Quality Indicators Learning Institute Question and Answer Web Forum

John Bott, Agency for Healthcare Research and Quality

Mamatha Pancholi, Agency for Healthcare Research and Quality

Jeff Geppert, Battelle Memorial Institute

August 12, 2009

Using the "Raise Hand" Button for Questions

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Agenda

- Welcome and Introductions
- Technical Requests About Reporting QIs
  - Follow-up to QILI Web Conference Topics
    - Designing Your Reporting Program
    - Selecting Measures
      - Discussion about computing QIs before or after decision-makers select them
    - Classifying Hospitals
      - Discussion about small and large hospitals
    - Marketing Your Report
- Questions and Answers
- Update on AHRQ QI Measure Sets and Surrounding QI Work
- Questions and Answers

Web Conference Schedule

Orientation:

October - Designing Your Reporting Program

Measures / Data / Analysis:

November - Selecting Measures & Data

December - Key Choices in Analyzing Data for the Report

January - Classifying Hospitals

Reporting / Disseminating / Promoting:

February - Displaying the Data

March - Web Site Design & Content

April - Getting the Public To View and Use Your Report

Evaluation:

May - Evaluation of Public Reporting Program

Quality Improvement:

July - Working With Your Hospitals on Quality Improvement: From Small Steps to Large Leaps

Q&A Web Forum

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Designing Your Reporting Program

- Estimating cost and resources
- Understanding your measurement expertise needs:
  - Measure evaluation, recommendation, and selection
  - Measure computations
  - Response, analysis, and stakeholder support (e.g., hospital questions and concerns about performance measurement)

Designing Your Reporting Program (cont.)

- Gaining and growing measurement expertise internally or securing access to such services as needed
- Learning the consumer perspective and making that a priority throughout the development process:
  - Measure selection
  - Report design
  - Dissemination
  - National Quality Forum's *Guidelines for Consumer-Focused Public Reporting* https://ahrqqili.webexone.com/r.asp?a=5&id=95388

Selecting Measures: Number, which, types of care

- *Which measures?*
  - Measures salient to consumers (discussed in another slide)
  - Measures appropriate for public reporting, e.g.:
    - NQF Endorsement
    - *Guidance on Using the AHRQ QIs for Hospital-Level Comparative Reporting* (discussed further in another slide)
- *How many, and which, types of care?*
  - Different strategies:
    - Start out with a small number of care areas to focus on select populations
    - Measure as many areas as possible to appeal to the most
- *How many measures?*
  - People can realistically only make judgments about performance with 5 to 7 variables (Judith Hibbard)
  - Evaluate if measures are amenable to composites

Selecting Measures: Hospital-acquired infection (HAI) measurement

- Big picture, e.g.:
  - HAIs are included in the National Priority Partners list
  - HAI National Action Plan: DHHS initiative to reduce HAIs, which includes CDC, CMS, and AHRQ
- AHRQ QIs in regard to HAIs:
  - Hospital-acquired vascular-catheter-related infections
    - Adult (PSI 7)
    - Pediatric (PDI 12)
  - Postoperative sepsis
    - Adult (PSI 13)
    - Pediatric (PDI 10)
  - Bloodstream infections in neonates (NQI 3)

Selecting Measures: C section measurement

- Studies show that C sections may result in greater risk for adverse outcomes
  - Obstetrics and Gynecology, 2006, vol 108
  - Canadian Medical Association, 2007, vol 176
- Health experts have yet to state a "better" or "worse" rate
- Option to a predetermined cut point:
  - Statistical testing to yield a result of "more than average," "average," "less than average"

Selecting Measures: Composites

- The composites are weighted averages of reliability-adjusted observed-to-expected (O/E) ratios for component indicators
- The value of the composite will be driven by the O/E ratio for each component indicator and the weight assigned to each component indicator
- Performance on the composite can be improved by:
  - Focusing on AHRQ QIs with the highest O/E ratio
  - Focusing on AHRQ QIs that are most heavily weighted
  - Identifying and improving processes and structures that cut across multiple AHRQ QIs

Selecting Measures: Data source

- Data considerations
  - Availability / timeliness of the data
  - Definitions
  - Data edits and cleaning that the entity that manages the data does (and doesn't) do
  - Level of completeness of the data
  - Caveats and updates to the data set
  - Cost of the data
  - Whether observation stays are embedded in the inpatient discharge data set
  - Allowable uses of the data per your DUA
  - Use of E codes in the data set

Discussion

Should a report card sponsor first suggest measures to use in the report with their stakeholders, or compute the QIs and provide the results to stakeholders to use in measure selection?

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Classifying Hospitals: Rate definitions

- The ***risk-adjusted rate*** is the rate the provider would have if it had the same case-mix as the reference population given the provider's actual performance

  = (observed rate / expected rate) * population rate

  - Population rate>expected rate: less severe hospital case-mix
  - Population rate<expected rate: more severe hospital case-mix

- The ***smoothed rate*** is the weighted average of the national rate and the hospital's risk adjusted rate (i.e., hierarchical modeling)
  - Hospitals with fewer cases will migrate toward the mean
  - Seeks to minimize the error of classifying a hospital as an outlier when in fact the hospital is not an outlier

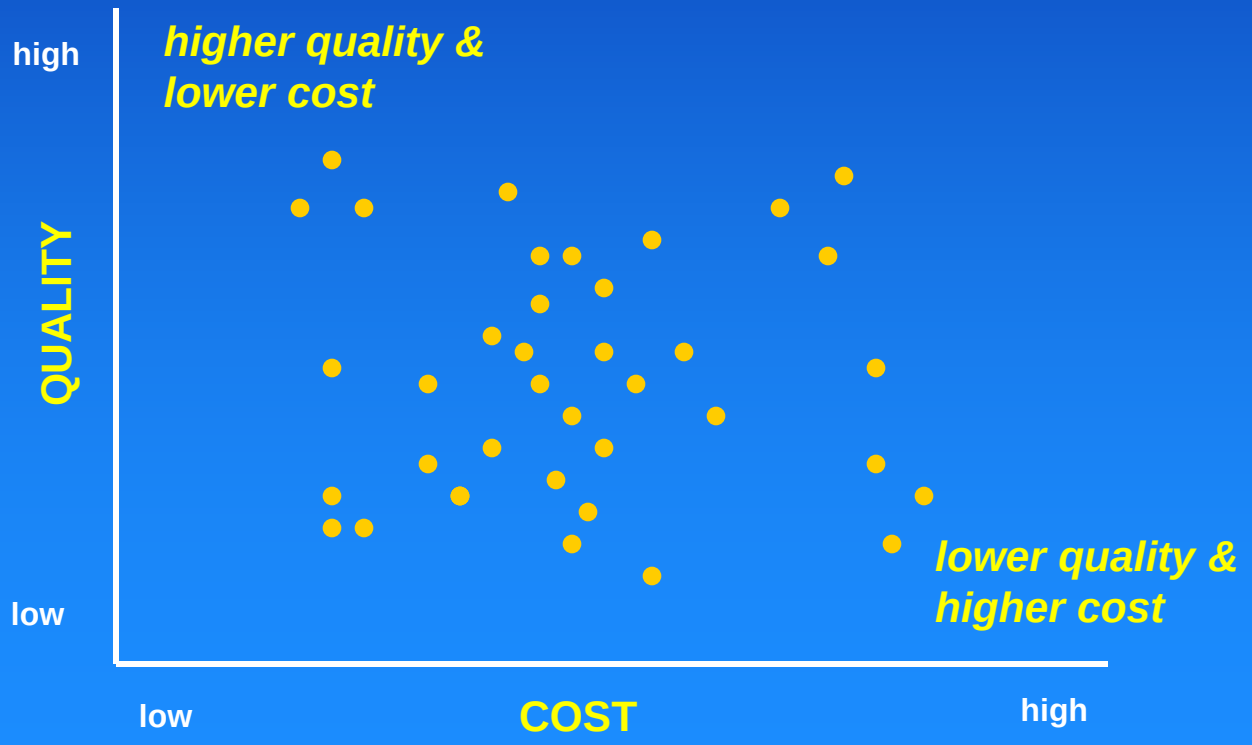
Classifying Hospitals: Categories of performance

- ***Relative***: Worse than average, average, better than average
  - Compared to "peer" performance
- ***Absolute***: Low performance, medium performance, high performance
  - Compared to "highest achieved" performance
- ***Change***: Increased performance, same performance, decreased performance
  - Compared to the hospital's own historical performance

Category	Advantages	Disadvantages
Relative	Comparative reporting	Quality improvement
Absolute	Quality improvement	Pay-for-performance
Change	Pay-for-performance	Comparative reporting

Classifying Hospitals: Additional categorizations

- 5 Categories: based on percentiles and statistical testing
  - e.g., Report developed by CHART www.calhospitalcompare.org
- X Y analysis of quality and cost: value statements



Classifying Hospitals: Ranking considerations

- Ranking hospitals can be performed based on:
  - Multiple quality measures
    - Default or predetermined weight of each measure
    - User-defined weights to each measure
  - Combination of quality and cost measures

- Ranking is an evaluability technique discussed by Judy Hibbard

Classifying Hospitals: Uncertainty

- Addressing uncertainty
  - Computing a "confidence interval"
    - Each patient is a separate measure of the hospital's performance (the "sample" of N patients)
    - Compute the mean and variance from the sample
    - Compute the standard error (SE) as sqrt(variance/N)
    - Lower bound = mean – 1.96 * SE
    - Upper bound = mean + 1.96 * SE
    - Confidence interval is "(lower bound, upper bound)"
  - Test of "statistical significance"
    - If the benchmark falls within the confidence interval

Classifying Hospitals: Uncertainty and level of confidence

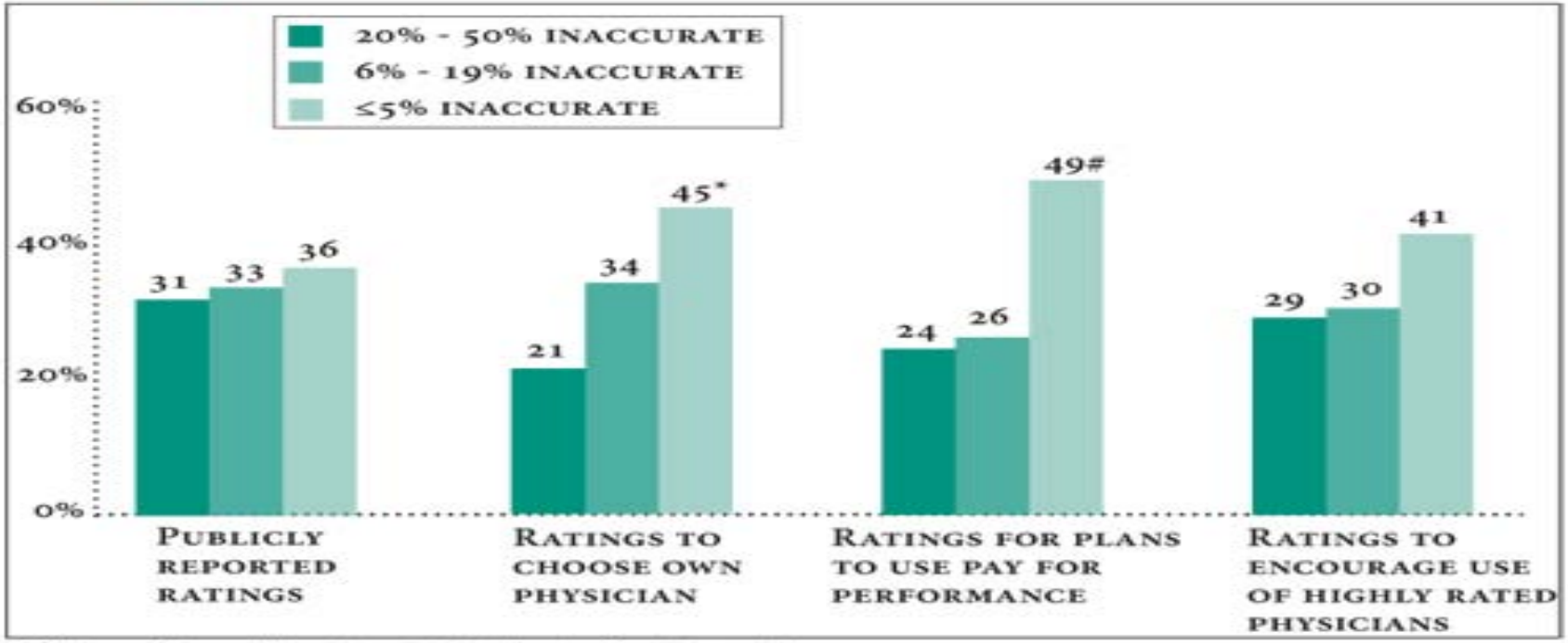
- Primary factors influencing the confidence interval width:
  - Size of the sample
  - Rate of numerator events
- Considerations affecting the confidence interval:
  - One or multiple years of data
  - Computing QIs separately or in composites
  - Selection of QIs for composites considering:
    - Denominator size
    - Numerator rate
    - Signal ratio

Classifying Hospitals: Level of acceptable uncertainty

How much uncertainty is acceptable to consumers?

Figure 1

Consumer Tolerance for Inaccuracy of Physician Performance Ratings, by Rating Application



* Difference from public ratings statistically significant at $p < .05$.

\# Difference from public ratings and for ratings to encourage use of highly rated physicians statistically significant at $p < .05$.

Source: Center for Studying Health System Change, national survey conducted by Knowledge Networks, Inc., December 2006

Source: Davis, M., Hibbard, J., Milstein, A. "Consumer tolerance for inaccuracy in physician performance ratings: One size fits none." Center for Studying Health System Change. Issue brief 110. March 2007.

Discussion

How have QILI members addressed the issue of reporting and ranking hospitals that are large and small?

- What has been the result of these approaches in your area?
- What do you see as the pros and cons of these different approaches?

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Marketing Your Report: Media and messaging

- Establish your organization as an expert and credible source

- Relay to the press specific messages on public reporting of quality in general and your public report in particular. Examples from the Model Reports:
  - This report can encourage hospitals to improve
  - All hospitals do not provide the same quality of care
  - A particular hospital might do a very good job on some health problems and not such a good job on others

  (https://ahrqqili.webexone.com/r.asp?a=12&id=16210)

Marketing Your Report: Social marketing principles

- Identifying your *audience(s)*
- Identifying the *behaviors* you want them to take
- Identifying the *benefits* your audience believes they can get from your report
- Identifying the *barriers* your audience will perceive in enacting the behaviors we mentioned
- *Motivating* your audience to take desired behaviors by stressing benefits and overcoming barriers
- Identifying *when* the audience will need the report
- Identifying how to *position* the report

Marketing Your Report: Social marketing principles

- To better understand what people want to see – what they value – in a public report, go to the literature and / or consider testing various measures with consumers. Examples:
  - Kaiser Family Foundation: *Update on Consumers' Views of Patient Safety and Quality Information*
  - MA Blue Cross Blue Shield: *Looking for Answers*
  - CMS listening sessions (white paper)
  - Shoshanna Sofaer's (Baruch College) consumer testing of nursing sensitive measures

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AHRQ QI Measure Sets Update to v4.0

- Version 4.0 software now available (SAS, WINQI)
- FY2009 ICD-9-CM and DRG coding update (effective October 1, 2008)
  - New staging coding (I-IV) for pressure ulcers (formerly called decubitus ulcer)
- Specification changes (esophageal resection volume and mortality, hip replacement mortality, hip fracture mortality, etc.)
- Implement UB-04 (effective October 1, 2007)
  - Point-of-origin
  - Present on admission (discussed in another slide)
- The MS-DRG (version 25) adopted October 1, 2007

AHRQ QI Measure Sets Update to v4.0 (cont.)

- Implement the composites
  - Both SAS and WINQI software include the 3 recently NQF-endorsed composite measures
    - Mortality for Selected Conditions
    - Patient Safety for Selected Indicators
    - Pediatric Patient Safety for Selected Indicators
  - Capability to select measures for composites
- Two new neonatal indicators
  - Neonatal Mortality
  - Bloodstream Infections
- Update benchmarking data to 2007
- More details about updates can be found at: http://www.qualityindicators.ahrq.gov/downloads/listserv/Listserv%20062609_final.doc

Present on Admission (POA)

- Benchmark created based on 9 States
- The software will use POA when available on the claim
- POA data are not required in the AHRQ QI v4 software
- Where it is not available on the claim the software will produce estimates if POA would have been present in the data. In other words, the QIs will be "adjusted" to account for the absence of POA.

"Guidance on Using the AHRQ QIs for Hospital-Level Comparative Reporting"

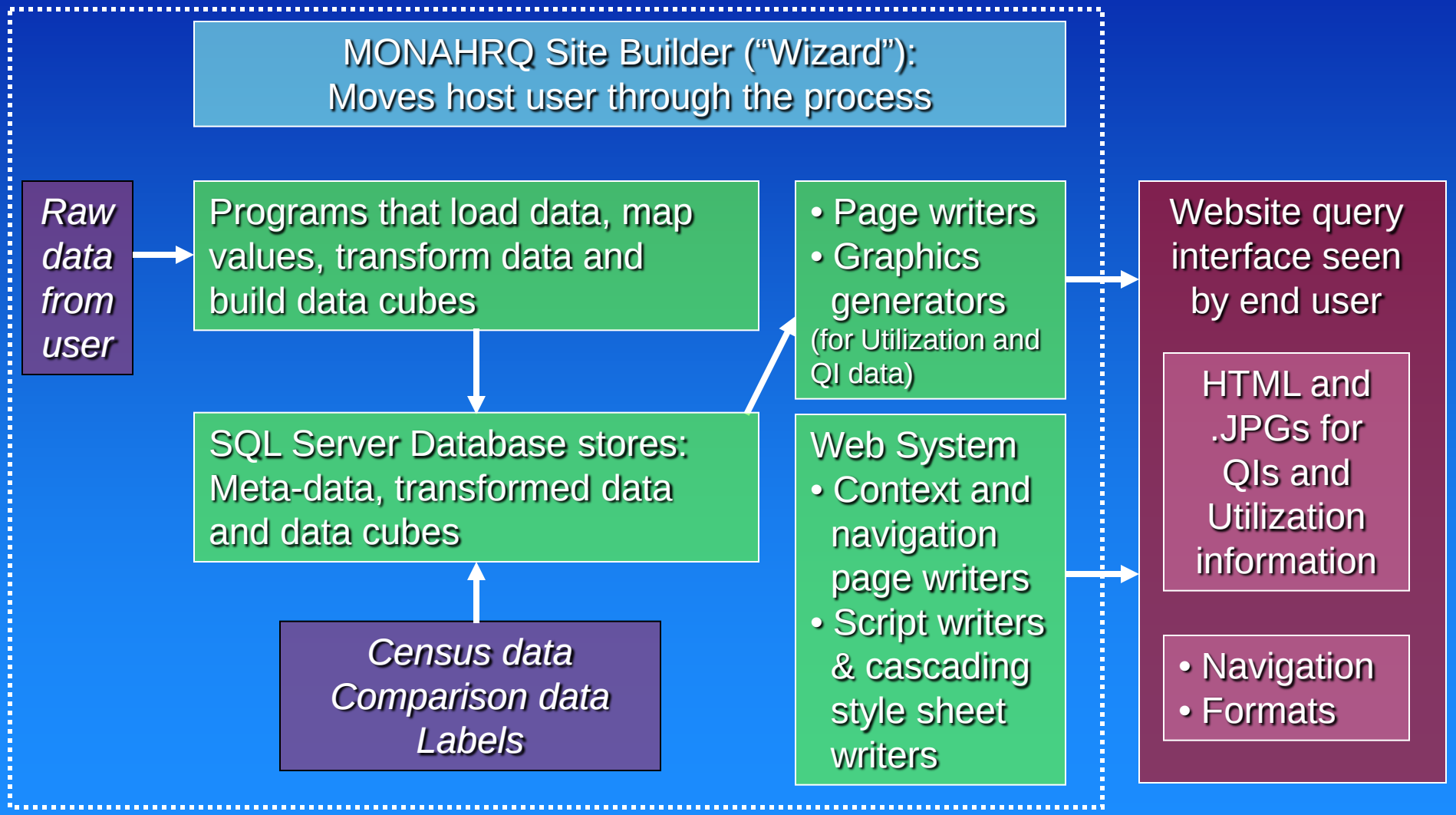
- Released July 1, 2009
- Denotes:
  - NQF endorsement status and type
  - Tier assigned to AHRQ IQI, PSI, and PDI
- Each QI is discussed in terms of applicable:
  - Supporting evidence
  - Considerations for use
  - Future development
- Some changes since the QILI Webinar on this topic:
  - NQF endorsement: 3 composites
  - PSI 11 moved from tier 2 to 1

https://ahrqqili.webexone.com/r.asp?a=5&id=96164

MONAHRQ

- My Own Network Powered by AHRQ (formerly known as EQUIPS)
- For State and local data organizations, regional health improvement collaboratives, hospitals, health plans, and providers
- Currently beta-testing
- Released to public fall 2009
- MONAHRQ Learning Network coming this fall

MONAHRQ (cont.)



MONAHRQ (cont.)

- "Wizard" built on the WinQI software, but allows user with hospital administrative data to generate a Web site that provides the following information:
  - AHRQ QIs in two forms – for consumers and hospitals
  - Tables on utilization of hospital services (numbers of discharges, length of stay, charges and costs) by region and individual hospital
  - Maps and tables for adult area-level AHRQ QIs using the Preventable Hospitalization mapping tool
  - Maps and tables that provide information on rates of diagnoses and procedures by county

CMS's Use of QIs in a "Dry Run" Report to Hospitals

- CMS conducted a "dry run" of 9 AHRQ QIs for potential use in Hospital Compare
- AHRQ has been called upon periodically to assist with technical questions during the dry run
- CMS has stated they plan to use Medicare claims in computing the AHRQ QIs
- AHRQ currently does not have plans to update the regression coefficients for Hospital Compare
- In the June HQA meeting CMS noted they plan to report the AHRQ QIs on Hospital Compare in June 2010
- CMS Hospital-Specific Report Dry-Run Version is on the extranet at: https://ahrqqili.webexone.com/r.asp?a=5&id=92496

CMS's Use of QIs (cont.)

- Examples of questions in the FY2010 IPPS proposed rule related to the AHRQ QIs:
  - Whether an all-payer claims database should be used for AHRQ QIs
  - Whether additional AHRQ QIs should be added to Hospital Compare
  - Whether PSI 4 should be harmonized with Nursing Sensitive-Failure to Rescue

Stay tuned. Final IPPS rule expected this fall.

AHRQ QI Development

- In progress
  - Emergency Preparedness
  - PQIs for the Medicaid Home and Community Based Services (HCBS) Population
    - Discussed further in next slide
- Near future
  - Efficiency measurement
    - A number of types of measures are being considered for initial measures in this set (e.g., readmits, cost, overuse)
  - Care coordination measures
  - Emergency dept. PSIs
  - Emergency dept. PQIs
  - Health plan PQIs

AHRQ QI Development: PQIs for the HCBS population

- Project to adapt and develop measures for HCBS population
  - Part of the project is to revise the PQIs for HCBS
- Key activities and deliverables:
  - Indicator specifications and software
  - Ongoing technical assistance
  - Sharing of best practices and use of the measures
- The above is planned to occur May to Sept 2010

Enhancing the Clinical Content of Administrative Data

- The pilot to add clinical data
  - Currently completing data collection and analysis of the linked clinical-administrative data
  - Pilots in their final stage
  - Completed in September 2009
  - AHRQ will disseminate lessons learned
  - Additional information on the pilots is available at: http://www.hcup-us.ahrq.gov/reports/clinicaldata.jsp

QI Validation Pilot, Phase 1

- Quality Indicators
  - Accidental Puncture or Laceration
  - Iatrogenic Pneumothorax
  - Postoperative DVT or PE
  - Postoperative Sepsis
  - Hospital-Acquired Vascular-Catheter-Related Infections

Validation Pilot, Phase I (cont.)

- Pilot objectives:
  - Gather evidence on the scientific acceptability of the PSIs
    - Medical record reviews, data analysis, clinical panels, evidence reviews
  - Consolidate the evidence base
  - Improve guidance on the interpretation and use of the data
  - Evaluate potential refinements to the specifications

Validation Pilot, Phase I (cont.)

- Conclusions
  - The 5 PSIs evaluated have variable PPVs (false positives), which should be considered in selecting indicators for public reporting and pay-for-performance
  - Pilot-tested a mechanism for supporting ongoing validation work, which can be applied to estimate sensitivity in Phase II
    - Conducted Phase II solicitation for volunteers
  - Report due out soon

Validation Testing, Phase 2

- Quality Indicators
  - Foreign Body Left in During Procedure
  - Postoperative Hemorrhage or Hematoma
  - Postoperative Physiologic and Metabolic Derangement
  - Postoperative Respiratory Failure
  - Postoperative Wound Dehiscence
- Study will begin fall 2009

Future of the QILI

- Extranet will be accessible until further notice
- MONAHRQ Learning Network
  - Provide education and training on how to use MONAHRQ for reporting initiatives
  - All current QILI members will be invited to join this new project
  - Beginning fall 2009

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For More Information

- QI Learning Institute Web Forum: https://ahrqqili.webexone.com/

  Login Name: First letter of first name followed by last name; capitalize first two letters (Example: JBott).

  If you forgot your password, enter your Login Name and press "Forgot your password?" and Webex will e-mail you a temporary password.

- QI Learning Institute E-Mail: QualityIndicatorsLearning@ahrq.hhs.gov
- QI Web Site: http://www.qualityindicators.ahrq.gov/
- QI Support E-Mail: support@qualityindicators.ahrq.gov

QILI Evaluation

- Please fill out the evaluation form that will pop up on your screen after you leave the Web conference. We appreciate your feedback.

- Thank you for your participation in the QILI! It has been a pleasure and we look forward to working with you in the future.