AHRQ Quality Indicators

2005 AHRQ QI User Meeting

September 26, 2005

Marybeth Farquhar, AHRQ

Overview

- **AHRQ Quality Indicators**
- **Current Quality Indicator Activities**
    - **Indicator Module Development**
    - **Release of New QI Software Application**
    - **QI User Support**
    - **Newsletter & Website**

Standardized Indicators of Quality: Development of the AHRQ QIs

- HCUP state partners asked: "Help us make better use of our data."

- Basic philosophy: Create indicators of quality, not necessarily definitive measures

- Primary design parameters:

    - Use hospital discharge abstract data

    - No need for linking

    - Based on readily available data elements: the common denominator dataset

AHRQ QIs - Objectives

- Provide a tool to:
  - highlight potential quality concerns
  - identify areas that need further study and investigation
  - track changes over time
- Facilitate transparency through comparative information about the quality of healthcare.

AHRQ QIs - Objectives (cont.)

- Facilitate decision making by federal, state and local policy makers; healthcare leaders; clinicians; etc.

- Maximize existing resources:
  - Compliment current and future measurement efforts
  - Integrate into existing and future information infrastructures

General Uses of the AHRQ QI

- **Hospital Quality Improvement – Internal and External**
  - Individual hospitals and health care systems
  - Hospital association member-only reports
- **National, State and Regional Reporting**
  - National Healthcare Quality and Disparities Reports
- **Public Reporting by Hospital**
- **Pay-for-Performance by Hospital**

Overview of AHRQ QIs

- Prevention Quality Indicators

- Inpatient Quality Indicators

- Patient Safety Indicators

- Ambulatory care sensitive conditions

- Mortality following procedures
- Mortality for medical conditions
- Utilization of procedures
- Volume of procedures

- Post-operative complications
- Iatrogenic conditions

Prevention Quality Indicators (16)

- Bacterial pneumonia
- Dehydration
- Pediatric gastroenteritis
- Urinary tract infection
- Perforated appendix
- Low birth weight
- Angina without procedure
- Congestive heart failure

- Hypertension
- Adult asthma
- Pediatric asthma
- COPD
- Diabetes cx - short term
- Diabetes cx - long term
- Uncontrolled diabetes
- Lower extremity amputation

Inpatient Quality Indicators (34)

Utilization Indicators

- Cesarean section delivery (primary and all)
- Incidental appendectomy in the elderly
- Bilateral cardiac catheterization
- Vaginal birth after Cesarean (uncomplicated and all)
- Laparoscopic cholecystectomy
- Coronary artery bypass graft
- Hysterectomy
- Laminectomy or spinal fusion
- PTCA

Volume Indicators

- Abdominal aortic aneurysm
- Carotid endarterectomy
- CABG
- Esophageal resection
- Pancreatic resection
- Pediatric heart surgery
- Percutaneous transluminal coronary angioplasty (PTCA)

AHRQ

Inpatient Quality Indicators (cont.)

- **Mortality Indicators for Inpatient Conditions**
  - Acute myocardial infarction (w/ and w/o transfers)
  - Congestive heart failure
  - Gastrointestinal hemorrhage
  - Hip fracture
  - Pneumonia
  - Acute stroke

- **Mortality Indicators for Inpatient Procedures**
  - AAA repair
  - CABG
  - Craniotomy
  - Esophageal resection
  - Hip replacement
  - Pancreatic resection
  - Pediatric heart surgery

Two additional mortality indicators (carotid endarterectomy and PTCA) are included in the IQI software but are not recommended as stand alone measures. This makes the total 34 IQIs.

AHRQ

Patient Safety Indicators (29)

- – Complications of anesthesia
- – Death in low mortality DRGs
- – Decubitus ulcer
- – Failure to rescue
- – Foreign body left during procedure *
- – Iatrogenic pneumothorax *
- – Selected infections due to medical care *
- – Postoperative hemorrhage or hematoma
- – Postoperative hip fracture
- – Postoperative physiological and metabolic derangement
- – Postoperative PE or DVT

The indicators marked with * are also provided as area level indicators for a total of 29 PSIs.

Patient Safety Indicators (cont.)

- Postoperative respiratory failure
- Postoperative sepsis
- Postoperative wound dehiscence *
- Technical difficulty with procedure *
- Transfusion reaction *
- Birth trauma – injury to neonate
- Obstetric (OB) trauma – cesarean delivery (w/ and w/o 3rd degree lacerations)
- OB trauma – vaginal delivery with instrument (w/ and w/o 3rd degree lacerations)
- OB trauma – vaginal delivery without instrument (w/ and w/o 3rd degree lacerations)

The indicators marked with * are also provided as area level indicators for a total of 29 PSIs.

Structure of AHRQ QI

- Definitions based on
  - ICD-9-CM diagnosis and procedure codes
  - Often along with DRG, MDC, sex, age, procedure dates, admission type, admission source, discharge disposition, discharge quarter (new)
- Numerator is the number of cases "flagged" with the outcome of interest (e.g., Postoperative sepsis, avoidable hospitalization for asthma, death)
- Denominator is the population at risk (e.g. pneumonia patients, elective surgical patients, county population from census data)
- The observed rate is numerator / denominator
- Volume counts for selected procedures

Continued AHRQ QI Development

- Data for AHRQ QI updated to 2003 (Census data to 2004)

- IQI – FY2006 coding update. Limited license 3M APR-DRG grouper. Update risk-adjustment to APR-DRG V20. Updated review of the volume and procedure-based mortality measures.

- PQI – FY2006 coding update. Prevalence adjusted state level rates for CHF and asthma. Mapping to micropolitan areas. Revised exclusions for selected PQI. Separation of adult and pediatric indicators.

- PSI – FY2006 coding update. Revised exclusions for selected PSI. Updated low-mortality DRG list. Separation of adult and pediatric indicators.

- PedQI – New pediatric indicator module with revised inclusion and exclusion criteria for existing indicators, new indicators and pediatric-specific risk adjustment.

New QI Software Application - Objectives

- **Windows based application** (i.e, does not require SAS or SPSS)

- **Facilitate data loading and quality checking**

- **Flexibility in analysis and reporting**
  - Individual cases: flags and exclusions
  - Selected indicators: modules, populations, conditions
  - Benchmarking (including confidence intervals)
  - Trends over time

AHRQ QI User Support

- Electronic Newsletter

- Comparative Data

- QI Listserv

- QI Support Web Site, Email and Telephone

AHRQ QI Newsletter

- Issued 4-6 times per year (volume 1 in Spring 2005)

- Provide users with updates and information

- User case studies of QI applications

- Send suggestions for newsletters to the AHRQ QI Hotline (support@qualityindicators.ahrq.gov).

QI Comparative Data

- Summary measures of distribution from National data

- Expected, risk-adjusted and reliability adjusted rates over time

- Rates stratified by patient demographics: age, gender, primary payer

- How users can participate: suggestions for additional comparative data elements

Stay Up to Date on QI Activities: Receive Personal Notifications

- **We encourage you to sign up for the QI listserv. Here's how to register:**

- **Send an E-mail message to: listserv@qualityindicators.ahrq.gov.**

- **On the subject line, type: Subscribe.**
  - For example: Subscribe

- **In the body of the message type: sub Quality_Indicators-L and your full name.**
  - For example: sub Quality_Indicators-L John Doe

- **You will receive a message confirming that you are signed up.**

For More Information on AHRQ QIs

Quality Indicators: Additional information and assistance

- E-mail: support@qualityindicators.ahrq.gov

- Website: http://qualityindicators.ahrq.gov/

  – QI documentation and software is available on the website

- Support Phone: (888) 512-6090 (voice mail)