

The leading voice for hospitals.

Clinical Issues Advisory Council

April 27th, 2011



Welcome & Introductions

Review of March 9, 2011 minutes and meeting objectives.

Meeting Objectives:

- First session of Mortality: Learning-in-Network (M- LiNk):
Addressing Hospital Mortality: Setting the Context & Opportunities for Success
- Updates on two other parts of MHA's Strategic Performance Improvement Agenda (SPIA):
 - Healthcare-Associated Infections (HAI) prevention
 - Preventable readmissions (STAAR)



Massachusetts Hospital Association Mortality Learning-in-Network (*M-LiNK*)

Addressing Hospital Mortality: Setting the Context & Opportunities for Success

April 27, 2011



Opportunity

- Noted: lack of standardization and comparability of mortality measures
- Hospitals' request: for MHA to offer tools for building an effective hospital mortality review program
- Hospitals' request: for MHA to offer evidence-based strategies to reduce mortality for those at greatest risk.



MHA's Statewide Performance Improvement Agenda

Priorities for Massachusetts hospitals to collectively focus on improving:

1. Safety,
2. Efficiency, and
3. Quality.

The goal to improve quality is by reducing the in-hospital mortality rate



FOCUS on Hospital Mortality

Shift focus from retrospective analysis of “what happened” to proactive approach of identification, rapid response and prevention of hospital deaths

System integration of mortality into hospital strategic goals for quality and safety

Mortality: Learning-in-Network

M-LiNk is a peer-based learning opportunity for hospitals to:

1. Identify best practices correlated with a reduction in mortality;
2. Adopt system supports used in high-reliability organizations; and
3. Implement protocols to identify and differentially treat high-risk patients.



M-LiNk Offerings

Structures & Processes for Hospital Mortality

- Apr 2011: Setting Context & Identifying Opportunities
- May 2011: Building an Effective Hospital Mortality Review Program
- Jun 2011: Engaging Physicians in Health Care Facility Patient Safety and Quality Programs



M-LiNk Offerings

Mortality Outcomes – Part I: Sepsis

- Jun 2011 – Dec 2012: AIMS Initiative
- Sep-Dec 2011: M-LiNk Sepsis Learning Series:

Mortality Outcomes – Part II: Common Drivers

- Jan – Apr 2012



Hospital Mortality: Setting Context & Identifying Opportunities

Learning Objectives

1. Review common causes and strategies for reducing hospital mortality
2. Define MA-specific hospital mortality data with strategic implications for MA hospitals
3. Discuss the policy context and a focus on performance improvement to address mortality reduction for MA hospitals.

Hospital Mortality: Setting Context & Identifying Opportunities

Today's Speakers

- **Laura Evans, MD, MSc**, Assistant Professor NYU School of Medicine; Medical Director of Critical Care, Bellevue Hospital Center
- **David P. Smith**, Senior Director, Health Data Analysis & Research, MHA
- **Mark Novotny, MD, FACP, FACHE**, VP Medical Affairs & CMO, Cooley Dickinson Hospital

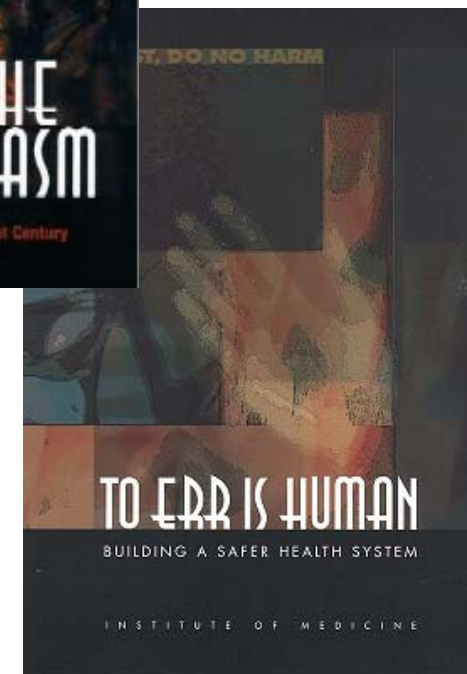
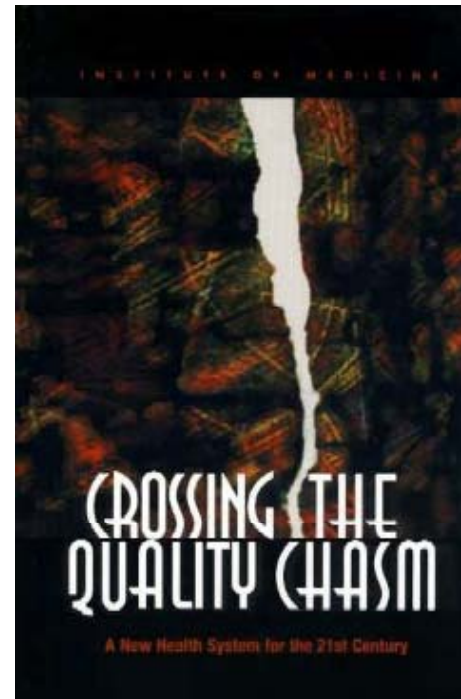


Setting the Context

Dr. Laura Evans

Hospital Mortality: The Scope

- To Err Is Human
 - Published 1999 by Institute of Medicine (IOM)
 - Up to 98,000 deaths/year from medical errors
- Crossing the Quality Chasm
 - Published 2001 by IOM
 - Call for systematic improvement to health care system





Call to Action

- 100,000 Lives Campaign
 - Deploy rapid response teams
 - Deliver reliable, evidence-based care for acute myocardial infarction
 - Prevent adverse drug events
 - Prevent central line infections
 - Prevent surgical site infections
 - Prevent ventilator-associated pneumonia



5 Million Lives Campaign

100,000 Lives Campaign focus areas plus:

- Prevent harm from high-alert medications
- Reduce surgical complications
- Prevent pressure ulcers
- Reduce MRSA infection
- Deliver reliable, evidence-based care for congestive heart failure
- Get Boards on board



Today's focus

- Some common causes of preventable hospital mortality
 - Failure to rescue
 - Hospital acquired infections and sepsis
- Strategies for reduction
 - Rapid response teams
 - Prevention of HAI
 - Implementation of sepsis bundles



Failure to Rescue

- Failure to prevent an important clinical deterioration due to
 - Complication of underlying illness
 - Complication of medical care
- Measure of the degree to which providers
 - Recognize and respond to clinical deterioration
 - May reflect quality of monitoring and/or intervention



Causes of Failure to Rescue

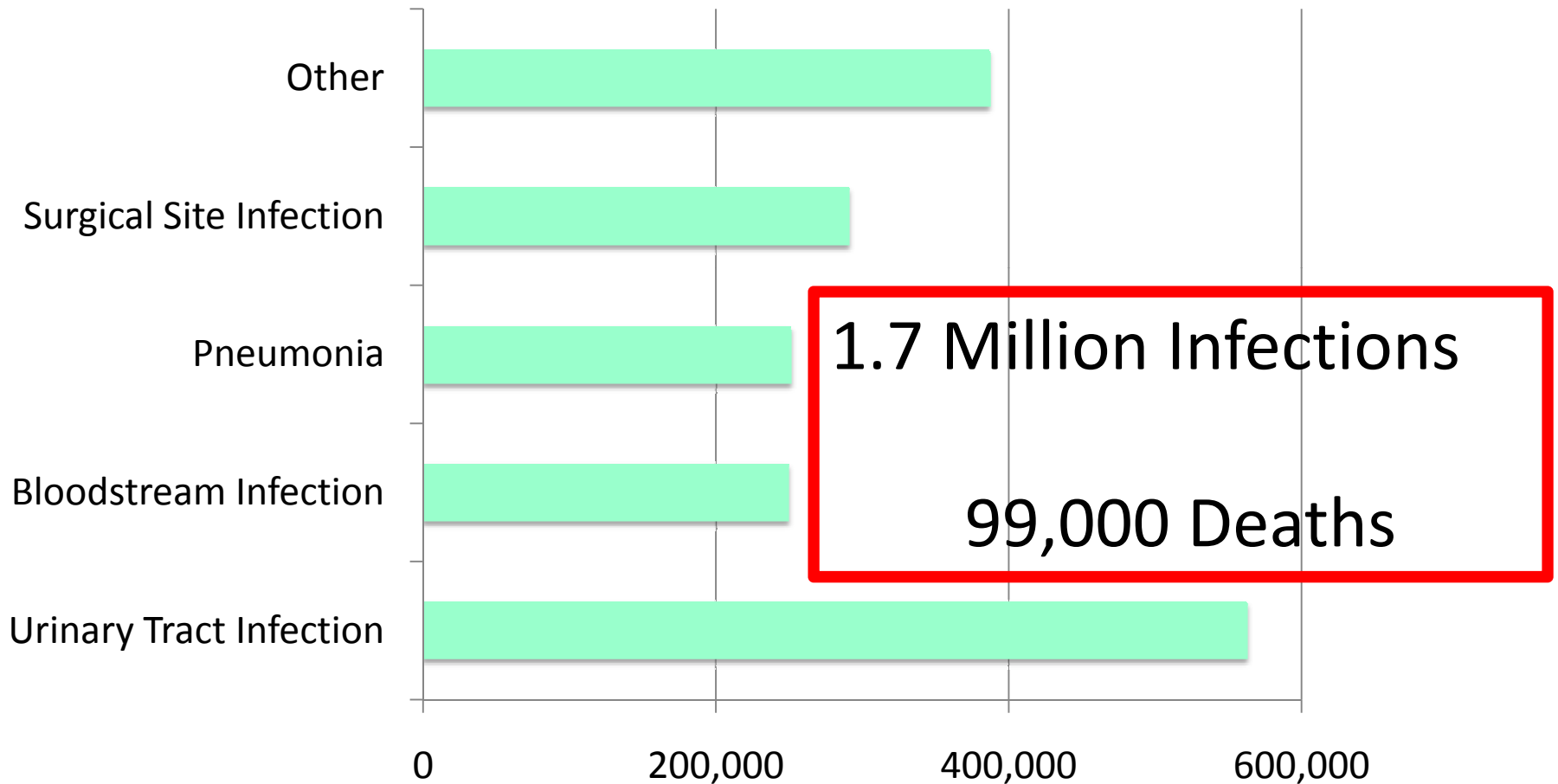
- Failures in planning
 - assessment, treatment and goals
- Breakdown of communication
 - Between staff members
 - Between patients and staff
- Failure to recognize early signs of deterioration in a patient's condition



When We Fail to Rescue

- General surgery:
 - 10-fold higher rate of failure to rescue in high mortality hospitals
- Trauma:
 - Lower mortality hospitals had lower risk of failure to rescue (OR 0.26)

Hospital Acquired Infections



Hospital Acquired Sepsis

- 6.9 million hospital discharges
- 1998-2006
- 40 States
- Stratified by surgery

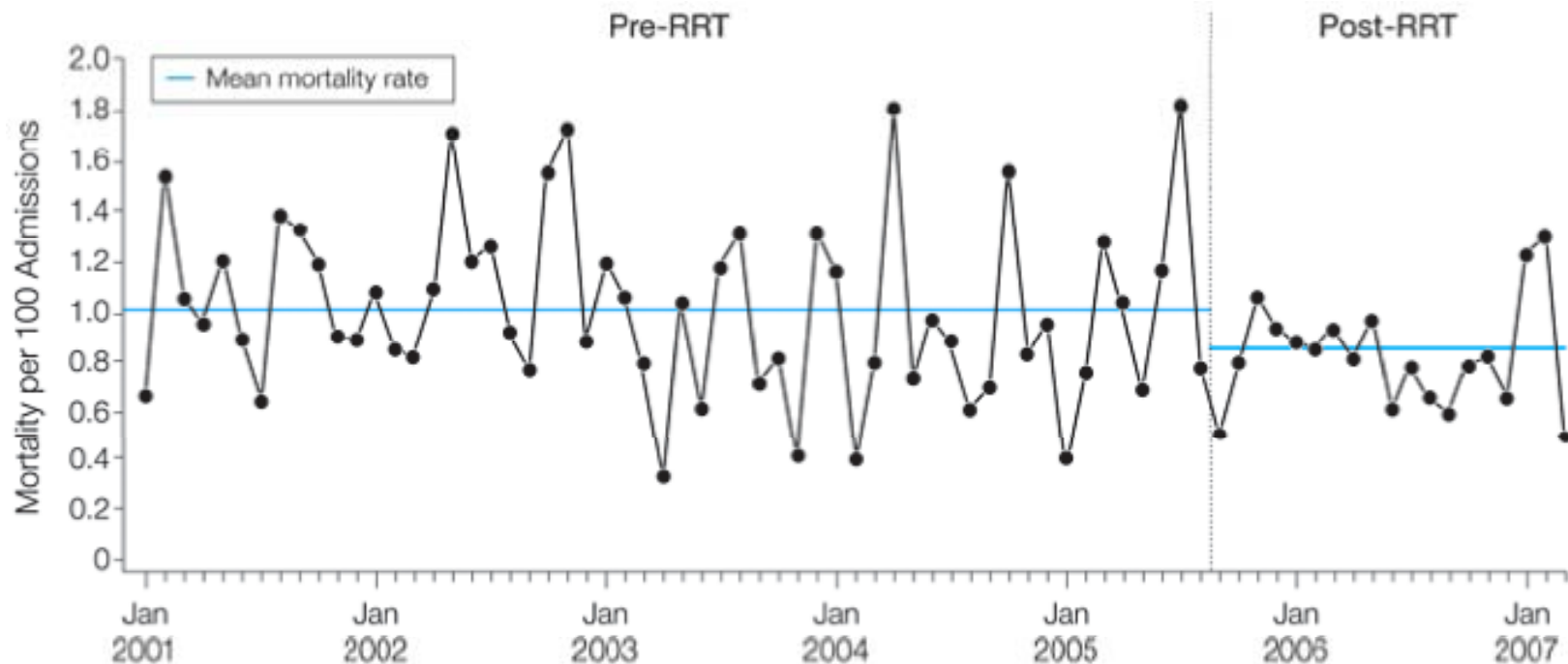
Invasive Surgery	
Sepsis Cases	108,610
Attributable Mortality	19.5%
Attributable LOS	10.9 days
Attributable Cost	\$32,900
No Invasive Surgery	
Sepsis Cases	384,640
Attributable Mortality	11.7-16%
Attributable LOS	1.9-6 days
Attributable Cost	\$5,800-12,600



Opportunity for Improvement

- How can we impact hospital mortality?

Effects of a Rapid Response Team in a Children's Hospital



Mortality decreased from 1.01 to 0.83 deaths per 100 discharges ($p=0.007$)



Rapid Response Teams: Adults

- Meta-analysis of 11 studies of effects of RRTs in adults
- 33.8% reduction in rate of cardiac arrest outside the ICU
- Not consistently associated with lower hospital mortality (RR 0.96)



Reducing Hospital Acquired Infections

- Bundles successfully reduce rates of:
 - Central line associated blood stream infection
 - Keystone Initiative
 - Ventilator associated pneumonia
 - Infection with MRSA

Table 3. Rates of Catheter-Related Bloodstream Infection from Baseline (before Implementation of the Study Intervention) to 18 Months of Follow-up.^a

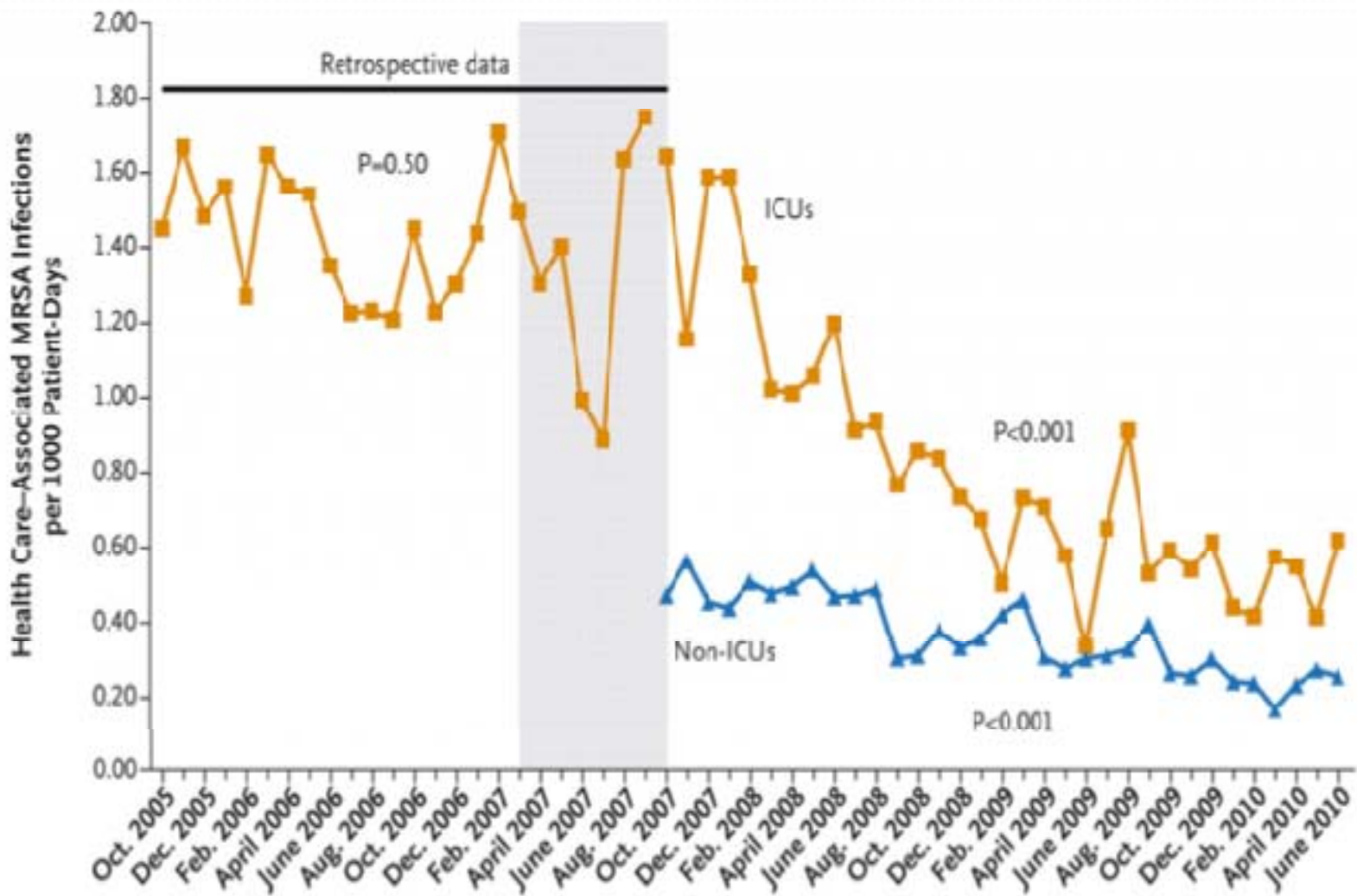
Study Period	No. of ICUs	No. of Bloodstream Infections per 1000 Catheter-Days				
		Overall	Teaching Hospital	Nonteaching Hospital	<200 Beds	≥200 Beds
<i>median (interquartile range)</i>						
Baseline	55	2.7 (0.6–4.8)	2.7 (1.3–4.7)	2.6 (0–4.9)	2.1 (0–3.0)	2.7 (1.3–4.8)
During implementation	96	1.6 (0–4.4)†	1.7 (0–4.5)	0 (0–3.5)	0 (0–5.8)	1.7 (0–4.3)†
After implementation						
0–3 mo	96	0 (0–3.0)‡	1.3 (0–3.1)†	0 (0–1.6)†	0 (0–2.7)	1.1 (0–3.1)‡
4–6 mo	96	0 (0–2.7)‡	1.1 (0–3.6)†	0 (0–0)‡	0 (0–0)†	0 (0–3.2)‡
7–9 mo	95	0 (0–2.1)‡	0.8 (0–2.4)‡	0 (0–0)‡	0 (0–0)†	0 (0–2.7)‡
10–12 mo	90	0 (0–1.9)†	0 (0–2.3)†	0 (0–1.5)†	0 (0–0)†	0.2 (0–2.3)†
13–15 mo	85	0 (0–1.6)‡	0 (0–2.2)‡	0 (0–0)‡	0 (0–0)†	0 (0–2.0)‡
16–18 mo	70	0 (0–2.1)‡	0 (0–2.7)‡	0 (0–1.2)†	0 (0–0)†	0 (0–2.6)‡

^a Because the ICUs implemented the study intervention at different times, the total number of ICUs contributing data for each period varies.

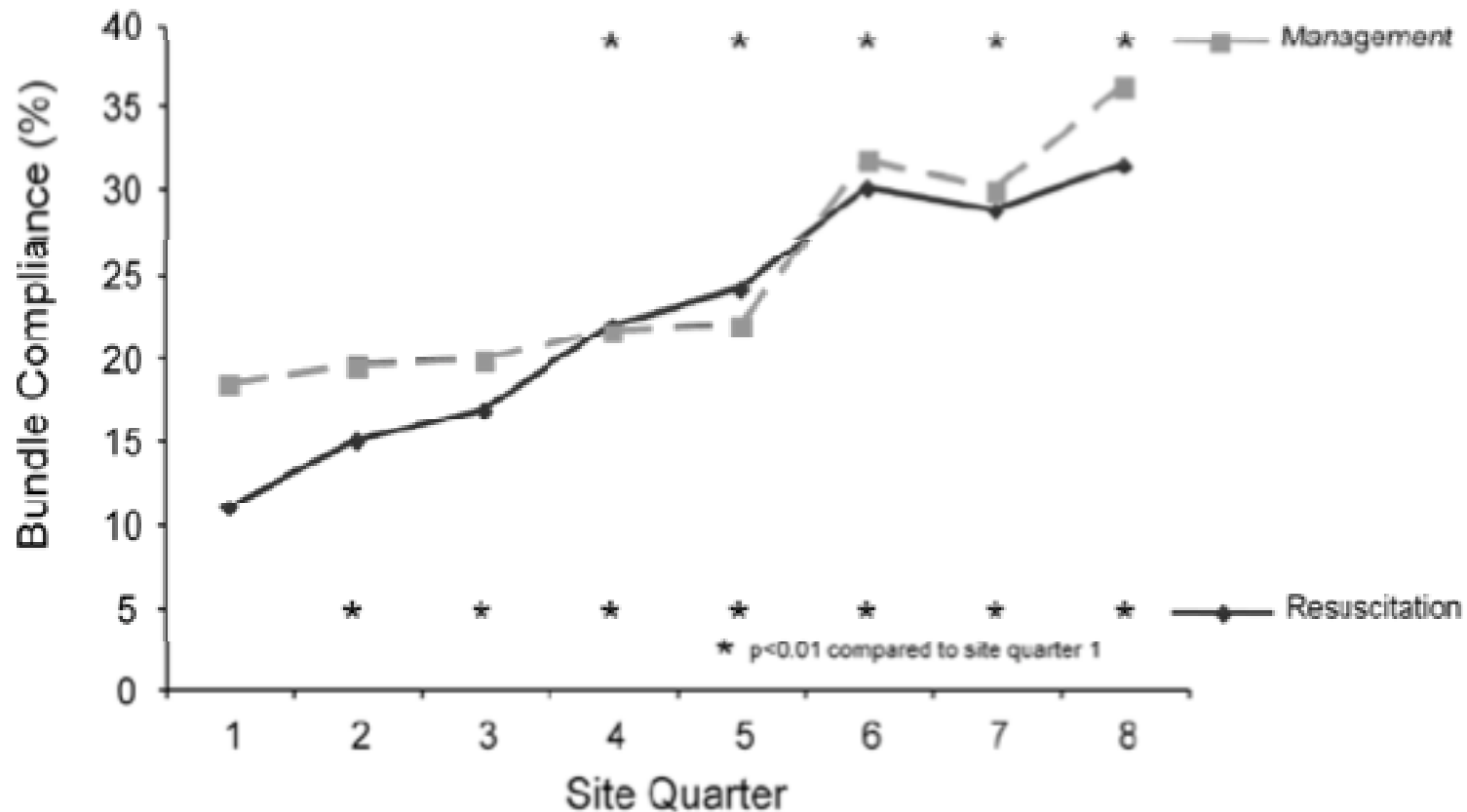
Of the 103 participating ICUs, 48 did not contribute baseline data. P values were calculated by the two-sample Wilcoxon rank-sum test.

† P≤0.05 for the comparison with the baseline (preimplementation) period.

‡ P≤0.002 for the comparison with the baseline (preimplementation) period.



Change in compliance with sepsis bundles over time



Change in mortality over time

Mortality
Benefit:

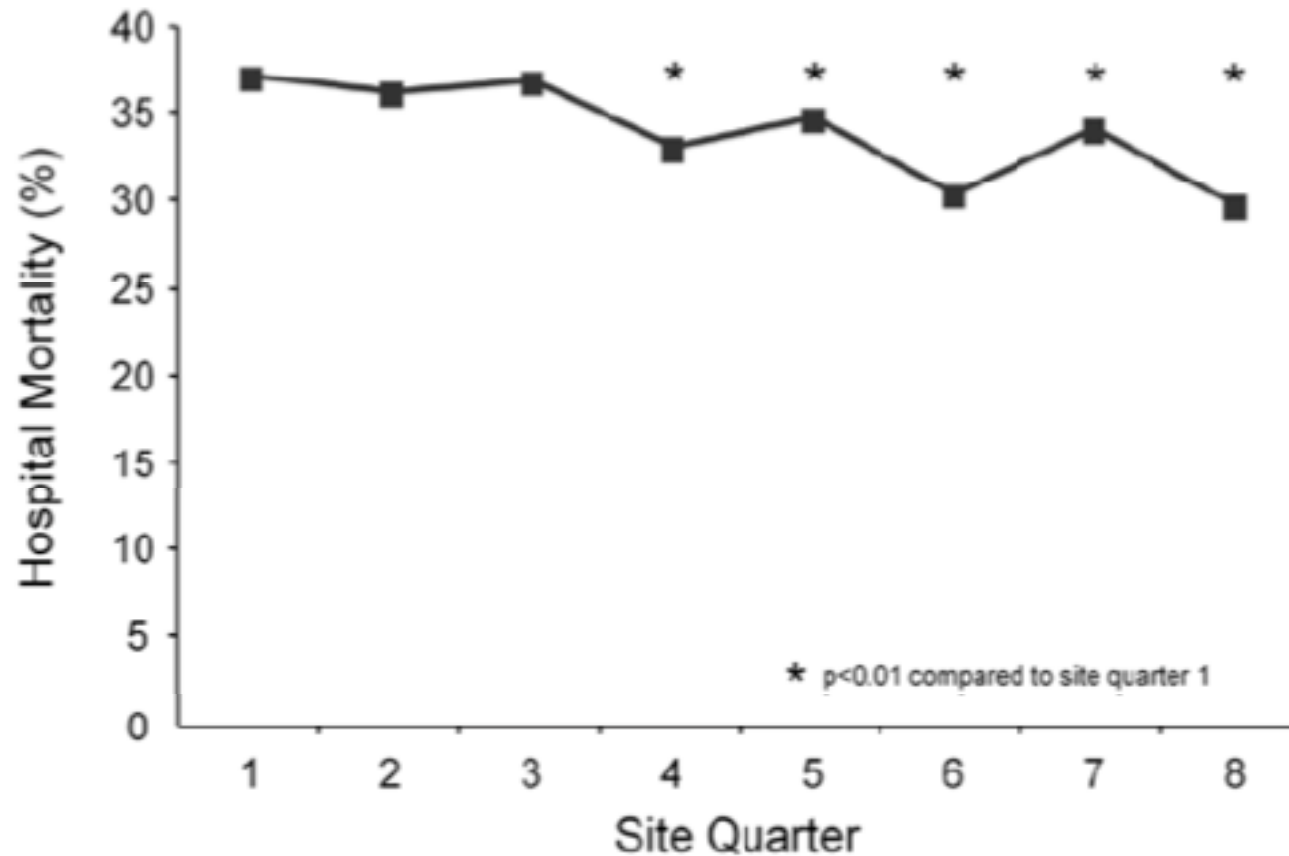
7% ARR

19% RRR

P < .001

Site quarter	Hospital mortality
1	37.0%
2	36.1%
3	36.8%
4	33.2%
5	34.7%
6	30.6%
7	34.1%
8	30.0%

Change in mortality over time





AIMS Study

- Assessment of Improvement Methodology in Sepsis
- Funded by NIH (Agency for Health Related Quality---AHRQ)
- ALL sites will receive the IHI collaborative, multi-faceted model for improvement by the end of the study
 - 42 sites will be enrolled
- Test the best method for implementing quality improvement initiatives
- Traditional CME model
- IHI collaborative, multi-faceted intervention



Hospital Mortality in Massachusetts: Data & Policy Context

David Smith

Senior Director, Health Data Analysis & Research
Massachusetts Hospital Association

MHA Clinical Issues Advisory Council

April 27, 2011

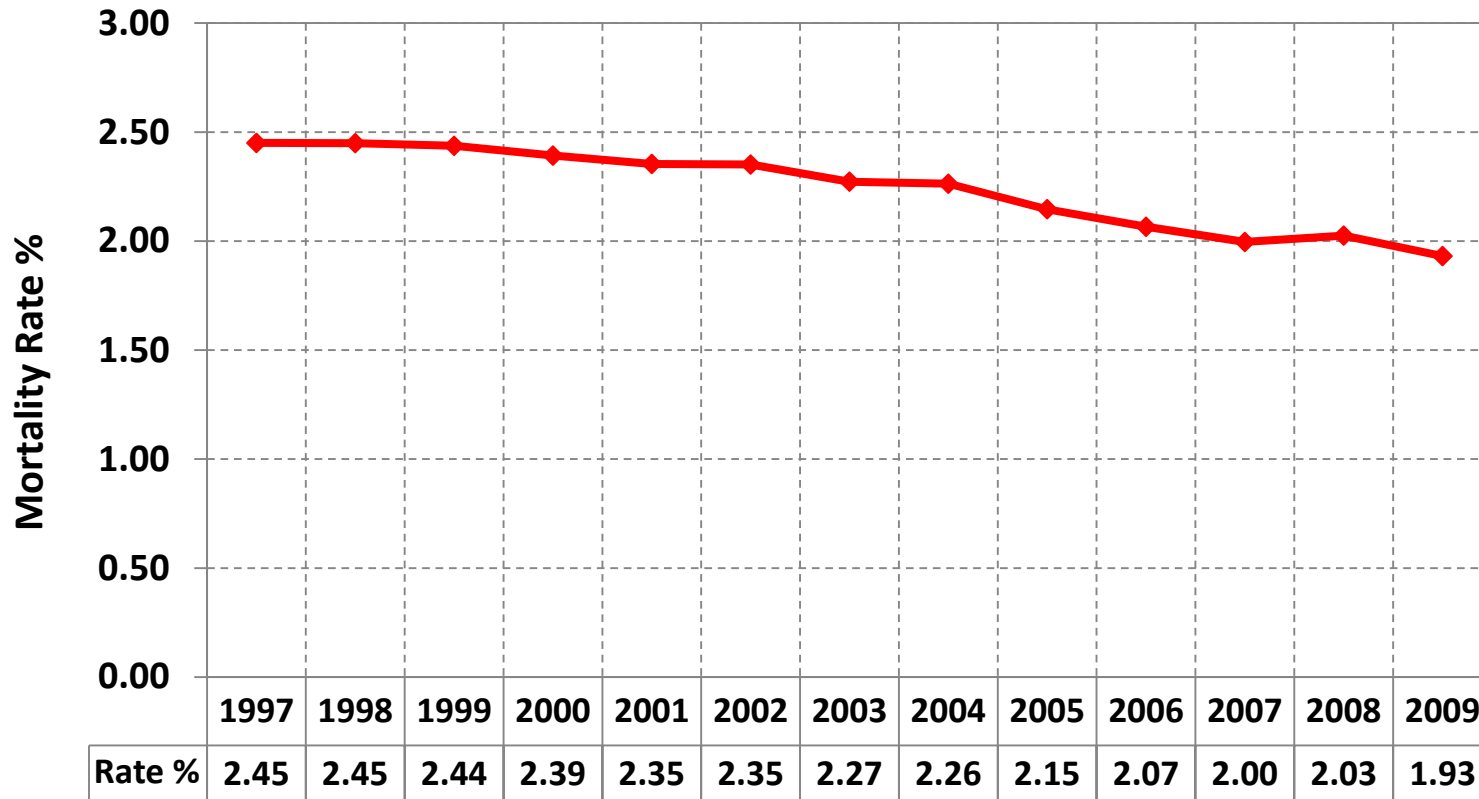


Data Context

30,000 Foot Level

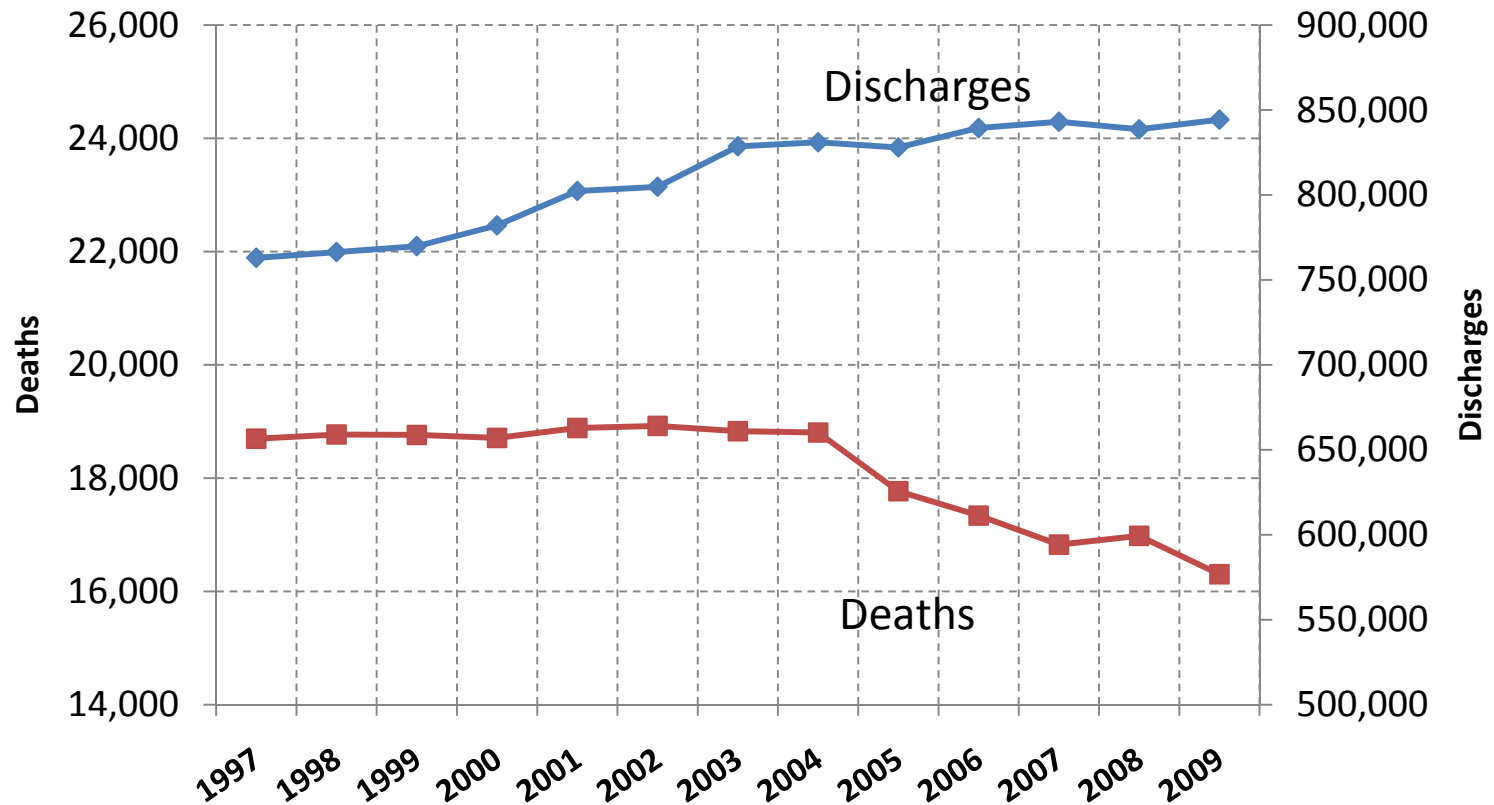
- Crude in-hospital mortality trends
- Risk-adjusted, diagnosis-specific, Medicare post-discharge mortality
- Risk-adjusted, diagnosis-specific, all-payer in-hospital mortality

Massachusetts Acute Care Hospitals In-Hospital Mortality Rate 1997 - 2009



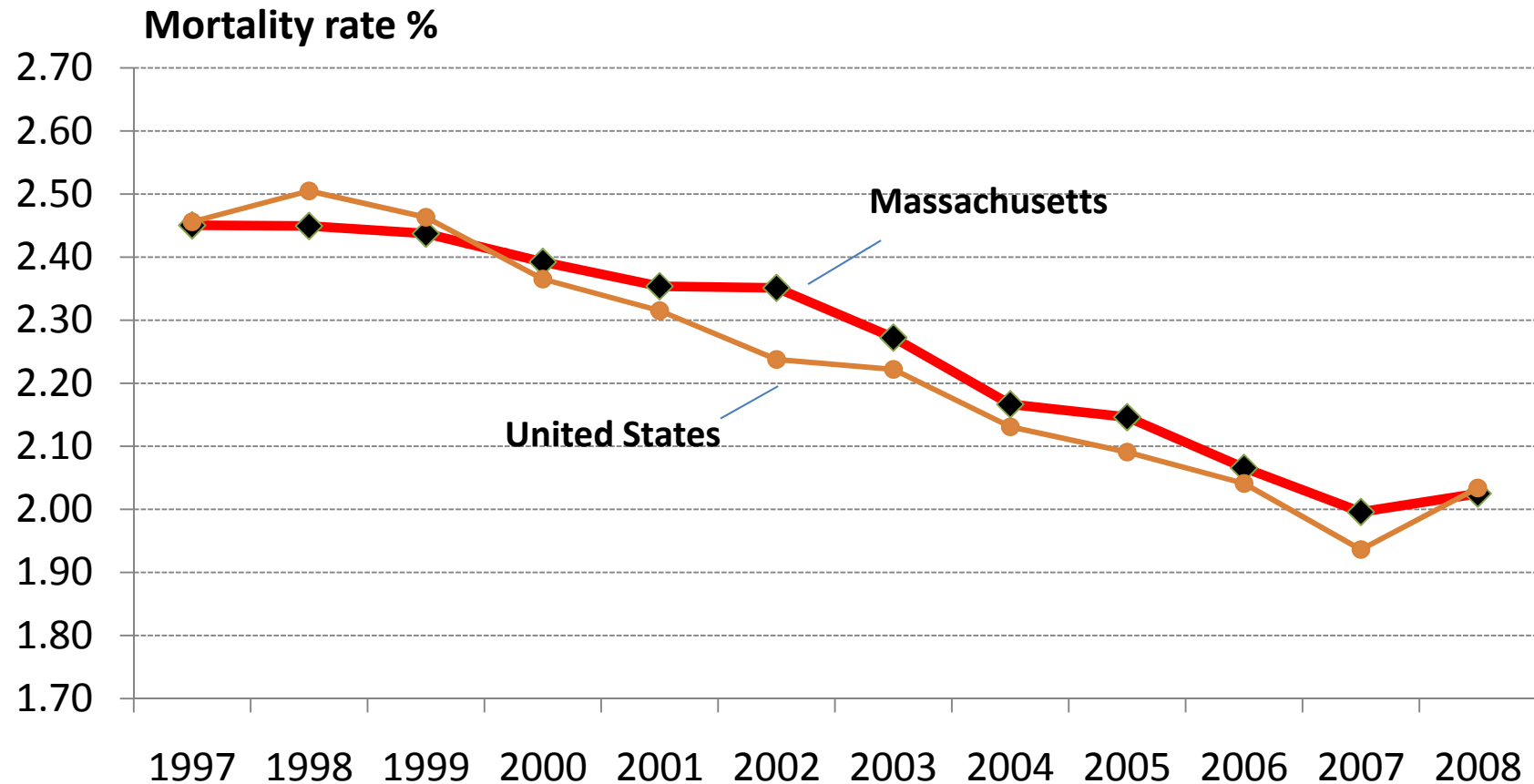
Source/note: AHRQ HCUP State Inpatient Database report based on MA DHCFP acute care hospital discharge databases for 1997 through 2008; 2009 data from MA Health Data Consortium based on MA DHCFP acute care hospital discharge data set. All data for non-federal, short-term general & specialty hospitals.

In-Hospital Deaths and Discharges in MA Acute Care Hospitals 1997 - 2009



Source/note: AHRQ HCUP State Inpatient Database report based on MA DHCFP acute care hospital discharge databases for 1997 through 2008; 2009 data from MA Health Data Consortium based on MA DHCFP acute care hospital discharge data set. All data for non-federal, short-term general & specialty hospitals.

Massachusetts & U.S. In-Hospital Mortality Rate 1997 - 2008





CMS

CENTERS for MEDICARE & MEDICAID SERVICES

CHARTBOOK 2010

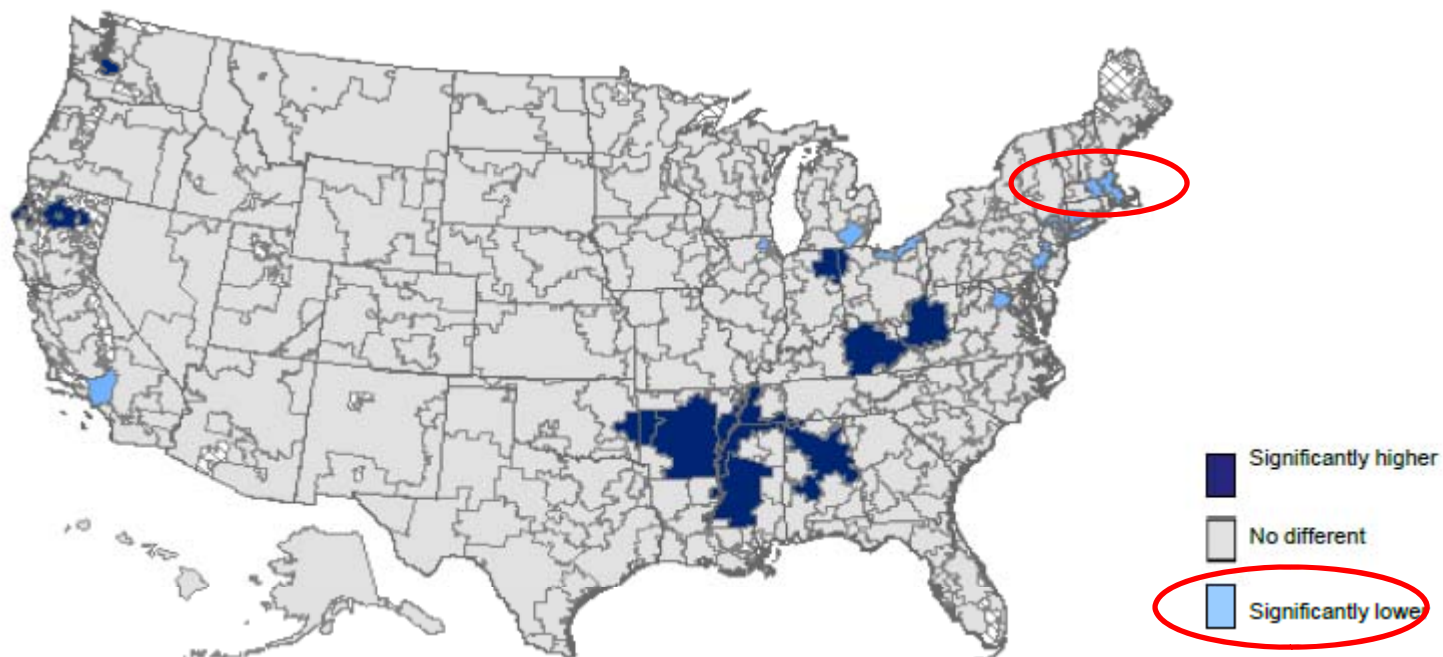
**Hospital Performance Report:
Outcomes Measures for
Acute Myocardial Infarction,
Heart Failure, and Pneumonia**

September 29, 2010

Prepared by
Yale New Haven Health System Corporation
Center for Outcomes Research and Evaluation

Regional Variation in Hospital Mortality Rates for AMI

Figure 4.4 Classification of HRRs by AMI RSMR, 2006-2008
Medicare FFS beneficiaries aged ≥ 65 years



Source Data and Population: AMI RSMR Measure Cohort—July 2006-June 2008—publicly reported RSMRs (Appendix A.I).
Notes: 1) The HRRs are classified as being significantly higher, no different, or significantly lower than the unadjusted national average. 2) Total number of hospitals included in the analysis = 4,569.

Acute Myocardial Infarction

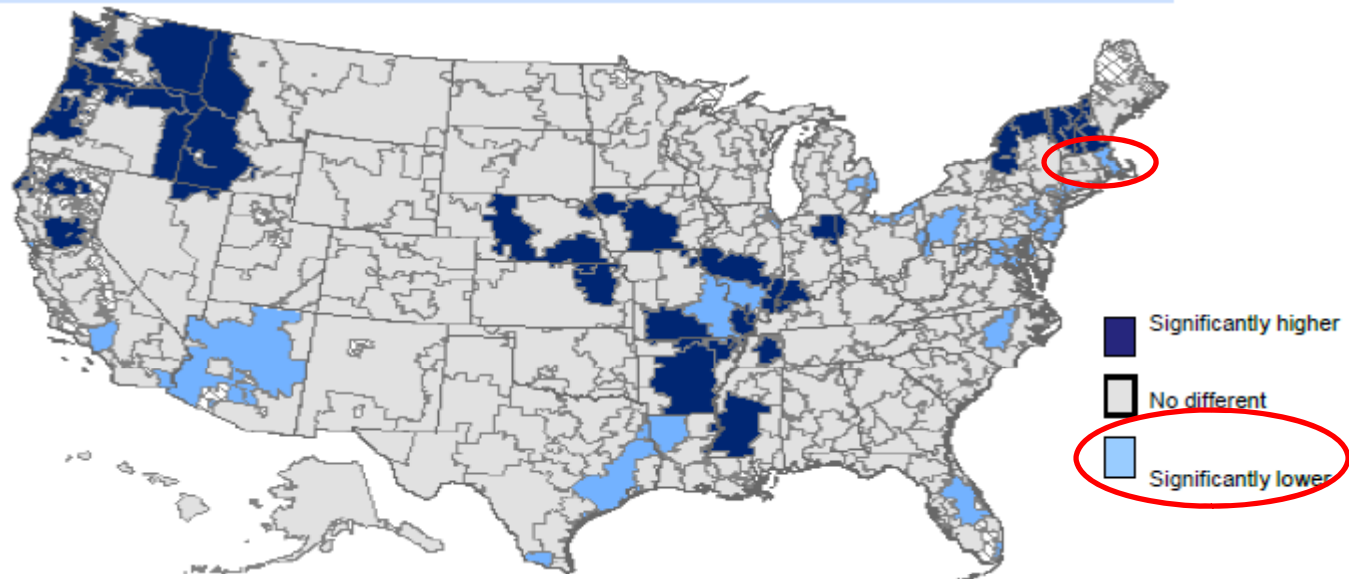
**Table 4.4a Better-performing HRRs
(Lowest RSMRs), 2006-2008**

HRR	Mean RSMR (%)
Hackensack, NJ	13.2
Worcester, MA	13.5
Bridgeport, CT	13.8
Elgin, IL	13.9
New Haven, CT	14.3
Manhattan, NY	14.4
Arlington, VA	14.4
Ann Arbor, MI	14.6
Boston, MA	14.8
White Plains, NY	14.9
Los Angeles, CA	15.0
Chicago, IL	15.0
East Long Island, NY	15.1
Cleveland, OH	15.1
Philadelphia, PA	15.3



Regional Variation in Hospital Mortality Rates for Heart Failure

Figure 4.5 Classification of HRRs by Heart Failure RSMR, 2006-2008
Medicare FFS beneficiaries aged ≥ 65 years



Source Data and Population: HF RSMR Measure Cohort—July 2006-June 2008—publicly reported RSMRs (Appendix A.1).

Notes: 1) The HRRs are classified as being significantly higher, no different, or significantly lower than the unadjusted national average. 2) Total number of hospitals included in the analysis = 4,743

Heart Failure

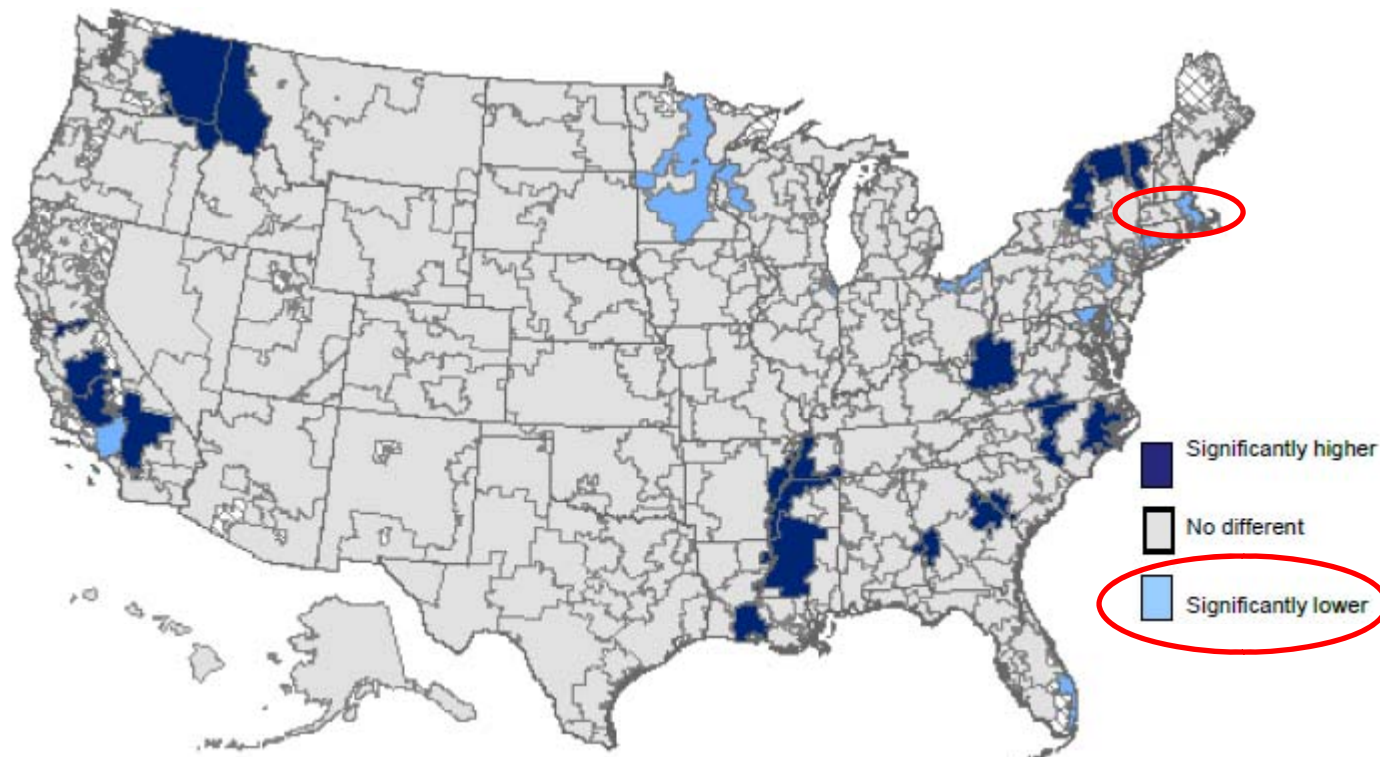
**Table 4.5a Better-performing HRRs
(Lowest RSMRs), 2006-2008**

HRR	Mean RSMR (%)	HRR	Mean RSMR (%)
Munster, IN	7.9	Miami, FL	9.8
Manhattan, NY	8.9	Evanston, IL	9.8
Chicago, IL	9.0	White Plains, NY	9.8
Flint, MI	9.0	Philadelphia, PA	9.8
Blue Island, IL	9.1	New Haven, CT	10.0
Bronx, NY	9.3	Washington, DC	10.1
Allentown, PA	9.3	Baltimore, MD	10.1
McAllen, TX	9.3	Raleigh, NC	10.1
Boston, MA	9.4	Houston, TX	10.1
Cleveland, OH	9.4	Arlington, VA	10.1
Melrose Park, IL	9.5	Orlando, FL	10.2
Shreveport, LA	9.5	Camden, NJ	10.2
Hackensack, NJ	9.5	San Francisco, CA	10.3
Los Angeles, CA	9.6	Pittsburgh, PA	10.4
Newark, NJ	9.6	Phoenix, AZ	10.5
Detroit, MI	9.7	St. Louis, MO	10.6
Mesa, AZ	9.8		



Regional Variation in Hospital Mortality Rates for Pneumonia

Figure 4.6 Classification of HRRs by Pneumonia RSMR, 2006-2008
Medicare FFS beneficiaries aged ≥ 65 years



Source Data and Population: Pneumonia RSMR Measure Cohort—July 2006-June 2008—publicly reported RSMRs (Appendix A.1).
Notes: 1) The HRRs are classified as being significantly higher, no different, or significantly lower than the unadjusted national average. 2) Total number of hospitals included in the analysis = 4,788.



making care for hospitals.

Pneumonia

**Table 4.6a Better-performing HRRs
(Lowest RSMRs), 2006-2008**

HRR	Mean RSMR (%)
Blue Island, IL	9.5
Allentown, PA	9.5
New Haven, CT	9.7
Boston, MA	9.8
Miami, FL	9.9
Manhattan, NY	9.9
Cleveland, OH	10.1
Los Angeles, CA	10.2
Fort Lauderdale, FL	10.3
Chicago, IL	10.3
Baltimore, MD	10.4
Minneapolis, MN	10.5



All Three Conditions Combined

30-Day Risk-Standardized Mortality Rates, 2006-2008

There was only 1 region that performed worse than the national average for all three conditions and 4 regions that performed better for all three conditions.

Table 4.7b Performance Status Compared to the National Average for RSMRs Across Conditions

Worse-performing HRRs	Better-performing HRRs
Jackson, MS	Los Angeles, CA
	New Haven, CT
	Boston, MA ←
	Cleveland, OH

STATISTICAL BRIEF #98

October 2010

Trends in Hospital Risk-Adjusted Mortality for Select Diagnoses by Patient Subgroups, 2000–2007

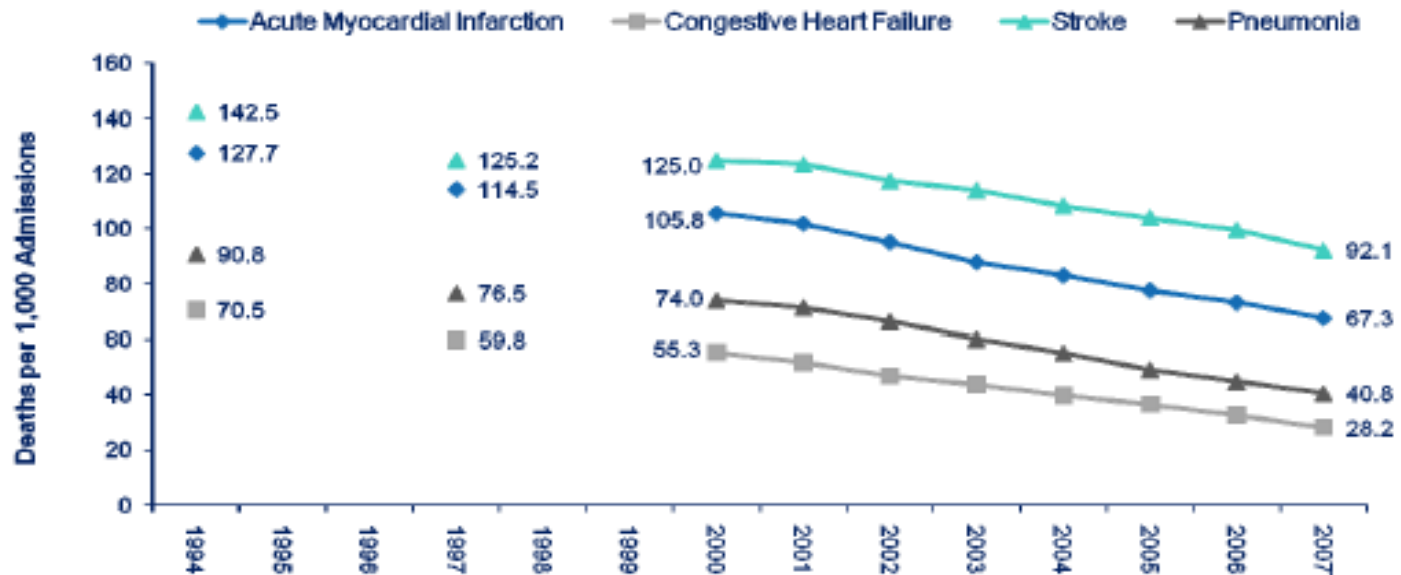
Highlights

- Overall, risk-adjusted mortality for acute myocardial infarction (AMI), congestive heart failure (CHF), pneumonia, and stroke decreased from 2000 to 2007.

All-Payer Data



Figure 1. Trends in inpatient risk-adjusted mortality rates for selected conditions, 1994–2007




Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 1994, 1997, 2000, 2001, 2002, 2003, 2004, 2005, 2006, and 2007

RESULTS

The proportions of discharges that were included by each method ranged from 28% to 95%, and the severity of patients' diagnoses varied widely. Because of their discharge-selection criteria, two methods calculated in-hospital mortality rates (4.0% and 5.9%) that were twice the state average (2.1%). Pairwise associations (Pearson correlation coefficients) of discharge-level predicted mortality probabilities ranged from 0.46 to 0.70. Hospital-performance categorizations varied substantially and were sometimes completely discordant. In 2006, a total of 12 of 28 hospitals that had higher-than-expected hospital-wide mortality when classified by one method had lower-than-expected mortality when classified by one or more of the other methods.

CONCLUSIONS

Four common methods for calculating hospital-wide mortality produced substantially different results. This may have resulted from a lack of standardized national eligibility and exclusion criteria, different statistical methods, or fundamental flaws in the hypothesized association between hospital-wide mortality and quality of care. (Funded by the Massachusetts Division of Health Care Finance and Policy.)



Additional Proposals from the Expert Panel on Hospital-Wide Mortality Measurement

In light of the panel's conclusion that it is not possible to recommend one or more measures for public reporting at this time, the panel proposes the following process to meet the HCQCC goals for creating public accountability, fostering transparency, and encouraging process improvement:

- a. Hospitals to implement an organized program to address mortality that is broad in scope and with a focus on tracking and reducing preventable deaths.
- b. The Board of Medicine's Quality and Patient Safety Division (formerly the Patient Care Assessment Program) to provide confidential oversight of hospitals mortality review and improvement program. Oversight to include audit of hospital's organized program for analyzing mortality and implementing process improvement.
- c. The Board of Medicine's Quality and Patient Safety Division to report back to the HCQCC on an annual basis the lessons learned from their oversight of hospitals approach to mortality review, any trends identified, and recommendations for how hospital mortality can be reduced.

Source: HCQCC website, Quality & Safety Committee, September 7, 2010 meeting materials

Board of Registration in Medicine September 23, 2010

Under our regulatory authority at 243 CMR 3.07(3)(g), hospitals are required to submit Semi-Annual reports containing recommendations for quality assurance, risk management, patient care assessment and education. Therefore, we would request the following information in the submission of your next Semi-Annual report:

- Describe your hospital's mortality review and improvement program.
- Does your hospital measure hospital-wide mortality? If so, what tool or method is used? Does your hospital use other mortality measures that are not hospital-wide measures? Describe these other measures.
- Describe/identify the numerators and denominators of the measure(s), exclusions from the numerators and denominators, and the risk-adjustment methods employed (if any).
- What is the frequency with which this measure is calculated/reported, what parameters do you consider in identifying when the measure rates are "in control," and what comparison groups, if any, do you compare/contrast your measure rate(s) in your evaluations?
- What findings and conclusions have you drawn from your analyses?
- What actions have you taken in response to your findings and conclusions? What actions have resulted in demonstrable improvement, and what actions have not?
- What other information would you want to relay about your review and improvement program?



Status & Look Ahead

- MHA Strategic Performance Improvement Agenda
 - *Improve Quality by Reducing Preventable Mortality*
- Principles for Hospital Mortality Review & Improvement Programs
 - *Developed/approved by MHA Clinical Issues Advisory Council and MHA Board of Trustees*
- MHA M-LiNk programming
- Evolution of BORM oversight/reporting program
- Public reporting of mortality measures state/federal, and incorporation into P4P (e.g., CMS Valued-Based Purchasing Program Year 2)



Hospital Perspective

Dr. Mark Novotny



Policy Context in Massachusetts

- Expert Panel on a Hospital-wide Mortality Measure
- Panel's research findings
- Panel's recommendations
- Aftermath and today's situation



The Findings from the Expert Panel on a Hospital-Wide Mortality Measure, August 2010

- After scientific review of the performance of the four vendor products*, the panel concludes that all available information that has been examined does not support a recommendation of a measure for public reporting at this time.
- The panel determined that none of the measures met a minimum standard based on the National Quality Forum criteria and MA HCQCC Principles adopted at the beginning of the assessment.

SPECIAL ARTICLE

Variability in the Measurement of Hospital-wide Mortality Rates

David M. Shahian, M.D., Robert E. Wolf, M.Sc., Lisa I. Iezzoni, M.D.,
Leslie Kirle, M.P.H., and Sharon-Lise T. Normand, Ph.D.

ABSTRACT

BACKGROUND

Several countries use hospital-wide mortality rates to evaluate the quality of hospital care, although the usefulness of this metric has been questioned. Massachusetts policymakers recently requested an assessment of methods to calculate this aggregate mortality metric for use as a measure of hospital quality.

METHODS

The Massachusetts Division of Health Care Finance and Policy provided four vendors with identical information on 2,528,624 discharges from Massachusetts acute care hospitals from October 1, 2004, through September 30, 2007. Vendors applied their risk-adjustment algorithms and provided predicted probabilities of in-hospital death for each discharge and for hospital-level observed and expected mortality rates. We compared the numbers and characteristics of discharges and hospitals included by each of the four methods. We also compared hospitals' standardized mortality ratios and classification of hospitals with mortality rates that were higher or lower than expected, according to each method.


From Massachusetts General Hospital (D.M.S., L.I.I.); Harvard Medical School (D.M.S., R.E.W., L.I.I., S.-L.T.N.); Massachusetts Division of Health Care Finance and Policy (L.K.); and Harvard School of Public Health (S.-L.T.N.) — all in Boston. Address reprint requests to Dr. Shahian at the Center for Quality and Safety and Department of Surgery, Massachusetts General Hospital, 55 Fruit St., Boston, MA 02114, or at dshahian@partners.org.

This article (10.1056/NEJMs1006396) was updated on April 6, 2011, at NEJM.org.

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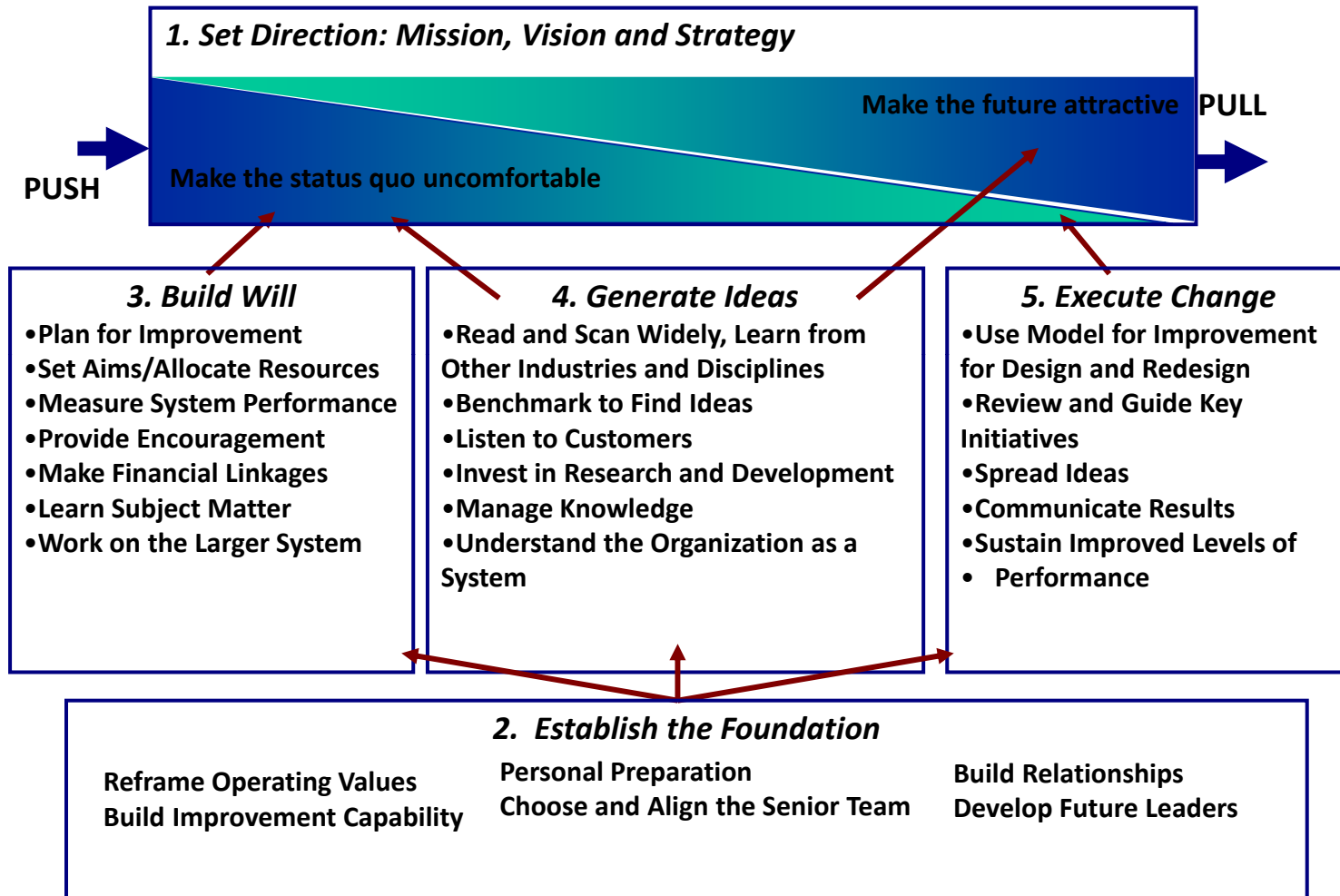
...for leading care. for hospitals.



The imperative to improve value using mortality as a measure: the brief strategic case

- Hospital executives and med staff leaders need to see how this fits into the strategy before they dive into the details
- Use your planning framework, starting with mission and vision
 - So we know where we are going

A Framework for Leadership of Improvement

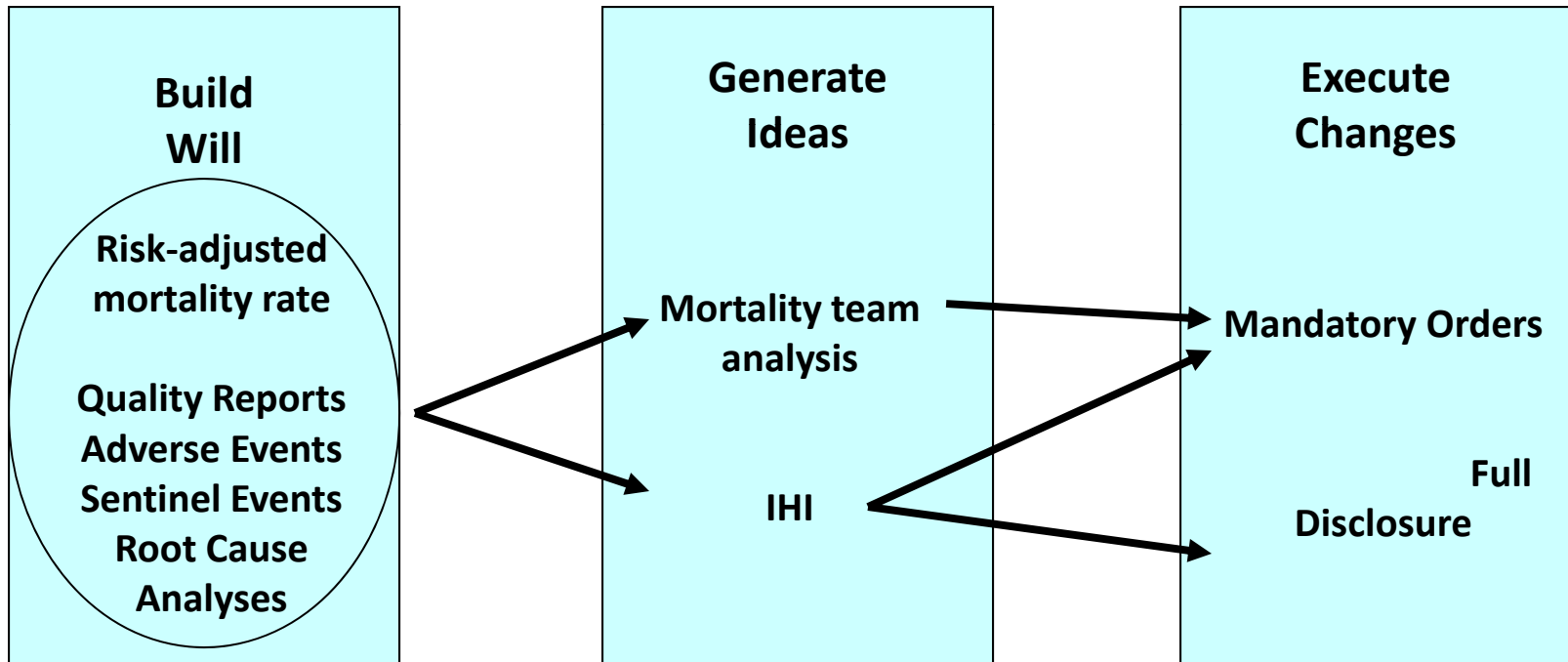




Push



Pull





Quality Compass

Cooley Dickinson Health Care

The vision of Cooley Dickinson is to become a model healthy community.

QUALITY/SAFETY

- ◆ Reduce severity adjusted mortality to 65% of expected
- ◆ Decrease patient harm to zero
- ◆ 100% compliance with evidence based medicine care processes

PEOPLE

- ◆ Increase staff satisfaction to 90th percentile
- ◆ Increase medical staff satisfaction to 90th percentile

SATISFACTION

- ◆ Increase patient satisfaction to 90th percentile



GROWTH

- ◆ Achieve 1.3% growth in inpatient volume
- ◆ Achieve 1% growth in outpatient volume

FINANCE

- ◆ Achieve \$5 million reinvestment required for facilities and equipment

BUILD PARTNERS
 EXTEND TRUST
 CHANGE NOW
 OWN IT
 MODEL EXCELLENCE
 EXCEED EXPECTATIONS

[45/11]



Vision is the pull

- Our vision is “.....”
 - For Cooley Dickinson it’s
 - “to become a model healthy community”
- The pull connects with the aspiration and passion of our staff
- No one gets up in the morning and wants a patient to unexpectedly die in our care system


Emerging imperative in the Vision to achieve value

Value =

(Medical Outcomes + Service Outcomes ÷ Cost)


This is the *triple aim* expressed mathematically

- Patient experience
- Quality outcomes
 - This is where mortality fits in the framework
- Cost



The shift from the craft of medicine to profession based practice – Brent James, MD

- The craft
 - Quality arises from personal competence
- Thus, errors and bad outcomes represent professional incompetence.....



Moving to a system view- profession based practice

- “Every system is perfectly designed to produce the results that it does achieve”
 - Paul Batalden
 - Often repeated by Don Berwick



System View

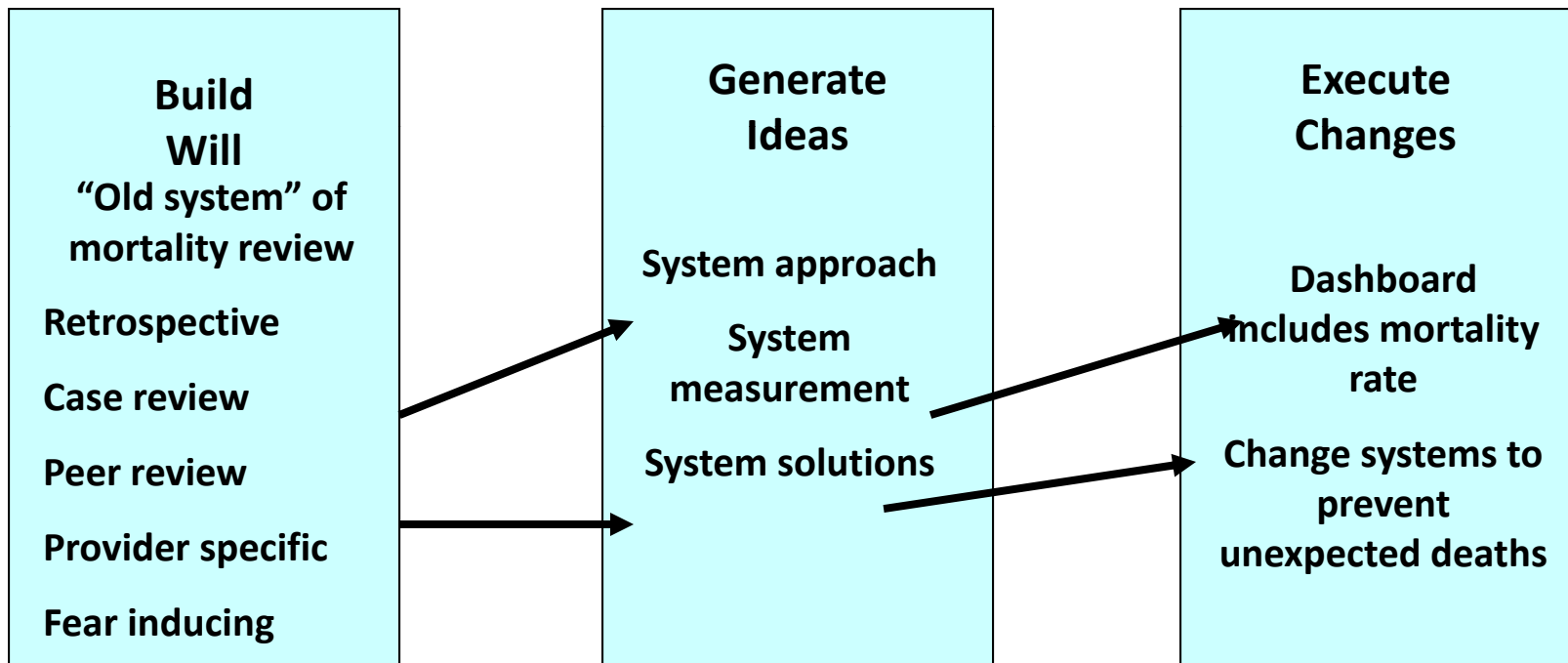
- So the system we have is designed to make it difficult for well trained, well intentioned clinicians to achieve the results they know are possible
- Therefore the improvement question moves to “how did the system not support these clinicians in achieving best possible outcomes?”



Push



Pull





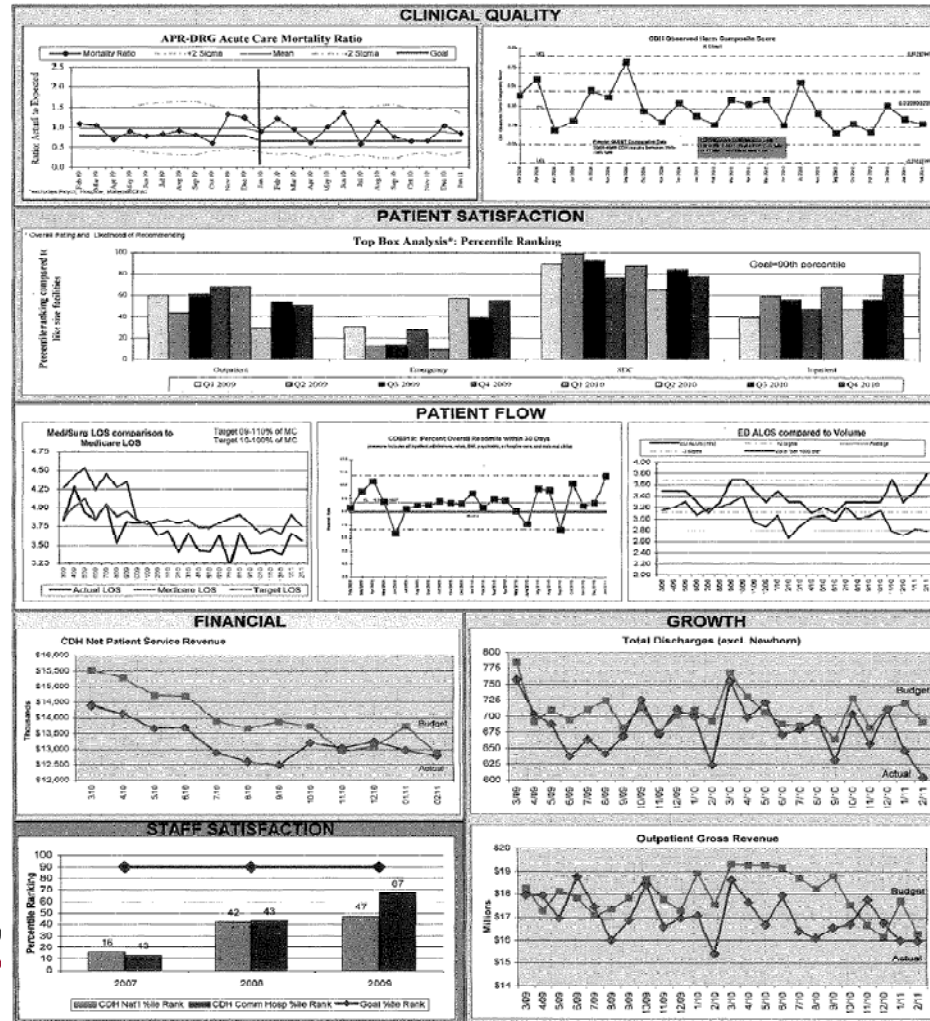
Making the case for change (the status quo is uncomfortable: “push”)

- Board and leadership level visibility through a dashboard

An example of a dashboard

BOARD DASHBOARD

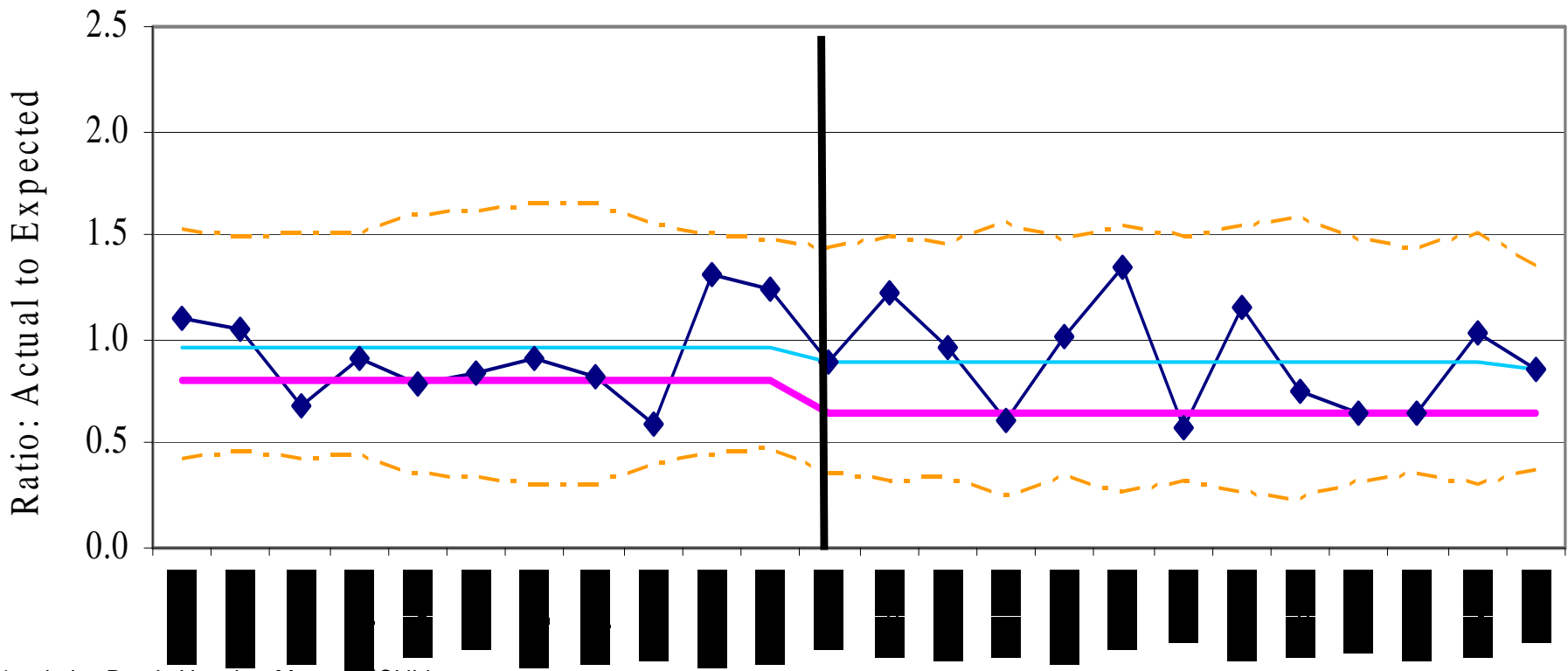
COOLEY DICKINSON HOSPITAL





APR-DRG Acute Care Mortality Ratio

◆ Mortality Ratio - - - +2 Sigma — Mean - - - -2 Sigma — Goal



*excludes Psych, Hospice, Maternal/Child



A story of improvement

- CDH follows mortality rate
 - APR DRG risk-adjusted Quest network measure; comparing ourselves to ourselves over time
- Rate not improving
- More variability in rate
 - Suggests less reliable systems/processes are in place



Steps to improvement

- First challenge the data
 - “That can’t be right!”
 - “We’re better than that”
- Physicians review the actual cases
 - Oops, they are right
 - We have miscoded palliative care deaths as unexpected



Story unfolds

- We fix the coding and rerun the data
 - By DRG
- Results
 - Overall mortality rate is better, but we still find higher than expected mortality for
 - Sepsis
 - Respiratory disease- esp pneumonia
 - others



- Use IHI 4 box process to clarify the most significant opportunities

IHI Evaluating Hospital Mortality

Figure 1. 2x2 Matrix

		ICU Admission	
		Yes	No
Comfort Care Only	Yes	1	2
	No	3	4

Source: Institute for Healthcare Improvement

- Box 1: Admitted to an intensive care unit for comfort care only
- Box 2: Admitted to a non-intensive care unit (for example, a medical/surgical floor) for comfort care only
- Box 3: Admitted to an intensive care unit for active treatment
- Box 4: Admitted to a non-intensive care unit for active treatment

IHI's white paper entitled *Move Your Dot: Measuring, Evaluating, and Reducing Hospital Mortality Rates 2004-2005*

IHI Mortality Review (4 Box Process)

Goal O/E Ratio < 1.0

Review Timeframe: Sept 2009 - Aug 2010

	Box 1	Box 2
	Inpatients	Acute Care Inpatients
	Includes all inpatient encounters	Excludes maternity, neonatal, SNF, Rehab, Hospice, & Psych Inpatients
	Includes PALLIATIVE cases / Comfort Care	Includes PALLIATIVE cases / Comfort Care
What can we learn from this informaion?	Consider possible overuse of ICU	Possible inadequate hospice or other end of life resources in community.
CDH Observed Deaths	156	129
CDH Expected Deaths	147.75	130.06
O/E Ratio	1.06	0.99
	Box 3	Box 4
	Inpatients	Acute Care Inpatients
	Includes all inpatient encounters	Excludes maternity, neonatal, SNF, Rehab, Hospice, & Psych Inpatients
	Excludes PALLIATIVE cases / Comfort Care	Excludes PALLIATIVE cases / Comfort Care
What can we learn from this informaion?	Indicates potential for applying known improvement techniques of ICU care.	These patients could have been high risk but possibly not assessed that way.
CDH Observed Deaths	113	100
CDH Expected Deaths	96.4	91.79
O/E Ratio	1.17	1.09

Clinicians want to be sure

- They review a sample of actual cases of non-comfort care ICU deaths
- ICU med director is now really engaged
 - “We are not identifying these cases early enough!” “People are dying”
- Led by the ICU med director and nursing leadership, we launch a multidisciplinary mesosystem team to improve sepsis mortality



Aim statements- Sepsis team

- We will improve time of arrival to the CCU from the ED from 4.2 hours to 2 hours by 10/01/2011
- We will improve the speed and accuracy of sepsis diagnosis by achieving obtaining serum lactate timing from time of ED arrival to the time of results to one hour by 10/01/2011
- We will improve the percentage of patients in which blood cultures are obtained before antibiotic delivery from 33% to 100% by 10/01/2011
- We will improve the speed of antibiotic delivery by administering antibiotics within one hour of diagnosis of sepsis for inpatients and within three hours for ED patients by 10/01/2011



Aim Statements

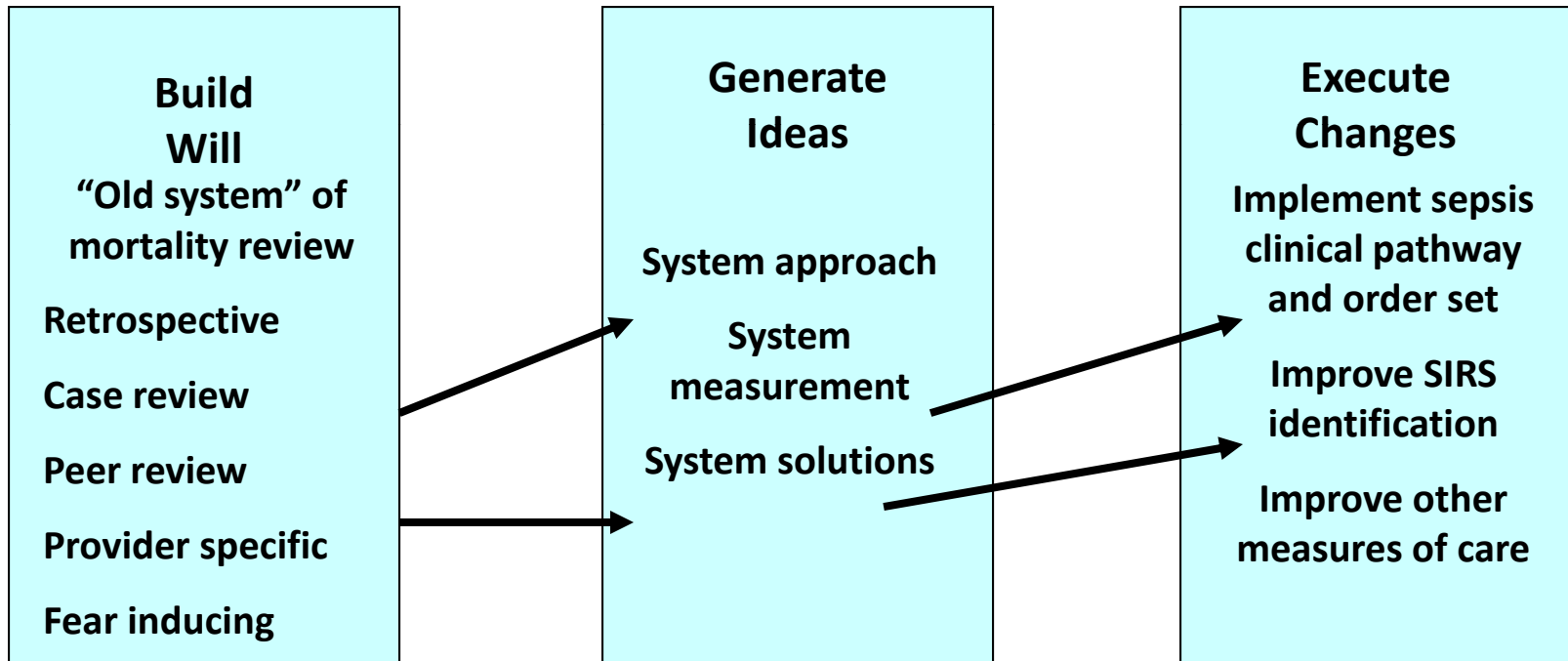
- We will improve end organ perfusion in septic patients by administering fluids and vasoactive agents for hypotension or elevated lactate levels from 68% compliance to 100% compliance by 10/01/2011
- We will improve organ perfusion in septic patients by recording initial CVP within six hours and maintaining CVP > 8 for shock or elevated lactate for 100% of eligible patients by 10/01/2011
- We will improve cellular oxygenation in septic patients by maintaining ScvO₂ >70% within six hours for shock or elevated lactate in 100% of eligible patients by 10/01/2011
- We will increase the use of the severe sepsis order set in patients with primary diagnosis of sepsis to 100% by 07/01/2011.



Push



Pull





Summary

- Mortality review is a tool to improve care
- Doing it effectively requires a clear connection to the strategic case for improving value
- Evolution to system based approach in real time creates more engagement of clinicians than case review “gotcha”
- There are frameworks and tools to guide the work of improvement
- MHA seeks to find and share the frameworks, tools, and learning to help all of us improve
- This is all about teach and learn: we learn from each other



M-LiNk Goal

M-LiNk will work with MA hospitals to outline a framework with mortality program elements and highlight strategies for addressing key drivers for hospital mortality.

MHA will offer a portfolio of educational events and programs to help hospitals improve structures, processes and outcomes to reduce hospital mortality.



M-LiNK – Next Steps

- Focus on Hospital Mortality - Structures & Processes continues with:
 - May 13th Webinar: Building an Effective Hospital Mortality Review Program
 - Jun 3rd Mini-Conference: (sponsored by BoRM)
Engaging Physicians in Health Care Facility Patient Safety and Quality Programs, Worcester MA



M-LiNK – Next Steps

- We will contact you to complete an online survey of your feedback from participation in this session
- Please visit MHA's website to view the schedule of upcoming offerings and related resources

Thank you for your participation.