Distinguishing top performing hospitals in AMI care: the role of organizational practices and context

Leslie Curry, PhD, MPH
Yale School of Public Health

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Principal Investigators

Elizabeth H. Bradley, PhD

Harlan M. Krumholz, MD, SM

Team

Leslie Curry, PhD, MPH

Jeptha Curtis, MD

Erica Spatz, MD

Emily Cherlin, PhD

Jennifer Thompson, MPP

David Berg, PhD

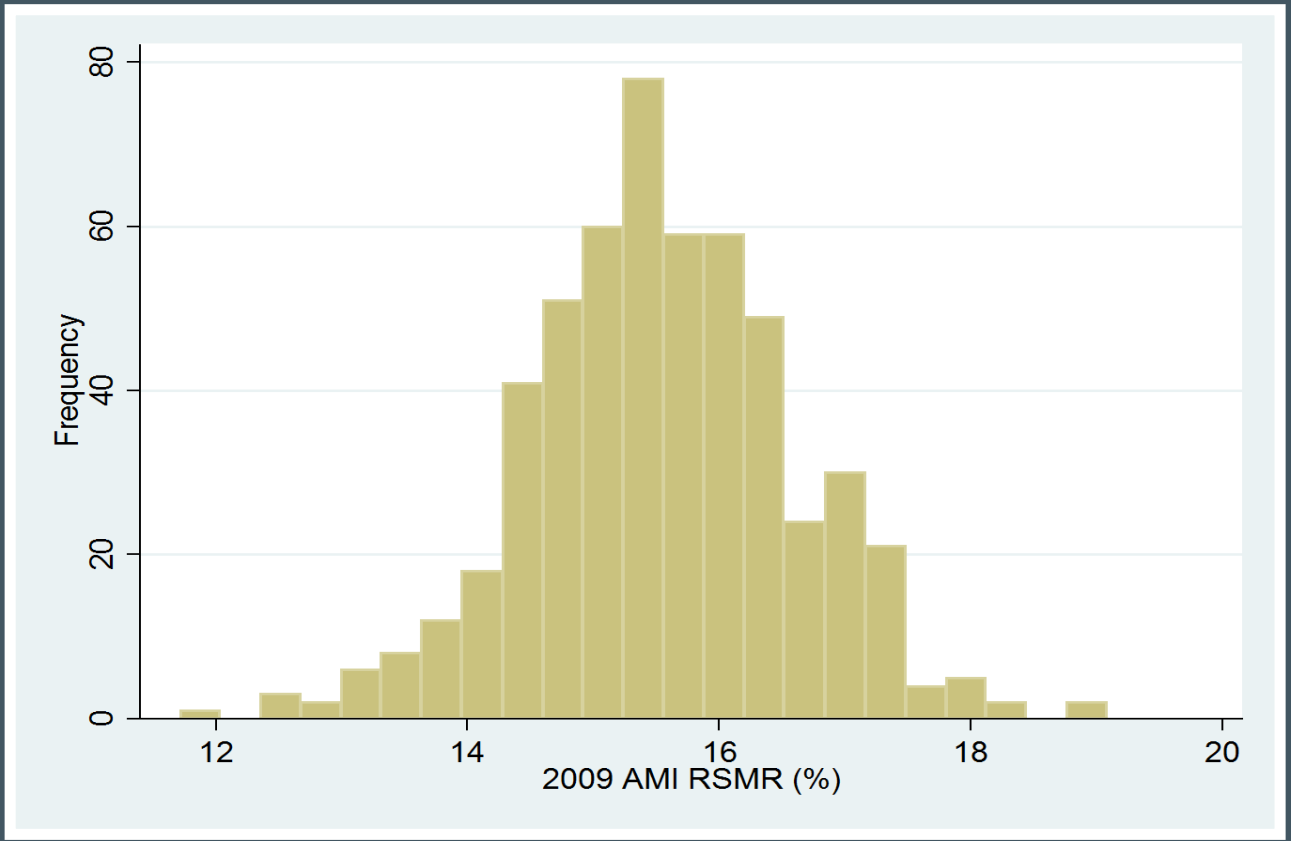
Henry H. Ting, MD, MBA

Carole Decker, RN, PhD

Agency for Healthcare Research and Quality (RO1-HS0-16929-1), United Health Foundation, and the Commonwealth Fund

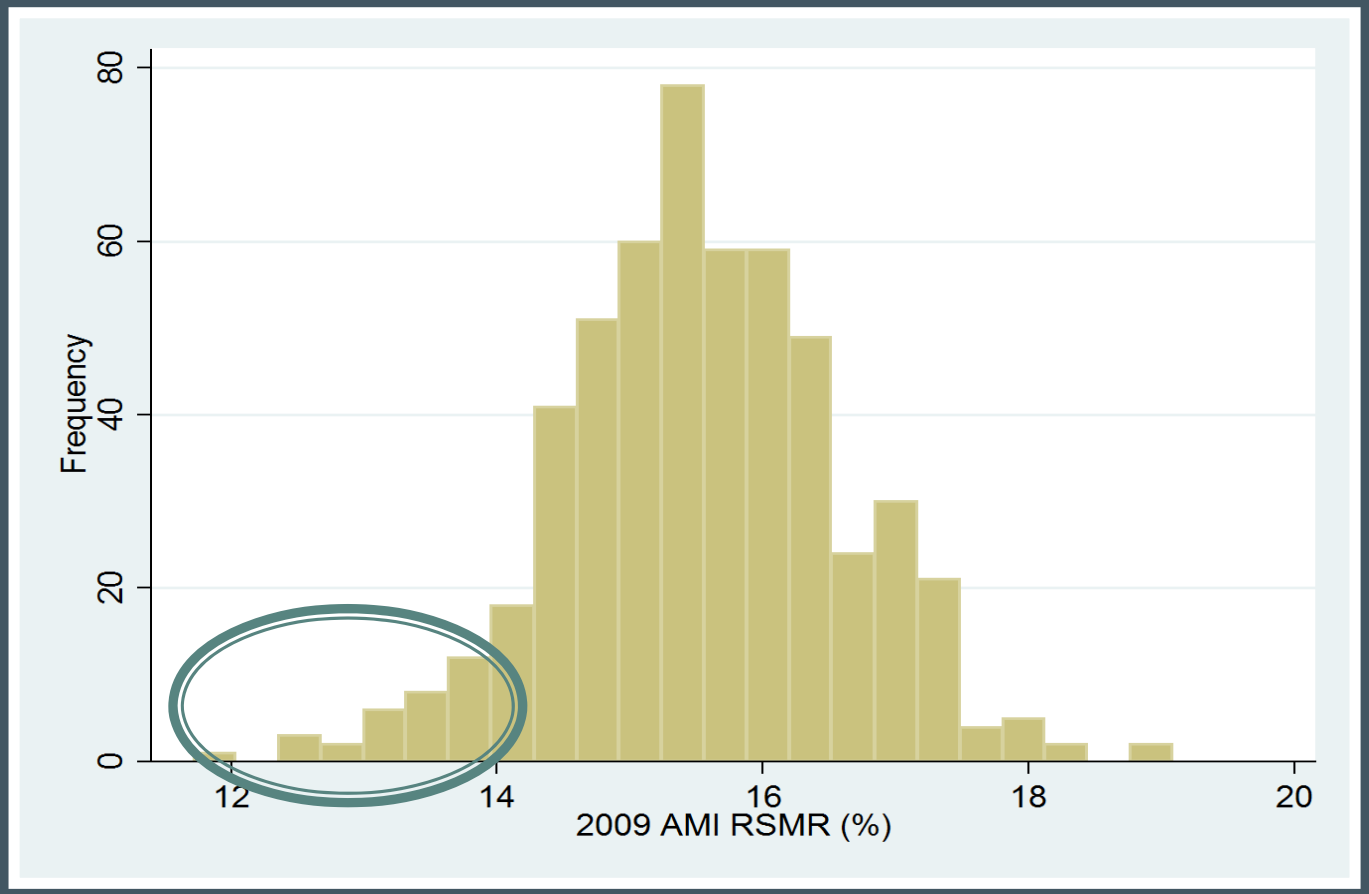
Acute myocardial infarction is a common and life-threatening illness affecting 600,000 people in the US per year

Mortality rates vary substantially across hospitals, after risk-adjustment



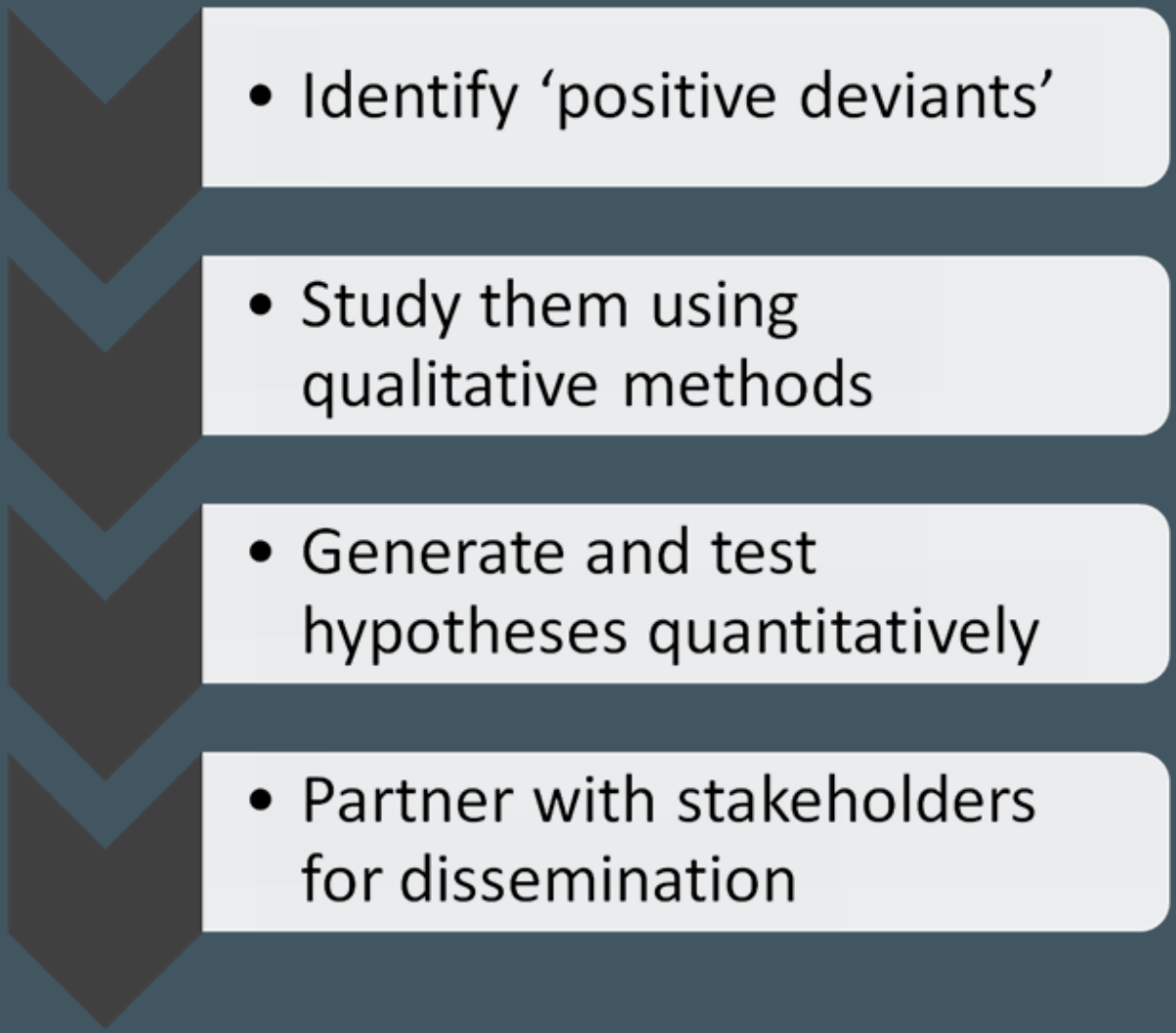
- Hospital volume
- Urban location
- Teaching status
- Geographical region
- Safety net status
- Socioeconomic profile of patients

The positive deviance approach



Premise: solutions to problems that face a community often exist within that community; certain members already possess wisdom that can be generalized

Stages of a positive deviance study



Bradley et al., Implementation Science, 2009

Consider a positive deviance approach when…

Evidence-based practice standards exist

Qualitative and quantitative methods can be reliably used

There is range in performance

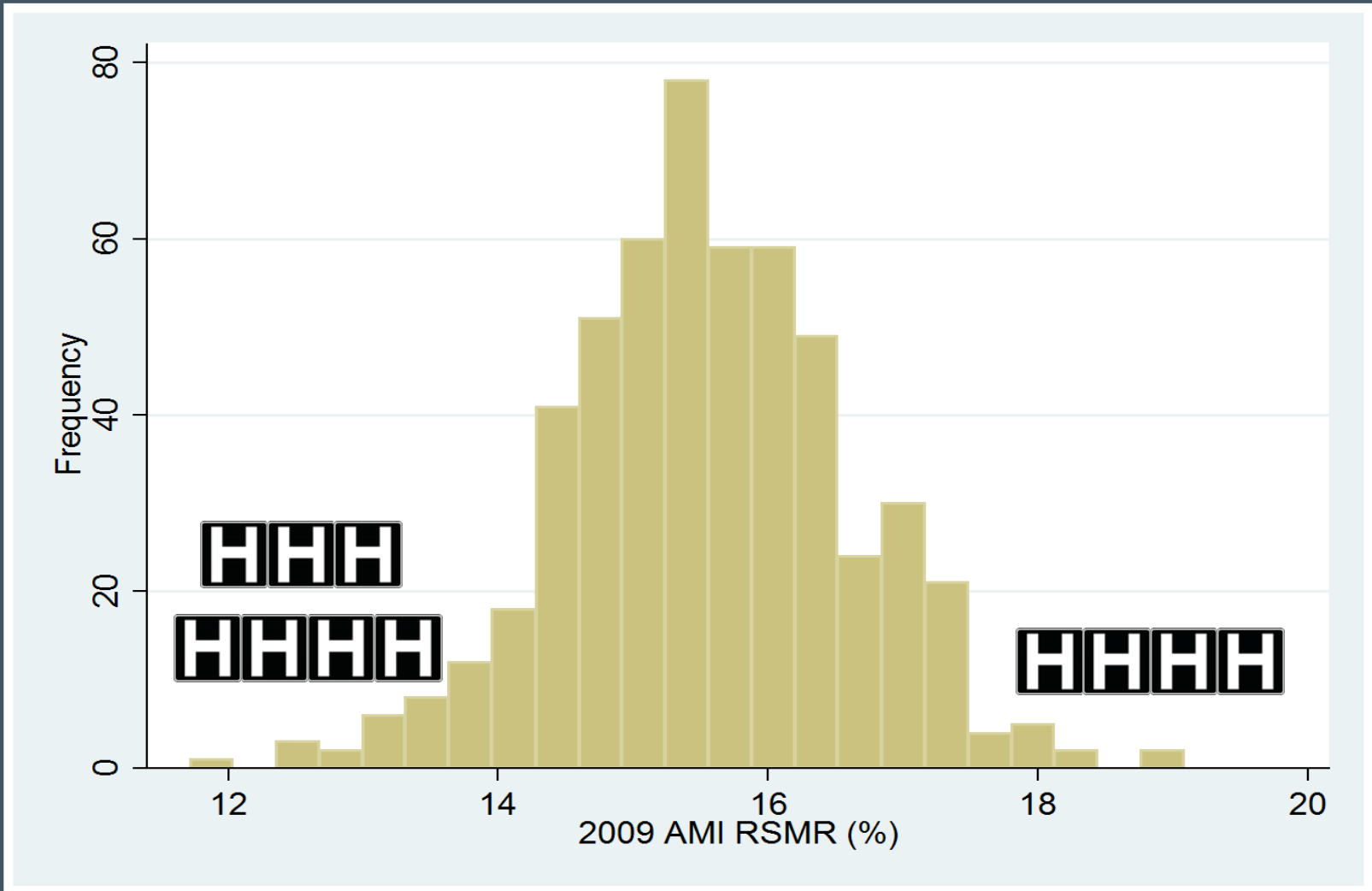
Performance is publicly reported and endorsed

Study aim

To identify hospital-level factors that may be associated with better performance in AMI care as measured by RSMR

Curry LA, Spatz E, Cherlin E, Thompson J, Berg D, Ting H, Decker C, Krumholz HM, Bradley EH. (2011). What distinguishes top performing hospitals in acute myocardial infarction rates? Annals of Internal Medicine, 154:384-390.

Design and sampling

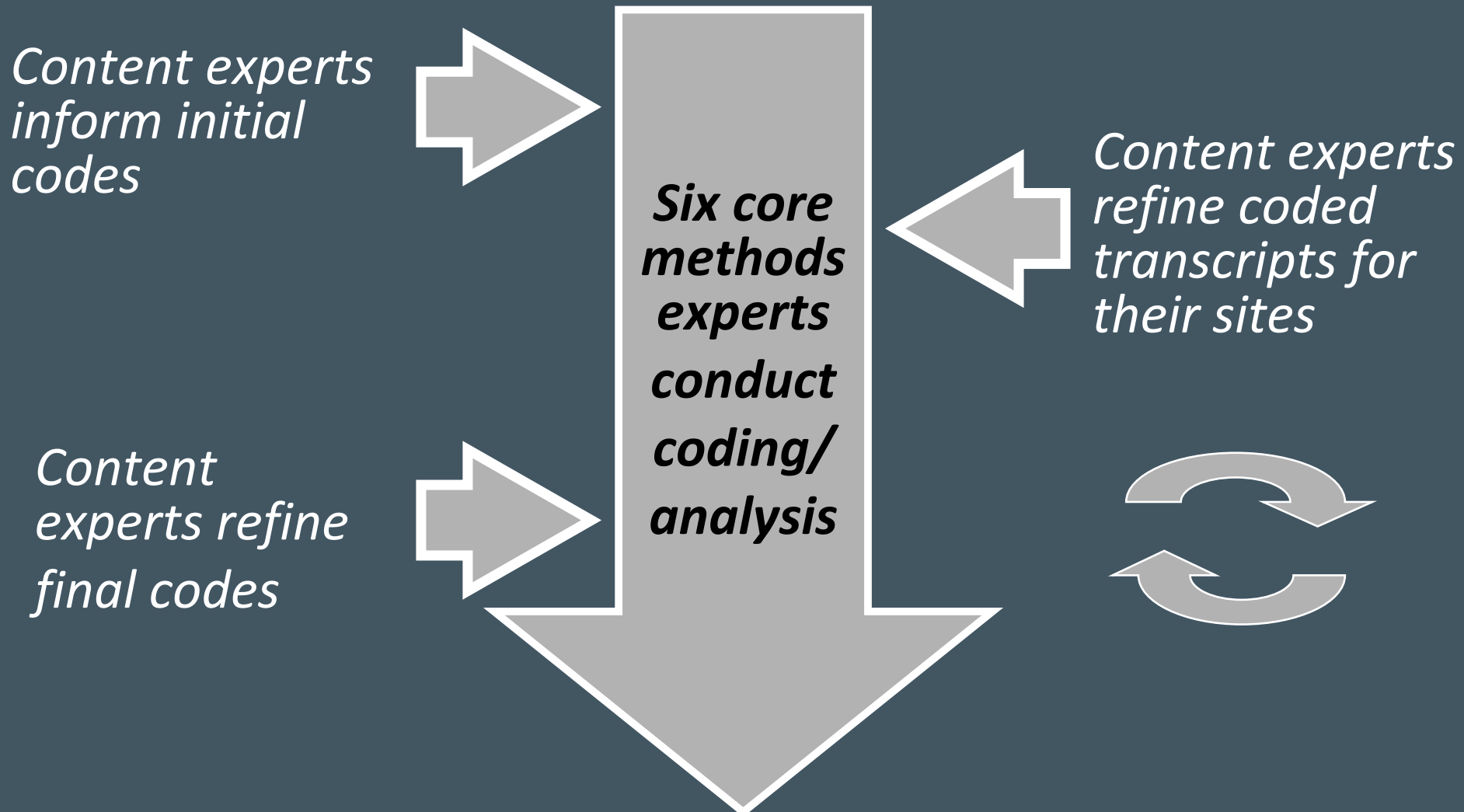


Data collection

In depth interviews (n=158)

Physicians 19	Nurses 52
Administration 65	Clinical staff 22

Analysis using constant comparative method



Key domains

- Organizational values and goals
- Senior management involvement
- Staff engagement and expertise
- Communication and coordination among groups
- Problem solving and learning
- Hospital practices and protocols for AMI care

Selected illustrative quotations

Foster ownership

"There [are] four stages in dealing with adverse outcomes. The data are wrong. The data are correct but it's not a problem. The data are correct and it's a problem but it's not my problem. The data are correct and I own the responsibility to fix the problem. And I think that this organization [is at] the level of the data are correct and I own the responsibility to fix the problem. I think that's really the key".

Hospital CEO

….in a non punitive environment

"…there's no blame. That's how we change culture here. It's not, this is your fault. Tell me what, what you're going to do to fix it…it's <u>we</u> instead of <u>me</u>…And I think that was a turning point. It wasn't about the ED needs to improve. What can the organization due to make sure that the goals…are achieved?"

Chief of Cardiology

Enable learning and innovative problem solving

"The performance improvement team… identif[ies] action steps, the plan is put in place, and then we continue to measure to see if it's working or not working…you identify, you intervene, you improve, you monitor, you tweak and that's the model that they've been using for 10 years."

Director, Quality Management

…from the front line

"We took a couple of the cath lab nurses and techs and said we've got a problem here…So you look at where the root problem is and you look at the people who do that for a living, the techs and the nurses. We didn't tell them what to do. We said this is the problem, how can we do it better and they figured out how to do it better."

Associate Director, Cath lab

Hospital practices and protocols

- Clinical guidelines/order sets
- RRT and other risk mitigation strategies
- Information technology
- Case management /discharge planning
- Medication reconciliation
- Cardiac rehab/support programs
- Patient/family education
- Coordination with pre- and post-hospital providers
- Quality campaigns and alliances

Hospital practices and protocols

There was no "Ah ha! You're not doing this, or "ah ha," you need to work on early recognition…We spent probably years trying to find the silver bullet that would fix everything and…there is no one issue [where] we were doing something glaringly wrong."

Director, Quality Management

Summary points

- Many quality improvement efforts focus on specific processes and protocols
- But our findings suggest the organizational culture and environment are critical for broad outcomes like mortality rates
- Quality efforts should integrate evidence from organizational studies – with diverse methods

Thank You

Additional slides

Quantitative component

- Web-based survey of 590 hospitals (response rate 91%; N=537)
- Hospital risk-standardized 30-day mortality rates from Centers for Medicare & Medicaid Services
- Weighted multivariable regression to determine associations between hospital strategies and RSMR

Domains

- QI efforts
- Hospital staff and interactions
- STEMI care strategies
- Electronic medical records
- Discharge process and collaboration with other hospitals
- Organizational environment

ID	Census Region	Staffed beds	Performance in 30-day RSMR (7/2005-6/2008)	Teaching status	AMI volume (2-yr period)	Q-SES*
1	Pacific	855	High	Teaching	211	8.13
2	East North Central	491	High	Teaching	243	30.7
3	Middle Atlantic	703	High	Teaching	96	14.0
4	New England	632	High	Teaching	307	19.4
5	New England	557	High	Teaching	365	5.56
6	Middle Atlantic	317	High	Teaching	147	1.46
7	East North Central	398	High	Nonteaching	222	4.85
8	South Atlantic	454	Low	Teaching	135	44.2
9	South Atlantic	190	Low	Nonteaching	142	25.3
10	West South Central	324	Low	Nonteaching	88	20.8
11	East North Central	481	Low	Nonteaching	115	0.00

Table 2: Type of staff interviewed at study hospitals (n=158)

Type of staff	# Interviews	%
Cardiologists	18	11.4
Cardiology care managers	4	2.5
Cardiology medical directors	5	3.2
Catheterization laboratory medical directors	6	3.8
Catheterization laboratory nurses	3	1.9
Catheterization laboratory technicians	4	2.5
Critical care nurses	11	7.0
Emergency department managers	15	9.5
Emergency department medical directors	4	2.5
Emergency medicine physicians	7	4.4
Emergency service medical directors	7	4.4
Hospitalists	3	1.9
Nurse managers	17	10.7
Other medical directors, vice presidents and presidents	11	7.0
Other support staff	11	7.0
Pharmacy	5	3.2
Quality management medical directors/managers	7	4.4
Quality management staff	11	7.0
Senior administrators	4	2.5
Social work	5	3.2
Total	**158**	

Interview guide

Lets start by having you describe what you do here.

What happens to a patient with AMI who comes here? Can you walk me through that process?

Have there been efforts to improve the care of patients with AMI here?

Now lets hear about what happens to the patient after they leave the hospital. Who do they see and how does that work?

Has the process always worked this way? If it has changed, can you tell me about when that happened and how it went?

Domain	Themes in high performing hospitals
Organizational values and goals	Shared values to provide exceptional, high quality care; alignment of quality and financial goals of the organization
Senior management involvement	Provision of adequate financial and non-financial resources; use of quality data in management decisions; holding staff accountable for quality
Staff engagement and expertise	Sustained physician champions; empowered nurses; involved pharmacists; high qualifications stds for staff
Communication and coordination among groups	Valuing diverse skills and roles; recognizing interdependencies; smooth info flow among groups
Problem solving and learning	Adverse events as opportunities to learn; use of data for non-punitive learning; innovation and creativity in trial and error; learning from outside

Domain	Themes in high performing hospitals
Hospital practices	Clinical guidelines and order sets; rapid response teams and other risk mitigation strategies; quality improvement committee structure; integration of information technology; case management and discharge planning practices; medication reconciliation practices; cardiac rehabilitation and support programs; patient and family education programs; coordination with pre- and post-hospital providers; participation in quality collaboratives and campaigns