U.S. Department of Health and Human Services
Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Panel Discussion: Lessons Learned in Using the AHRQ QIs to Improve the Quality and Safety of Care

December 9, 2015

Announcements

- This webinar will be recorded and available on the AHRQ QI website - http://www.qualityindicators.ahrq.gov/.
- All participant lines will remain in listen-only mode.
- You may submit webinar questions via the ***question feature*** at any time; however, questions will be answered only during the Q&A sessions. Your questions will only be visible to the moderators.
- If multiple people from your organization are dialing in from the same location, please use only one line.
- For technical difficulties, please contact **Lee Thompson** at lthompson@air.org.

Objectives

- **Share case studies about the impact of the AHRQ QIs** on two health systems
- **Create a peer-to-peer learning opportunity** for organizations to share how they are using the AHRQ QIs to improve the quality of care
- **Identify resources to support use of the AHRQ QIs** for performance improvement

Today's Moderators

Cheryl Fahlman, PhD, BSP
Principal Research Scientist,
American Institutes for Research

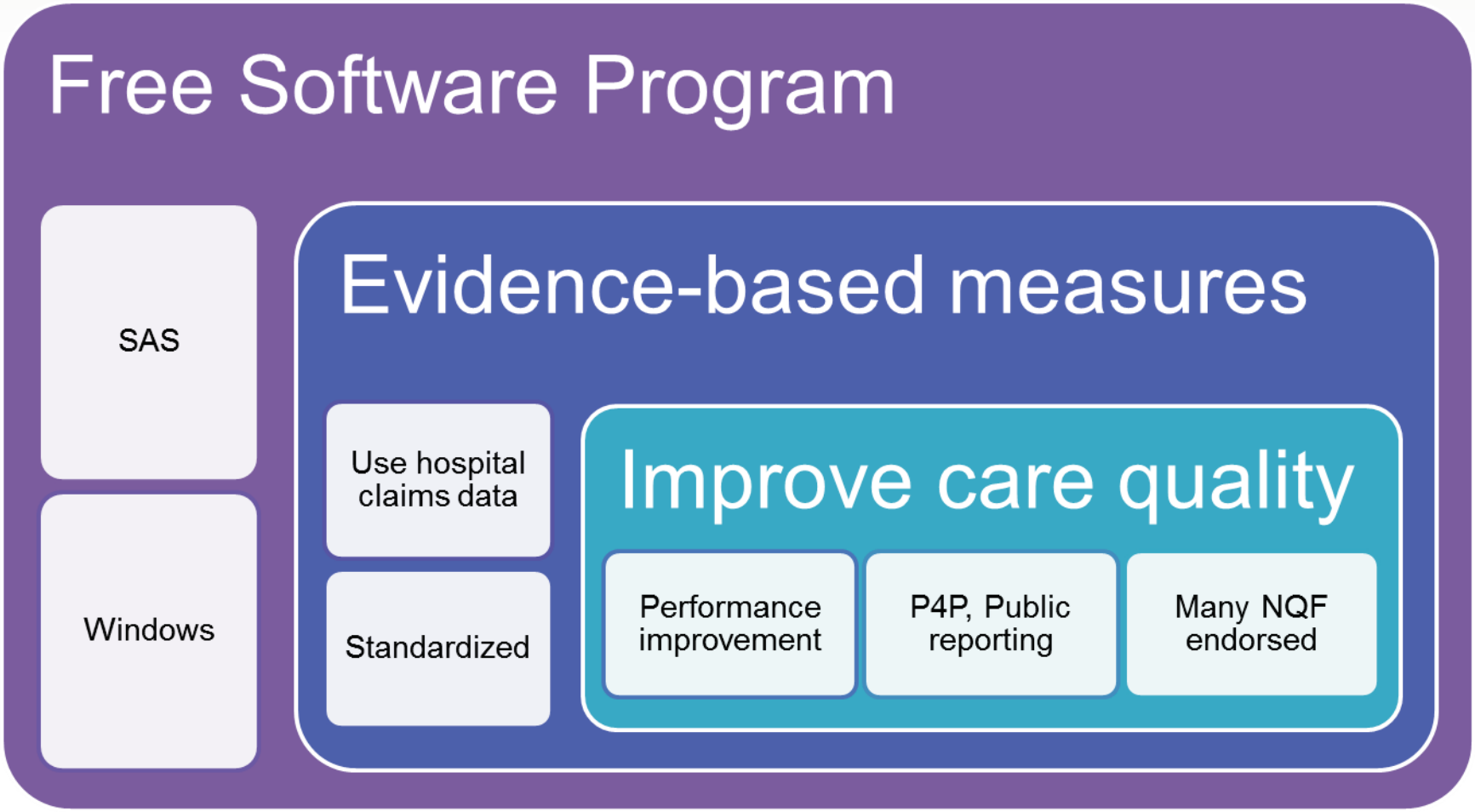
Diane Stollenwerk, MPP
President,
StollenWerks, Inc.

Agenda

1. Overview of the AHRQ Quality Indicators (QIs)
2. Case Studies
   - Stephen Allegretto, *Vice President, Analytic Strategy & Financial Planning, Yale New Haven Health System*
   - Verna Alverson, RN, BSN, *Inpatient Clinical Quality Analyst, Essentia Health*
3. Q&A/Discussion

OVERVIEW OF THE AHRQ QUALITY INDICATORS

What Are the AHRQ QIs?



Software available at: http://www.qualityindicators.ahrq.gov/Software/Default.aspx

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 • 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) • 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

CASE STUDIES:
LESSONS LEARNED IN USING THE AHRQ QIs

Case Study 1: Yale New Haven Health System (YNHHS)

Yale New Haven Health System Uses AHRQ's Patient Safety Indicators (PSIs) as Critical Tool in Reducing Quality Variation While Lowering Costs

Steve Allegretto, CPA, MPH
Vice President, Analytic Strategy & Financial Planning

About Yale New Haven Health System

YALE NEW HAVEN HEALTH

Yale School of Medicine

Yale Medical Group

Bridgeport Hospital

Greenwich Hospital

Smilow Cancer Hospital

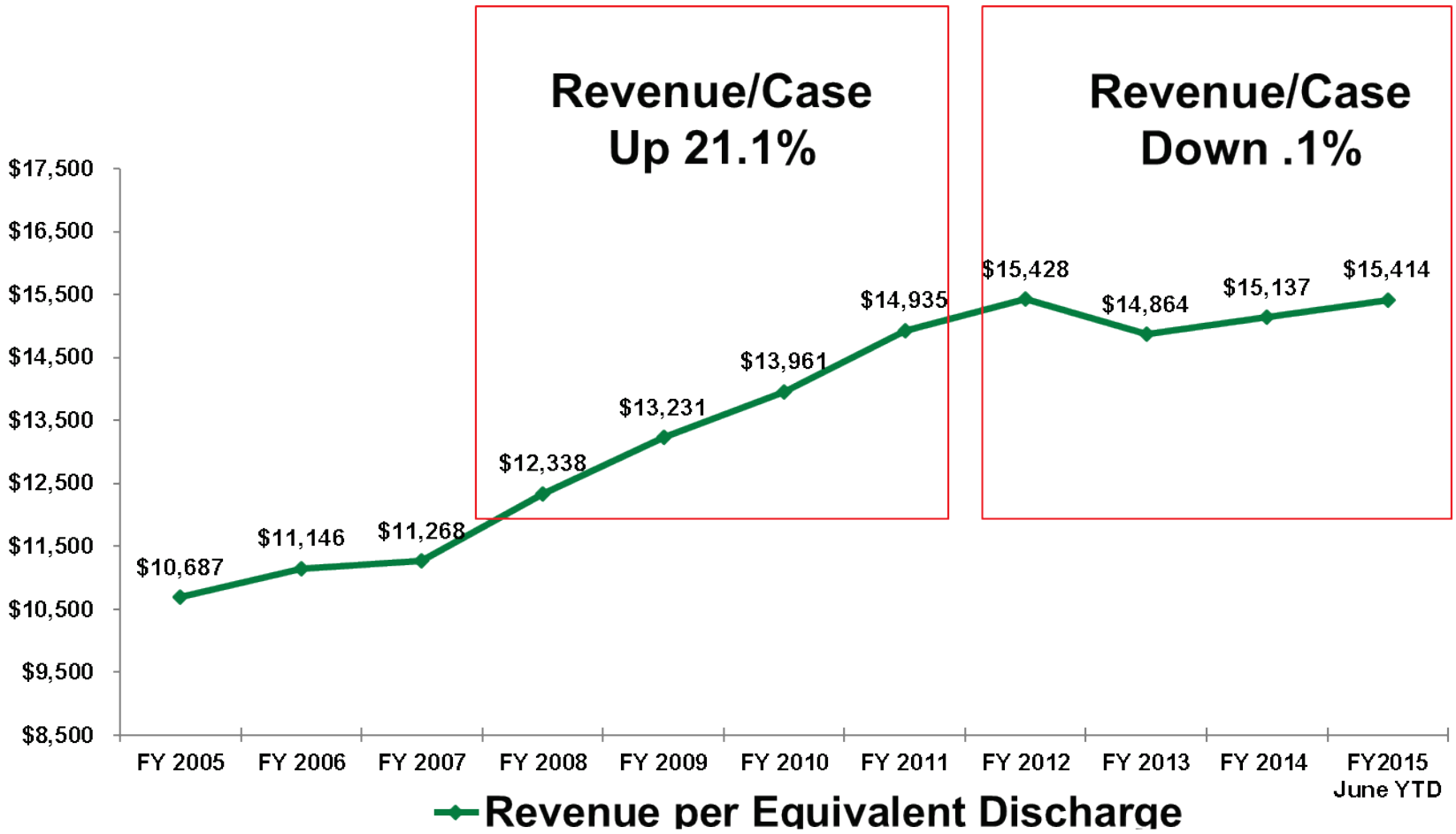
Yale-New Haven Hospital

Northeast Medical Group

- Largest, most integrated healthcare system in Connecticut including:
  - Yale-New Haven Hospital, Bridgeport Hospital, Greenwich Hospital and Smilow Cancer Hospital
  - Physician practice organizations; ancillary primary, urgent and emergent care facilities
  - Common electronic health record system on a single database instituted in hospitals, community health facilities, physician offices and FQHCs
- 89,998 patient discharges and 1,255,283 outpatient encounters with $3.5 billion in revenue

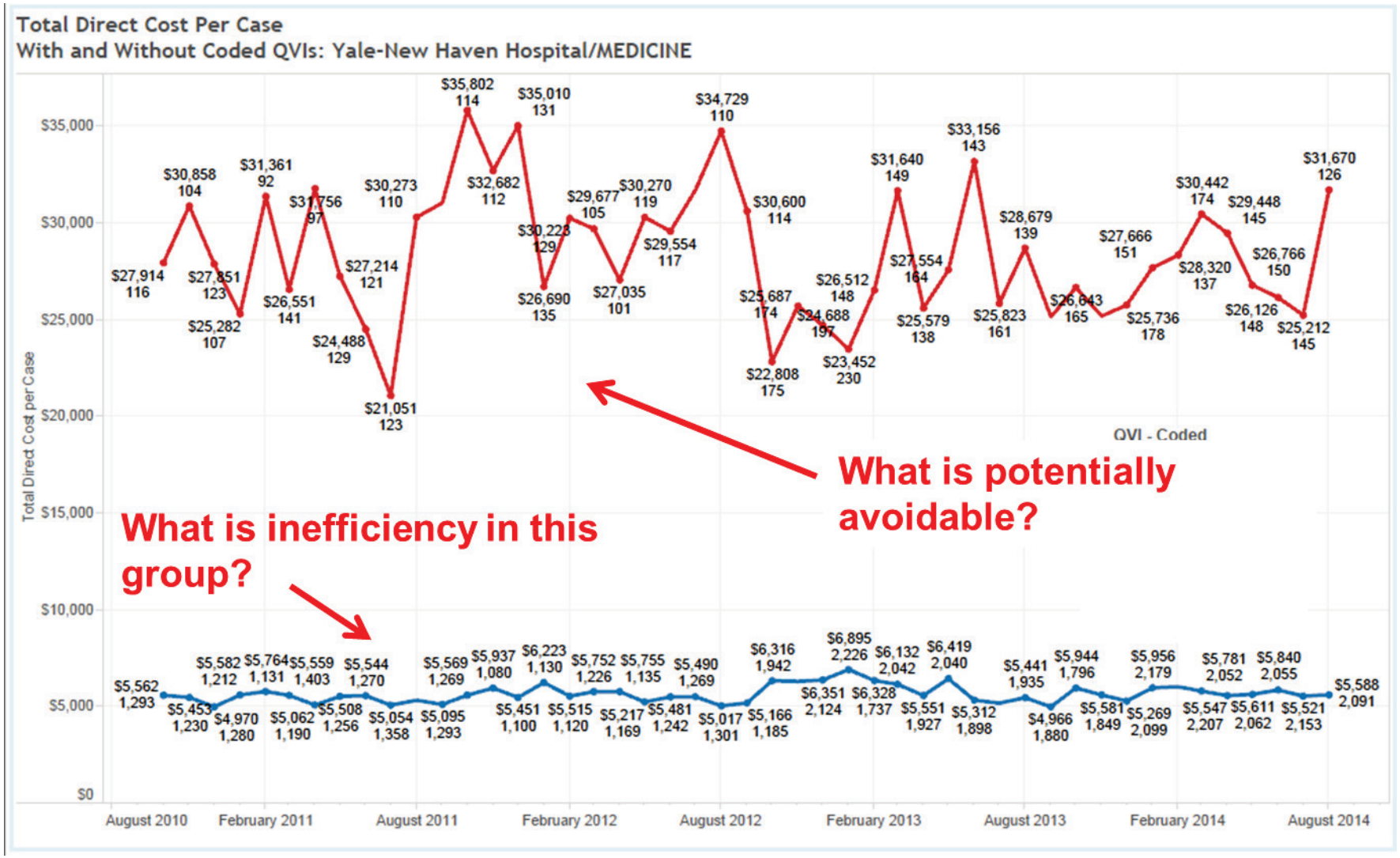
YALE NEW HAVEN HEALTH

The YNHHS Revenue Challenge



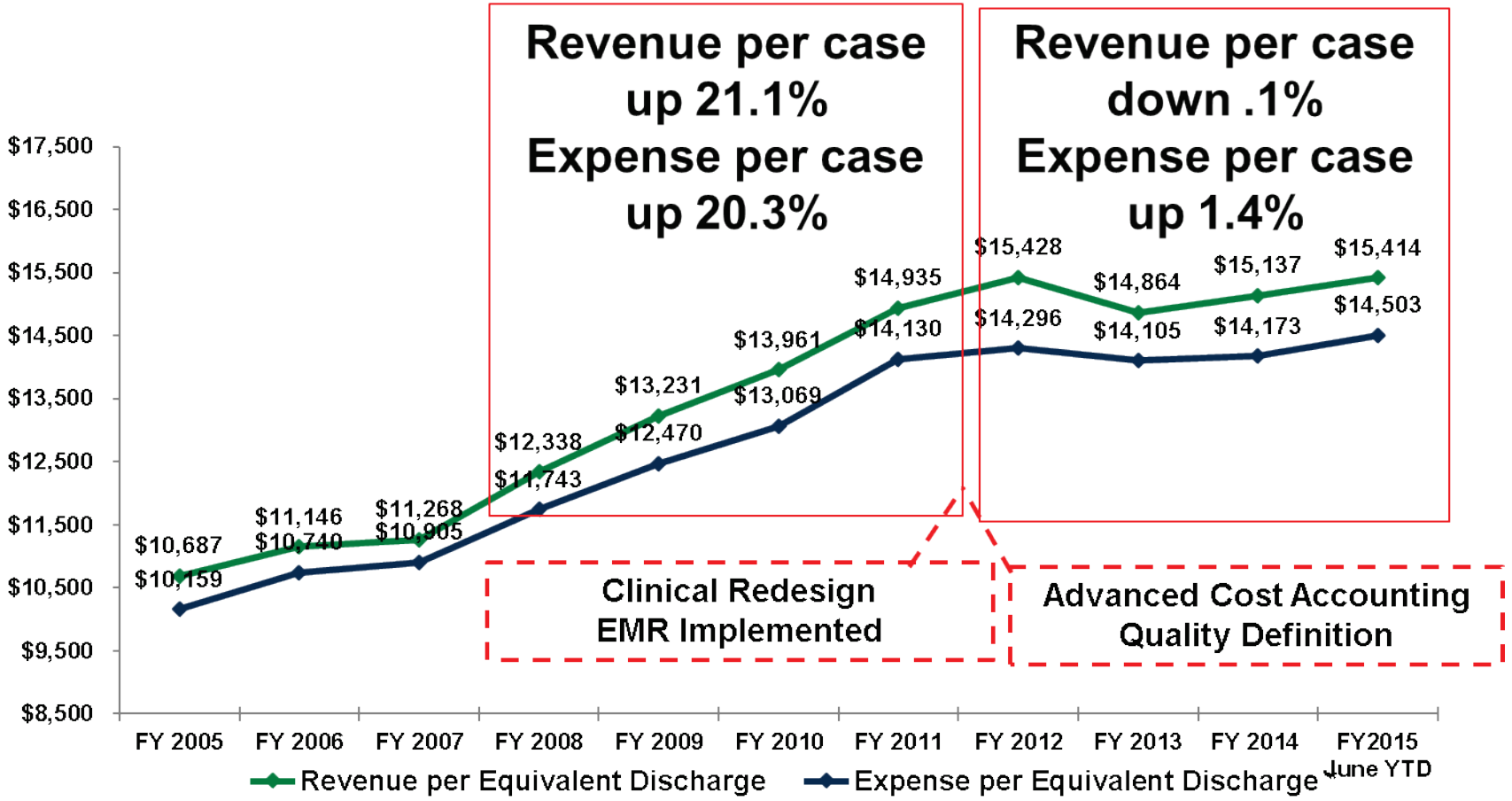
YALE NEW HAVEN HEALTH

Cases with a PSI/Complication/Quality Variation Indicator (QVI)



YALE NEW HAVEN HEALTH

Better Quality Generating Better Margins



AHRQ Adverse Event/Complication Example

Problem:

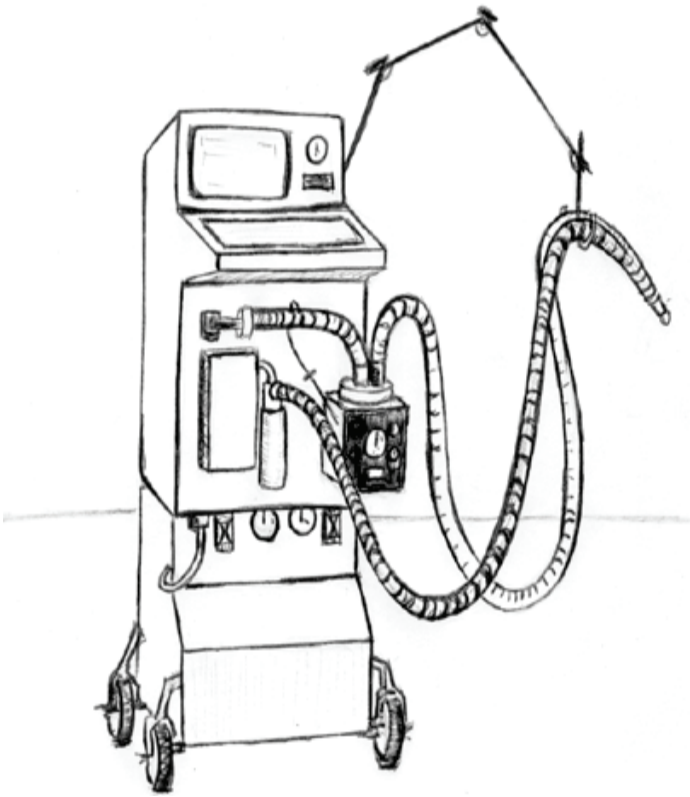
Higher than expected incidence of VAP in SICU (BH)

Analysis:

VAP is considered a generally avoidable adverse event associated with ventilator management. VAP is one of YNHHS's complications/QVIs reported on monthly.

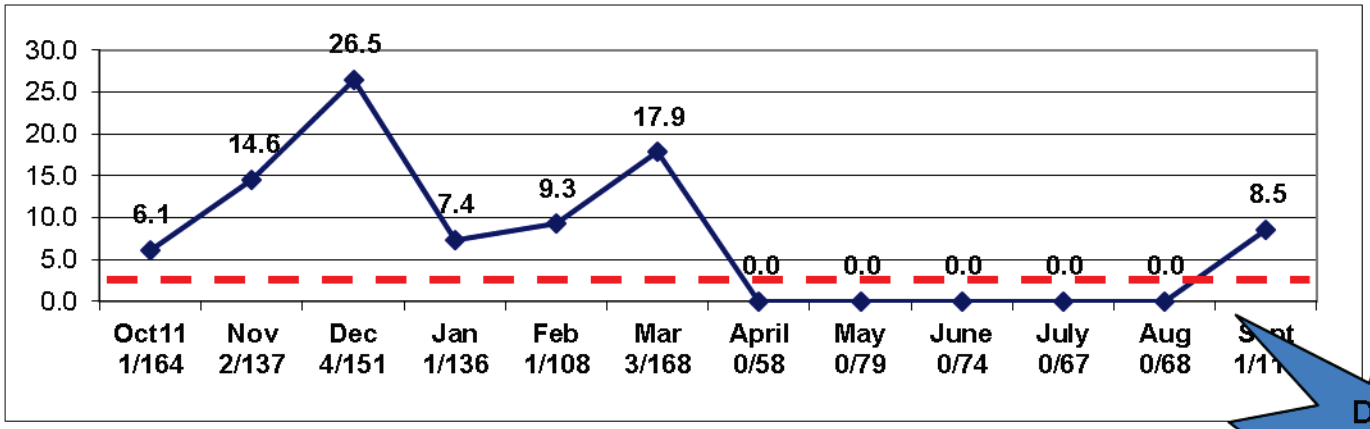
Intervention:

- Medical and surgical critical care at BH, later YNHHS all agreed on single vent weaning protocol
- Enhanced compliance with Ventilator Bundle



Case Study Quality Outcomes

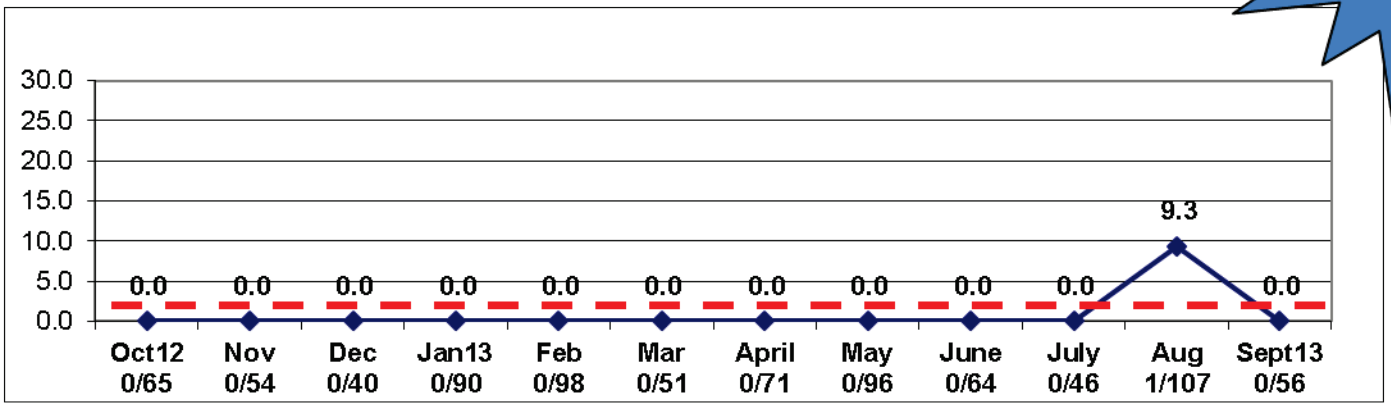
FY 2012: 13 VAPS



FY2012 RATE: 9.8 (13/1327)

Decreased VAP rate from FY'12 to '13

FY2013: 1 VAP



FY2013 RATE: 1.2 (1/838)

YALE NEW HAVEN HEALTH

Case Study Financial Outcomes

Fiscal Year	Cases (all critical care units)	Cost Average for all cases*
2012	18	$1,350,000
2013	10	$750,000
2014	5	$375,000
2015**	1	$75,000

Over 31,000 **VAP cases** annually are estimated to occur in US Acute Care Hospitals with **over 75%** of this HAI identified as being **preventable** resulting in **$3.1 Billion** of potential cost reductions relating to improved quality ***

At Bridgeport Hospital, cost per case of patients with VAP ranges from $60,897 to $95,980 per case each year (FY'11-FY'14)

***Calculated using $75,000 per case (FY'14 cost/case = $77,862)**

****Year to date----And over the last 3 years avoided/saved over_____M?**

***Zimlichman E, et al. HealthCare-Associated Infections: A Meta-analysis of Costs and Financial Impact on the US Health Care System. JAMA Internal Medicine. September 2, 2013

YALE NEW HAVEN HEALTH

Looking Ahead…..

- Reduction of:
  - Iatrogenic Pneumothoraces (PSI 06)
  - Deep Vein Thrombosis (PSI 12)
- Participant in **Bundled Payments** (orthopedic bundles)—better utilization and adverse event reduction to decrease cost, readmissions—the ultimate Clinical Redesign
- Vendor RFP and **Internal Cost Savings Gain Sharing**

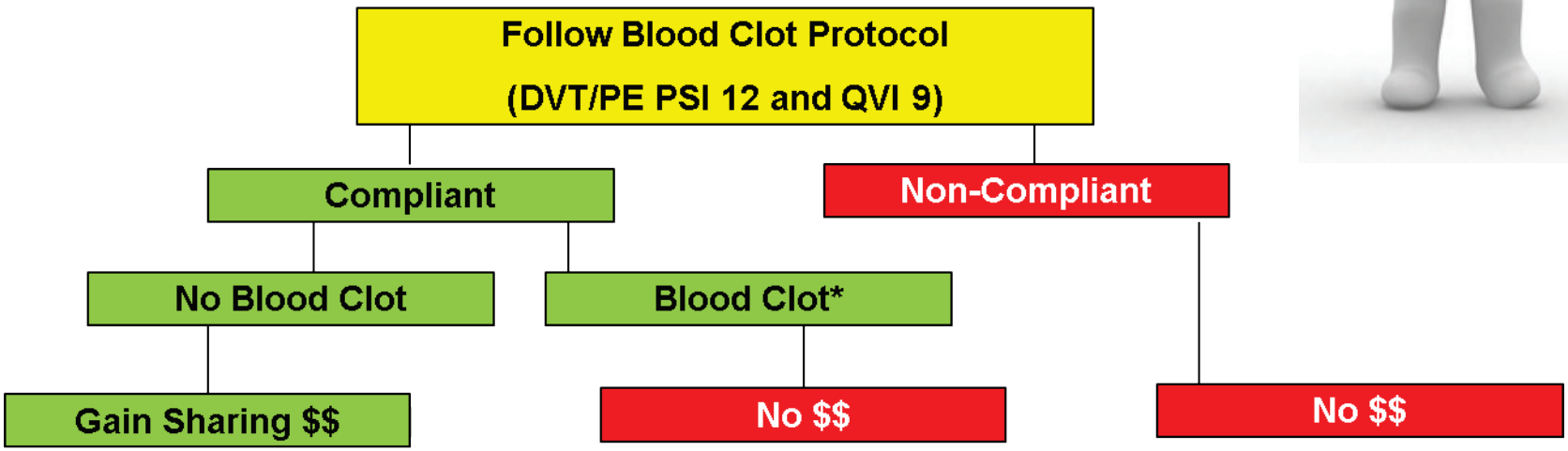
Cost Savings and Gain Sharing Model for DVT/PE

Surgeons participate in both elements of model

Element 1: Cost Savings

Successful RFP negotiation to decrease implant costs

Element 2: Gain Sharing



* Approx. 1% on Index Admission Only

YALE NEW HAVEN HEALTH

Surgical Site Infection (SSI) Patient Story
68-year-old Medicare-Insured YNHH Primary Service Area Patient
(Bundled Payment Episode)

Jun 2014: Left total hip arthroplasty (THA) due to osteoarthritis

- Physically active preoperatively: despite hip pain patient mows lawn & walks his dogs
- Uneventful surgery & 6-day hospital stay with discharge to Grimes

Jul 2014: Infection discovered; -wo readmissions including prosthesis head change

Jul 2014-Jan 2015: 9 outpatient visits; 2-six week rounds of IV antibiotics; central venous line placement; extended long term care stay ; 6 months of adapted/abbreviated joint rehab due to pain & limited mobility caused by infection

Feb 2015: Infection resolved (7 months post-op)

Feb-Jun 2015: 3 Infectious disease follow-up visits for infection monitoring; 2 outpatient visits with wound infection as principal diagnosis; now on long-term/lifetime suppression oral antibiotic

- **Golf ball-size hip incision swelling persists**

QUESTIONS?

Steve Allegretto, CPA, MPH

Vice President, Analytic Strategy & Financial Planning

Yale New Haven Health System

Stephen.allegretto@ynnh.org

Case Study 2: Essentia Health

Essentia Health Uses AHRQ's Patient Safety Indicators (PSIs) to Improve Patient Safety Through Education and Prevention Activities

Verna Alverson, RN, BSN
Inpatient Clinical Quality Analyst

Case Study 2: Essentia Health (cont'd.)

About Essentia Health

- A private non-profit integrated health system with facilities in 4 states (Idaho, Minnesota, North Dakota, Wisconsin)
- A $1.7 billion enterprise with more than 14,000 employees including 1,500 physicians and advanced practitioners
- Includes 16 hospitals, 69 clinics, 8 long-term care facilities, 2 assisted living facilities, 4 independent living facilities, and 1 research institute

Our focus on patient safety indicators stemmed from the emphasis placed on these indicators by value-based purchasers.

Case Study 2: Essentia Health (cont'd.)

Opportunities for Improvement

- Benchmark report found that select PSIs were higher than national benchmarks

Goal

- Improve patient safety and pay for performance by prioritizing improvement on a subset of 10 AHRQ PSIs

AHRQ PSIs
PSI 3: Pressure Ulcer Rate
PSI 6: Iatrogenic Pneumothorax Rate
PSI 7: Central Venous Catheter-Related Blood Stream Infection Rate
PSI 8: Postoperative Hip Fracture Rate
PSI 9: Perioperative Hemorrhage or Hematoma Rate
PSI 11: Postoperative Respiratory Failure Rate
PSI 12: Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate
PSI 13: Postoperative Sepsis Rate
PSI 14: Postoperative Wound Dehiscence Rate
PSI 15: Accidental Puncture or Laceration Rate

Case Study 2: Essentia Health (cont'd.)

Implementing the PSIs

- **PSI 9** (Perioperative Hemorrhage or Hematoma Rate)
  - Examined procedures that frequently cause hematoma, hemorrhage, or bruising
  - Linked increased occurrence to use of new hemostatic wristband for angiograms
  - Convened working group of physician, nursing, and education staff to develop improved and consistent process for securing the wristband

Result = Targeted provider engagement and education efforts led to safer patient care and improvement in PSI 9 rate.

Case Study 2: Essentia Health (cont'd.)

Implementing the PSIs

- **PSI 15** (Accidental Puncture or Laceration Rate)
  - Examined the data and found that some of the cases flagged as a patient safety event by the indicator were incorrectly coded as 'accidental' and that these lacerations were inherent to the particular surgical procedure
  - Instituted case-by-case peer review by a physician in the relevant specialty
  - Using AHRQ's website and other resources, created educational materials for providers about the definition of accidental puncture or laceration

    Result = Essentia Health-Fargo reduced PSI 15 from a rate of 1.2 events per 1000 eligible procedures in 2013 to 0.07 in the first half of 2015—a rate that is better than the national average.

Case Study 2: Essentia Health (cont'd.)

Lessons Learned

- Provider education and prevention activities are critical to improving patient safety.
- The PSIs show us where to focus – we use the technical specifications to examine each case individually, identify opportunities to improve clinical care delivery, and then go back to frontline to make the improvements.
- The AHRQ QI website includes a wealth of evidence-based information and toolkits that provide adaptable solutions, guide the provision of safe care, and reduce patient harm.

QUESTIONS?

Verna Alverson RN, BSN

Inpatient Clinical Quality Analyst

Essentia Health

Verna.Alverson@EssentiaHealth.org

DISCUSSION

IMPLEMENTING THE AHRQ QIs

Resources and Support

Implementation Guidance

AHRQ QI Toolkit Includes:

- 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

Additional Resources

- AHRQ QI website
  - http://www.qualityindicators.ahrq.gov/
- AHRQ QI technical assistance
  - http://www.qualityindicators.ahrq.gov/FAQs_Support/
  - QIsupport@ahrq.hhs.gov
- AHRQ QI software and documentation (SAS and WinQI)
  - http://www.qualityindicators.ahrq.gov/Software/Default.aspx

Webinars

- Upcoming (Spring 2016)
  - SAS Version 6.0 QI Software
  - WinQI Version 6.0 Software
  - AHRQ QI Transition to ICD-10

Thank You

Thank you to our speakers and participants!

General Questions and Comments:

AHRQ QI Support Team

QIsupport@ahrq.hhs.gov