

## INSTRUCTIONS

### Board/Staff PowerPoint Presentations on the AHRQ Quality Indicators

**What is this tool?** The purpose of the PowerPoint presentation for the board and staff is to help the board members and relevant staff understand the importance and financial and clinical implications of the Agency for Healthcare Research and Quality (AHRQ) Quality Indicators.

**Who are the target audiences?** The key users of this tool are the quality officers and senior management staff who are educating the hospital board and staff about the Quality Indicators.

**How can the tool help you?** This tool can be a standalone educational resource or serve as a resource to condense key points for presentation to your quality and patient safety committees, boards, organizational leaders, medical and surgical committees, and performance improvement teams.

**How does this tool relate to others?** This tool is part of the Readiness To Change section in the Toolkit Roadmap. It can be related to the self-assessment tool by providing a rich knowledge base on the use of the AHRQ Quality Indicators to identify quality topics for monitoring and performance improvement. An organization needs a thorough understanding of these indicators and their impact to evaluate the organization's infrastructure to support improvement efforts.

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#### Instruction Steps

Use and select the following slides to develop a presentation for your board/staff.

**The Agency for Healthcare  
Research and Quality  
(AHRQ)  
Quality Indicators  
Background for Hospital  
Boards**

Date

# Why are we here today?

The board needs to:

- Understand the importance of the AHRQ Quality Indicators (QIs)
- Understand the financial and clinical implications of the QIs for our organization
- Endorse the QIs as a tool for implementing and monitoring improvement
- Make the QIs a priority within our organization

# **Leadership is key to improvement**

- Hospital boards are increasingly turning to the QIs as a tool for monitoring performance, particularly on patient safety
- To be successful, improvement efforts within hospitals need to have attention and active support from boards and senior hospital leadership
- Your active support will demonstrate that the hospital has made it a priority to improve quality and patient safety
- This support will help to motivate our staff to engage fully in improvement activities

# What is AHRQ?

The **A**gency for **H**ealthcare **R**esearch and **Q**uality...

- Is part of the U.S. Department of Health and Human Services
- Supports research designed to improve the outcomes and quality of health care, reduce its costs, address patient safety and medical errors, and broaden access to effective services
- Sponsors, conducts, and disseminates research to help people make more informed decisions and improve the quality of health care services
- Acts as the regulator for Patient Safety Organizations that are certified under the Patient Safety and Quality Improvement Act

## Who developed the QIs?

- AHRQ contracted with an Evidence-based Practice Center (EPC) to develop the QIs
- The EPC team developed the QIs from 1998 to 2002:
  - Conducted a review of the evidence related to quality measurement based on administrative data
  - Identified candidate indicators using interviews, literature review, Web search and other sources
  - Conducted extensive tests of the validity and reliability of the measures
- Pediatric measures were developed later
- All the indicators were updated annually

*General Questions About the AHRQ QIs.* AHRQ Quality Indicators. July 2004. Agency for Healthcare Research and Quality, Rockville, MD.

[www.qualityindicators.ahrq.gov/FAQs\\_Support/default.aspx](http://www.qualityindicators.ahrq.gov/FAQs_Support/default.aspx)

Notes:

Additional background information at:

[www.qualityindicators.ahrq.gov/Downloads/Resources/Presentations/2010/QI\\_101\\_2011-03-02-current.pdf](http://www.qualityindicators.ahrq.gov/Downloads/Resources/Presentations/2010/QI_101_2011-03-02-current.pdf)

# What are the Quality Indicators?

- The QIs identify quality topics for monitoring and performance improvement:
  - Use hospital administrative data
  - Highlight potential quality concerns
  - Identify areas that need further study and investigation
  - Track changes over time
- Because we cannot always measure “quality of care” per se, we use certain measures as an “indicator” of quality

*General Questions About the AHRQ QIs.* AHRQ Quality Indicators. July 2004. Agency for Healthcare Research and Quality, Rockville, MD.

[www.qualityindicators.ahrq.gov/FAQs\\_Support/default.aspx](http://www.qualityindicators.ahrq.gov/FAQs_Support/default.aspx)

# Why were the QIs developed?

- Because safety is so important, AHRQ developed QIs to provide health care decisionmakers with user-friendly data and tools that will help them:
  - Assess the effects of health care program and policy choices
  - Guide future health care policymaking
  - Accurately measure outcomes, community access to care, and utilization

*General Questions About the AHRQ QIs.* AHRQ Quality Indicators. July 2004. Agency for Healthcare Research and Quality, Rockville, MD.

[www.qualityindicators.ahrq.gov/FAQs\\_Support/default.aspx](http://www.qualityindicators.ahrq.gov/FAQs_Support/default.aspx)

# Why are the AHRQ QIs important?

- A number of IQIs and PSIs are publicly reported on CMS Hospital Compare
- CMS is no longer reimbursing hospitals for some hospital-acquired conditions and safety events
- Fewer resources are available to collect data manually and develop customized quality metrics that may not be accepted by the rest of the field
- Sciences of quality and safety are maturing: payers and regulators are taking a lead in dictating project areas

\* CMS = Centers for Medicare & Medicaid Services.

# How are the AHRQ QIs structured?

- Definitions based on:
  - ICD-9-CM diagnosis and procedure codes
  - Often along with other data elements (e.g., DRG, MDC, sex, age, procedure dates, admission type)
- Numerator = number of cases with the outcome of interest (e.g., cases with pneumonia)
- Denominator = population at risk (e.g., community population)
- Observed rate = numerator/denominator
- Some QIs measured as volume counts

ICD-9-CM = International Classification of Diseases, 9<sup>th</sup> Revision, Clinical Modification; DRG = diagnosis-related group; MDC = major diagnostic classification.

Source: [www.qualityindicators.ahrq.gov/resources/Presentations.aspx](http://www.qualityindicators.ahrq.gov/resources/Presentations.aspx).

# Four Quality Indicator Modules

- **Patient Safety Indicators (PSIs)** reflect quality of care inside hospitals but focus on potentially avoidable complications and iatrogenic events
- **Inpatient QIs** reflect quality of care inside hospitals, including inpatient mortality for medical conditions and surgical procedures
- **Pediatric QIs** reflect quality of care inside hospitals and identify potentially avoidable hospitalizations among children
- **Prevention QIs** identify hospital admissions that evidence suggests could have been avoided, at least in part, through high-quality outpatient care

Source: [www.qualityindicators.ahrq.gov/Default.aspx](http://www.qualityindicators.ahrq.gov/Default.aspx).

# What are the Patient Safety Indicators?

- The PSIs are a set of indicators for adverse events that patients may experience as a result of exposure to the health care system
- A composite measure is also available
- These events are likely amenable to prevention by changes at the system or provider level
- PSIs are measured using hospital administrative data

*Version 4.3 technical specifications.* Agency for Healthcare Research and Quality, Rockville, MD. [www.qualityindicators.ahrq.gov/Modules/PSI\\_TechSpec.aspx](http://www.qualityindicators.ahrq.gov/Modules/PSI_TechSpec.aspx).

Notes:

List of PSIs:

PSI 02 Death in Low-mortality DRGs  
PSI 03 Pressure Ulcer  
PSI 04 Death among surgical inpatients  
PSI 05 Foreign body left during procedure  
PSI 06 Iatrogenic pneumothorax  
PSI 07 Central venous catheter-related bloodstream infections  
PSI 08 Postoperative hip fracture  
PSI 09 Postoperative hemorrhage or hematoma  
PSI 10 Postoperative physiologic and metabolic derangement

- PSI 11 Postoperative respiratory failure
- PSI 12 Postoperative pulmonary embolism or deep vein thrombosis
- PSI 13 Postoperative sepsis
- PSI 14 Postoperative wound dehiscence
- PSI 15 Accidental puncture or laceration
- PSI 16 Transfusion reaction
- PSI 17 Birth trauma-injury to neonate
- PSI 18 Obstetric trauma-vaginal delivery with instrument
- PSI 19 Obstetric trauma-vaginal delivery without instrument

The PSIs are divided into two different areas, provider and area level.

Provider-level indicators provide a measure of the potentially preventable complication for patients who received their initial care and the complication of care within the same hospitalization. Includes only those cases where a secondary diagnosis code flags a potentially preventable complication.

Area-level indicators capture all cases of the potentially preventable complication that occur in a given area (e.g., metropolitan area or county) either during hospitalization or resulting in subsequent hospitalization. They are specified to include principal diagnosis, as well as secondary diagnoses, for the complications of care. This specification adds cases where a patient's risk of the complication occurred in a separate hospitalization.

# A PSI Example: Pressure Ulcer (PSI 3)

- Numerator: Discharges with ICD-9-CM code of pressure ulcer stage III or IV in any secondary diagnosis field among cases meeting the inclusion and exclusion rules for the denominator.
- Denominator: All medical and surgical discharges age 18 years and older defined by specific DRGs or Medicare Severity DRGs.

Source:

<http://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V45/TechSpecs/PSI%2003%20Pressure%20Ulcer%20Rate.pdf>.

## Notes

Exclude cases:

- With length of stay of less than 5 days
- With principal diagnosis of pressure ulcer or secondary diagnosis present on admission
- MDC 9 (Skin, Subcutaneous Tissue, and Breast)
- MDC 14 (Pregnancy, Childbirth, and Puerperium)
- With any diagnosis of hemiplegia, paraplegia, or quadriplegia
- With any diagnosis of spina bifida or anoxic brain damage
- With an ICD-9-CM procedure code for debridement or pedicle graft **before or on the same day as the major operating room procedure (surgical cases only)**
- With an ICD-9-CM procedure code for debridement or pedicle graft **as the only major operating room procedure (surgical cases only)**
- With any diagnosis of Stage I or Stage II pressure ulcer
- Transfer from a hospital (different facility)
- Transfer from a skilled nursing facility (SNF) or intermediate care facility (ICF)

- Transfer from another health care facility
- With missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), or principal diagnosis (DX1=missing)

# What are the Inpatient Quality Indicators?

- The IQIs are a set of 32 indicators of hospital quality of care
- The IQIs are measured using hospital administrative data
- The IQIs include:
  - Inpatient mortality for certain procedures and medical conditions
  - Utilization of procedures for which there are questions of overuse, underuse, and misuse
  - Volume of procedures for which there is some evidence that a higher volume is associated with lower mortality

*Inpatient Quality Indicators Overview.* AHRQ Quality Indicators. February 2006. Agency for Healthcare Research and Quality, Rockville, MD.  
[www.qualityindicators.ahrq.gov/modules/iqi\\_overview.aspx](http://www.qualityindicators.ahrq.gov/modules/iqi_overview.aspx).

## Notes

The IQIs are defined on five levels: mortality rates for medical conditions, mortality rates for surgical procedures, hospital-level utilization rates, area-level utilization rates, and volume of procedures. The IQIs include the following 32 measures:  
Mortality Rates for Medical Conditions (7 Indicators)

- Acute myocardial infarction (AMI) (IQI 15)
- AMI, without transfer cases (IQI 32)
- Congestive heart failure (IQI 16)
- Stroke (IQI 17)
- Gastrointestinal hemorrhage (IQI 18)
- Hip fracture (IQI 19)
- Pneumonia (IQI 20)

#### Mortality Rates for Surgical Procedures (8 Indicators)

- Esophageal resection (IQI 8)
- Pancreatic resection (IQI 9)
- Abdominal aortic aneurysm repair (IQI 11)
- Coronary artery bypass graft (IQI 12)
- Percutaneous transluminal coronary angioplasty (IQI 30)
- Carotid endarterectomy (IQI 31)
- Craniotomy (IQI 13)
- Hip replacement (IQI 14)

#### Hospital-Level Procedure Utilization Rates (7 Indicators)

- Cesarean section delivery (IQI 21)
- Primary cesarean delivery (IQI 33)
- Vaginal birth after cesarean (VBAC), uncomplicated (IQI 22)
- VBAC, all (IQI 34)
- Laparoscopic cholecystectomy (IQI 23)
- Incidental appendectomy in the elderly (IQI 24)
- Bilateral cardiac catheterization (IQI 25)

#### Area-Level Utilization Rates (4 Indicators)

- Coronary artery bypass graft (IQI 26)
- Percutaneous transluminal coronary angioplasty (IQI 27)
- Hysterectomy (IQI 28)
- Laminectomy or spinal fusion (IQI 29)

#### Volume of Procedures (6 Indicators)

- Esophageal resection (IQI 1)
- Pancreatic resection (IQI 2)
- Abdominal aortic aneurysm repair (IQI 4)
- Coronary artery bypass graft (IQI 5)
- Percutaneous transluminal coronary angioplasty (IQI 6)
- Carotid endarterectomy (IQI 7)

# An IQI Example: Coronary Artery Bypass Graft Mortality Rate (IQI 12)

- Numerator: Number of deaths among cases meeting the inclusion and exclusion rules for the denominator.
- Denominator: Discharges, age 40 years and older, with ICD-9-CM CABG code in any procedure field.

Source:

<http://www.qualityindicators.ahrq.gov/Downloads/Modules/IQI/V45/TechSpecs/IQI%2012%20Coronary%20Artery%20Bypass%20Graft%20%28CABG%29%20Mortality%20Rate.pdf>

## Notes

No definition or summary given in the technical specifications.

Exclude cases:

- Missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), or principal diagnosis (DX1=missing)
- Transferring to another short-term hospital (DISP=2)
- MDC 14 (Pregnancy, Childbirth, and Puerperium)

# How can the AHRQ QIs be used in quality assessment?

- QIs can be used to flag potential problems in quality of care
- QIs can be used to assess performance and compare against peer hospitals
- Examples of hospital use of QIs in the literature have examined the impact of:
  - Health information technology on quality of care
  - Hospital board quality committees on quality of care
  - Evaluation of effectiveness of nurse staffing and care delivered

Source: [www.qualityindicators.ahrq.gov/Default.aspx](http://www.qualityindicators.ahrq.gov/Default.aspx) and AHRQ Quality Indicator Toolkit Literature Review.

*If you already have your current  
PSI/IQI data available: use  
slides 18-19*

*If you do not have your PSI/IQI  
data available: use slides  
20-21.*

***DELETE THIS SLIDE***

# Current performance on the AHRQ QIs

- *INSERT GRAPHS OR TEXT FROM YOUR HOSPITAL'S DATA HERE*

## Notes

Insert your current hospital performance on the PSIs/IQIs.

## Next Steps

1. Identify priorities for quality improvement
2. Establish goals and performance targets
3. Formulate an action plan to develop a multidisciplinary team for Quality Indicator work

### Notes

Instructions: Indicate here what the steps are that need to be completed in order to move your Quality Indicator improvement initiatives forward.

# An Example of a Report on Hospital Performance on the AHRQ QIs

**UHC** Quality and Safety Management Report Report Resources

**Great State Medical Center** Hospital: GREATSTATE

Quarters: 2014 Q1 Population: All Conditions Performance: All Metrics Sort By:  Year  Quarter

f	Relative Performance	Jan - Mar 2014 (Q1)					Apr 2013 - Mar 2014 (recent year)					
		Denom	Observed	Target	UHC Median	Rank	Relative Performance	Denom	Observed	Target	UHC Median	Rank
<b>AHRQ Composites</b>												
<b>AHRQ Composites</b>												
		Score			x/n		Score			x/n		
<a href="#">IQ190 AHRQ Inpatient Mortality for Selected Procedures Quality Indicator Composite - AHRQ</a>			1.18	1.06	1.02	119/122		1.18	1.16	1.08	99/122	
<a href="#">IQ191 AHRQ Inpatient Mortality for Selected Conditions Quality Indicator Composite - AHRQ</a>			1.06	1.05	0.99	99/122		1.10	1.08	0.98	98/122	
<a href="#">PD199 AHRQ Pediatric Quality Indicator Composite - AHRQ</a>			0.59	1.00	0.92	3/120		0.47	1.00	0.84	1/120	
<a href="#">PS190 AHRQ Patient Safety Quality Indicator Composite - AHRQ</a>			0.51	1.07	0.90	2/122		0.48	1.10	0.94	1/122	
<b>Surgical Conditions</b>												
<b>Post Procedure Mortality (%)</b>												
<a href="#">IQ108 Esophageal resection - Adults - AHRQ</a>		N	Percent		x/n		N	Percent		x/n		
<a href="#">IQ109 Pancreatic resection - Adults - AHRQ</a>		2	0.0	0.0	0.0	77/ 92	23	4.3	4.1	0.0	77/ 92	
<a href="#">IQ109a Pancreatic resection with pancreatic cancer - Adults - AHRQ</a>		8	12.5	3.1	0.0	92/ 98	64	3.1	2.7	2.0	90/115	
<a href="#">IQ109b Pancreatic resection with pancreatic cancer - Adults - AHRQ</a>		5	0.0	3.1	0.0	43/ 79	38	2.6	3.0	0.0	83/110	

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## Notes

Instructions: Include an example of a report that can be developed at your institution to review hospital performance on the PSIs/IQIs.

# Next Steps

1. Run a QI report with most recent quarter's data
2. Review QI report at next board meeting
3. Identify priorities for quality improvement
4. Establish goals and performance targets
5. Formulate an action plan to develop multidisciplinary team for QI work

## Notes

Instructions: Indicate here what the steps are that need to be completed in order to move your Quality Indicator improvement initiatives forward?

Consider running QIs on data from previous quarters as well to generate a trend line.