



U.S. Department of Health and Human Services



Agency for Healthcare Research and Quality

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Measuring to Improve Healthcare Using the AHRQ Quality Indicators (QIs)

June 2016

VITAL 2016 Conference
@AHRQNews #AHRQQI



Learning Objectives

- Explore how AHRQ QIs are used to meet pay-for-performance goals, inform quality improvement and promote evidence-based best practices in hospitals
- Analyze how free AHRQ QI software can be easily used to calculate AHRQ QI results using hospital data
- Highlight and discuss insights from SUNY Upstate University Hospital's use of AHRQ's QIs to:
 - ▶ Identify areas for potential quality improvement
 - ▶ Initiate further focused investigation
 - ▶ Track changes in quality over time



Agenda

1. Presentation (30 minutes)

Diane Stollenwerk, MPP: AHRQ QI Team

Hans Cassagnol, MD: SUNY Upstate
University Hospital

2. Discussion (30 minutes)



POLL

Text **000000** to join

Does your hospital system use any of the
AHRQ QIs to improve quality of care?

A: Yes

B: No

C: Not sure



POLL

Text **000000** to join

What is the primary purpose of your hospital system's use of the AHRQ QIs?

A: Improving patient safety

B: Improving overall quality of patient care

C: Educating staff regarding clinical documentation

D: All of the Above

E: Not sure



What Do the AHRQ QIs Do?

Readily available data:

Hospital Administrative Data

ICD9/ICD10 dx and procedure codes
Present on admission flags
MDC
APR-DRGs

Insight into Quality:

Hospital

- Safety
- Mortality
- Procedure volume

Community

- Access to care
- Quality outpatient care

QI Software

- SAS
- WinQI with SQL server

Available Free of Charge at:

<http://www.qualityindicators.ahrq.gov/>



The AHRQ QI Modules

Module:	What the module reflects:	Examples:
Patient Safety Indicators (PSIs)	Quality of hospital care for adults Focus on potentially avoidable complications and errors that occur during a hospital inpatient stay	Pressure ulcers Postoperative sepsis
Inpatient Quality Indicators (IQIs)	Quality of hospital care for adults <ul style="list-style-type: none"> • Inpatient mortality for medical conditions • Inpatient mortality for surgical procedures • Utilization of procedures for which there are questions of overuse, underuse, or misuse • Volume of procedures with evidence that higher hospital volume of procedures may be associated with lower mortality 	Pneumonia mortality Bilateral cardiac catheterization
Prevention Quality Indicators (PQIs)	Hospitalization for ambulatory care sensitive conditions that reflect access to and quality of outpatient care	Asthma Low birth weight
Pediatric Quality Indicators (PDIs) Includes neonatal development indicators, NQIs	Quality of hospital care for children 18 years and younger and neonates (NQIs) <ul style="list-style-type: none"> • Potential complications and errors resulting from a hospital admission for children and adolescents • Potentially avoidable hospitalizations among children 	Neonatal mortality Postop. sepsis



Federal Initiatives Using AHRQ QIs*

	Indicator Module			
	Inpatient (IQI)	Patient Safety (PSI)	Pediatric (PDI)	Prevention (PQI)
HAC Reduction Program	✓	✓		
Hospital Inpatient Quality Reporting Program	✓	✓		
Hospital VBP		✓		
Shared Savings Program				✓
Partnership for Patients	✓	✓	✓	
Health Care Innovation Awards (CMMI)		✓	✓	✓
Hospital Compare	✓	✓		
ACO: Accelerated Development Learning Sessions (CMMI)		✓	✓	
Home and Community Based Services		✓		✓

*A sample of CMS and CMMI initiatives that use the AHRQ QIs



Healthcare Is Evolving Rapidly

Measurement reflects much of that change

- Evidence-based medicine
- Practice patterns
 - ▶ Use of specific procedures or interventions
 - ▶ Health IT
 - ▶ Staffing models
- Healthcare landscape
 - ▶ Delivery and payment models
 - ▶ Quality improvement initiatives, such as Partnership for Patients from CMS



Measurement Must Keep Up

Changing Landscape

- Evidence-based practices
- Practice patterns
- Healthcare landscape

AHRQ QIs Evolve Over Time

- Refinement
 - ▶ Expert input
 - ▶ User feedback
 - ▶ Evolve with changing practice patterns, evidence
- Assess, evaluate uses
- Annual coding review & update
 - ▶ Align with latest code guidance



Ensuring Quality of the Quality Indicators

- Annual updates to align with coding changes
- Rigorous testing with every annual update to assess:
 - ▶ Reliability
 - ▶ Validity
 - ▶ Alignment with evolving evidence base
- National Quality Forum (NQF) endorsement for many QIs
 - ▶ Additional testing performed
 - ▶ Extensive review of testing, feasibility, use
 - ▶ http://www.qualityindicators.ahrq.gov/Modules/list_ahrq_qi.aspx
- Improvements to QIs driven by
 - ▶ Testing
 - ▶ NQF, other expert feedback
 - ▶ User feedback
 - ▶ Evolving evidence base



Example QI Rates

National Benchmark Rates, 2012 (v5.0), Selected Qis

QI #	Indicator	Observed Rate (per 1000 discharges)*
IQI 12	Coronary Artery Bypass Graft (CABG) Mortality Rate	25.20
IQI 14	Hip Replacement Mortality Rate	0.66
PSI 03	Pressure Ulcer Rate	0.50
PSI 13	Postoperative Sepsis Rate	9.61
PDI 09	Postoperative Respiratory Failure Rate (pediatric)	14.52
PQI15	Asthma in Younger Adults Admissions Rate	46.02 per 100,000 pop.

*Area-level QIs are reported per 100,000 county population

Source: Benchmark Data Tables, by module, here: <http://www.qualityindicators.ahrq.gov/Default.aspx>

AHRQ QI Software

Input Data | Checking Readability Exit Wizard

1. Input File Options > **2. Check Readability** > 3. Data Mapping > 4. Mapping Quick Check > 5. Preparing for Crosswalk > 6. Crosswalks > 7. Data Errors > 8. Load Data

Checking the Readability of Your File

WinQI is reading your input file to make sure that every row can be read and that every row has the same number of columns.

Checking File: C:\Users\kprichard\Documents\AHRQ QI\Test data\input_AHRQ.CSV

File Size: 2478619 KB Records Read: 9907 Status: 2478619/2478619 KB

100% Complete Your file is finished reading

You may proceed once your file is finished reading.

Current Data File: C:\Program Files (x86)\Agency for Healthcare Research and Quality\Quality Indicators\Sample_input.csv Upload New Data

Last Upload: 23 days ago on 03/06/15 at 3:15 pm - 4998 rows Data Columns

1. Generate Indicators

Select indicators below to generate:

- PSI INDICATORS
- PQI INDICATORS
- PDI INDICATORS
- IQI INDICATORS

[Select All Remaining Indicators](#) Generate Selected Indicators

2. Create Reports

You must generate indicators before creating reports.
Use the checkboxes to the left to generate indicators.

[View Session Log](#) This is a summary of actions you performed and system responses to those actions, including error messages. [View Session Log](#)



AHRQ QI Software

AHRQ Quality Indicators - WinQI Version 6.0.0 - ICD-10

Area Report | View Area Report

1. Indicators > 2. Date Ranges > 3. Stratifiers > 4. Additional Options > 5. Create Report > 6. View Report

Report Summary

View a summary of the report per your selected criteria. You may export this report for later use.

Please click on the Observed Numerator or Observed Denominator (if applicable) columns to view discharge-level records that make up the observed numerator or denominator for the corresponding indicator and selected stratifier(s).

Report Title: Report from 6/1/2016 2:04:12 PM
 Source Data: C:\Users\kphadnis\Documents\ICD10_9ksample.csv
 Rate Per: population Created: 6/1/2016 2:04:34 PM Rows in Report: 544 Rows Per Page: 200

Indicator	County	Observed Numerator	Observed Denominator	Observed Rate
IQI 28	1011			
IQI 28	2001			
IQI 28	4021			
IQI 28	4023			
IQI 28	4025			
IQI 28	8069			
IQI 28	8121			
IQI 28	8125			
IQI 28	12011			

AHRQ Quality Indicators - WinQI Version 6.0.0 - ICD-10

Patient-Level Report | View Report

Patient-Level Report

View the individual cases flagged for each indicator. You may explore which cases were included in the numerator (outcome of interest) and denominator (population at risk) for each indicator, with or without exclusions, by selecting the appropriate options.

Click on a 'Row in file' number to view Case details for that row.

Source Data: C:\Users\Public\Documents\input_AHRQ.CSV

Module: Indicator: Total Records (211)
 IQI IQI 21 Cesarean Delivery Rate, Uncomplicated (211/1174) Rows Per Page: 20

Display: All Discharges Outcome of Interest (Numerator) Population at Risk (Denominator) Show Exclusions

Row In File	Key	Hospital ID	Age	Sex	MDC	DRG	DRG Ver	Den	Num
79	4095072		35	2	14	766	30	1	1
84	4095686		19	2	14	766	30	1	1
168	4095430		26	2	14	766	30	1	1
195	4095000		31	2	14	765	30	1	1
365	4095193		33	2	14	766	30	1	1
430	4095403		31	2	14	766	30	1	1
434	4095046		18	2	14	765	30	1	1
439	4095603		36	2	14	766	30	1	1
467	4094970		36	2	14	766	30	1	1
480	4095840		28	2	14	766	30	1	1
497	4094914		30	2	14	766	30	1	1

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Case Study: SUNY Upstate University Hospital

Hans P. Cassagnol, MD, MMM, FACOG, CPE
Chief Quality Officer

About Upstate University Hospital



Upstate Medical University



Upstate University Hospital
Downtown Campus



Upstate Golisano
Children's Hospital



Upstate Cancer Center



Upstate University Hospital
Community Campus

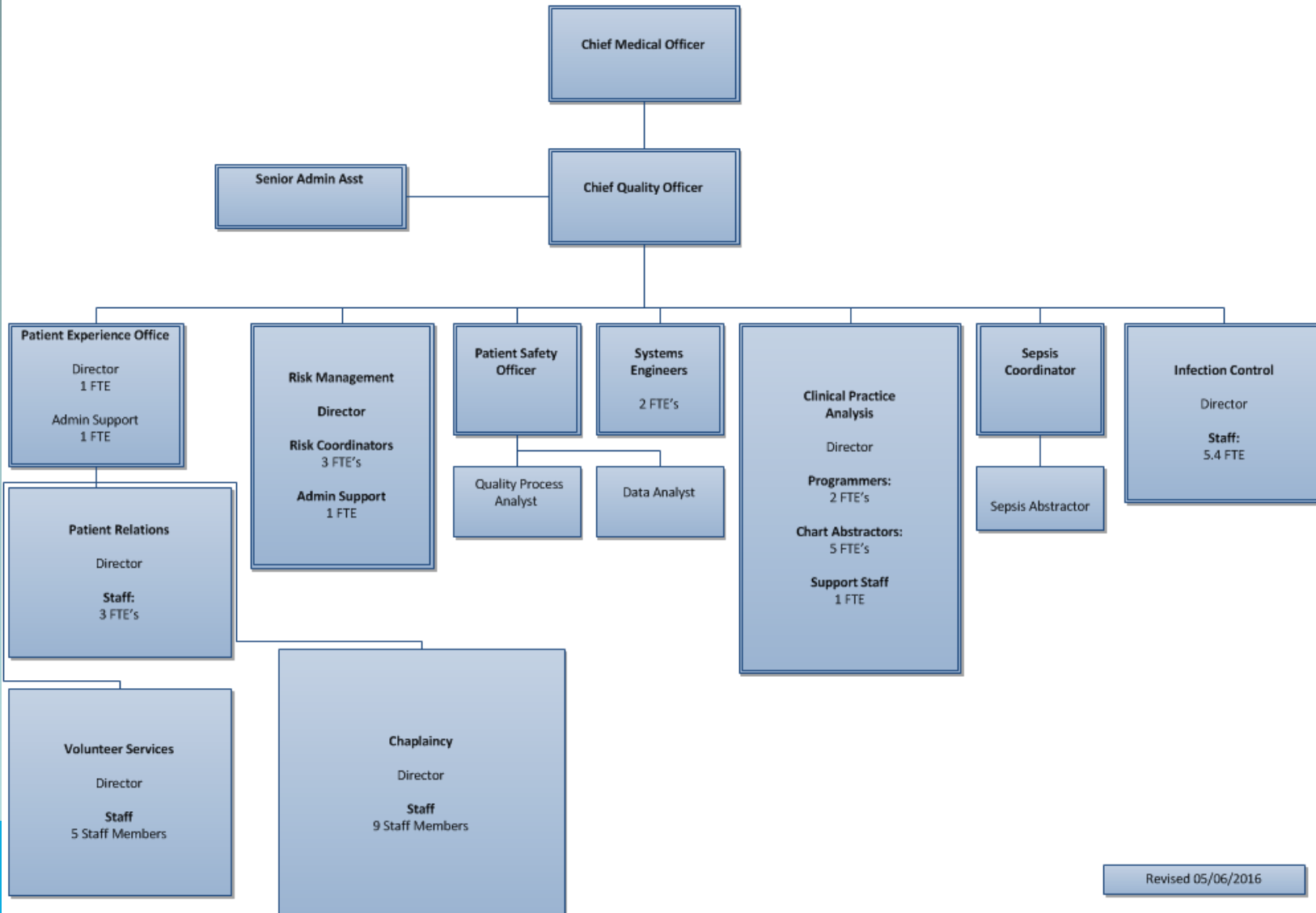
University Hospital in Syracuse is part of SUNY Upstate Medical University and is the only academic medical center in Central New York. As a medical enterprise SUNY Upstate serves 1.8 million people, covering one-third of the state. University Hospital in Syracuse is the hub of SUNY Upstate's clinical activities. Half of the 8,000 SUNY Upstate employees are connected to clinical care.

University Hospital's New York State Designated Centers include	University Hospital At a Glance
Upstate Stroke Center	735 Licensed Inpatient Beds
Upstate Level 1 Trauma Center	77 Hospital-based Specialty Clinics
Clark Burn Center	43 Medical Residency Programs
Upstate Designated AIDS Center	Only Pediatric ICU and Emergency Dept
New York State Designated SAFE site	28,753 Inpatient Admissions
Upstate New York Poison Center	96,411 Emergency Dept Visits
	283,537 Hospital Clinic Visits
	224,000 Ambulatory Visits

Upstate Quality and Safety Structure



Medical Quality Office Organizational Chart



Quality Division's Goals

- Improve patient safety through implementation of PSI's
- Improve Upstate Medical University's ranking in the University Health Consortium
- Minimize/eliminate negative financial impact of quality indicators

Outcome vs. Structure/Process

Module:	What the module reflects:
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Champions and Core Teams

- Each PSI linked to a team
 - ▶ Physician Lead
 - ▶ Unit Manager/Director
 - ▶ Front Line Staff
 - ▶ IT / Abstractor Support (Daily Reports)
 - ▶ Data Analytic Support (Monthly Reports)
 - ▶ Monthly Leadership Conference Call
 - ▶ Coding & Documentation Liaison

Timely Reports and Feedbacks

- Clinical Documentation Efforts
- Coding Improvement around PSI's
- Champions/Teams review of PSI's
 - ▶ Opportunities for Improvement
 - ▶ Trending PSI's
 - ▶ Process Redesign
- Feedback to Providers and Teams

Upstate Improvement Trend

UHC Ranking

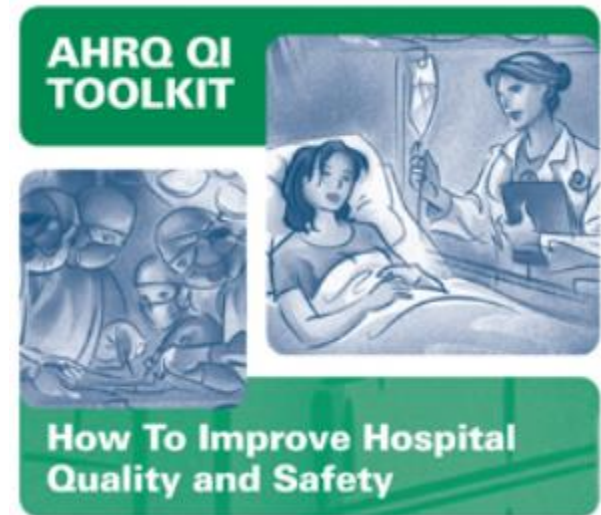
Domain	July 2014 – June 2015 (n=102 hospitals)	July 2015 – Dec 2015 (n=100 hospitals)
Mortality	98	80
Efficiency	91	48
Safety	68	76
Effectiveness	62	19
Patient Centeredness	87	62
Equity	80	1
OVERALL	95	54

Use the AHRQ QI Toolkit

- Assess readiness to change
- Apply QIs to your data
 - ▶ Detailed guidance
 - ▶ Understand your rates
 - ▶ Trends and comparisons
- Identify quality improvement priorities
- Implement improvements
- Monitor progress
- Analyze return-on-investment (ROI)

Available at:

<http://www.ahrq.gov/professionals/systems/hospital/qitoolkit/index.html>





Helpful Links to Learn More

Getting Started

AHRQ QI website:

www.qualityindicators.ahrq.gov

Free software:

www.qualityindicators.ahrq.gov/Software

FAQ, Support & Email

Updates:

www.qualityindicators.ahrq.gov/FAQs_Support

Or send an email to:

QIsupport@ahrq.hhs.gov

Advancing Use

AHRQ Hospital QI Toolkit:

www.ahrq.gov/professionals/systems/hospital/qitoolkit

- Includes ROI tool

Benchmark Data Tables

- National-level rates
- Download PDFs for each module
- e.g., for PSIs:

www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V50/Version_50_Benchmark_Tables_PSI.pdf

Detailed methods:

www.qualityindicators.ahrq.gov/Downloads/Resources/Publications/2015/Empirical_Methods_2015.pdf



DISCUSSION

Thank you!

For future questions or comments, contact that AHRQ QI Support Team anytime at: QIsupport@ahrq.hhs.gov