



*Agency for Healthcare Research and Quality*

*Advancing Excellence in Health Care*

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## **AHRQ Quality Indicator Software Version 4.1 - Overview**

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Research and Quality

*January 12 and 14, 2010*

*1:00 to 3:00 pm ET*

*Toll Free: 1-877-939-8827; passcode: AHRQ QI*



# Agenda

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- Preliminary schedule of Version 4.1 webinars (10 minutes)
- Overview of changes from Version 3.2 to Version 4.1 (40 minutes)
- Draft list of topics planned for future webinars (10 minutes)
- Discussion (30 minutes)



# Preliminary Schedule

- Version 4.1 - Overview
  - January 12, 2010, 1 to 3pm ET
  - January 14, 2010, 1 to 3pm ET
- Version 4.1 – Additional Detail (tentative)
  - January 25, 2010, 2 to 4pm ET
  - January 27, 2010, 2 to 4pm ET
- Version 4.1 – Selected Topics
  - To be announced
  - Approximately one webinar per month
  - Recorded and posted on the AHRQ QI web site



# Overview of Changes

- Context of Changes
  - Fiscal year coding updates
  - External input
    - Literature review
    - Expert panels
    - User input
  - New data elements
    - Present on admission (POA)
    - Point of origin
  - Expanded uses
    - NQF endorsement
    - CMS Hospital Compare



# Overview of Changes

- FY2009 coding update
  - The numerator and denominator specifications have been updated
  - Incorporate the FY2009 ICD-9-CM and DRG coding updates (effective October 1, 2008)
  - In particular, there is:
    - New staging coding (I-IV) for pressure ulcers (formerly called decubitus ulcer)
    - New coding for the central venous catheter-related bloodstream infections measure (formerly selected infections due to medical care)



# Overview of Changes

- Specification changes
  - Several specification changes were implemented that were recommended by expert panels, user queries or published literature
  - These include changes to:
    - esophageal resection volume and mortality
    - hip replacement mortality
    - hip fracture mortality
    - incidental appendectomy
    - bilateral catheterization
    - hypertension admission rate
    - CHF admission rate
    - bacterial pneumonia admission rate



# Overview of Changes

- Specification changes (continued)
  - These include changes to:
    - pressure ulcers
    - iatrogenic pneumothorax
    - postoperative hip fracture
    - postoperative physiologic and metabolic derangements
    - postoperative respiratory failure
    - postoperative sepsis
    - OB trauma (instrument and non-instrument assisted)
    - Birth trauma – injury to neonate



# Overview of Changes

- Implement UB-04
  - The Uniform Bill (UB-04) changes that went into effect on October 1, 2007 were fully implemented
  - Includes two new data elements:
    - Present on admission
      - ◆ A data element for every secondary diagnosis code
    - Point of origin
      - ◆ Replacing Admission source





# Overview of Changes

- MS-DRG specification changes
  - MS-DRG (version 25) was adopted October 1, 2007
  - Several of the numerator, denominator and risk category definitions were redeveloped to be based on ICD-9-CM codes rather than CMS DRG codes (version 24)
  - These included code based definitions for:
    - cardiac surgery, cardiac arrhythmia and abdominal surgery
  - Other denominator definitions were redefined to MS-DRGs:
    - craniotomy mortality, medical and surgical



# Overview of Changes

- Implement the NQF endorsed composites
  - The software includes the recently endorsed composite measures
  - The composites are:
    - Mortality for Selected Conditions
    - Patient Safety for Selected Indicators
    - Pediatric Patient Safety for Selected Indicators
  - Composites use “NQF weights”
    - Limited to those component indicators that were either NQF endorsed or determined to have met the criteria for NQF endorsement



# Overview of Changes

- Neonatal indicators
  - Two new neonatal indicators:
    - neonatal mortality
    - blood stream infections in neonates
  - The two new measures were grouped with existing indicator iatrogenic pneumothorax in neonates to form the:
    - “Neonatal Quality Indicators”
  - Definition of “neonatal”



# Overview of Changes

- Update benchmarking data to 2007
  - Prior releases used a three-year pooled State Inpatient Databases (SID) for computing the national benchmarks
    - The rationale was to balance the currency of the data and the stability of the trends
  - This release uses data from the 2007 SID for computation of benchmarks
    - Pace of change in coding and data is accelerating
    - Will continue through the adoption of POA, implementation of ICD-10-CM in 2013 and other changes



# Overview of Changes

- Removal of indicators
  - Two indicators were removed from the Patient Safety Indicators module
    - PSI 1 - complications of anesthesia
    - PSI 20 - obstetric trauma – cesarean delivery
  - Rationale for removal
    - Presented validity and coding issues
    - Deemed by AHRQ to be unsuitable for comparative reporting
    - Continue to be available as ‘experimental’ indicators



# Overview of Changes

- Improvements in the accuracy and precision of the estimation methods
  - General Estimating Equations (GEE)
    - Otherwise high quality hospitals with a more severe case-mix of patients do not look as good as they should
  - Markov chain Monte Carlo (MCMC)
    - Allows us to differentiate the “true” impact of patient factors (e.g. erroneously give too much credit for bad outcomes for patients with rare co-morbidities)
    - Also allows us to predict the impact of missing data elements like POA



# Overview of Changes

- Present on Admission (POA) methodology
  - No longer separate models with and without POA data for the provider-level IQIs, PSIs and PDIs
  - For users without POA data, the model incorporates the likelihood that the numerator event or the co-morbidity was present on admission
  - For users with POA data, the model is based on the available data element



# Overview of Changes

- Measure software code moved to other SAS modules
  - All provider-level and area-level indicators based on pediatric discharges in a single module (PDI)
    - PSI 17 - birth trauma Injury to neonate
    - PQI 9 - low birth weight
  - However, the technical specification is included with the original module for these two measures:
    - PSI 17 remains with the other PSI indicators and continues to be referenced as PSI 17
    - PQI 9 remains with the other PQI indicators and continues to be referenced as PQI 9
  - PDI 4 (iatrogenic pneumothorax, neonate) has been renamed to NQI 1





# Overview of Changes

- Removal of risk adjustment
  - Risk adjustment has been removed from the following process measures:
    - IQI 21 - cesarean section delivery
    - IQI 22 - vaginal birth after cesarean, uncomplicated
    - IQI 23 - laparoscopic cholecystectomy
    - IQI 24 - incidental appendectomy in the elderly
    - IQI 25 - bi-lateral cardiac catheterization
    - IQI 33 - primary cesarean delivery
    - IQI 34 - vaginal birth after cesarean, all
  - Rational is that, in general, process measures are not risk-adjusted



# Overview of Changes

- Removal of risk adjustment (continued)
  - Risk adjustment has also been removed from the following outcome measures:
    - PSI 18 - OB trauma – vaginal w/ instrument
    - PSI 19 - OB trauma – vaginal w/o instrument
  - Rational is that there are not materially important risk factors available in the state inpatient discharge data



# Version 4.1 – Additional Detail: Tentatively Jan 25 and 27

- Draft list of topics
  - Tracking the indicators
    - What indicators were added, deleted, re-named, moved, or materially refined
  - Incorporating new data elements
    - POA and point of origin
  - Incorporating new codes
    - ICD-9-CM and MS-DRG
    - Special emphasis: pressure ulcers and central venous catheter-related bloodstream infections
  - Incorporating new data
    - Using a one-year reference population
    - Applying the software using more recent data



# Version 4.1 – Selected Topics: Approximately monthly webinars

- Draft list of topics
  - Provider level risk-adjustment model
    - Incorporating POA into the outcome of interest and comorbidities
    - What the model does when POA is not available
    - Accounting for bias and uncertainty
  - Using the AHRQ QI composites
  - Using the area-level AHRQ QIs
  - Update: NQF and CMS
  - Planned future development
  - Other ideas? At this time (next slide), or via email:
    - [support@qualityindicators.ahrq.gov](mailto:support@qualityindicators.ahrq.gov)



# Discussion

- Your feedback, e.g.:
  - Other topics for late January webinars?
  - Prioritization or other areas to cover over the next year's webinars?
  
- Your questions:
  - Questions about anything you heard today?
  
- Question or comment verbally
  
- Question or comment by text
  - If we cannot get to your question today, we will draft a response and post it on the AHRQ QI website



# For more information...

## AHRQ QIs

- Web site: <http://qualityindicators.ahrq.gov/>
  - AHRQ QI documentation and software are available at the AHRQ QI web site
  
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