the selected states will be available for reporting.

If you would like to manually define regions, type the name into the **Region Name** field and select **Add Named Region**. Repeat this process until all regions have been added. If you would like to remove a region after adding it, select the region and select the left arrow. If you chose to **Load Regions from File,** refer to Screen 27B for detailed instructions.

If you would like to learn more about Dartmouth Atlas HRRs or HSAs visit http://www.dartmouthatlas.org/.

Select **Next** to continue.

27B – Load Regions Table

Load Regions Table

Use the browse feature to locate the regions file. This file must be a comma separated text file (.csv). (Example: c:\data\regions.csv)

☑ Clear existing regions before loading file.

Browse...

Load File

File Format

Regions must be on separate lines with region ID, region title, 2-letter state code, and active flag (Y/N) on each line. The title field must be enclosed in double-quotes if it can contain commas. All fields must be present.

Example

```
0,Unknown,XX,N
1,North,MN,Y
2,South,MN,Y
```

Close

27B. If you chose to load your regions from a CSV formatted external file in **Screen 27**, you will be taken to this screen to load the file.

There are four fields on each line of the CSV file. The first field must be a number that is the Region ID. The next field is the title of the region and must be enclosed in double-quotes if commas appear in this field. The third field is the two-letter state code. The fourth field must be a Y or N to indicate if the region is *selected* for reporting. This last value can be changed on the **Website Builder Wizard**.

A checkbox allows the user to clear existing contents.

Select **Browse** to find the appropriate file and then select **Load File**.

Once this step is complete, select **Close.**

Screen 28 – Edit Discharge Hospital Information

Edit Hospital Table

ID	Name	ZIP	County Name	Region	Discharges	Cost to Charge Ratio	CMS Provider ID
123456					8568	0.0000	
123457					10684	0.0000	
123458					8941	0.0000	
123459					2524	0.0000	
123460					969	0.0000	
123462					2856	0.0000	
123463					439	0.0000	
123464					16079	0.0000	
123465					14575	0.0000	
123466					10638	0.0000	
123467					3165	0.0000	
123469					36089	0.0000	
123470					20298	0.0000	
123471					2719	0.0000	
123472					3921	0.0000	
123473					18659	0.0000	
123474					6926	0.0000	
123475					12851	0.0000	
123476					17162	0.0000	
123477					35921	0.0000	
123478					12613	0.0000	
123479					20226	0.0000	
123480					25587	0.0000	

Load From File | Mask Hospital Names | Display Hospital List | Assign Cost to Charge Ratio | < Back | Next | Cancel

28. This screen allows you to alter the hospital assignment to region. If you chose Dartmouth HSAs or HRRs the hospital will already be assigned to a region; however, you may reassign to a different region if you would like. If you chose to load custom regions (manually or with a file), you may use the **Region** dropdown box to assign each hospital to a region. The **County Name** and **Region** dropdown boxes are prefilled; all you need to do is select your mapping choice. You may also edit the hospital **Name** and **Zip Code**.

You may assign a Centers for Medicare & Medicaid Services (CMS) provider ID manually (or by using the option to load from a hospital file), which will allow you to assign the all-payer (based on HCUP methodology) cost-to-charge ratios using CMS data from the Medicare Cost Reports. Once the CMS provider ID has been provided select the **Assign Cost to Charge Ratio** button. We strongly suggest that you review the assigned cost-to-charge ratios and make any appropriate adjustments – these ratios do not limit the range of acceptable values. A ratio of zero (0) will be treated as missing on the Web pages. Alternatively, you may manually (or by using the option to load from a hospital file) assign custom cost-to-charge ratios. In the **Website Wizard**, you will select to display costs or charges as available in the Web pages.

If you would like to randomly assign a masked hospital name, select **Mask Hospital Names** – this option will reassign all hospitals to a blinded or masked name (e.g., Hospital 1, Hospital 2). If you would like to unmask, select **Unmask Hospital Names** (which will appear once you have chosen to mask). Select **Display Hospital List** for a crosswalk of the original hospital names and the masked hospital names. You may want to print this list for future reference or to provide limited access to the MONAHRQ generated Website.

As an alternative, you may load hospital data from a previously created external file that maps the hospital identifier in the discharge data to hospital demographic data. If possible, load the information from a CSV file that lists the Hospital ID, FIPS county code, hospital name, ZIP Code, cost-to-charge ratio (if desired), region (if desired), and CMS provider ID (if desired). The Dartmouth Atlas HSAs will automatically assign county names and regions. To do so, select the **Load From File** button at the bottom of the screen. A window will pop up as shown on **28B**.

Once you have finished altering this page, select **Save** to continue.

Screen 28B – Load Hospital Table

28B. Once the hospital groupings have been defined, the Load Hospital Table screen will appear. This section provides host users the opportunity to apply demographics to each hospital in the data, such as hospital names, counties, ZIP Codes, cost-to-charge ratios, CMS provider ID, or regions. Information must be in a CSV-formatted file. Select the **Browse** button to locate the hospital file to be loaded.

Detailed instructions for the CSV file format are provided on the software screen.

Select options on how to load the file. We recommend always checking the **Overwrite existing hospital table entries** box. Overwriting is important if you are loading a hospital table for a different dataset where the hospitals may be different.

If you would like to use all hospitals in your dataset, select **Load entire file, including those with 0 discharges**. If you prefer to only include hospitals with discharges, choose **Cleanup hospital table**.

Once this step is complete select **Load File**. You will get a message listing the number of records loaded. Then choose **Close** to return to the previous screen, where data will be loaded automatically.

Screen 29 – Edit Discharge Hospital Information

Edit Discharge Hospital Information

ID	Name	ZIP	County Name	Region	Discharges	Cost to Charge Ratio	CMS Provider ID
123503	Hospital 1	21801	MD - Wicomico	Salisbury, MD	1153	0.0000	
123504	Hospital 9	21804	MD - Wicomico	Salisbury, MD	6	0.8491	210006
123502	Hospital 39	21740	MD - Washington	Washington, DC	924	0.6181	210054
123498	Hospital 6	21601	MD - Talbot	Baltimore, MD	524	0.6951	210038
123506	Hospital 14	21817	MD - Somerset	Salisbury, MD	4	0.8474	210048
123457	Hospital 35	20650	MD - St. Mary's	Washington, DC	534	0.9013	210035
123459	Hospital 16	20706	MD - Prince George'	Takoma Park, MD	122	0.6530	210013
123463	Hospital 23	20744	MD - Prince George'	Washington, DC	21	0.0000	
123462	Hospital 28	20735	MD - Prince George'	Washington, DC	159	0.0000	
123464	Hospital 32	20785	MD - Prince George'	Takoma Park, MD	804	0.8242	210004
123460	Hospital 8	20707	MD - Prince George'	Takoma Park, MD	52	0.8071	210060
123466	Hospital 13	20832	MD - Montgomery	Takoma Park, MD	532	0.7749	210023
123465	Hospital 15	20814	MD - Montgomery	Washington, DC	729	0.7481	210028
123469	Hospital 40	20910	MD - Montgomery	Takoma Park, MD	1805	0.7927	210017
123467	Hospital 46	20850	MD - Montgomery	Washington, DC	144	0.7311	210015
123470	Hospital 47	20912	MD - Montgomery	Takoma Park, MD	1016	0.8194	210032
123500	Hospital 11	21620	MD - Kent	Baltimore, MD	193	0.8184	210018
123472	Hospital 31	21044	MD - Howard	Baltimore, MD	173	0.7613	210024
123474	Hospital 21	21078	MD - Harford	Baltimore, MD	347	0.7138	210025
123471	Hospital 7	21014	MD - Harford	Baltimore, MD	135	0.7935	210011
123497	Hospital 19	21550	MD - Garrett	Morgantown, WV	152	0.8899	210012
123501	Hospital 34	21701	MD - Frederick	Washington, DC	983	0.8564	210029

Load From File   Unmask Hospital Names   Display Hospital List   Assign Cost to Charge Ratio   < Back   Next >   Cancel

29. Once you have loaded the hospital demographics from a file, you will return to the Edit Hospital Table. This table will now have the information from the loaded file prefilled. You may edit the hospital name, ZIP Code, cost-to-charge ratios, and CMS provider ID. We recommend that you review the county and region assignment for accuracy; some users prefer to slightly alter the assignments.

You may assign a CMS provider ID manually which is used to link your local discharge hospitals with the CMS hospitals.

CMS provider ID will also allow you to assign the all-payer (based on HCUP methodology) cost-to-charge ratios using CMS data from the Medicare Cost Reports. Once the CMS provider ID has been provided, select the **Assign Cost to Charge Ratio** button. We strongly suggest that you review the assigned cost-to-charge ratios and make any appropriate adjustments – these ratios do not limit the range of acceptable values. A ratio of zero (0) will be treated as missing on the Website. Alternatively, you may manually (or by using the option to load from a hospital file) assign custom cost-to-charge ratios. In the **Website Wizard**, you will select to display costs or charges as available in the Web pages.

If you would like to randomly assign a masked hospital name, select **Mask Hospital Names** – this option will reassign all hospitals to a blinded or masked name (e.g., Hospital 1, Hospital 2). If you would like to unmask, select **Unmask Hospital Names** (which will appear once you have chosen to mask). Select **Display Hospital List** for a crosswalk of the original hospital names and the masked hospital names. You may want to print this list for future reference or to provide limited access to the MONAHRQ generated Website.

Once you have finished altering this page, select **Next** to continue.

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Screen 30 – Link Local Inpatient Discharge and Hospital Compare

30. This screen allows you to manually link your local inpatient discharge hospitals loaded in screen 28B with available CMS Hospital Compare data. The available CMS Hospital Compare data are based on your state and region selections in screen 27.

The hospitals in the "Unlinked Local Inpatient Discharge Hospital" list are those that did not link based on CMS Provider ID. Review the hospitals provided in the "CMS Hospital Compare Data" box to find any that could link. You may sort the columns for easy viewing. When you have found the correct hospital in the CMS data, either copy and paste the CMS Provider ID into your local inpatient discharge data or manually enter the number. Select **Link and Refresh List** to save your changes.

Once you have finished altering this page, select **Next** to continue.

Screen 31 – Edit CMS Hospital Names and Assign Regions

31. This screen allows you to manually edit the CMS hospitals that do not correspond to your local inpatient discharge hospitals loaded in screen 28B. The available CMS Hospital Compare data are based on your state and region selections in screen 27.

The hospitals in the "CMS Hospital Compare Data" list are those that did not link based on Region. You may load a CMS Hospital Regions file using the **Load From File** option or you may select a Region using the ZIP Code shown. All CMS Hospitals must be matched to a Region in order to appear in the next section of the wizard. You may also edit and sort hospitals on this page.

Screen 32 – Edit and Select Hospitals for Reporting

32. This screen provides a listing of all hospitals loaded, allows you to make additional hospital edits, and allows you to select hospitals for reporting. You may edit hospital names in this screen. By default, all hospitals are selected for reporting. If you do not wish to report a given hospital, unselect the check box.

The first box provides all hospitals that linked successfully between the local inpatient discharge data and the CMS Hospital Compare data. The second box lists those hospitals with only local inpatient discharge data. The third box lists those hospitals with only CMS Hospital Compare data. If you need to make additional links between the datasets select the **Back** button to return to the hospital linking screen.

It is important to note that the completeness and availability of information in your MONAHRQ generated Website will vary by the types of data available. For hospitals with only local inpatient discharge data, the AHRQ QIs will be displayed. For hospitals with the CMS data only those measures will be displayed.

Once you have finished altering this page, select **Done** to return to the MONAHRQ welcome screen. Proceed to screen 32 for instructions on the Website Wizard.

Building Instructions – Website Wizard

Now that you have loaded your data and defined your regions and hospitals, you can generate your Website. This section provides step-by-step instructions for building and customizing your MONAHRQ generated Website. The Website options will vary slightly by the type of data loaded – these differences are noted.

Screen 33 –MONAHRQ
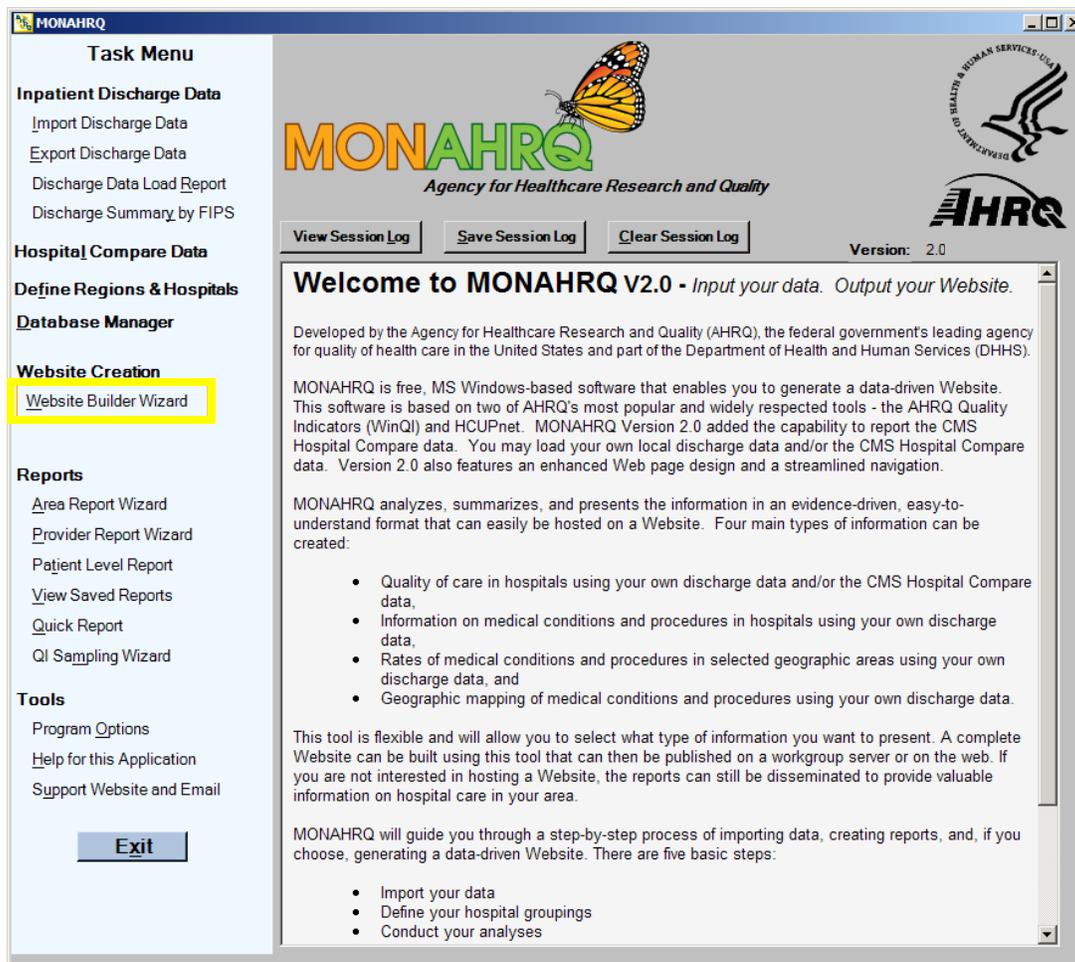
33. After you have loaded all the data, and defined your regions and hospitals, you will return to the MONAHRQ home screen. From this screen you may choose to generate a Website or reports.

The reports are those found in the AHRQ WinQI software. For more information about the WinQI reports, please visit: http://www.qualityindicators.ahrq.gov/software.htm. These reports do not affect your MONAHRQ generated Website.

The following screens show you the process for creating a MONAHRQ Website. Select **Website Builder Wizard** on the left side of the page to continue.

<u>Screen 34 – Welcome Screen</u>
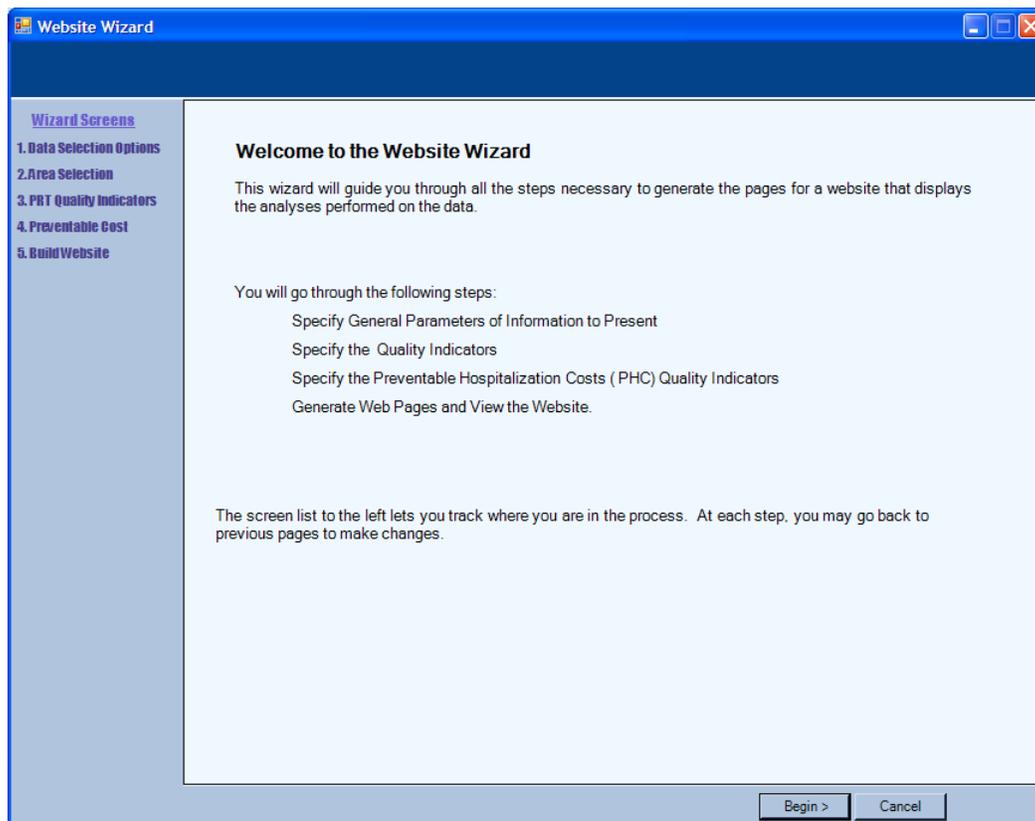
34. The Website Wizard Welcome screen briefly outlines the process of building your MONAHRQ Website.

Select **Begin** to continue.

Screen 35 – Data Selection Options

35. On the Data Selection Options screen, you will make several selections that affect the generated Web pages.

First, you should select a state and year for reporting. If you would like to report on discharges that reside (based on the Patient State County Code, PSTCO, data element) in a different state, you should select **Other** as your state. This selection will allow you to analyze any border crossings that occur within your dataset and report those findings in the Website; if you would like to restrict reporting to one state (based on PSTCO), you should select the appropriate state.

You should enter a phrase to describe the year of data analyzed by MONAHRQ (e.g., in 2006, from June 2006 to May 2007). This phrase will appear throughout the generated Website.

If you would like to suppress small discharge cell sizes or hospital display thresholds, you may enter the threshold number (e.g., enter 15 in the discharge display to suppress any discharge cell sizes with 15 or fewer cases).

You may select the denominator you would like to use in the county rates pathway as 1,000, 10,000, or 100,000. It may be more appropriate to use larger denominators for larger datasets. This option is only relevant if you have loaded your own administrative inpatient data.

If you either loaded custom cost-to-charge ratios or used the embedded CMS-based cost-to-charge ratios, you should select that the ratios are valid. You may then choose to display costs or charges on the generated Web pages. This option is only relevant if you have loaded your own administrative inpatient data.

You may select the ZIP Code radii used to search hospitals in the hospital-level paths. Select none to disable the ZIP Code search option in the generated Web pages. You may also remove regions from the Web pages by changing the value in the **Selected** column from **Y** to **N**.

Select **Next** to continue.

Screen 36 – Health Topics and Measures

36. This screen lists all quality measures by topic and subtopic. These groupings are used in the MONAHRQ generated Website. The available measures will vary by the type of data loaded. If you have loaded only CMS data then only CMS measures will appear. If you have loaded only your local discharge data then only AHRQ QIs will appear.

All of the indicators for each topic are preselected. Remove the check from the box for indicators you **do not** wish to show on your MONAHRQ Website.

All measures endorsed by the National Quality Forum (NQF) are marked (*). Basic methodological and explanatory information for the measures is provided in Table 4 of this guide. To learn more about the AHRQ QIs visit http://www.qualityindicators.ahrq.gov/. To learn more about the CMS measures visit http://www.hospitalcompare.hhs.gov.

Select **Next** to continue.

Screen 37 – Potentially Avoidable Hospitalizations

37. This screen provides a set of tabs for reporting **Potentially Preventable Hospitalization Information** in the Website for each indicator. All of the items are preselected. Remove the check from the box for indicators you **do not** wish to show on your MONAHRQ Website. All items endorsed by the National Quality Forum (NQF) are marked (*).

This screen is only relevant if you have loaded your own administrative inpatient data.

Select **Next** to continue.

<u>Screen 38 – Build Website – Generate Web Pages</u>

38. The Generate Web Pages screen allows you to choose the look and feel of your MONAHRQ generated Website. To begin, select the **Browse** button to locate the folder to store the Web pages once produced.

Next, check the pages you would like included on your Website in the **Pages To Generate** section. If you only loaded CMS Hospital Compare data, only the Quality Indicators, Home Pages, and Images folder will appear. If you generate utilization and rates pages, you may choose to compute the medians by checking the **Compute Medians** box. Note that the median computing process may increase processing time by 50%.

If you want to change the default settings for the font, Web page colors, or page styles, you can choose new options in the **Colors and Fonts Customizations**. For examples of the possible layouts, select the **Show Style Models** button. The fluid style will adjust based on the Website user's computer settings and type of browser while the fixed style will remain more constant across different computers and browsers.

In the **Web Page Options section,** enter the name you would like to appear in the banner across the top of your page in the **Entity Name in Site Header**, and then enter the name you would like to appear in the browser in the **Browser Title** section.

Next, select the **Browse** button to locate a picture of a logo that you would like to appear. The program will use the default setting for **Logo Image** and **Image Size – Height**. The page can be customized by changing these settings. You may upload any image (png, jpg, bmp, or gif) and designate the desired size. Files that are not compatible will not show in banner/header.

The **Area Description Name** is inserted into the narrative text throughout the Web pages; type in the name that you would like to appear in the text.

The look of the pages can be tested by creating a shell of the Web pages before creating the content pages. This can be done by selecting the following checkboxes in the **Pages To Generate** section:

- Home Pages,
- Create Images Folder,
- Style Sheet, and
- Header and Footer.

Once you have chosen the elements and design of your page, select **Create Pages**. This process may take a considerable amount of time—upwards of 1 to 3 hours, depending on the size of the dataset. You can monitor your status in the Progress Status box. When completed, the progress status of **All Pages Written** will appear.

If you would like to further customize the Website, you may alter the generated HTML pages. Introductory information is provided in Part III of this guide.

Select **Show Site** to check the Website. You may review pages at any time by opening the **home.html** page in the directory where you saved the created Web pages. If you are using Internet Explorer, you will need to allow it to display blocked content.

Your MONAHRQ generated Website has now been created.

Screen 39 – Program Options (optional)

39. The Program Options in MONAHRQ are set based on a typical state's dataset. If your dataset has greater than 600 hospitals then the Maximum number of hospitals should be increased. If the dataset is quite large then the analyses and queries may need additional time to compute. Under the **Performance** section you can increase these defaults.

The Logging section allows you to automatically save the session or log file.

Once you have finished altering the program options, select **Save** to return to the main MONAHRQ screen and proceed to the Import Data Wizard (screen 3).

Part III: MONAHRQ Generated Web Pages

Homepage

The MONAHRQ homepage displays four distinct pathways:
1. The Hospital Quality Ratings pathway provides hospital ratings for the public and the other detailed statistics.
2. The Hospital Utilization pathway allows users to compare hospitals by the number of patients they treat for different medical conditions and procedures.
3. The Maps of Avoidable Hospital Stays pathway allows users to compare counties by rates of potentially avoidable hospital stays and cost saving from reducing avoidable stays.
4. The County Rates of Hospital Use pathway allows users to compare counties by rates on inpatient medical conditions and procedures.

MONAHRQ host users can select which pathways to display and also customize the elements and design of the generated Web pages in the MONAHRQ application.

Hospital Quality – Navigation Page

In the Hospital Quality Ratings path, users choose hospitals by a full list of hospitals, by ZIP Code, or by region. Then the user chooses the health topic of interest for hospital ratings by Quality Indicators or CMS Hospital Compare measures depending on the type of data loaded by the host user.

Host users have the option to define regions, select ZIP Code radii for searching, and select which measures to report.

Hospital Ratings – Classification Page

The Hospital Ratings table classifies hospitals into one of four categories. The classification scheme varies by the measure type and the data available for each measure. Users can access detailed statistics, bar charts, and help from this page. Hospitals are compared to the nationwide average and to the average of reported hospitals in the Website (i.e., the input file mean).

The Detailed Quality Statistics page displays the same information with two additions: (1) rates and confidence intervals (as available) are listed for each measure next to the icon, (2) there is an icon to access all statistics available for the selected measure (e.g., risk-adjusted rates, observed rates, confidence intervals, observations).

Host users have the option to choose which measures display and change the icons (detailed in a separate guide available at www.monahrq.ahrq.gov).

Hospital Ratings – Bar Chart Page
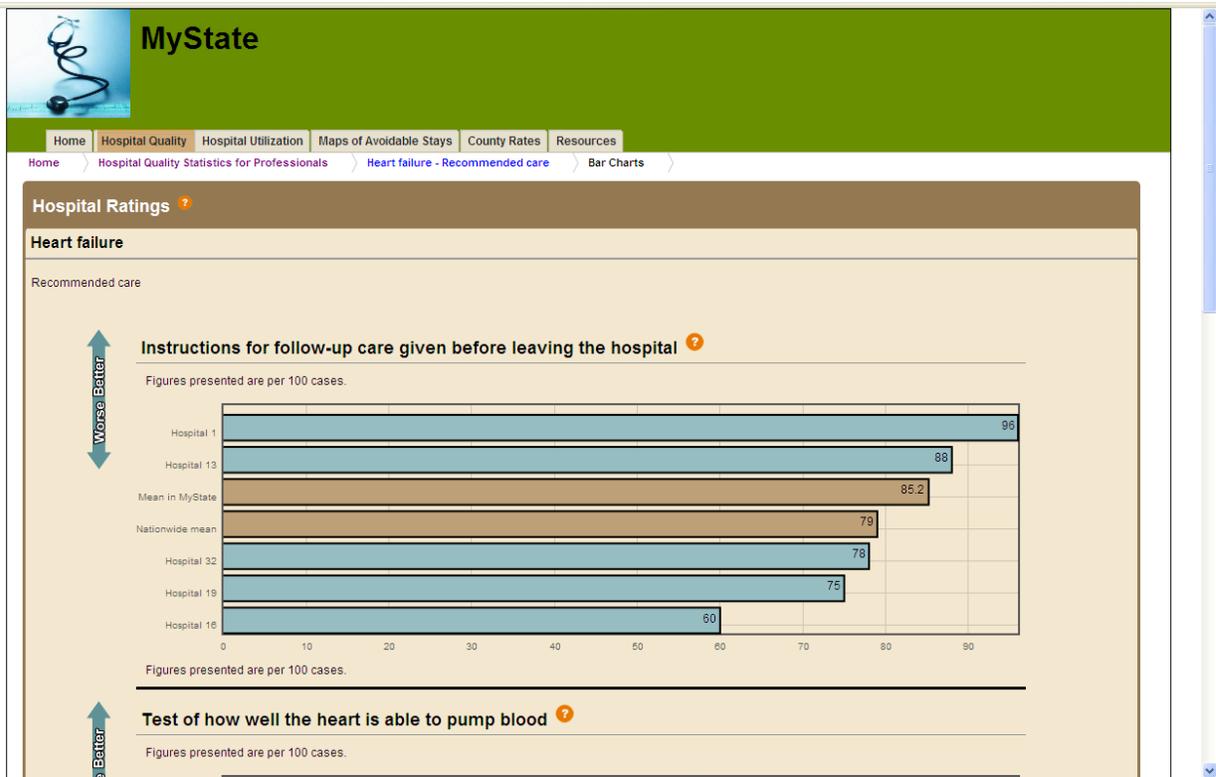
Hospital ratings and benchmark values are displayed in bar charts for each measure. Hospitals are sorted from best to worse.

Hospital Ratings – Bar Chart Page as Text

My-State

| Home | Hospital Quality | Hospital Utilization | Maps of Avoidable Stays | County Rates | Resources |

Home › Quality Ratings for the Public › Pneumonia - Recommended care › Bar Charts ›

Hospital Ratings ?

Pneumonia

Recommended care

Pneumonia shot given (if needed) ?

Figures presented are per 100 cases.

Results are sorted from better to worse.

Hospital Name or Benchmark Mean	Rating
Facility 12	100
Top 10% in My-State	100
Nationwide top 10%	100
Facility 14	97
Mean in My-State	95.3
Nationwide mean	93
Facility 11	88
Facility 13	75

Figures presented are per 100 cases.

Flu shot given (if needed) ?

Figures presented are per 100 cases.

Results are sorted from better to worse.

Hospital Name or Benchmark Mean	Rating
Facility 12	100
Top 10% in My-State	100
Nationwide top 10%	100
Facility 14	96
Mean in My-State	94
Nationwide mean	91
Facility 11	89
Facility 13	80

Figures presented are per 100 cases.

Hospital ratings and benchmark values are displayed in text charts for each measure. Hospitals are sorted from best to worse. To view charts as text, select the "Display charts as text" box on the previous page.

Hospital Ratings – Detailed Statistics Page

MyState

| Home | Hospital Quality | Hospital Utilization | Maps of Avoidable Stays | County Rates | Resources |

Home   Hospital Quality Statistics for Professionals   Detailed Statistics

Measure details for Dying within 30-days after getting care in the hospital for a heart attack ?

Select Report for Copying | Use the Edit menu to Copy and Paste to another application.   < Back

Hospital or Benchmark	Denominator	Risk-Adjusted Rate	Risk-Adjusted Lower-bound CI	Risk-Adjusted Upper-bound CI
in MyState mean	-	13.4	-	-
Nationwide mean	-	16.2	-	-
Hospital 1	53	16.7	13.2	21
Hospital 10	73	15.9	12.6	20.2
Hospital 11	59	19.9	15.6	25.2
Hospital 12	49	15.2	11.3	19.8
Hospital 13	147	16.3	13	20.1
Hospital 14	197	16.6	13.3	20.2
Hospital 15	52	18.9	14.5	23.8
Hospital 16	41	16.5	12.5	21.5
Hospital 17	142	18.2	14.7	22.2
Hospital 18	2	-	-	-
Hospital 19	43	19.6	15.7	24.2
Hospital 2	-	-	-	-
Hospital 20	31	15.4	11.3	20.9
Hospital 21	666	15.2	12.9	18
Hospital 22	-	-	-	-
Hospital 23	19	-	-	-
Hospital 24	191	17.9	14.7	21.6
Hospital 25	300	15.7	12.7	18.7
Hospital 26	26	17.6	13.4	22.4
Hospital 27	16	-	-	-
Hospital 28	-	-	-	-
Hospital 29	35	15.1	11	20.1

Detailed statistics are reported for the selected measure by hospital. All available statistics for the given measures are displayed – the available statistics varies by type of measure.

Hospital Utilization – Navigation Page

In the Hospital Utilization path, users can choose hospitals by hospital, ZIP Code, region, or all combined with common groupings provided for ICD codes (MDC, DRG, CCS condition, CCS procedure).

This path is only available when local inpatient discharge data are loaded. Regions and ZIP Code radii are selected by host users.

Hospital Utilization – Results Page

MyState

Statistics by hospital for 2 Septicemia (except in labor) (DXCCS 2) in MyState, 2006

Select Report for Copying | Use the Edit menu to Copy and Paste to another application.   < Back

Hospital Name	Hospital County	Number of discharges (all-listed)	Number of discharges (principal)	Mean charges in dollars**	Mean costs in dollars**	Mean length of stay in days**
TOTAL U.S. in 2008 (standard error)*	--	1,501,272 (38,689)	791,270 (23,835)	$60,326 ($1,732)	$18,450 ($305)	8.8 (0.10)
ALL HOSPITALS IN MYSTATE	--	19,409	9,387	$66,477	$41,643	4.1
Hospital 1		1,050	631	$63,115	$48,744	4.6
Hospital 10		410	247	$68,900	$57,262	5.0
Hospital 11		74	36	$67,965	$49,988	3.1
Hospital 12		90	19	$58,849	$36,121	3.3
Hospital 13		468	274	$65,962	$43,884	4.3
Hospital 15		586	355	$56,488	$41,106	3.9
Hospital 16		14	9	$35,070	$30,280	3.2
Hospital 17		655	205	$88,935	$56,474	3.3
Hospital 18		468	222	$81,180	-	3.5
Hospital 19		121	60	$61,435	$44,700	2.7
Hospital 2		224	122	$60,858	-	4.3
Hospital 20		727	279	$77,235	-	4.0
Hospital 21		189	53	$93,821	$56,865	3.4
Hospital 22		875	373	$86,570	-	5.4
Hospital 24		371	103	$81,422	$42,421	4.5
Hospital 25		989	480	$65,976	$32,506	5.2
Hospital 27		76	46	$72,960	$56,274	4.0
Hospital 28		1	0	-	-	-
Hospital 29		493	215	$69,506	$58,781	3.6
Hospital 3		476	168	$75,036	$30,990	3.9
Hospital 30		803	489	$51,338	$24,945	3.3
Hospital 31		3	2	$226,213	$142,310	1.5

The Hospital Utilization report display county, number of discharges, charges, costs, and length of stay selected hospitals by selected grouping. Users can select a hospital name to access the discharge characteristics by demographics (race, age, gender) for the selected hospital.

Cost are based on charges that have been adjusted to costs, using hospital-specific cost-to-charge ratios. Host users can select to show cost and charge information. Cost will not be reported if host users choose not to show charge information.

The weighted national estimates are from the HCUP Nationwide Inpatient Sample (NIS), 2008, Agency for Healthcare Research and Quality (AHRQ), based on data collected by individual states and provided to AHRQ by the states.

Maps of Avoidable Stays – Navigation Page

In the Maps of Avoidable Stays pathway, users choose to view maps by health topic or by selecting all maps/summary tables.

This path is only available when local inpatient discharge data are loaded. Host users choose which measures to report.

Maps of Avoidable Stays – Maps Page
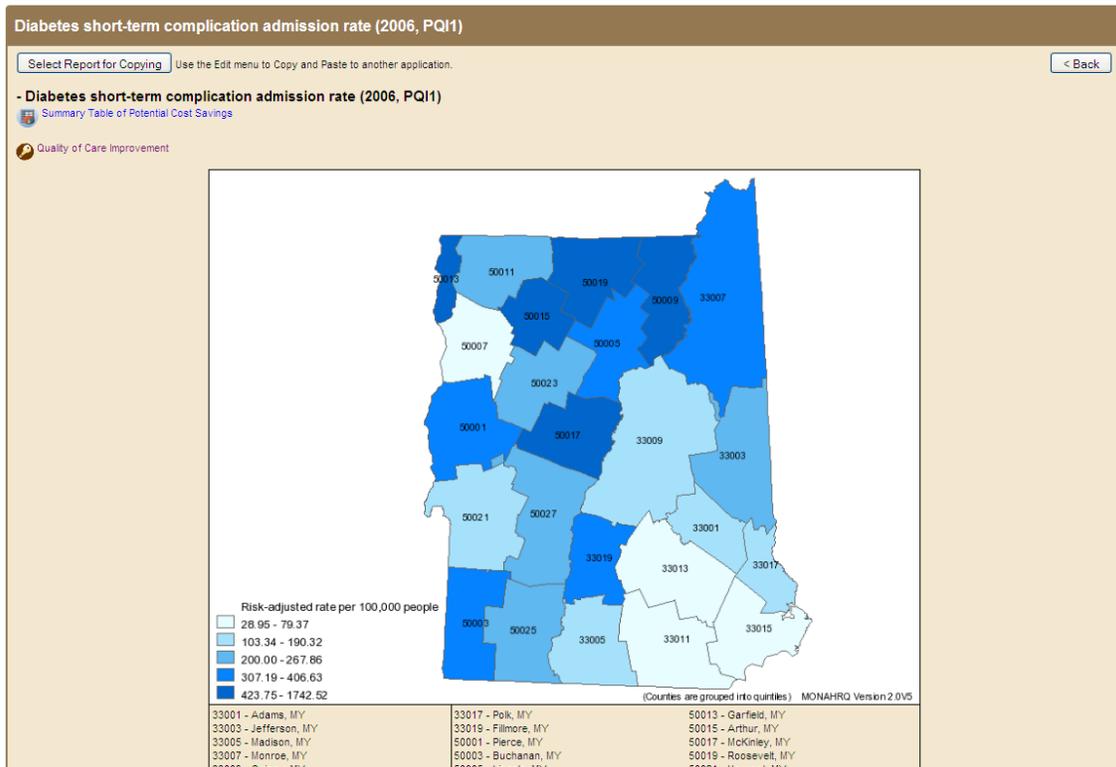
The map displays the rate per 100,000 people for each county with lighter colors indicating a lower rate. Some maps include links to Quality Improvement information.

Maps of Avoidable Stays – Summary Table of Potential Cost Savings Page

MyState

Home | Hospital Quality | Hospital Utilization | Maps of Avoidable Stays | County Rates | Resources

Home > Maps of Avoidable Stays > Congestive heart failure admission rate (2006, PQI8)

Congestive heart failure admission rate (2006, PQI8)

Select Report for Copying | Use the Edit menu to Copy and Paste to another application.   < Back

- Congestive heart failure admission rate (2006, PQI8)

County FIPS Code	Name	Numerator	Denominator	-- Rates per 100,000 -- Observed Rate	Risk Adjusted Rate	S.E. of Risk Adjusted Rate	-- Cost savings* with reduction in the numerator of -- 10%	20%	30%	40%	50%
33001	MY - Adams	412	48165	855.39	718.60	23.35	566,500	1,133,000	1,699,400	2,265,900	2,832,400
33003	MY - Jefferson	389	37747	1030.55	778.85	25.02	530,200	1,060,400	1,590,600	2,120,800	2,651,000
33005	MY - Madison	397	61257	648.09	597.65	21.69	505,000	1,010,000	1,515,000	2,020,000	2,525,000
33007	MY - Monroe	387	26078	1484.01	1061.75	29.27	503,500	1,006,900	1,510,400	2,013,900	2,517,400
33009	MY - Quincy	377	68603	549.54	493.22	20.22	486,500	973,100	1,459,600	1,946,200	2,432,700
33011	MY - Jackson	383	300060	127.64	133.98	10.46	447,300	894,700	1,342,000	1,789,400	2,236,700
33013	MY - Harrison	379	114434	331.20	322.49	16.31	533,300	1,066,600	1,599,900	2,133,100	2,666,400
33015	MY - Tyler	409	223357	183.11	192.50	12.14	485,900	971,900	1,457,800	1,943,800	2,429,700
33017	MY - Polk	364	93676	388.57	425.33	19.12	464,200	928,400	1,392,500	1,856,700	2,320,900
33019	MY - Fillmore	389	33115	1174.69	967.24	27.88	561,600	1,123,300	1,684,900	2,246,600	2,808,200
50001	MY - Pierce	363	28548	1271.54	1312.50	33.64	488,500	977,000	1,465,500	1,954,000	2,442,500
50003	MY - Buchanan	380	28893	1315.20	986.11	28.48	536,000	1,072,000	1,608,100	2,144,100	2,680,100
50005	MY - Lincoln	364	23933	1520.91	1320.92	33.68	444,600	889,300	1,333,900	1,778,600	2,223,200
50007	MY - Johnson	377	118114	319.18	375.46	17.66	503,100	1,006,300	1,509,400	2,012,500	2,515,700
50009	MY - Grant	392	5060	7747.04	6187.12	70.26	509,900	1,019,800	1,529,700	2,039,500	2,549,400
50011	MY - Hayes	370	35488	1042.61	1108.63	30.63	451,300	902,600	1,354,000	1,805,300	2,256,600
50013	MY - Garfield	393	5920	6638.51	6873.24	74.09	523,100	1,046,300	1,569,400	2,092,500	2,615,700
50015	MY - Arthur	364	19176	1898.21	1920.08	40.64	465,700	931,400	1,397,100	1,862,800	2,328,500
50017	MY - McKinley	399	22793	1750.54	1648.03	35.96	513,400	1,026,800	1,540,200	2,053,600	2,567,000
50019	MY - Roosevelt	383	21303	1797.87	1473.44	34.67	469,300	938,600	1,407,900	1,877,300	2,346,600
50021	MY - Howard	368	50684	726.07	596.98	22.52	482,700	965,400	1,448,100	1,930,800	2,413,500
50023	MY - Wilson	397	46686	850.36	788.10	24.92	476,900	953,700	1,430,600	1,907,400	2,384,300
50025	MY - Coolidge	382	34588	1104.43	957.95	28.00	461,900	923,700	1,385,600	1,847,400	2,309,300
50027	MY - Hoover	410	45451	902.07	716.76	23.38	522,500	1,045,000	1,567,500	2,090,000	2,612,500
TOTAL		9228	1493129	618.03	596.86	4.50	11,933,100	23,866,200	35,799,300	47,732,300	59,665,400

* Cost savings are based on charges that have been adjusted to costs, using hospital-specific cost-to-charge ratios.

The summary table of potential cost savings displays detailed statistics by county for the selected measure.

Cost savings are based on charges that have been adjusted to costs, using hospital-specific cost-to-charge ratios. Host users can select to show cost and charge information. Cost savings will not be available if host users choose not to report costs

County Rates – Navigation Page

In the Count Rates pathway, users can choose counties individually or all counties combined with common groupings provided for ICD codes (MDC, DRG, CCS condition, CCS procedure). To access maps of the data, users should select "All Counties" and a specific condition or procedure.

This path is only available when local inpatient discharge data are loaded. Host users select the denominator used in the county rates pathway as 1,000, 10,000, or 100,000.

County Rates – Results Page

MyState

Home | Hospital Quality | Hospital Utilization | Maps of Avoidable Stays | County Rates | Resources

Home > County Rates > Statistics by county for 2 Diseases & Disorders Of The Eye (MDC 2) in MyState, 2006

Statistics by county for 2 Diseases & Disorders Of The Eye (MDC 2) in MyState, 2006

Select Report for Copying | Use the Edit menu to Copy and Paste to another application.   < Back

Map of Counties

Hospital County	Number of discharges	Rate** of discharges (per 1,000 persons)	Mean costs in dollars***
TOTAL U.S. in 2008 (standard error)*	51,731 (2,746)	0.2	$7,182 ($254)
ALL COUNTIES IN MYSTATE	897	0.5	$14,314
33001 MY - Adams	45	0.7	$10,001
50015 MY - Arthur	31	1.3	$14,216
50003 MY - Buchanan	35	1.0	$13,936
50025 MY - Coolidge	34	0.8	$11,334
33019 MY - Fillmore	36	0.8	$15,978
50013 MY - Garfield	34	4.5	$14,874
50009 MY - Grant	32	5.0	$8,896
33013 MY - Harrison	37	0.3	$17,961
50011 MY - Hayes	47	1.0	$18,985
50027 MY - Hoover	42	0.7	$13,641
50021 MY - Howard	39	0.6	$15,188
33011 MY - Jackson	27	0.1	$10,718
33003 MY - Jefferson	50	1.1	$12,427
50007 MY - Johnson	32	0.2	$9,788
50005 MY - Lincoln	39	1.3	$12,990
33005 MY - Madison	34	0.4	$11,749
50017 MY - McKinley	43	1.5	$21,246
33007 MY - Monroe	39	1.2	$12,486
50001 MY - Pierce	42	1.1	$12,473
33017 MY - Polk	36	0.3	$11,343
33009 MY - Quincy	35	0.4	$12,293
50019 MY - Roosevelt	38	1.4	$31,452
33015 MY - Tyler	32	0.1	$12,185
50023 MY - Wilson	38	0.6	$11,148

*Weighted national estimates from HCUP Nationwide Inpatient Sample (NIS), 2008, Agency for Healthcare Research and Quality (AHRQ), based on data collected by individual States and provided to AHRQ by the States. Total number of weighted discharges in the U.S. based on HCUP NIS = 39,885,120. Statistics based on estimates with a relative standard error (standard error / weighted estimate) greater than 0.30 or with standard error = 0 are not reliable, and are designated with a †.
**Rates are based on the number of hospital discharges, unadjusted for any population differences.
***Mean costs are unadjusted.

Statistics for County Rates are reported by county (based on patient residence if this data element was loaded), and includes the number of discharges and rate of discharges. Rates are based on the number of hospital discharges and county population data obtained from the US Census Bureau. Users may select the county code to access statistics by patient demographics (age, race, gender). Users may choose maps of counties to see the information displayed in a map format.

The weighted national estimates are from the HCUP Nationwide Inpatient Sample (NIS), 2008, Agency for Healthcare Research and Quality (AHRQ), based on data collected by individual states and provided to AHRQ by the states.

PART IV: CUSTOMIZING WEB PAGES: INFORMATION FOR A WEBMASTER

Many host users may want a more customized MONAHRQ Website than is possible using the basic functions included in the software. This section details the architecture of the MONAHRQ generated Website and provides a few helpful hints for organizations wanting to enhance the customization of the Website. The first step is to identify a Webmaster within the organization; this is typically the person responsible for creating and maintaining Websites. This section will provide a base knowledge of the Website, allowing a Webmaster to further customize the MONAHRQ generated pages.

Introduction to MONAHRQ Website Architecture

There are two basic types of pages, *navigation* and *content*. The *navigation* pages allow the Website user to go down the different paths that lead to the different types of *content* pages. The navigation pages start with the *home* page, which provides links to the pages for the four main paths. The navigation pages are created from templates that contain the static text and images of the pages, as well as *tags* for dynamic elements. The pages are converted into the final navigation pages by replacing the tags for the dynamic elements of the pages with the appropriate element. The content pages have no templates; they are created from scratch as they contain few images and little static text (these pages contain mostly tables of data).

Under the *Website Root* are three folders (*images*, *qual*, and *util*) and a set of files with extensions .html, .css, and .js. The .html files are the navigation pages and the .css and .js files are the building blocks for both content and navigation pages (discussed further below). All content pages live in content folders three levels down from the *Website Root*. Content is broken down into two main categories - quality (qual) and utilization/rates (util) with each of these further divided into two more levels.

Folder Structure of the Website

Website Root = the target folder from the MONAHRQ Website Wizard
- Navigation Pages and Building Blocks (created from templates)
- **images** = folder for graphics used on the site
- **qual** = high-level folder for quality content pages
    - **det** = midlevel folder for quality detail pages
        - **reg = content pages by region**
    - **PHC** = midlevel folder for Preventable Hospitalization Maps
        - **maps = content pages with PHC map images**
    - **PRT** = midlevel folder for Public Reporting Template content pages for hospital compare tables and bar charts.
        - **reg = content pages by region**
- **util** = high-level folder for utilization and rates content pages
    - **rav** = midlevel folder for rates and volumes pages
        - **agg =** content-level folder for aggregate detail pages
        - **cnty =** content-level folder for county detail pages
        - **cnty* =** content-level folders for county by code detail pages
    - **std =** midlevel folder for standard utilization pages
        - **agg =** content-level folder for aggregate detail pages
        - **hosp* =** content-level folders for hospital detail pages
        - **reg* =** content-level folders for regional detail pages

It is important for all content pages to exist at a consistent folder depth so that they have homogeneous callouts to the building blocks. Editing the content pages should never be necessary; therefore, all edits should be limited to files in the *Website Root.* The following is a list of the major navigation pages:

- index.html – the home page for the Website with links to the five main paths.
- Quality.html   . – the first page of the Quality path.

- AvoidableStays.html – the only navigation page of the Maps of Avoidable Stays path
- RatesMaps.html – the first page of the Rates of Conditions path.
- Utilization.html – the first page of the Utilization path.
- definitions.html – the common definitions paged referenced by other pages
- SiteMap.html – the site map page.

The building blocks for a MONAHRQ Website are cascading style sheets, JavaScript files, and a folder of images. All pages, whether *navigation* or *content,* use these building blocks. For navigation pages, the building blocks are called out from within their templates; for content pages, the callouts to the building blocks are created as the page is written. Navigation and content pages use different sets of building blocks. The table below shows this structure.

Table 1: Navigation and Content Page Structure

Navigation Pages			Content Pages
main.css		control.css	Content.css
fixed.css	fluid.css		
JavaScripts: header0.js, footer0.js, sidebar.js			JavaScripts: Head.js, header.js, footer.js, sortable.js ,stripetable.js, noData.js
images folder			

The main.css file holds the styling for navigation pages and is created from either the fixed.css or fluid.css template style sheets depending on the choices made within the Website Wizard. The content.css file holds the styling for content pages and is created from a template of the same name. The control.css file is used to make MONAHRQ data paths invisible if the host user does not generate those pages. It holds the styles for the home page and sidebar links. JavaScript is used to generate the common header and footer; however, navigation and content pages each have sets of these script files as the content differs.

These template versions of the building blocks are stored in the HTML folder under the application folder for MONAHRQ [C:\Program Files\AHRQ\MONAHRQ]. These are converted as needed and placed in the target folder when MONAHRQ creates a Website. Edit the navigation pages and building block files in the target Website root folder after the Website has been generated. Edits cannot be viewed in the HTML template until after the Website has been generated.

Adding/Removing Content

The page styling of MONAHRQ is done entirely in the main.css file. This is demonstrated when trying to view a page in the browser without style sheets. To change colors, fonts, bullet style, or widths make the changes in the main.css file. To change the actual content of a navigation page, edit the html file for that page (check page names in the browser's address bar). Common page elements such as the header and the footer are not stored in each page; they are stored in JavaScript files that are used by all pages. This makes editing these common elements much easier. To add some advanced content to the common page header, edit the file header0.js. Below is a printout of the top of the home page and the entire header0.js file. Note how the main.css style sheet is referenced and the header0.js file is called out.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 …
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en"><head>
<title>Title for Web Browser</title>
<link rel="stylesheet" type="text/css" media="all" href="main.css" />
```

</head><body>

<div id="wrapper">

        <script language="JavaScript" type="text/JavaScript" src="header0.js"></script>

---

document.write('<div id="header"> <img src="…"><h1>State Healthcare Reform Agency</h1></div>');

Every navigation page starts with these same lines. The header on the navigation pages is just a division with one line of text. The background and size of the header is governed by a section in main.css that applies styles to #header. Here is that section of main.css.

```
#header {
        background: #DDDDDD;
        height: 40px;
        width: 888px;
        padding:0;
}
#header h1 {
        text-align: left;
        vertical-align: middle;
        color: black;
        font-family: Arial, Helvetica, sans-serif;
        font-size: 1.4em;
        font-weight: bold;
        margin: 0;
        line-height: 40px;
}
#header img {
        margin: 8px;
        background: transparent;
        float: right;

}
```

The styles above demonstrate that images can be added to the header and will be floated to the right end of the header. This can be done within MONAHRQ, but to add more than one image and to create a special layout for those images, edit both the header0.js and main.css files. Be sure to edit the header.js and content.css files used by content pages to keep the headers in sync. Remember that content pages are three directories below the navigation pages, so reference to elements such as images will need to include a relative path that looks like this: **../../../images/**.

Another common customization is adding items to the sidebar menu. This is contained in the SideBar.html file. The menu is actually two unordered lists of hyperlinks, one list is for links within the Website and the other list is for related links. To add a link, just add a new list item with the desired text and link destination (URL). The following is an example where a Contact Us link has been added (in red text). You will need to regenerate all Web pages if you change the SideBar.html file since it is included verbatim in all Web pages with a sidebar menu. If you would like the sidebar to be dynamic, edit SideBar.html to have only a single line that calls the sidebar.js script (you will see a comment of how to do this on the last line of the SideBar.html file). You can then edit sidebar.js and the changes will be immediately shown. The sidebar.js JavaScript file is included with the system and it creates the same content as SideBar.html, but does it dynamically. You must edit SideBar.html before you generate Web pages.

<div id="sidebar">

```
<a href="#nonav" class="SkipLink">Skip Navigation Links</a>
<ul>
  <li id="lnkH"><a id="home" href="home.html">Home</a></li>
  <li id="lnkQ" class="QIpath"><a href="qualpath.html">Quality Indicators</a></li>
  <li id="lnkU" class="UTILpath"><a href="utilpath.html">Utilization Statistics</a></li>
  <li id="lnkM" class="PHCpath"><a href="PHCmaps.html">Maps</a></li>
  <li id="lnkR" class="RATESpath"><a href="ratespath.html">Rates</a></li>
  <li id="lnkS"><a href="site.html">Site Map</a></li>
  <li id="lnkD"><a href="definitions.html">Definitions</a></li>
  <li><a href="contacts.html">Contact Us</a></li>
</ul>
<ul class="rl">
<li class="hd">Related Links</li>
  <li><a href="http://www.qualityindicators.ahrq.gov" target="_blank">AHRQ Website for<br>Quality
Indicators</a></li>
  <li><a href="http://www.nlm.nih.gov/medlineplus/mplusdictionary.html" target="_blank">Medical
Dictionary</a></li>
</ul>
</div>
<!--  <script language="javascript" type="text/javascript" src="sidebar.js"></script>  -->
```

If any of the four major data paths are not generated the links to those path are removed from the Website by the control.css file. The home page and sidebar JavaScript do not need to be edited directly. There is one entry in the control.css for each hidden path. The CSS style below shows how this is done. Each link to one of the data paths is given one of four classes, and any of these style classes can be set to not display. Completely removing the style for class will allow it to appear on the Web pages.

```
.QIpath { display:none }
.PHCpath { display:none }
.UTILpath { display:none }
.RATESpath { display:none }
```

Conclusion

This document is meant to be an introduction to customize a MONAHRQ generated Website and not an exhaustive explanation on all the details. The basic elements outlined are an overview of the architecture and folder structure of the Website and tips for adding or removing specific content. To learn more about the customization options, explore the files in the Website root folder.

Table 2: Preparing Your Local Administrative Inpatient Data

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Age	Age in years at admission	Required	If this data element is missing, the discharge record will not be loaded.	Source value	Numeric. Convert to years; if age <365 days, set value to 0. If variable does not exist, it should be calculated from Admission Date and Date of Birth.
Sex	Gender of patient: male/female	Required	If this data element is missing, the discharge record will not be loaded.	1: Male 2: Female Other values mapped to <Exclude from dataset>	No data preparation needed. Source values, alpha or numeric, will be mapped to accepted numeric value (1, 2) or excluded during data load.
Hospital ID	Data source hospital number	Required	Data element used to facilitate data exploration and as a stratifier for provider-level indicators (in the QI reports section). If this data element is missing, the discharge record will be not be loaded.	Source value	No data preparation needed. Source values, alpha or numeric, accepted.
Year	Calendar year of patient's discharge	Required	Data element used to apply the proper fiscal year coding (e.g., ICD-9, CPT) and to assign the APR™ DRG Grouper used. Discharge year should be within the range of 1997 to present year. If this data element is missing, the discharge record will be not be loaded.	Source value, YYYY	Numeric: YYYY Discharge year should be within the range of 1997 to present year.

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Discharge Quarter	Calendar quarter of the patient's discharge	Required	Data element used to apply the proper fiscal year coding (e.g., ICD-9, CPT) and to assign the APR™ DRG Grouper used. If this data element is missing, the discharge record will be not be loaded.	1: January-March 2: April-June 3: July-September 4: October-December	If data element does not exist, it should be calculated from discharge date. Value must be numeric (1, 2, 3, 4) with no leading alpha characters.
Principal Diagnosis	ICD-9-CM diagnosis code without decimal points. Diagnosis 1 is the principal diagnosis.	Required	If this data element is missing, the discharge record will be not be loaded.	Source value; string value more than 5 characters will be shortened.	Decimal points, if any, must be removed before loading data. Do not remove leading or trailing zeros. Similarly, you should not include additional digits when they are not required. Diagnosis codes are always 3, 4, or 5 characters long. For example, a diagnosis code of 005.89 would be coded as 00589 in MONAHRQ
Key	Unique case identifier	Optional	If this data element is not available, users cannot link the discharge records in the Patient-Level Report back to the input data file.	Source value	Maximum length: 20 characters
Age in Days	Age in days at admission (coded only when the age in years is less than 1)	Optional	Used in the inclusion and exclusion criteria for indicators addressing neonates or neonatal conditions and in the Pediatric Quality Indicators (PDIs). If this data element is missing (and age is 0), generally, an alternative specification applies.	Age in days only applies for age < 1. If value is greater than 365, value will be changed to Missing.	Numeric: 0-364

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Race	Race of patient	Optional	Used to stratify the AHRQ QI rates. Records with this data element missing will be retained and the value set to Other. The rates and utilization paths will not be stratified by race if the data element is completely missing.	1: White 2: Black 3: Hispanic 4: Asian or Pacific Islander 5: Native American 6: Other 0: Missing 99: Retain value <Exclude from dataset >	Source values, alpha or numeric, can be mapped to accepted numeric value (1-6) or excluded during data value mapping.
Primary Payer	Expected primary payer	Optional	Used to stratify the AHRQ QI rates and utilization statistics. Records with this data element missing will be retained and the value set to Other.	1: Medicare 2: Medicaid 3: Private/HMO 4: Self-pay 5: No charge 6: Other 0: Missing 99: Retain value <Exclude from dataset >	Source values, alpha or numeric, can be mapped to accepted numeric value (0-6, 99) or excluded during data value mapping.

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Patient State/County Code	Federal Information Processing Standard (FIPS) State/county code of patient's residence	Optional	If this data element is missing, the discharge record will be excluded from area rate calculations and the Website Wizard cannot create maps by showing rates of preventable hospitalization by area. If patient codes are not available, hospital's codes can be loaded. We recommend that you analyze the area rates at the state or metro area level. Otherwise, patients who reside outside the same county as the hospital will be included in the numerator but not the denominator. The larger the geographic unit of analysis, the less likely it is that this situation will occur. If the hospital FIPS codes are used instead of the patient FIPS codes, the area rates must be interpreted with caution.	Source value	We recommend that you use the patient FIPS state/county code. FIPS codes may be obtained at http://www.census.gov/popest/geographic/codes02.html.

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Discharge Disposition	Disposition of patient	Optional	Used in the inclusion and exclusion criteria for several Prevention QIs (PQIs), Patient Safety Indicators (PSIs), and Inpatient QIs (IQIs). For indicators that rely on this field, records with this data element missing will be excluded from the denominator.	1: Routine 2: Short-term hospital 3: Skilled nursing hospital 4: Intermediate care 5: Another type of hospital 6: Home health care 7: Against medical advice 20: Died in the hospital 0: Missing <Exclude from dataset> 99: Missing <Exclude from dataset>	No data preparation needed. Source values, alpha or numeric, will be mapped to accepted numeric values (0-7, 20) or excluded during data load.
Admission Type	Admission type	Optional	Used in the inclusion and exclusion criteria for several PQIs, PSIs, and IQIs. For indicators that rely on this field, records with this data element missing will be excluded from the denominator.	1: Emergency 2: Urgent 3: Elective 4: Newborn 5: Trauma center 6: Other 0: Missing <Exclude from dataset>	No data preparation needed. Source values, alpha or numeric, will be mapped to accepted numeric values (0-6) or excluded during data load.

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Admission Source	Admission source	Optional	Used in the inclusion and exclusion criteria for several PQIs, PSIs, and IQIs. For indicators that rely on this field, records with this data element missing will be excluded from the denominator.	1: Emergency room 2: Another hospital 3: Another hospital, including long-term care 4: Court/law enforcement 5: Routine/birth/ other 0: Missing <Exclude from dataset>	No data preparation needed. Source values, alpha or numeric, will be mapped to accepted numeric values (0-5) or excluded during data load.
Length of Stay	Number of days from admission to discharge	Optional	Used in the exclusion criteria for several PSIs and PDIs; not used in PQIs or IQIs. If this data element is not available, indicators that rely on this field will be excluded from the denominator. In the utilization pathway, statistics by length of stay will be excluded if the data element is missing.	Source value	Calculate if needed, from discharge data and admission date. Same-day stay should be set to 0.
Days on Mechanical Ventilator	Number of days the patient spent on a mechanical ventilator	Optional	Optional data element is passed directly to the APR™ DRG Grouper. If this data element is not available, value will be set to default in the grouper software.	Source value	

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Birthweight in Grams	Birthweight for newborns	Optional	Optional data element that is passed directly to the APR™ DRG Grouper. If this data element is not available, value will be set to default in the grouper software. This field is not used as stratification criteria; ICD-9-CM diagnosis codes are used to indicate birthweight.	If value greater is than 7,000, value will be changed to Missing because higher values are considered invalid birthweights.	
Total Charge	Total charge associated with hospital stay	Optional	If this data element is not available, cost savings associated with reducing the level of potentially avoidable hospitalizations will not be included in summary report, costs and charges will be excluded from the utilization path, and cost will be excluded from the rates.	Source value. Must be integer (i.e., whole numbers only).	Must be integer: remove dollar signs and decimals (i.e., whole numbers only).
Diagnosis Code 2 – Diagnosis Code 35	Codes 2-35 are secondary diagnoses and would include any External Cause of Injury codes (E-codes).	Optional	Used in the inclusion and exclusion criteria for multiple indicators. The number of reported codes will affect rates.	Source value; string value more than 5 characters will be shortened.	Decimal points, if any, must be removed before loading data. Do not remove leading or trailing zeros. Similarly, you should not include additional digits when these are not required. Diagnosis codes are always 3, 4, or 5 characters long. Secondary diagnosis codes may include External Cause of Injury codes (E-codes).
Principal Procedure	ICD-9-CM Procedure Codes without decimals. Procedure code 1 is the principal procedure.	Optional	Used in the inclusion and exclusion criteria for several indicators.	Source value. String value more than 4 characters will be shortened.	Procedure codes are always 2, 3, or 4 characters. As with diagnosis codes, you should remove any decimal points and you should not add or remove characters on the left or ride side of the code.

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Procedure Code 2 – Procedure Code 30	ICD-9-CM Procedure Codes without decimals. Procedure codes 2-30 are secondary procedures.	Optional	Used in the inclusion and exclusion criteria for multiple indicators. The number of reported codes will affect rates.	Source value. String value more than 4 characters will be shortened.	Procedure codes are always 2, 3, or 4 characters. As with diagnosis codes, you should remove any decimal points and you should not add or remove characters on the left or ride side of the code.
Days to Procedure 1 – Days to Procedure 30	Days from admission to procedure. Procedure 1 is the principal procedure; procedures 2-30 are secondary procedures.	Optional	Used in several PSIs and PDIs. If this data element is not available, an alternative logic applies.	Source value. It is expected that the number of Days to Procedure variables agrees with the number of procedure codes present.	If the data element does not exist, it should be calculated from the admission data and the procedure date(s).
Custom Stratifier 1 - Custom Stratifier 3	Custom stratification values	Optional	Custom stratifiers can be used in the reports section of the software (e.g., a user could stratify by type of hospital – teaching or nonteaching). This data element has no effect on the generated HTML pages.		
Present on Admission 1 - Present on Admission 35	Flag indicating whether diagnosis was present on admission	Optional	Present on admission (POA) data elements may eliminate false positives from PSI results. IMPORTANT: If you use these present on admission fields, a different set of risk adjustment covariates and reference population rates will be applied.	1 = present at the time of inpatient admission 0 = not present at the time of inpatient admission	Present on Admission flag (POA) should be included for all records or none of them. Mixing records with and without POA could adversely affect the expected rates. Please see Table 3 for a more detailed coding explanation for POA.

MONAHRQ Variable Name	Description	Required/ Optional	Ramifications of Exclusion	Default Element Coding	Data Preparation
Patient ID	Patient ID or medical record number for identification purposes only	Optional	None	It is recommended that you DO NOT USE this field unless required for external analysis.	It is recommended that you DO NOT USE this field.
Date of Birth	Patient date of birth for identification purposes only	Optional	None	It is recommended that you DO NOT USE this field unless required for external analysis, MM/DD/YYYY	It is recommended that you DO NOT USE this field, MM/DD/YYYY.
Admission Date	Date of patient admission for identification purposes only	Optional	None	It is recommended that you DO NOT USE this field unless required for external analysis, MM/DD/YYYY	It is recommended that you DO NOT USE this field, MM/DD/YYYY.
Discharge Date	Date of patient discharge for identification purposes only	Optional	None	It is recommended that you DO NOT USE this field unless required for external analysis, MM/DD/YYYY	It is recommended that you DO NOT USE this field, MM/DD/YYYY.

Table 3: Present on Admission Coding

ICD-9-CM Guidelines	ICD-9-CM Description	HCUP Data Element	HCUP Description
Y - Yes	Present at the time of inpatient admission.	1	Diagnosis present at admission.
N - No	Not present at the time of inpatient admission.	0	Diagnosis not present at admission.
U - Unknown	Documentation is insufficient to determine if condition is present on admission.	0	Diagnosis not present at admission.
W – Clinically undetermined	Provider is unable to clinically determine whether condition was present on admission or not.	1	Diagnosis present at admission.
E - Unreported/Not used	Exempt from POA reporting.	1	Diagnosis present at admission.
1 - Yes	Present at the time of inpatient admission.	1	Diagnosis present at admission.
0 - No	Not present at the time of inpatient admission.	0	Diagnosis not present at admission.
Blank	Missing	Blank	Missing

Table 4: Measure Details

The following tables provide detailed information on the measures of quality and types of statistics available in MONAHRQ. This information varies by the dataset loaded.

Childbirth:
When both the mother and the newborn do not have injuries after childbirth then good results are achieved. Childbirth practice patterns includes quality ratings on how often and when both C-sections and vaginal births are performed.
Practice Patterns: Information on the types of care provided in the hospital. This type of quality rating often shows information about the numbers of surgeries or procedures that a hospital performs.

Percentage of births (deliveries) that are C-section

How often babies in the hospital are delivered using cesarean section, which involves an operation, instead of by vaginal delivery.
• Lower rates are generally considered better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• Hospitals are not rated for this measure because there are currently no nationally agreed upon standards.

Clinical Title: Cesarean Delivery Rate
Measure Code: IQI21
Statistics Available: Observed Rate
Measure Source: <u>AHRQ Quality Indicator</u>

Uncomplicated vaginal births performed after C-section

How often babies in the hospital are delivered by means of a vaginal birth, when the mother previously delivered by cesarean section (involving an operation).
• Higher rates are generally considered better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• Hospitals are not rated for this measure because there are currently no nationally agreed upon standards.

Clinical Title: VBAC Delivery rate – uncomplicated
Measure Code: IQI22
Statistics Available: Observed Rate
Measure Source: <u>AHRQ Quality Indicator</u>

First birth deliveries performed as a C-section

For mothers delivering the first time, how often babies in the hospital are delivered using cesarean section (involving an operation), instead of by vaginal delivery.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Primary Cesarean Delivery rate
Measure Code: IQI33
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: <u>AHRQ Quality Indicator</u>

Vaginal birth after a previous C-section

How often babies in the hospital are delivered by means of a vaginal birth - when the mother has previously delivered by cesarean section (involving an operation). This indicator counts all VBACs, even those where a complication occurred during childbirth.
• Higher rates are generally considered better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: VBAC Delivery rate - all
Measure Code: IQI 34
Statistics Available: Numerator, Denominator, Observed Rate and CI
Measure Source: AHRQ Quality Indicator

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Newborns with a birth injury or infection

How often a newborn infant experiences a problem during the birth process (labor or delivery) such as a broken collarbone, an infection, or a head injury.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Birth trauma - injury to Neonate
Measure Code: PSI17
Statistics Available: Numerator, Denominator, Observed Rate and CI
Measure Source: AHRQ Quality Indicator

Obstetric injury after a vaginal delivery with medical instruments

How often a woman experiences a tear (trauma) to her perineum - the area between her vagina and rectum - while giving birth when a health care provider is helping to deliver her baby using a forceps or other medical instrument. Such tears are often preventable.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Obstetric trauma - vaginal delivery with instrument
Measure Code: PSI18
Statistics Available: Numerator, Denominator, Observed Rate and CI
Measure Source: AHRQ Quality Indicator

Obstetric injury after a vaginal delivery without medical instruments

How often a woman experiences a tear (trauma) to her perineum - the area between her vagina and rectum - while giving birth. Such tears, which can happen even when medical instruments are not used, are often preventable.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Obstetric trauma - vaginal delivery without instrument
Measure Code: PSI19
Statistics Available: Numerator, Denominator, Observed Rate and CI
Measure Source: AHRQ Quality Indicator

Heart Attack:
A heart attack (also called an AMI or an acute myocardial infarction) happens when the arteries leading to the heart become blocked and the blood supply slows or stops.

Recommended care: Information on how many patients got the care they needed such as the right medicine, surgery, or advice. These ratings are sometimes called process measures.

Aspirin given when patient gets to the hospital

Doctors should give aspirin to heart attack patients when they get to the hospital because it can help keep blood clots from forming. It also helps break up blood clots that may cause another heart attack.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients given aspirin at arrival
Measure Code: AMI-1
Statistics Available: Denominator, Observed Rate
Data Source: CMS Hospital Compare

Aspirin prescribed before leaving the hospital

Doctors should give heart attack patients a prescription for aspirin before they leave the hospital. For most patients, taking aspirin can keep blood clots from forming, improve the chances of survival, and help prevent another heart attack.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients given aspirin at discharge
Measure Code: AMI-2
Statistics Available: Denominator, Observed Rate
Data Source: CMS Hospital Compare

Medicine to help the heart work better given before leaving the hospital

For heart attack patients with a problem on the left side of their hear, Doctors should give them a special prescription for medicine that lowers blood pressure and makes it easier for the heart to work.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given ACE Inhibitor or ARB for LVSD
Measure Code: AMI-3
Statistics Available: Denominator, Observed Rate
Data Source: CMS Hospital Compare

Advice to stop smoking

Hospital staff should talk to heart attack patients who smoke about quitting, as smoking increases the chance of another heart attack, heart disease, and stroke. Patients who get even brief advice to quit smoking are more likely to stop.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given Smoking Cessation Advice/Counseling
Measure Code: AMI-4
Statistics Available: Denominator, Observed Rate
Data Source: CMS Hospital Compare

Medicine to lower blood pressure before leaving the hospital

Doctors should give heart attack patients a prescription for medicine called beta blockers. Taking this medicine lowers blood pressure, treats chest pain and heart failure, and can help prevent a future heart attack.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given Beta Blocker at Discharge
Measure Code: AMI-5
Statistics Available: Denominator, Observed Rate
Data Source: CMS Hospital Compare

Medicine to reduce blood clots given within 30 minutes of getting to the hospital

Doctors should give heart attack patients a medicine within 30 minutes of getting to the hospital to help break up blood clots and improve blood flow to the heart.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given Fibrinolytic Medication Within 30 Minutes Of Arrival
Measure Code: AMI-7a
Statistics Available: Denominator, Observed Rate
Data Source: CMS Hospital Compare

Procedure to open blood vessels done within 90 minutes of getting to the hospital

Doctors should do a procedure on heart attack patients within 90 minutes of getting to the hospital to help blood flow to the heart by opening blocked blood vessels. Blood vessels carry blood through the body.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given PCI Within 90 Minutes of Arrival
Measure Code: AMI-8a
Statistics Available: Denominator, Observed Rate
Data Source: CMS Hospital Compare

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Dying in the hospital after heart attack

Dying in the hospital after heart attack
Deaths in the hospital of patients who came in because they had a heart attack (also called an acute myocardial infarction or AMI).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Acute myocardial infarction (AMI) mortality rate
Measure Code: IQI 15
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Dying within 30-days after getting care in the hospital for a heart attack

Hospitals keep track of how many of their patients died soon after getting care for a heart attack (this is called a death rate). These rates show how many patients died within 30 days of going to the hospital for a heart attack, and takes into account how sick patients were before they went to the hospital.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Hospital 30-Day Death (Mortality) Rates for Heart Attack
Measure Code: 30DAY_MORT_HA
Statistics Available: Denominator, Risk-Adjusted Rate and CI
Data Source: CMS Hospital Compare

Returning to the hospital after getting care for a heart attack

Hospitals keep track of how many of their patients had to go back to the hospital soon after getting care for a heart attack (this is called a readmission rate). These rates show how many patients had to go back to a hospital within 30 days of their original stay. The patients may have needed hospital care because of their heart attack or for a different reason.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Hospital 30-Day Readmission Rates for Heart Attack
Measure Code: 30DAY_READM_HA
Statistics Available: Denominator, Risk-Adjusted Rate and CI
Data Source: CMS Hospital Compare

Heart failure:
Heart failure is a weakening of the heart's pumping power. With heart failure, your body doesn't get enough oxygen and nutrients to meet its needs.

Recommended care: Information on how many patients got the care they needed such as the right medicine, surgery, or advice. These ratings are sometimes called process measures.

Instructions for follow-up care given before leaving the hospital

Hospital staff should give follow-up care instructions to heart failure patients before they leave the hospital to help patients manage their symptoms and lower the chance of getting other health problems.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given Discharge Instructions
Measure Code: HF-1
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Test of how well the heart is able to pump blood

Doctors should give heart failure patients a test that shows how well the heart is pumping blood. The test results tell doctors which parts of the heart are not working well, and they can then treat the heart failure based on these results.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given an Evaluation of LVS Function
Measure Code: HF-2
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Medicine to make the heart work better given before leaving the hospital

Doctors should give heart failure patients a prescription for medicine to improve how the heart works before they leave the hospital. This medicine can lower blood pressure and make it easier for the heart to pump.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)
Measure Code: HF-3
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Advice to stop smoking

Hospital staff should talk to heart failure patients who smoke about quitting, Smoking increases the chance of another heart attack, heart disease, and stroke. Patients who get even brief advice to quit smoking are more likely to stop.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given Smoking Cessation Advice/Counseling
Measure Code: HF-4
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Dying in the hospital after heart failure

Deaths in the hospital of patients who came in because they had heart failure (called congestive heart failure).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Congestive heart failure (CHF) mortality rate
Measure Code: IQI 16
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Dying within 30-days after getting care in the hospital for a heart failure

Hospitals keep track of how many of their patients died soon after getting care for a heart failure (this is called a death rate). These rates show how many patients died within 30 days of going to the hospital for a heart failure.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality

Clinical Title: Hospital 30-Day Death (Mortality) Rates for Heart Failure
Measure Code: 30DAY_MORT_HF
Statistics Available: Denominator, Risk-Adjusted Rate and CI
Data Source: CMS Hospital Compare

Returning to the hospital after getting care for a heart failure

Hospitals keep track of how many of their patients had to go back to the hospital soon after getting care for a heart failure (this is called a readmission rate). These rates show how many patients had to go back to a hospital within 30 days of their original stay. The patients may have needed hospital care because of their heart failure or for a different reason.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Hospital 30-Day Readmission Rates for Heart Failure
Measure Code: 30DAY_READM_HF
Statistics Available: Denominator, Risk-Adjusted Rate and CI
Data Source: CMS Hospital Compare

Heart surgeries and procedures

Recommended care: Information on how many patients got the care they needed such as the right medicine, surgery, or advice. These ratings are sometimes called process measures.

Number of times a procedure is used to find blocked blood vessels in the heart on both sides of the heart instead of on only one side of the heart

Many patients undergo a "cardiac catheterization" to learn how well the heart is working. Usually, this is done by putting tubes in the arteries on one side of the heart, which is known to lead to fewer complications. This indicator shows how many patients getting this procedure have tubes put into the arteries on both sides of the heart (called a bi-lateral cardiac catheterization) which experts believe puts them at greater risk for complications.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Bilateral cardiac catheterization rate
Measure Code: IQI 25
Statistics Available: Numerator, Denominator, Observed Rate and CI
Measure Source: AHRQ Quality Indicator

Blood sugar level controlled after heart surgery

Hospital staff should help surgery patients keep their blood sugar as close to normal as possible after their surgery, as this can lower the Patient's chances of infections, heart attack, and brain, kidney, lung, and stomach problems.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Cardiac Surgery Patients with Controlled 6AM Postoperative Blood Glucose
Measure Code: SCIP-INF-4
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Dying in the hospital during or after having a surgery to bypass a blocked blood vessel in the heart

Deaths in the hospital following a coronary artery bypass graft, or CABG, which is designed to provide a way around clogged arteries in the heart.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Coronary artery bypass graft (CABG) mortality rate
Measure Code: IQI 12
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Number of surgeries to bypass blocked blood vessels in the heart

Research shows that the more times a hospital performs this surgery the more likely it is to have good results. Often, but not always, a hospital that has a higher number of surgery will have lower death rates.
• Hospitals are not rated for this surgery because there are currently no nationally agreed upon standards.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Coronary artery bypass graft (CABG) volume
Measure Code: IQI 05
Statistics Available: Observed Rate
Measure Source: AHRQ Quality Indicator

Dying in the hospital during or after a procedure to open up blocked vessels in the heart (angioplasty)

Deaths in the hospital following a procedure (called a percutaneous transluminal coronary angioplasty or PTCA) in which clogged arteries of the heart are opened up, and then kept open using wire mesh tubes or "stents."
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Percutaneous transluminal coronary artery (PCTA) mortality rate
Measure Code: IQI 30
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Number of procedures to open up blocked blood vessels in the heart (angioplasty)

Research shows that the more times a hospital performs this procedure the more likely it is to have good results. Often, but not always, a hospital that has a higher number of procedures will have lower death rates.
• Hospitals are not rated for this procedure because there are currently no nationally agreed upon standards.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Percutaneous transluminal coronary artery (PCTA) volume
Measure Code: IQI 06
Statistics Available: Observed Rate
Measure Source: AHRQ Quality Indicator

Other surgeries:
Brain surgery (craniotomy) and hip replacement are examples of other specific surgeries.

Practice Patterns: Information on the types of care provided in the hospital. This type of quality rating often shows information about the numbers of surgeries or procedures that a hospital performs.

Gallbladder was removed using a minimally-invasive procedure

How often a hospital did an operation to remove a patient's gallbladder using a "laparoscopic" approach (called a laparoscopic cholecystectomy). This approach involves less cutting and is considered a better choice when possible since it results in fewer complications and a faster, less painful recovery.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Laparoscopic cholecystectomy rate
Measure Code: IQI23
Statistics Available: Numerator, Denominator, Observed Rate and CI
Measure Source: AHRQ Quality Indicator

Recommended care: Information on how many patients got the care they needed such as the right medicine, surgery, or advice. These ratings are sometimes called process measures.

Healthy appendix removed in the elderly

How often a healthy appendix was removed from an elderly person in the hospital during an operation for another medical problem (called an incidental appendectomy). Health experts believe this should be avoided, but some surgeons still do it.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Incidental appendectomy among the elderly rate
Measure Code: IQI 24
Statistics Available: Numerator, Denominator, Observed Rate and CI
Measure Source: AHRQ Quality Indicator

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Dying in the hospital during or after surgery on the esophagus

How often patients died in the hospital after an operation to remove part or all of their esophagus (the tube leading from the throat to the stomach). This is called an esophageal resection.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Esophageal resection mortality
Measure Code: IQI 08
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Number of surgeries to remove part of the esophagus

The number of surgeries to remove part of the esophagus is a rare procedure. Research shows that the more times a hospital performs this procedure, the more likely it is to have good results. Therefore, when choosing a hospital you should look for the hospital with a higher number for this indicator.
• Hospitals are not rated for this surgery because there are currently no nationally agreed upon standards.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Esophageal resection volume
Measure Code: IQI01
Statistics Available: Observed Rate
Measure Source: AHRQ Quality Indicator

Dying in the hospital during or after pancreas surgery

How often patients died in the hospital after an operation to remove part of their pancreas (a digestive organ).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Pancreatic resection mortality
Measure Code: IQI 09
Statistics Available: Observed Rate
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Number of surgeries to remove part of the pancreas

Research shows that the more times a hospital performs this surgery the more likely it is to have good results. Often, but not always, a hospital that has a higher number of surgery will have lower death rates.
• Hospitals are not rated for this surgery because there are currently no nationally agreed upon standards.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Pancreatic resection volume
Measure Code: IQI 02
Statistics Available: Observed Rate
Measure Source: AHRQ Quality Indicator

Dying in the hospital during or after a surgical repair of an aortic aneurysm

How often patients died in the hospital after an operation to repair an enlarged blood vessel supplying blood to the lower half of the body (called an abdominal aortic aneurysm repair).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality

Clinical Title: Abdominal aortic aneurysm (AAA) repair mortality rate
Measure Code: IQI 11
Statistics Available: Observed Rate
Measure Source: AHRQ Quality Indicator

Number of surgical repairs of an aortic aneurysm

Research shows that the more times a hospital performs this surgery the more likely it is to have good results. Often, but not always, a hospital that has a higher number of surgery will have lower death rates.
• Hospitals are not rated for this surgery because there are currently no nationally agreed upon standards.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Abdominal aortic aneurysm 0volume
Measure Code: IQI04
Statistics Available: Observed Rate
Measure Source: AHRQ Quality Indicator

Dying in the hospital during or after brain surgery

How often patients died in the hospital following brain surgery (called a craniotomy).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Craniotomy mortality rate
Measure Code: IQI13
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Dying in the hospital during or after hip replacement

How often patients died in the hospital after an operation to replace a bad hip.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Hip replacement mortality rate
Measure Code: IQI14
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Patient experiences:
HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) is a national, standardized survey of hospital patients. HCAHPS (pronounced "H-caps") asks patients about their experiences during a recent hospital stay.

Communication: These ratings show how satisfied patients say they are with the way hospital staff communicated with them. Good communication means that hospital staff explained things clearly, listened carefully, and treated patients with courtesy and respect. This type of quality rating appears only in the "Patient Experiences" health topic. These ratings are collected from patient surveys.

How Often Did Doctors Communicate Well with Patients?

The survey asked patients about communication with their doctors. Good communication means that doctors explained things clearly, listened carefully, and treated patients with courtesy and respect.
• A good score is when patients indicate that their doctors "always" communicated well.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: How Often Did Doctors Communicate Well with Patients?
Measure Code: H_COMP_2_A_P
 Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

How Often Did Nurses Communicate Well with Patients?

The survey asked patients about communication with nurses. Good communication means that nurses explained things clearly, listened carefully, and treated patients with courtesy and respect.
• A good score is when patients indicate that their nurses "always" communicated well.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: How Often Did Nurses Communicate Well with Patients?
Measure Code: H_COMP_1_A_P
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

How Often Did Staff Explain about Medicines Before Giving Them to Patients?

The survey asked patients if they were told about new medicines and possible side effects.
• A good score is when patients indicated that hospital staff "always" explained medicines.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: How Often Did Staff Explain about Medicines Before Giving Them to Patients?
Measure Code: H_COMP_5_A_P
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

Were Patients Given Information About What to Do During Their Recovery at Home?

The survey asked patients about the information they got before they left the hospital. Hospital staff should talk to patients about the care they will need at home and give them information on symptoms and health problems to watch for.
• A good score is when patients report "yes" they received information about their recovery.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Were Patients Given Information About What to Do During Their Recovery at Home?
Measure Code: H_COMP_6_Y_P
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

Environment: These ratings show how satisfied patients say they are with the physical environment in the hospital. A good physical environment means that patients received help quickly, their pain was well-controlled, and the patient room was clean and quiet. This type of quality rating appears only in the "Patient Experiences" health topic. These ratings are collected from patient surveys.

How Often Did Patients Receive Help Quickly from Hospital Staff?

The survey asked patients about the timeliness of help when they used the call button and when they needed help getting to the bathroom or using a bedpan.
• A good score is when patients indicate that they "always" received help quickly. Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: How Often Did Patients Receive Help Quickly from Hospital Staff?
Measure Code: H_COMP_3_A_P
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

How Often Was Patients' Pain Well-Controlled?

The survey asked patients who needed pain medicine about the control of that pain and the helpfulness of hospital staff.
• A good score is when patients indicated their pain was "always" controlled well.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: How Often Was Patients' Pain Well-Controlled?
Measure Code: H_COMP_4_A_P
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

How Often Was the Area Around Patients' Rooms Kept Quiet at Night?

The survey asked patients about noise at night in the area around their hospital room.
• A good score is when patients indicate that the area around their rooms was "always" quiet.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: How Often Was the Area Around Patients' Rooms Kept Quiet at Night?
Measure Code: H_QUIET_HSP_A_P
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

How Often Were the Patients' Rooms and Bathrooms Kept Clean?

The survey asked patients about the cleanliness of their hospital room and bathroom.
• A good score is when patients indicate their rooms and bathrooms were "always" clean.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: How Often Were the Patients' Rooms and Bathrooms Kept Clean?
Measure Code: H_CLEAN_HSP_A_P
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

How Do Patients Rate the Hospital Overall?

The survey asked patients to rate the hospital on a scale of 0 to 10 (a 10 is the best score).
• A good score is when patients rate a hospital as a 9 or a 10 - higher is better.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: How Do Patients Rate the Hospital Overall?
Measure Code: H_HSP_RATING_9_10
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

Would Patients Recommend the Hospital to Friends and Family?

The survey asked patients if they would recommend the hospital to friends and family.
• A good score is when patients report "yes" they will recommend this hospital.
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Would Patients Recommend the Hospital to Friends and Family?
Measure Code: H_RECMND_DY
Statistics Available: Observed (by answer type), Response Rate (collapsed)
Data Source: CMS Hospital Compare

Pneumonia:
Pneumonia is a serious lung infection that causes difficulty breathing, fever, cough and fatigue.

Pneumonia shot given (if needed)

Hospital staff should check if pneumonia patients have gotten a pneumonia shot recently. If patients have not already gotten this shot, they should get it during their hospital stay because it still may prevent or lower the chance of getting pneumonia again.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Patients Assessed and Given Pneumococcal Vaccination
Measure Code: PN-2
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Blood test done before getting antibiotics

Doctors should give pneumonia patients a blood test before they get any antibiotics to help find out which bacteria may have caused the pneumonia. Different antibiotics work for different kinds of bacteria, so knowing the kind of bacteria will allow doctors to pick the right medicine.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Whose Initial Emergency Room Blood Culture Was Performed Prior to the Administration of the First Hospital Dose of Antibiotics
Measure Code: PN-3B
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Advice to stop smoking

Hospital staff should talk to pneumonia patients who smoke about quitting, as smoking increases the chance of getting pneumonia or other lung disease. Patients who get even brief advice to quit smoking are more likely to stop.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given Smoking Cessation Advice/Counseling
Measure Code: PN-4
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Antibiotics given within 6 hours of getting to the hospital

Hospital staff should give pneumonia patients an antibiotic to fight infection within 6 hours of getting to the hospital. Taking antibiotics early can cure pneumonia caused by bacteria and reduce the chance of complications.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given Initial Antibiotic(s) within 6 Hours After Arrival
Measure Code: PN-5C
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Right antibiotics given

Doctors should give patients the right antibiotic for the type of pneumonia they have, as different antibiotics are used to treat different kinds of bacteria that cause pneumonia.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Patients Given the Most Appropriate Initial Antibiotic
Measure Code: PN-6
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Flu shot given (if needed)

Hospital staff should check if pneumonia patients have gotten a flu shot recently. If patients have not already gotten this shot, they should get it during their hospital stay because it helps protect pneumonia patients from other lung infections, lowers the chances of getting the flu, and prevents the spread of flu. It is most important for pneumonia patients 50 and older.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Pneumonia Patients Assessed and Given Influenza Vaccination
Measure Code: PN-7
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Dying in the hospital while getting care for pneumonia

Deaths in the hospital of patients who came in with pneumonia.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Pneumonia mortality rate
Measure Code: IQI20
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Dying within 30-days after getting care in the hospital for pneumonia

Hospitals keep track of how many of their patients died soon after getting care for pneumonia. (this is called a death rate). These rates show how many patients died within 30 days of going to the hospital for pneumonia.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Hospital 30-Day Death (Mortality) Rates for Pneumonia Measure Code: 30DAY_MORT_PN
Statistics Available: Denominator, Risk-Adjusted Rate and CI
Data Source: CMS Hospital Compare

Returning to the hospital after getting care for pneumonia

Hospitals keep track of how many of their patients had to go back to the hospital soon after getting care for pneumonia (this is called a readmission rate). These rates show how many patients had to go back to a hospital within 30 days of their original stay. The patients may have needed hospital care because of their pneumonia or for a different reason.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Hospital 30-Day Readmission Rates for Pneumonia
Measure Code: 30DAY_READM_PN
Statistics Available: Denominator, Risk-Adjusted Rate and CI
Data Source: CMS Hospital Compare

Stroke:
A stroke happens when the blood supply to the brain stops. This topic includes carotid endarterectomy surgery, an operation intended to prevent stroke.

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Dying in the hospital after stroke

How often patients died in the hospital who came in after having a stroke.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Acute stroke mortality
Measure Code: IQI 17
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Dying in the hospital during or after a procedure to open up a blocked blood vessels leading to the brain

How often patients died in the hospital after a procedure to remove blockage in the arteries leading to the brain (called a carotid endarterectomy).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Carotid endarterectomy (CEA) mortality rate
Measure Code: IQI 31
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Number of operations to remove blockage in brain arteries

Research shows that the more times a hospital performs this procedure the more likely it is to have good results. Often, but not always, a hospital that has a higher number of procedures will have lower death rates.
• Hospitals are not rated for this procedure because there are currently no nationally agreed upon standards.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.

Clinical Title: Carotid endarterectomy volume
Measure Code: IQI 07
Statistics Available: Observed rate
Measure Source: AHRQ Quality Indicator

Surgical patient safety:
Many medical complications can be avoided if good care is given before, during, and after surgery. This topic shows how safe patients are who have surgery in the hospital.

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Dying in the hospital because a serious condition was not identified and treated

How often patients died after developing a complication that should have been identified quickly and treated (called failure to rescue).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Death in surgical inpatients (AKA Failure to Rescue)
Measure Code: PSI 04
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Hip fracture after surgery

How often hospital patients broke a hip bone from a fall following any kind of operation.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative Hip Fracture
Measure Code: PSI 08
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Bleeding or bruising after surgery

How often patients bled too much either within their body or outside their body (hemorrhage), or developed a large bruise or clot (hematoma) after an operation. All of these complications involved another operation to stop the bleeding or remove the blood clots.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative Hemorrhage or Hematoma
Measure Code: PSI 09
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Abnormal changes in internal body functions after surgery

How often hospital patients experienced problems with blood sugar control (if they have diabetes) or kidney failure (if they did not have previous kidney trouble) after having an operation (these problems are called postoperative physiologic and metabolic derangements).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative Physiologic and Metabolic Derangement
Measure Code: PSI 10
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Breathing failure after surgery

How often patients became unable to breathe on their own and needed a ventilator (a machine that helps someone breathe) following an operation, at least temporarily (called postoperative respiratory failure).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative Respiratory Failure
Measure Code: PSI 11
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Blood clot in the lung or leg vein after surgery

How often hospital patients developed a blood clot that ends up in the lungs (called a pulmonary embolism) or in a large vein (called deep vein thrombosis) after an operation.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative PE or DVT
Measure Code: PSI 12
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Severe bloodstream infection after surgery

How often hospital patients got a serious bloodstream infection following an operation (called postoperative sepsis).
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative Sepsis
Measure Code: PSI 13
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Surgical wound splits open after surgery on stomach or pelvis

How often a surgical wound in the stomach or pelvic area split open after an operation (called postoperative wound dehiscence in abdominopelvic surgical patients).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative Wound Dehiscence
Measure Code: PSI 14
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Recommended care before surgery: Information on how many patients got the care they needed such as the right medicine, surgery, or advice before a surgery.

Antibiotics given one hour before surgery

Hospital staff should give surgery patients antibiotics within 1 hour before surgery. Antibiotics are medicines that fight infections in your body which, given properly, can greatly lower your chances of getting an infection after surgery.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Surgery Patients Who Received Preventative Antibiotic(s) One Hour Before Incision
Measure Code: SCIP-INF-1
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Right antibiotics given

Hospital staff should give surgery patients the right kind of antibiotics to lower the chance of infection after surgery. The right antibiotic for a patient depends on the kind of surgery they had.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Surgery Patients Who Received the Appropriate Preventative Antibiotic(s) for Their Surgery
Measure Code: SCIP-INF-2
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Hair removed safely (if needed)

Hospital staff should use safe methods, such as electric clippers and hair removal cream, if they need to remove a patient's hair from the surgery area. Staff should not use a razor because of the risk of leaving small cuts on the skin.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Surgery Patients with Appropriate Hair Removal
Measure Code: SCIP-INF-6
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Medicine to lower blood pressure given (if needed)

Hospital staff should give medicine to surgery patients who have heart problems or are at risk for heart problems to lower their blood pressure. These patients may already take this medicine, and should continue to take it because it can lower the risk of death.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Surgery Patients Who Were Taking Heart Drugs Called Beta Blockers Before Coming to the Hospital, Who Were Kept on the Beta Blockers During the Period Before and After Their Surgery
Measure Code: SCIP-CARD-2
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Treatment prescribed to prevent blood clots

Doctors should give surgery patients a prescription for treatment to prevent blood clots from forming after certain surgeries. Blood clots can lead to heart attacks and strokes, and are one of the most common problems that people have related to surgery.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Surgery Patients Whose Doctors Ordered Treatments to Prevent Blood Clots (Venous Thromboembolism) For Certain Types of Surgeries
Measure Code: SCIP-VTE-1
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Recommended care after surgery: Information on how many patients got the care they needed such as the right medicine, surgery, or advice after a surgery.

Antibiotics stopped within 24 hours after surgery

Hospital staff should stop giving antibiotics to surgery patients within 24 hours after some surgeries because this increases the chances of side effects such as stomach problems and severe diarrhea.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality

Clinical Title: Surgery Patients Whose Preventative Antibiotics are Stopped Within 24 Hours After Surgery
Measure Code: SCIP-INF-3
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Blood sugar level controlled after heart surgery

Hospital staff should help surgery patients keep their blood sugar as close to normal as possible after their surgery, because this can lower their chances of infections, heart attack, and brain, kidney, lung, and stomach problems.
• A higher score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings do not include a significance test.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Cardiac Surgery Patients with Controlled 6AM Postoperative Blood Glucose
Measure Code: SCIP-INF-4
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Treatment prescribed to prevent blood clots

Hospital staff should give surgery patients treatment to prevent blood clots within 24 hours before and after certain surgeries. These treatments include blood-thinning medicines and special stockings that help blood move through the body.

• A higher score is better.

• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).

• Ratings do not include a significance test.

• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Surgery Patients Who Received Treatment to Prevent Blood Clots Within 24 Hours Before or After Selected Surgeries to Prevent Blood Clots
Measure Code: SCIP-VTE-2
Statistics Available: Numerator, Denominator, Observed Rate and CI
Data Source: CMS Hospital Compare

Other patient safety:
Hospital quality ratings for good results of surgical and nonsurgical care are provided. These results can occur in either surgical or nonsurgical cases.

Results of care: Information on what happened to patients while being cared for in the hospital or after leaving the hospital. These ratings are sometimes called outcome measures.

Dying in the hospital while getting care for a condition rarely results in death

How often patients died in the hospital when they had been admitted for a health problem that rarely results in death (called death in low mortality DRGs or diagnosis-related groups).

• A lower score is better.

• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).

• Ratings include a significance test that makes us more confident the hospital rating is accurate.

• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Death in low mortality DRGs
Measure Code: PSI 02
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Developing a bed sore in the hospital

How often patients developed a bed sore (a sore or wound on the skin), which can occur because people are lying in one position for too long.

• A lower score is better.

• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).

• The ratings for this condition include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Pressure ulcer
Measure Code: PSI03
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Surgical tool accidentally left in a body during surgery

How often a surgical instrument or tool, such as a scalpel or a sponge, was accidentally left in a patient's body during an operation.

• A lower score is better.

• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).

• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Foreign body left in during procedure
Measure Code: PSI05
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Accidental puncture of the lung

How often air leaks out of the patient's lung because someone accidentally punctured it during a medical procedure or operation (a complication called iatrogenic pneumothorax).
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Iatrogenic pneumothorax
Measure Code: PSI06
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Blood infection that patients with catheters developed while in the hospital

How often patients got a variety of infections as a result of the care they received in the hospital.
• A lower score is better.
• This rating takes into account how sick patients were before they went to the hospital (it is risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Central venous catheter-related bloodstream infections
Measure Code: PSI07
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Hip fracture after surgery

How often hospital patients broke a hip bone from a fall following any kind of operation.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative Hip Fracture
Measure Code: PSI 08
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Accidental cut or tear

How often patients were accidentally cut, making an unnecessary or dangerous hole or tear in an organ of the body (called an accidental puncture and laceration), while receiving medical care in the hospital.
• A lower score is better.
• This rating takes into account how sick patients were before they went to the hospital (it is risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Accidental Puncture or Laceration
Measure Code: PSI 15
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Blood transfusion reaction

How often a patient in the hospital had a bad reaction to donated blood.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Transfusion reaction
Measure Code: PSI16
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Bleeding or bruising after surgery

How often patients bled too much either within their body or outside their body (hemorrhage), or developed a large bruise or clot (hematoma) after an operation. All of these complications involved another operation to stop the bleeding or remove the blood clots.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Postoperative Hemorrhage or Hematoma
Measure Code: PSI 09
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Dying in the hospital after bleeding from stomach or intestines

How often patients died after they came in with heavy bleeding in their stomach or intestines.
• A lower score is better.
• This rating does not take into account how sick patients were before they went to the hospital (it is not risk-adjusted).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.

Clinical Title: Gastrointestinal (GI) hemorrhage mortality rate
Measure Code: IQI18
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Dying in the hospital after fractured hip

How often patients died in the hospital who came in with a broken hip.
• A lower score is better.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• Ratings include a significance test that makes us more confident the hospital rating is accurate.
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality.

Clinical Title: Hip fracture mortality rate
Measure Code: IQI19
Statistics Available: Numerator, Denominator, Observed Rate and CI, Expected Rate, Risk-Adjusted Rate and CI
Measure Source: AHRQ Quality Indicator

Avoidable stays:
An avoidable hospital stay is one that might have been avoided with better medical care outside of the hospital.

Chronic Lung Conditions

Adult asthma admissions

This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Adult asthma admission rate
Measure Code: PQI 15
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Chronic obstructive pulmonary disease admission rate

Patients who went to the hospital for chronic obstructive pulmonary disease (called COPD). COPD is a common lung disease that makes it difficult to breathe. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health
• care quality measurement.

Clinical Title: Chronic obstructive pulmonary disease admission rate
Measure Code: PQI 5
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Diabetes

Uncontrolled diabetes admission rate

Patients who went to the hospital for uncontrolled diabetes. Diabetes is a disease where blood sugar levels are too high. When diabetes is not properly managed it is called uncontrolled. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Uncontrolled diabetes admission rate
Measure Code: PQI 14
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Diabetes short-term complication admission rate

Patients who went to hospital for a short-term diabetes complication. Diabetes is a disease where blood sugar levels are too high. When diabetes is not properly managed there can be short-term complications. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Diabetes short-term complication admission rate
Measure Code: PQI 1
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Diabetes long-term complication admission rate

Patients who went to hospital for a long-term diabetes complication. Diabetes is a disease where blood sugar levels are too high. When diabetes is not properly managed there can be long-term complications. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Diabetes long-term complication admission rate
Measure Code: PQI 3
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Rate of lower-extremity amputation among patients with diabetes

Patients with diabetes sometimes have serious complications including having a limb amputated. Diabetes is a disease where blood sugar levels are too high. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Rate of lower-extremity amputation among patients with diabetes
Measure Code: PQI 16
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Heart Conditions

Hypertension admission rate

Patients who went to hospital because they had high blood pressure (called hypertension). Blood pressure is the force of your blood pushing against the walls of your arteries. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Hypertension admission rate
Measure Code: PQI 7
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Congestive heart failure admission rate

Patients who went to hospital because they had heart failure (called congestive heart failure). This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Congestive heart failure admission rate
Measure Code: PQI 8
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Angina without procedure admission rate

Patients who went to the hospital because they had chest pain (called angina). Angina is chest pain or discomfort you get when your heart muscle does not get enough blood. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Angina without procedure admission rate
Measure Code: PQI 13
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Other Conditions

Perforated appendix admission rate

Patients who went to hospital because their appendix ruptured (called a perforated appendix). This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Perforated appendix admission rate
Measure Code: PQI 2
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Dehydration admission rate

Patients who went to the hospital for dehydration. Dehydration means your body does not have as much water and fluids as it should. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Dehydration admission rate
Measure Code: PQI 10
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Bacterial pneumonia admission rate

Patients who went to the hospital for pneumonia. Pneumonia is a serious lung infection that causes difficulty breathing, fever, cough and fatigue. Bacterial pneumonia is a common infection that can often be treated with antibiotics. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Bacterial pneumonia admission rate
Measure Code: PQI 11
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Urinary tract infection admission rate

Patients who went to the hospital for a urinary tract infection (called UTI). A urinary tract infection is an infection that can happen anywhere along the urinary tract. Urinary tract infections can often be treated with antibiotics. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Urinary tract infection admission rate
Measure Code: PQI 12
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Low birth weight rate

How often a newborn has a low birth weight. Low birth weight can often be prevented with better maternal care. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Low birth weight rate
Measure Code: PQI 9
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Composites

Prevention Quality Indicator Composite - Overall

This score is based on how often patients were admitted to the hospital for reasons that might have been prevented: short-term diabetes complications, long-term diabetes complications, chronic obstructive pulmonary disease, high blood pressure, heart failure, chest pain, uncontrolled diabetes, adult asthma, diabetes patients with a limb amputated, dehydration, pneumonia, and urinary tract infections. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Prevention Quality Indicator Composite - Overall
Measure Code: PQI 90
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Prevention Quality Indicator Composite - Chronic Conditions

This score is based on how often patients were admitted to the hospital for chronic conditions that might have been prevented. Chronic conditions include: short-term diabetes complications, long-term diabetes complications, chronic obstructive pulmonary disease, high blood pressure, heart failure, chest pain, uncontrolled diabetes, adult asthma, and diabetes patients with a limb amputated. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Prevention Quality Indicator Composite - Chronic Conditions
Measure Code: PQI 92
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Prevention Quality Indicator Composite - Acute Conditions

This score is based on how often patients were admitted to the hospital for acute conditions that might have been prevented. Acute conditions are sudden and severe, including: dehydration, pneumonia, and urinary tract infections. This is not a measure of hospital quality. Evidence shows these hospital stays are potentially avoidable when patients have access to high quality outpatient care.
• A lower score is better. A lower score is shown as a lighter color.
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• This measure is endorsed by the National Quality Forum, an independent organization that sets standards for health care quality measurement.

Clinical Title: Prevention Quality Indicator Composite - Acute Conditions
Measure Code: PQI 91
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Patient Safety

Foreign body left in during procedure

How often a surgical instrument or tool, such as a scalpel or a sponge, was accidentally left in a patient's body during an operation. This is a measure of patient safety. It captures hospital stays caused by potentially avoidable complications. It also captures hospital stays in which potentially avoidable complications occur.

• A lower score is better. A lower score is shown as a lighter color.

• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).

Clinical Title: Foreign body left in during procedure
Measure Code: PSI 21
Statistics Available: Numerator, Denominator, Observed Rate
Measure Source: AHRQ Quality Indicator

Iatrogenic pneumothorax

How often air leaks out of the patient\'s lung because someone accidentally punctured it during a medical procedure or operation (a complication called iatrogenic pneumothorax).This is a measure of patient safety. It captures hospital stays caused by potentially avoidable complications. It also captures hospital stays in which potentially avoidable complications occur.

• A lower score is better. A lower score is shown as a lighter color.

• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).

Clinical Title: Iatrogenic pneumothorax
Measure Code: PSI 22
Statistics Available: Numerator, Denominator, Observed Rate
Measure Source: AHRQ Quality Indicator

Hospital acquired vascular catheter related infections

How often patients got a variety of infections as a result of the care they received in the hospital. This is a measure of patient safety. It captures hospital stays caused by potentially avoidable complications. It also captures hospital stays in which potentially avoidable complications occur.

• A lower score is better. A lower score is shown as a lighter color.

• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).

Clinical Title: Hospital acquired vascular catheter related infections
Measure Code: PSI 23
Statistics Available: Numerator, Denominator, Observed Rate
Measure Source: AHRQ Quality Indicator

Post-operative wound dehiscence

How often a surgical wound in the stomach or pelvic area split open after an operation (called postoperative wound dehiscence in abdominopelvic surgical patients). This is a measure of patient safety. It captures hospital stays caused by potentially avoidable complications. It also captures hospital stays in which potentially avoidable complications occur.

• A lower score is better. A lower score is shown as a lighter color.

• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).

Clinical Title: Post-operative wound dehiscence
Measure Code: PSI 24
Statistics Available: Numerator, Denominator, Observed Rate
Measure Source: AHRQ Quality Indicator

Accidental puncture or laceration

How often someone accidentally punctures or lacerates a patient during a medical procedure. This is a measure of patient safety. It captures hospital stays caused by potentially avoidable complications. It also captures hospital stays in which potentially avoidable complications occur.

• A lower score is better. A lower score is shown as a lighter color.

• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).

Clinical Title: Accidental puncture or laceration
Measure Code: PSI 25
Statistics Available: Numerator, Denominator, Observed Rate
Measure Source: AHRQ Quality Indicator

Transfusion reaction

How often a patient in the hospital had a bad reaction to donated blood. This is a measure of patient safety. It captures hospital stays caused by potentially avoidable complications. It also captures hospital stays in which potentially avoidable complications occur.
• A lower score is better. A lower score is shown as a lighter color.
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).

Clinical Title: Transfusion reaction
Measure Code: PSI 26
Statistics Available: Numerator, Denominator, Observed Rate
Measure Source: AHRQ Quality Indicator

Post-operative hemorrhage or hematoma

How often patients bled too much either within their body or outside their body (hemorrhage), or developed a large bruise or clot (hematoma) after an operation. All of these complications involved another operation to stop the bleeding or remove the blood clots. This is a measure of patient safety. It captures hospital stays caused by potentially avoidable complications. It also captures hospital stays in which potentially avoidable complications occur.
• A lower score is better. A lower score is shown as a lighter color.
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).

Clinical Title: Post-operative hemorrhage or hematoma - Area
Measure Code: PSI 27
Statistics Available: Numerator, Denominator, Observed Rate
Measure Source: AHRQ Quality Indicator

Procedure Rates

Coronary artery bypass graft rate

How often coronary artery bypass grafts (called CABG) are performed. CABG is a surgery designed to provide a way around clogged arteries in the heart. This is not a measure of hospital quality. It is a measure of practice patterns in an area. There can be wide variation in practice patterns that might suggest overuse or underuse.
• A lower score is better. A lower score is shown as a lighter color.
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).

Clinical Title: Coronary artery bypass graft rate
Measure Code: IQI 26
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Percutaneous transluminal coronary angioplasty rate

How often percutaneous transluminal coronary angioplasty (called PTCA) procedures are performed. During this procedure, clogged arteries of the heart are opened up, and then kept open using wire mesh tubes or "stents." This is not a measure of hospital quality. It is a measure of practice patterns in an area. There can be wide variation in practice patterns that might suggest overuse or underuse.
• A lower score is better. A lower score is shown as a lighter color.
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).

Clinical Title: Percutaneous transluminal coronary angioplasty rate
Measure Code: IQI 27
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Hysterectomy rate

How often a surgery to remove a woman's uterus is performed. This is not a measure of hospital quality. It is a measure of practice patterns in an area. There can be wide variation in practice patterns that might suggest overuse or underuse.
• A lower score is better. A lower score is shown as a lighter color.
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).

Clinical Title: Hysterectomy rate
Measure Code: IQI 28
Statistics Available: Denominator, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Laminectomy rate

How often a surgery is performed on patients with a herniated disc or spinal stenosis (called a laminectomy). The procedure can take pressure off spinal nerves or spinal column. This is not a measure of hospital quality. It is a measure of practice patterns in an area. There can be wide variation in practice patterns that might suggest overuse or underuse.
• A lower score is better. A lower score is shown as a lighter color.
• The number of hospital stays is provided for every 100,000 people who reside in that area (i.e., the population).
• The rate takes into account how sick patients were before they went to the hospital (it is a risk-adjusted rate).

Clinical Title: Laminectomy rate
Measure Code: IQI 29
Statistics Available: Numerator, Denominator, Observed Rate, Risk Adjusted Rate, S.E. of Risk Adjusted Rate
Measure Source: AHRQ Quality Indicator

Table 5: MONAHRQ Supplemental Files

There are several supplemental data files embedded in MONAHRQ. The following provides a summary of these files, explains how these files are used in the software, and provides links for additional information.

File	Where Used in MONAHRQ-Generated Website	Purpose	Source
AHRQ Quality Indictors software 4.2	Hospital Quality Ratings Avoidable Hospital Stays	Calculates the AHRQ Quality Indicators.	AHRQ Quality Indicators (http://www.qualityindicators.ahrq.gov/)
Cost-to-charge ratio files	Hospital Utilization Avoidable Hospital Stays	Estimate hospital costs based on charges.	Cost-to-charge-ratio files from AHRQ's HCUP project (file produced in 2010, http://www.hcup-us.ahrq.gov/db/state/costtocharge.jsp)
IRP and 3M DRG groupers	Hospital Quality Ratings Hospital Utilization Avoidable Hospital Stays County Rates	Assign MDC-DRG groupings to each hospital discharge record. CMS and MS groupings are assigned.	IRP and 3M (through FY 2011)
Census population data	Avoidable Hospital Stays County Rates	Provide denominators for area-level calculations.	Included in the AHRQ Quality Indicators software for Windows; originally obtained by AHRQ from the US Census Bureau (through 2010; http://www.census.gov/popest/datasets.html,)
Map Shape Files	Avoidable Hospital Stays County Rates	Provides Census boundary files for mapping software	Obtained from the US Census Bureau (2000 files used; http://www.census.gov/geo/www/cob/index.html)
Benchmarks for AHRQ Quality Indicators	Hospital Quality Ratings Avoidable Hospital Stays	Provide two types of pre-calculated benchmarks for the AHRQ Quality Indicators: -- Nationwide -- For the four major US Census regions (Northeast, Midwest, South, West)	Included in the AHRQ Quality Indicators software for Windows; originally calculated by AHRQ using 2008 SID data from AHRQ's HCUP project (http://www.hcup-us.ahrq.gov/).
Benchmarks for hospital utilization and county rates	Hospital Utilization County Rates	Provide two types of pre-calculated regional and national benchmarks for hospital and county rates and utilization: -- Nationwide -- For the four major US Census regions (Northeast, Midwest, South, West)	Calculated by AHRQ using 2009 NIS data from AHRQ's HCUP project (http://www.hcup-us.ahrq.gov/).
Dartmouth Atlas HRR and HSA files	Hospital Quality Ratings Hospital Utilization	Map hospitals to HRR or HSA regions. These are optionally used in the Website to select hospitals by region.	Dartmouth Atlas HRR and HSA files (accessed 2010; http://www.dartmouthatlas.org/).
DRG/CCS Label Files	Hospital Quality County Rates	Group ICD-9 diagnosis and procedure codes into meaningful clinical categories. These are used in Website to select conditions or procedures.	These are obtained from HCUPnet (http://hcupnet.ahrq.gov/)