Input Your Data – Output Your Website:
A Web-Based Tool for Quality and Utilization Reporting

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Development Team

Leveraging the Expertise of Four Organizations

Battelle
- Convert existing WinQI Wizard
- Produce QIs
- Adapt PHC mapping tool
- Test the tool

Social & Scientific Systems, Inc.
- Produce HCUPnet-like utilization queries
- Test the tool

THOMSON REUTERS
- Lead web development and presentation
- Coordinate design efforts
- Test the tool
The Efficiency and Quality Improvement Portal

Outline

- What is EQUIP?
- Why is it important?
- Who is the audience?
- How will EQUIP work?
- When will it be deployed?
**WHAT: The Concept**

A WEB-BASED TOOL THAT PROVIDES LOCAL INFORMATION ON HEALTH CARE USE, COSTS, VOLUME, AND QUALITY

- AHRQ creates and distributes software programs to generate web-based query system
- Local organizations use programs to host a web-based query system
- Local users access the web-based query system to obtain health care information

THE BIG QUESTION WAS: *IS THIS FEASIBLE*

*Project presented and approved as part of Value Portfolio Supports CVEs*
CONSUMERS NEED HEALTH CARE INFORMATION TO MAKE INFORMED CHOICES

“What hospitals in my area perform heart surgery?”

“How many bypass procedures are performed at hospital x versus hospital y?”

“What is the quality of care for cardiac procedures at hospitals in my area?”

“I don’t have insurance, how much should I expect to pay?”

CURRENTLY, THERE IS VERY LIMITED HEALTH CARE DATA AVAILABLE TO ANSWER SUCH QUESTIONS
State/local organizations have resource limitations
- Unable to develop comprehensive reporting system
- AHRQ can provide support for these organizations
DEPARTMENT OF HEALTH AND HUMAN SERVICES MISSION
Protecting the health of all Americans and providing essential human services, especially for those who are least able to help themselves.

THE AGENCY FOR HEALTHCARE RESEARCH AND QUALITY MISSION
Improving the quality, safety, efficiency, and effectiveness of health care for all Americans.
Hospital discharge data are already being collected.

Hospital discharge data can generate valuable healthcare information.

Consumers can use this information to make decisions.
WHO: Two User Groups – Host and End User

HOST: ORGANIZATION
BUILDING THE WEBSITE
State and local data organizations
Chartered Value Exchanges
Hospitals
Anyone with access to provider-level data

END USERS: PEOPLE
USING THE WEBSITE
Consumers
Health Planners
Policy Makers
Media
Data Analysts/Researchers

Multiple audiences but Consumers are the principal audience
HOW: The Making of EQUIP...

Storyboard

Iterative rapid development

EQUIP code

Continuous “Alpha” Testing

Beta Test: Larger number of testers
EQUIP code will be distributed to organizations that have access to hospital discharge data.

Host organization will implement code and load discharge data to create local EQUIP website on their own servers.

End users will access the EQUIP website to run queries about healthcare utilization, cost, and quality for local hospitals and areas.
### General Considerations as Development Proceeds

#### USING A SMART DEVELOPMENT AND DESIGN APPROACH

<table>
<thead>
<tr>
<th>Efficient development</th>
<th>Adapt existing programs to feed into the EQUIP system</th>
</tr>
</thead>
</table>
| Minimal burden        | Develop web system based on most commonly used programs and software platforms  
                        | Ensure methods can be understood by wide range of host users |
| Customizable features | Modular  
                        | Customizable user interface |
| Comprehensibility     | Ensure information adheres to standards for conveying statistics to public |
| Documentation         | Document methods throughout for host and end users |
| Accuracy              | Iterative testing of results |
Customizable Features

- Modular
  - User can choose which pieces to implement

- Generate user-defined reports

- Create maps of various measures

- Drill down on specific issues by patient and area characteristics

- Customizable Interface
  - Users can insert their logo and organization name
Welcome to HCUPnet

HCUPnet is a free, on-line query system based on data from the Healthcare Cost and Utilization Project (HCUP). It provides access to health statistics and information on hospital inpatient and emergency department utilization.

The Model: HCUPnet
Quick, Free Access to Data

Statistics on Hospital Stays

National Statistics on All Stays
Create your own statistics for national and regional estimates on hospital use for all patients from the HCUP Nationwide Inpatient Sample (NIS). Overview of the Nationwide Inpatient Sample (NIS)

State Statistics on All Stays
Create your own statistics on stays in hospitals for participating states from the HCUP State Inpatient Databases (SID). Overview of the State Inpatient Databases (SID)

Quick National or State Statistics
Ready-to-use tables on commonly requested information from the HCUP Nationwide Inpatient Sample (NIS), the HCUP Kids' Inpatient Database (KID), or the HCUP State Inpatient Databases (SID)

Statistics on Emergency Department Use

State Statistics on All ED Visits
Create your own statistics on emergency department visits for participating States from the HCUP State Emergency Department Databases (SEDD) and the SID. Overview of the State Emergency Department Databases (SEDD)

Quick State Statistics
Ready-to-use tables on commonly requested information from the SEDD and SID.

AHRQ Quality Indicators (QIs)
http://www.qualityindicators.ahrq.gov/
A Brief Technical Overview

Raw data from user

- Programs that load data, map values, transform data, and build data cubes
- SQL Server Database stores: Meta-data, transformed data, and data cubes

Census data
Comparison data
Labels

EQUIP Site Builder ("Wizard"): Moves host user through the process

Website query interface seen by end user

- HTML and .JPGs for QIs and Utilization information
- Navigation
- Formats

Web System
- Context and navigation page writers
- Script writers & cascading style sheet writers

- Page writers
- Graphics generators (for Utilization and QI data)

Navigation

Formats
THREE PATHS

UTILIZATION: HEALTH CONDITIONS AND PROCEDURES
View information on patient conditions across hospitals, for a specific hospital, or across geographic areas

RATES: HEALTH CONDITIONS AND PROCEDURES
View statistics on the rates of hospitalizations for specific health conditions and procedures for geographic areas

QUALITY INDICATORS FOR HOSPITALS AND AREAS
View measures of quality for hospitals or areas based on the AHRQ Quality Indicators
### Three Paths: Example Questions They Will Answer

<table>
<thead>
<tr>
<th>Utilization: Health Conditions and Procedures</th>
<th>Rates: Health Conditions and Procedures</th>
<th>Quality Indicators for Hospitals and Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many C-sections were performed at area hospitals?</td>
<td>What is the volume of CABG in this area?</td>
<td>How does the death rate for heart attack patients compare across four hospitals close to my home?</td>
</tr>
<tr>
<td>What was the average charge?</td>
<td>What is the rate of pneumonia hospitalizations in this region?</td>
<td></td>
</tr>
<tr>
<td>How long do patients usually stay in this hospital for C-sections?</td>
<td>What is the rate of blood transfusions in the state?</td>
<td>What is the rate of obstetric tearing after vaginal delivery in two hospitals close to my home?</td>
</tr>
</tbody>
</table>
A Peek at EQuIP – How will it work?

The **host user** (e.g., local/state organization, an individual hospital) will download the AHRQ EQuIP Tool and generate a website.

The **end user** (e.g., health consumers, analysts) will access the website created by the host user to obtain health care data.

Example screen shots follow...
This tool is the existing AHRQ Quality Indicators Wizard Is being expanded to build EQUIP Import Data Wizard – initial screen

A Peek at EQUIP – A Working Draft
What the Host Sees

This wizard will guide you through all the steps necessary.

You will go through the following steps:
- Select and Check File
- Specify Date Mappings
- Load Data
- Specify Reporting Options
- Perform Analysis

The screen list to the left lets you track where you are in the process. At each step, you may go back to previous pages to make changes.

After this wizard completes, you may run the Report Wizard as many times as you wish to generate data reports with different options.
Select Input File

Use the browse feature to locate the data file you want to analyze or directly enter the specific path to your data file in the space below.

(Example: c:\documents\data\mydatafile.xls)

C:\Temp\EQUiP\Data\newjersey_2004.csv

Browse...
Host User EQuIP Tool: Load and Map Data

Additional Options For: newjersey_2004.csv

- ☑ Values are enclosed in quotes (e.g. "value1", "value2")
  (Check this box if any values in any record have quotes that must be removed.)

- ☑ First row contains column headers

Data Mapping and Crosswalk

- ☑ My data is in an unknown format

- ☑ Use a mapping specified in a file
  - Mapping File: [Browse...]
    - [Documents and Settings]
collinsm
    - (Type: File, CommaSeparatedText)

- ☑ Skip validation and mapping screens (jump to Date Load)

Select options for loading and mapping data
This file stores all of the mappings for future use
Map input file variables to variables used by software
### Summary of Variables

This report summarizes the Data Mapping between the input file and the QI Dataset that you assigned on the previous screen. Certain variables are required for all indicators; you may not continue with the analysis unless there is an input assigned for each of these.

<table>
<thead>
<tr>
<th>Variables in Input File:</th>
<th>131</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Variables Mapped to QI Variables:</td>
<td>110</td>
</tr>
<tr>
<td>Unused Input Variables:</td>
<td>21</td>
</tr>
<tr>
<td>Unmapped Required QI Variables:</td>
<td>0</td>
</tr>
<tr>
<td>Unmapped QI Variable Warnings:</td>
<td>1</td>
</tr>
</tbody>
</table>

- **Variables**
  - **OI Variable**: Key, Age, Age in Days, Race, Sex, Primary Payor, Patient State/County Code, Hospital ID, Discharge Disposition, Admission Type, Admission Source, Length of Stay, Diagnosis Related Group, Discharge Year, Discharge Quarter, Days on Mech Ventilator, Birth Weight Grams, Total Charge.
  - **Input Variable (Column #)**: Key (K1), Age (A1), Age in Days (AEDAY), Race (RACE), Sex (SEX), Primary Payor (PAY), Patient State/County Code (PSTCD), Hospital ID (HOSPID), Discharge Disposition (DISP), Admission Type (ATYPE), Admission Source (ASOURCE), Length of Stay (LOS), Diagnosis Related Group (DRG), Discharge Year (YEAR), Discharge Quarter (DQTR), Days on Mech Ventilator (No Input Variable), Birth Weight Grams (No Input Variable), Total Charge (No Input Variable).

Preventive hospitalization mapping will ignore this field in calculating cost to charge ratio.
Map the values from the input data to standard values required by EQuIP
Data are loaded into an SQL Server
Host User EQUIP Tool: Summary Report

Data Load Summary
Data has been loaded from your input file and is ready for Quality Indicators analysis.
The following sections show descriptive statistics of the data as it has been loaded. You may go back and change any of your data mapping and crosswalk options and reload the file to correct any errors.

Total Flows Loaded: 1,198,380
Total Flows Excluded: 11
Number of variables per record: 131
Records with extra values (more than 131): 1,198,371

Record Warnings
<table>
<thead>
<tr>
<th>Column</th>
<th>Records Affected</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>11</td>
<td>Required field empty - Rows not loaded</td>
</tr>
<tr>
<td>Race</td>
<td>42,737</td>
<td>Value mapped to NULL based on crosswalk (info)</td>
</tr>
<tr>
<td>Primary payer</td>
<td>5</td>
<td>Value mapped to NULL based on crosswalk (info)</td>
</tr>
<tr>
<td>Admission Type</td>
<td>4</td>
<td>Value mapped to NULL based on crosswalk (info)</td>
</tr>
<tr>
<td>Admission Source</td>
<td>9,313</td>
<td>Value mapped to NULL based on crosswalk (info)</td>
</tr>
</tbody>
</table>

File Warnings
<table>
<thead>
<tr>
<th>Column</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis Code 31</td>
<td>Column of ICD-9-CM codes does not have any leading zeros (warning)</td>
</tr>
<tr>
<td>Diagnosis Code 32</td>
<td>Column of ICD-9-CM codes does not have any leading zeros (warning)</td>
</tr>
<tr>
<td>Diagnosis Code 33</td>
<td>Column of ICD-9-CM codes does not have any leading zeros (warning)</td>
</tr>
<tr>
<td>Diagnosis Code 34</td>
<td>Column of ICD-9-CM codes does not have any leading zeros (warning)</td>
</tr>
<tr>
<td>Diagnosis Code 35</td>
<td>Column of ICD-9-CM codes does not have any leading zeros (warning)</td>
</tr>
</tbody>
</table>

Variables
The following statistics describe the cleansed data that will be used for analysis. It does not include data from any rows that were excluded during the data load (either due to errors or user specified exclusions).

<table>
<thead>
<tr>
<th>Column</th>
<th>Number</th>
<th>Missing</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
</table>


Host User EQUIP Tool: Data Cubes

Create data cubes
Advancing Excellence in Health Care

EQUIP Site Builder ("Wizard"): Moves host user through the process

Raw data from user

Programs that load data, map values, transform data, and build data cubes

SQL Server Database stores: Meta-data, transformed data, and data cubes

Census data
Comparison data
Labels

Website query interface seen by end user

FORM: Which parts of EQUIP does the host want to create?

HTML and .JPGs for QIs and Utilization information

• Navigation
• Formats

Page writers
Graphics generators (for Utilization and QI data)

• Context and navigation page writers
• Script writers & cascading style sheet writers
A Peek at EQUIP – A Working Draft
What the End User Sees
Select to view data by service line or by health condition/procedure (DRG)

Allows easy access to the data through “view data now” feature
Select a specific hospital or an area

Allows easy access to the data through “view data now” feature

Allows download to Microsoft Excel of summary tables
# Utilization Path: Data by DRG

## Drill down for more information on a specific condition/procedure

## Sort data by any of these columns

### Community Healthcare Value Exchange

<table>
<thead>
<tr>
<th>Diagnosis Related Group</th>
<th>Number of discharges</th>
<th>Percent of discharges</th>
<th>Mean charges in dollars</th>
<th>Total charges in dollars</th>
<th>Mean costs in dollars</th>
<th>Total costs in dollars</th>
<th>Mean length of stay in days</th>
<th>Percent Males</th>
<th>Percent admitted through E.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Conditions</strong></td>
<td>1,123,892</td>
<td>100.0%</td>
<td>43,077</td>
<td>48,852,737,126</td>
<td>11,383</td>
<td>12,935,015,910</td>
<td>5.0</td>
<td>42.2%</td>
<td>54.9%</td>
</tr>
<tr>
<td><strong>391 Normal newborn</strong></td>
<td>77,514</td>
<td>6.9%</td>
<td>6,664</td>
<td>501,018,398</td>
<td>1,620</td>
<td>13,283,414</td>
<td>2.5</td>
<td>53.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>373 Vaginal delivery w/o complicating diagnoses</strong></td>
<td>56,446</td>
<td>5.3%</td>
<td>14,600</td>
<td>847,912,413</td>
<td>3,790</td>
<td>225,309,507</td>
<td>2.2</td>
<td>0.0%</td>
<td>5.6%</td>
</tr>
<tr>
<td><strong>127 Heart failure &amp; shock</strong></td>
<td>32,176</td>
<td>2.9%</td>
<td>49,708</td>
<td>1,592,354,735</td>
<td>13,284</td>
<td>427,426,114</td>
<td>5.9</td>
<td>46.8%</td>
<td>85.1%</td>
</tr>
<tr>
<td><strong>371 Cesarean section w/o CC</strong></td>
<td>31,285</td>
<td>2.8%</td>
<td>23,173</td>
<td>724,257,199</td>
<td>6,044</td>
<td>166,913,235</td>
<td>3.8</td>
<td>0.0%</td>
<td>2.9%</td>
</tr>
<tr>
<td><strong>146 Chest pain</strong></td>
<td>28,371</td>
<td>2.5%</td>
<td>20,829</td>
<td>562,947,298</td>
<td>5,572</td>
<td>158,095,019</td>
<td>2.0</td>
<td>48.5%</td>
<td>94.7%</td>
</tr>
<tr>
<td><strong>430 Psychoses</strong></td>
<td>27,788</td>
<td>2.5%</td>
<td>33,726</td>
<td>955,728,413</td>
<td>9,623</td>
<td>250,383,447</td>
<td>8.5</td>
<td>49.5%</td>
<td>66.9%</td>
</tr>
<tr>
<td><strong>89 Simple pneumonia &amp; pleurisy age &gt;17 w CC</strong></td>
<td>21,567</td>
<td>1.9%</td>
<td>46,322</td>
<td>1,061,621,322</td>
<td>12,325</td>
<td>297,278,776</td>
<td>6.1</td>
<td>46.5%</td>
<td>85.4%</td>
</tr>
<tr>
<td><strong>102 Esophagitis, gastroun &amp; misc digest disorders age &gt;17 w CC</strong></td>
<td>20,760</td>
<td>1.8%</td>
<td>36,136</td>
<td>750,153,139</td>
<td>9,771</td>
<td>202,843,737</td>
<td>4.8</td>
<td>34.6%</td>
<td>85.0%</td>
</tr>
<tr>
<td><strong>88 Chronic obstructive pulmonary disease</strong></td>
<td>19,981</td>
<td>1.8%</td>
<td>43,098</td>
<td>801,146,846</td>
<td>11,673</td>
<td>282,246,418</td>
<td>5.6</td>
<td>38.7%</td>
<td>85.6%</td>
</tr>
<tr>
<td><strong>390 Neonate w other significant problems</strong></td>
<td>16,583</td>
<td>1.5%</td>
<td>9,600</td>
<td>184,011,592</td>
<td>2,561</td>
<td>47,595,646</td>
<td>2.9</td>
<td>54.5%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
**Utilization Path:**

**Drill Down to a Specific DRG**

Detailed patient and payer characteristics for newborn hospital stays

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number of discharges</th>
<th>Percent of discharges</th>
<th>Mean charges in dollars</th>
<th>Total charges in dollars</th>
<th>Mean costs in dollars</th>
<th>Total costs in dollars</th>
<th>Mean length of stay in days</th>
<th>Percent Male</th>
<th>Percent admitted through E.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>77,514</td>
<td>100.0%</td>
<td>6,464</td>
<td>501,016,000</td>
<td>1,680</td>
<td>136,250,014</td>
<td>2.5</td>
<td>50.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>&lt;18</td>
<td>77,514</td>
<td>100.0%</td>
<td>6,464</td>
<td>501,016,000</td>
<td>1,680</td>
<td>136,250,014</td>
<td>2.5</td>
<td>50.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>58,803</td>
<td>76.1%</td>
<td>6,586</td>
<td>386,437,058</td>
<td>1,737</td>
<td>88,080,158</td>
<td>2.5</td>
<td>100.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Female</td>
<td>18,711</td>
<td>23.9%</td>
<td>6,241</td>
<td>241,583,942</td>
<td>1,624</td>
<td>48,174,957</td>
<td>2.4</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Payer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>45</td>
<td>0.1%</td>
<td>6,955</td>
<td>316,766</td>
<td>1,660</td>
<td>74,810</td>
<td>2.6</td>
<td>54.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>11,716</td>
<td>15.1%</td>
<td>6,377</td>
<td>74,225,515</td>
<td>1,667</td>
<td>19,527,453</td>
<td>2.4</td>
<td>50.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Private including HMO</td>
<td>57,134</td>
<td>73.7%</td>
<td>6,434</td>
<td>367,013,737</td>
<td>1,656</td>
<td>94,621,309</td>
<td>2.2</td>
<td>49.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Self-pay</td>
<td>7,571</td>
<td>9.8%</td>
<td>6,942</td>
<td>52,560,170</td>
<td>1,909</td>
<td>14,454,250</td>
<td>2.4</td>
<td>50.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>No charge</td>
<td>59</td>
<td>0.1%</td>
<td>7,420</td>
<td>430,303</td>
<td>2,007</td>
<td>116,419</td>
<td>2.4</td>
<td>50.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>981</td>
<td>1.3%</td>
<td>5,411</td>
<td>5,308,851</td>
<td>1,466</td>
<td>1,436,613</td>
<td>2.5</td>
<td>51.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Missing</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>
## Utilization Path: Data for a Specific Hospital

### Community Healthcare Value Exchange

<table>
<thead>
<tr>
<th>STATISTICS FOR PALISADES MEDICAL CENTER FOR ALL PATIENTS</th>
<th>Number of discharges</th>
<th>Percent of discharges</th>
<th>Mean charges in dollars</th>
<th>Total charges in dollars</th>
<th>Mean costs in dollars</th>
<th>Total costs in dollars</th>
<th>Mean length of stay in days</th>
<th>Percent Male</th>
<th>Percent admitted through E.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>11,182</td>
<td>100.0%</td>
<td>37,097</td>
<td>414,655,641</td>
<td>11,018</td>
<td>122,155,261</td>
<td>5.1</td>
<td>30.6%</td>
<td>65.7%</td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;18</td>
<td>1,388</td>
<td>12.5%</td>
<td>6,005</td>
<td>11,337,670</td>
<td>1,784</td>
<td>3,367,338</td>
<td>2.4</td>
<td>50.4%</td>
<td>17.1%</td>
</tr>
<tr>
<td>18-44</td>
<td>2,886</td>
<td>25.9%</td>
<td>21,672</td>
<td>62,546,205</td>
<td>6,437</td>
<td>18,576,605</td>
<td>3.0</td>
<td>22.5%</td>
<td>57.3%</td>
</tr>
<tr>
<td>45-64</td>
<td>1,790</td>
<td>16.0%</td>
<td>43,077</td>
<td>77,119,650</td>
<td>12,794</td>
<td>22,905,015</td>
<td>5.4</td>
<td>49.7%</td>
<td>85.6%</td>
</tr>
<tr>
<td>65+</td>
<td>4,598</td>
<td>41.2%</td>
<td>57,228</td>
<td>263,852,105</td>
<td>16,997</td>
<td>78,306,301</td>
<td>7.3</td>
<td>39.6%</td>
<td>85.6%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>4,312</td>
<td>38.8%</td>
<td>40,189</td>
<td>173,859,414</td>
<td>11,936</td>
<td>51,537,316</td>
<td>5.5</td>
<td>100.0%</td>
<td>70.8%</td>
</tr>
<tr>
<td>Female</td>
<td>6,870</td>
<td>61.2%</td>
<td>35,153</td>
<td>240,796,227</td>
<td>10,441</td>
<td>71,157,904</td>
<td>4.8</td>
<td>0.0%</td>
<td>64.3%</td>
</tr>
<tr>
<td>Payer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>4,408</td>
<td>39.5%</td>
<td>56,666</td>
<td>250,301,625</td>
<td>16,830</td>
<td>74,341,126</td>
<td>7.3</td>
<td>40.2%</td>
<td>85.8%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>6,088</td>
<td>55.1%</td>
<td>37,849</td>
<td>240,904,444</td>
<td>11,241</td>
<td>73,966,772</td>
<td>5.5</td>
<td>27.0%</td>
<td>58.7%</td>
</tr>
<tr>
<td>Private including HMO</td>
<td>3,852</td>
<td>34.5%</td>
<td>23,635</td>
<td>91,279,920</td>
<td>7,020</td>
<td>17,110,221</td>
<td>3.4</td>
<td>37.6%</td>
<td>53.1%</td>
</tr>
<tr>
<td>Hospital Name</td>
<td>Hospital County</td>
<td>Number of discharges</td>
<td>Percent of discharges</td>
<td>Mean charges in dollars</td>
<td>Total charges in dollars</td>
<td>Mean costs in dollars</td>
<td>Total costs in dollars</td>
<td>Mean length of stay in days</td>
<td>Percent Male</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------</td>
<td>----------------------</td>
<td>-----------------------</td>
<td>-------------------------</td>
<td>--------------------------</td>
<td>-----------------------</td>
<td>--------------------------</td>
<td>-----------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>NATIONAL DATA</td>
<td></td>
<td>1,012,445</td>
<td></td>
<td>13,194</td>
<td>18,857,820</td>
<td>4,544</td>
<td>4,600,775</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>REGIONAL DATA</td>
<td></td>
<td>164,036</td>
<td></td>
<td>14,700</td>
<td>2,425,831</td>
<td>5,295</td>
<td>370,756</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>ALL NEW JERSEY HOSPITALS</td>
<td></td>
<td>31,255</td>
<td>100.0%</td>
<td>23,173</td>
<td>724,577</td>
<td>6,044</td>
<td>189,919</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>NEWARK HOSPITALS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Columbus Hospital</td>
<td>NJ - Essex</td>
<td>252</td>
<td>0.8%</td>
<td>19,984</td>
<td>5,105,329</td>
<td>4,233</td>
<td>1,236,152</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Newark Beth Israel Med Center</td>
<td>NJ - Essex</td>
<td>706</td>
<td>2.3%</td>
<td>15,774</td>
<td>11,130,660</td>
<td>3,114</td>
<td>2,193,656</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>Saint James Hospital of Newark</td>
<td>NJ - Essex</td>
<td>364</td>
<td>1.2%</td>
<td>15,012</td>
<td>5,464,900</td>
<td>5,531</td>
<td>2,049,500</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>University Hospital</td>
<td>NJ - Essex</td>
<td>344</td>
<td>1.1%</td>
<td>27,261</td>
<td>9,377,903</td>
<td>8,285</td>
<td>2,880,866</td>
<td>3.7</td>
<td></td>
</tr>
</tbody>
</table>

Values based on 10 or fewer discharges are suppressed to protect confidentiality of patients and are designated with an asterisk (*).
Welcome to the Community Healthcare Value Exchange Efficiency and Quality Improvement Portal.

This website enables consumers of health care data and researchers to create and share custom data reports to aid in decision-making and data analysis.

To begin, choose the path that you would like to take by selecting options below:

Utilization Statistics for Health Conditions and Procedures

View information on the patient conditions for all hospitals, specific hospitals, or geographic locations.

Rates of Health Conditions and Procedures

View statistics on public health such as disease prevalence by geographic area.

Quality Indicators for Hospitals and Geographic Areas

View measures of quality for all hospitals or areas - or, by specific hospitals and area. Choose one of two sub-path: 1) Report for Consumers: compare hospitals on quality information in a prescribed format for public reporting; 2) Detailed Statistics: conduct a detailed query of quality information. Related utilization information is also provided.
Two options:
Interested in
(1) the report for consumers, or
(2) detailed quality statistics?
Allows user to download detailed data to Excel
Select one of ten quality health care topics:

1. Heart conditions
2. Brain and nervous system
3. Childbirth
4. Hip replacement and hip fracture
5. Operations for cancer of the esophagus and pancreas
6. Other surgeries
7. Other health conditions
8. Medical complications of patients having an operation
9. Medical complications of all patients
10. Medical care for children
Step 2: Quality of care for heart conditions

Information is available in the Report about five indicators of quality of care for heart conditions. Definitions of each of the indicators are provided below.

Please check the radio button next to the indicator you care about.

- All indicators
- Death rate for heart attack patients
  Deaths in the hospital of patients who came in because they had a heart attack (which is called an acute myocardial infarction).
- Death rate for patients with congestive heart failure
  Deaths in the hospital of patients who came in because they had heart failure (which is called congestive heart failure).
- Death rate for patient having a coronary artery bypass graft (CABG)
  Deaths in the hospital following an operation (called a coronary artery bypass graft, or CABG), which is designed to provide a way around clogged arteries in the heart.
- Death rate for patient having a percutaneous transluminal coronary angioplasty (PTCA)
  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”.
- Rate of cardiac catheterization procedures on both sides 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. This indicator shows how many patients getting this procedure have tubes put into the arteries on both sides of the heart (called a bilateral cardiac catheterization), which experts believe puts them at greater risk for complications.

Additional information: Number of operations

Information is also available about the number of times coronary artery bypass grafts (CABG) and percutaneous transluminal coronary angioplasties (PTCA) were done at
Select a specific hospital or up to four hospitals in an area

Allows easy access to the data through “view data now” feature

Allows download to Microsoft Excel of summary tables
### Compare hospital scores

When you are choosing a hospital, you should look for the hospital that does **Better than Average** on the topics that are most important to you, or on as many items as possible.

Click on the indicator names to see detailed results on how each hospital performed.

Death rate is the percent of patients who were treated for a particular illness or had a particular procedure who died while in each hospital during [Insert year].

Rate is the percent of patients having a particular procedure who had it done in one way rather than another.

A hospital’s score is calculated in comparison to the average of hospitals across the state.

- **Average** is about the same as the average of hospitals across the state.
- **Better than average** is better than the average of hospitals across the state.
- **Worse than average** is worse than the average of hospitals across the state.

### Quality indicator for chosen hospitals

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Hackensack Univ Medical Center</th>
<th>St Mary’s Hospital</th>
<th>Holy Name Hospital</th>
<th>Newark Beth Israel Med Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator 1</td>
<td>Average</td>
<td>Better Than Average</td>
<td>Average</td>
<td>Worse Than Average</td>
</tr>
<tr>
<td>Indicator 2</td>
<td>Better Than Average</td>
<td>Average</td>
<td>Average</td>
<td>Average</td>
</tr>
<tr>
<td>Indicator 3</td>
<td>Worse Than Average</td>
<td>Worse Than Average</td>
<td>Average</td>
<td>Better Than Average</td>
</tr>
</tbody>
</table>
Better understand geographical patterns of hospital admission rates.
Calculate potential cost savings if admission rates are reduced.
Output: Excel Spreadsheet with Cost Savings Estimate

Potential cost savings if number of admissions were reduced by specified percentage

<table>
<thead>
<tr>
<th>County</th>
<th>Name</th>
<th>Mean Cost</th>
<th>Total Cases</th>
<th>Total Cost</th>
<th>County</th>
<th>Name</th>
<th>Mean Cost</th>
<th>Total Cases</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>26001</td>
<td>Alcona</td>
<td>6,373.43</td>
<td>13</td>
<td>82,854.56</td>
<td>26003</td>
<td>Alger</td>
<td>4,299.91</td>
<td>8</td>
<td>37,807.29</td>
</tr>
<tr>
<td>26005</td>
<td>Allegan</td>
<td>4,729.93</td>
<td>111</td>
<td>525,022.23</td>
<td>26007</td>
<td>Allegan</td>
<td>5,252.40</td>
<td>76</td>
<td>399,182.40</td>
</tr>
<tr>
<td>26009</td>
<td>Antrim</td>
<td>5,117.96</td>
<td>24</td>
<td>122,831.04</td>
<td>26011</td>
<td>Arenac</td>
<td>5,002.26</td>
<td>7</td>
<td>35,015.82</td>
</tr>
<tr>
<td>26013</td>
<td>Baraga</td>
<td>3,646.28</td>
<td>21</td>
<td>76,571.88</td>
<td>26015</td>
<td>Barns</td>
<td>5,179.23</td>
<td>93</td>
<td>481,668.39</td>
</tr>
</tbody>
</table>

Cost Savings Given Reduction of Cases by

- 10%
- 20%
- 30%
- 40%
- 50%

County name, mean cost of admission for indicator, number of cases, and total cost
The Last Path: Utilization Rates Path

Utilization and QI Paths are under active development

A third path, the Rates Path, is being designed
**WHEN: Timeline – 9 months from Concept to Product**

Incremental build throughout Summer and Fall using an iterative rapid application development methodology

**TARGET COMPLETION DATE OF PHASE 1:**

**JANUARY 30, 2009**
Challenges

- Aggressive timeline
- Variety of users will want to use the system
  - Different system capabilities
  - Different resource availability
  - System needs to have minimum requirements
  - Need to keep the cost of implementation low
- Limited nature of static model versus dynamic model
EQUIP is an evolving tool – the current version is a prototype

**Phase 1**
- 3 Paths
  - Utilization
  - Rates
  - Quality
- Mapping capability
- National and regional benchmarks
- Static design

**Subsequent Phases**
- Additional Paths
  - Hospital Compare
  - HCAHPS
- Evaluate other data sources
- Provide links to other resources
- Dynamic design
  - Consider adding other federal data sources
- Many more ideas...will also solicit user suggestions
What makes EQUIP unique?

**EMPOWERS**
organizations and consumers to use data to make informed decisions

- Provides organizations with the ability to create/host their own website and upload their own data
- Enables local organizations to do their own reporting using a standard, validated method
- Allows users to draw together multiple data sources that provide information at the local level
Questions?
Comments?
Suggestions?