TeamSTEPPS

Beyond Implementation: Development, Integration, & Evolution

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TeamSTEPPS

Strategies & Tools to Enhance Performance & Patient Safety

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What Makes Up Team Performance?

Knowledge
Cognitions
"Think"

Attitudes
Affect
"Feel"

Skills
Behaviors
"Do"

Medical Team Training (MTT)
Concept

- **Separate set of skills**
- **Focused on communication & coordination**
- **Important in all clinical environments**
- **Essential in specific clinical environments**
  - **(ED, OR, L&D, ICU, Rapid Response, Cath Lab)**
- **Augment clinical knowledge & skills**
  - **Create Error-Containment Strategies (Voice)**

Barriers – Tools - Outcomes

BARRIERS

- Inconsistency in Team Membership
- Lack of Time
- Lack of Information Sharing
- Hierarchy
- Defensiveness
- Conventional Thinking
- Complacency
- Varying Communication Styles
- Conflict
- Lack of Coordination and Follow-Up with Co-Workers
- Distractions
- Fatigue
- Workload
- Misinterpretation of Cues
- Lack of Role Clarity

TOOLS and STRATEGIES

Call-Out
Cross Check /Check-Back
SBAR
Handoff
Brief
Huddle
Debrief
Share the Plan
STEP
Cross Monitoring
Feedback
Advocacy and Assertion
CUS
Two-Challenge Rule
DESC Script
Collaboration

OUTCOMES

- Shared Mental Model
- Adaptability
- Team Orientation
- Mutual Trust
- Team Performance
- *Patient Safety!!*

Applying TeamSTEPPS

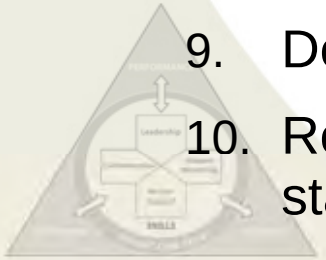
- ~16 Skills
  - Communication
  - Situation Monitoring
  - Leadership
  - Mutual Support
- Culture
  - Error Assumption
  - Error Containment
  - Finding of "Voice"

Applying TeamSTEPPS

- What patient safety issue or challenge is your organization facing that is linked to a problem or problems with teamwork?

10 Steps of Implementation Planning

1. Create a Change Team
2. Define the problem, challenge, or opportunity for improvement
3. Define the aim(s) of your TeamSTEPPS intervention
4. Design a TeamSTEPPS intervention
5. Develop a plan for testing the effectiveness of your TeamSTEPPS intervention
6. Develop an implementation plan
7. Develop a plan for sustained continuous improvement
8. Develop a communications plan
9. Develop a TeamSTEPPS Implementation Plan timeline
10. Review your TeamSTEPPS Implementation Plan with key stakeholders and modify according to input



Step 5: Develop a Plan for Testing Your TeamSTEPPS Interventions

Key Actions:

- Identify who on your Change Team will be responsible for data collection, analysis, and presentation (generation of graphs and charts)
- Identify a measure and define target ranges for that measure
- Measure before and after you implement TeamSTEPPS
- Consider Kirkpatrick's taxonomy when selecting measures

Who is responsible?

At what level will you measure and what measures will you use?

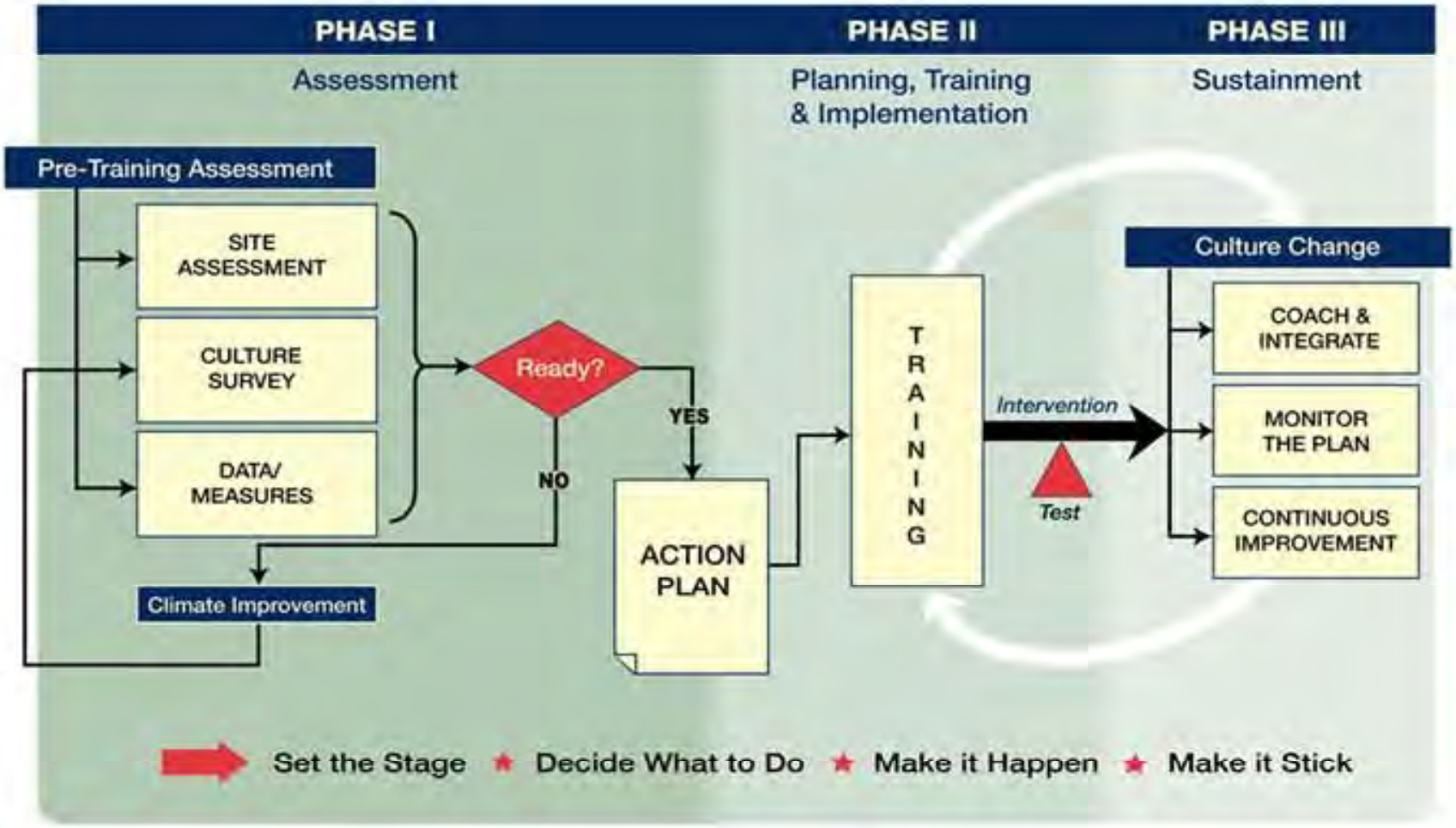
1. Level I Reactions

2. Level II Learning

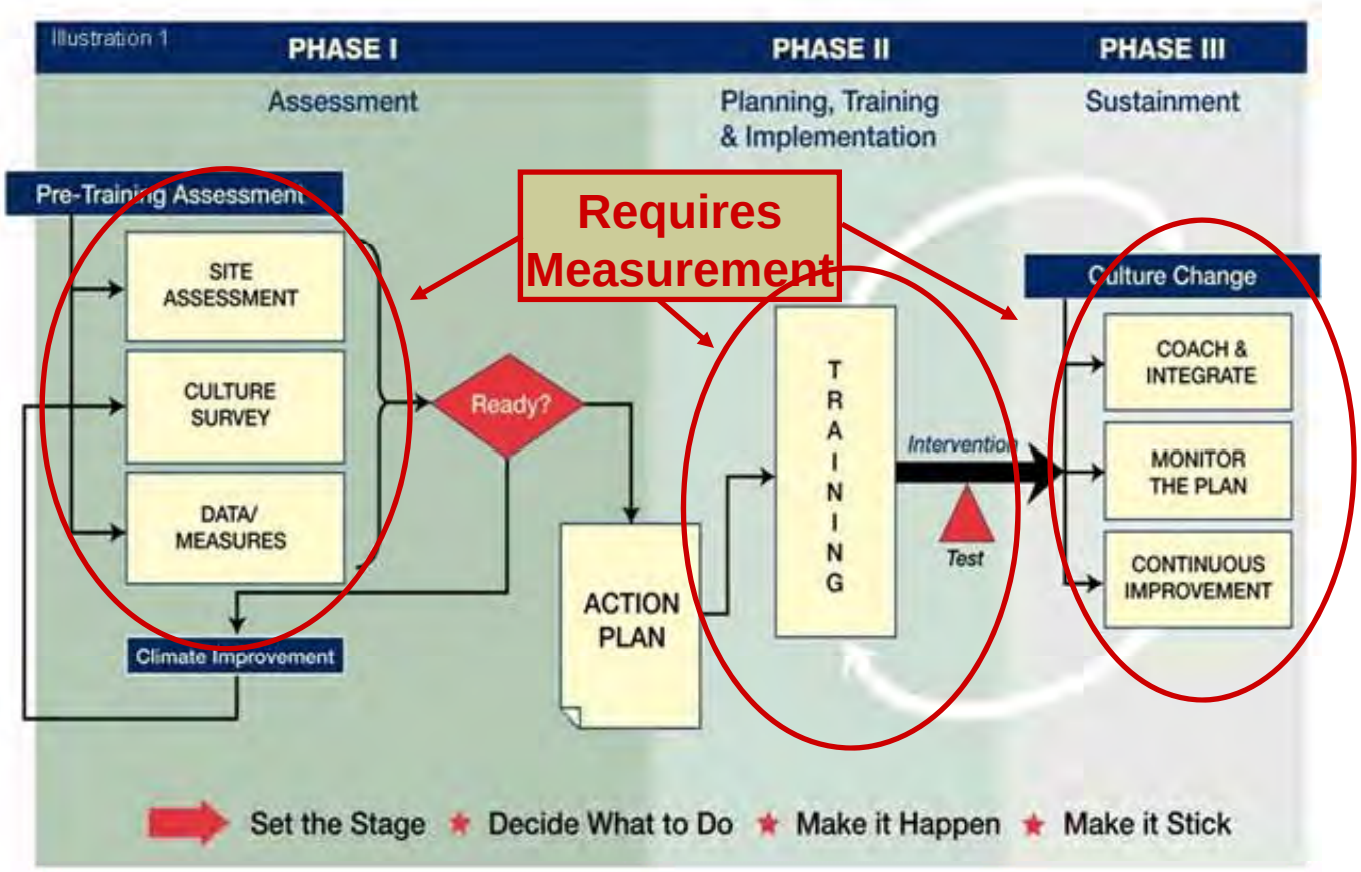
3. Level III Behavior

4. Level IV Results

Shift Toward a Culture of Safety



TeamSTEPPS Phases



Implementation Planning

1. What do we want to change?
2. How will we measure the change?

   Current status? End State?
3. What techniques can we use to implement change?
4. How do we integrate, develop, & evolve?

Teamwork Integration Example

1. Sentinel Event

   Death of young trauma patient

   Unrecognized loss of airway

2. Contributors

   Busy ED, Distractions, Assumptions

   Deficient Teamwork & Communication

3. Needed changes

   Recognition, Error Awareness

   Airway monitoring, Cross-Monitoring

Teamwork Integration Example

1. What do we want to change?

   Prevention of similar "never happen" event

2. Measure?

   Sentinel events & near-misses in ED

3. Techniques to implement change?

   Huddle, Workload Balancing

   Cross-monitoring, De-Brief

4. How do we integrate, develop, & evolve?

   De-Brief Event, Drill Clinical & Team Skills

Community ED – Code STEMI

1. What do we want to change?

   "Code STEMI" Protocol Compliance

2. Measure?

   Activations, Time to Balloon

3. Technique to implement change?

   Process Mapping, Time Series

4. How do we integrate, develop, & evolve?

   Huddle, Nurse to Activate

Code STEMI Training

1. Clinical/Technical Skills

   Critical Times - Arrival/Call, ECG, Activation

   Labs, X-ray, Aspirin

2. Teamwork Skills

   Huddle

   Cross- Monitoring

   Sharing the plan

   Debrief

Community ED Example

1. What do we want to change?
   - **Compliance with "Code STEMI"**
   - **Huddle, Nurse Activation**
2. Improved – **Activations & Time to Balloon**
3. Integrate, develop, & evolve?
   - **Drills**
   - **Parallel Process**
     - **"Code Stroke" "Code Trauma"**
     - **"Code Sepsis" (EMS)**

Teamwork Integration Example - Community Hospital Patient Satisfaction

1. What do we want to change?

   Improve staff & patient satisfaction

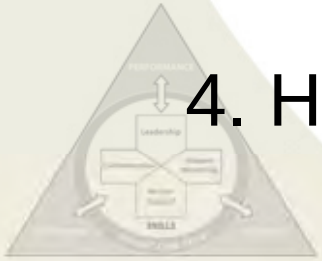
2. Measure?

   Internal & external satisfaction surveys

3. Technique to implement change?

   Studer Training

4. How do we integrate, develop, & evolve?



Studer / Teamwork Training

1. Studer Skills

   Rounding, AIDET, Managing-Up

2. Teamwork Skills

   Read-back

   Cross- Monitoring

   Sharing the plan

   Debrief

Patient Satisfaction Example

1. What do we want to change?

   Patient & staff satisfaction

2. Methods –

   Integrated customer-service training

   Patient/family teamwork training

   Error-Containment, Cross-Monitoring

   Knowing the Plan, "Voice"

3. Integrate, develop, & evolve?

   Continuous review-analysis-development

HMC Burn Unit Example

1. What do we want to change?

   Miscommunication of instructions

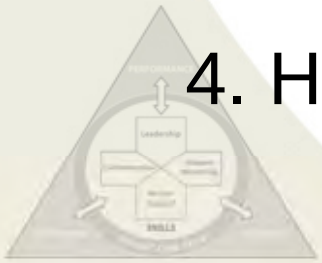
   Delays in wound care management

2. How will we measure the change?

   Current status? End State?

3. What techniques can we use to implement change?

4. How do we integrate, develop, & evolve?



HMC Burn Unit Example

1. What do we want to change?

   Miscommunication of instructions

   Delays in wound care management

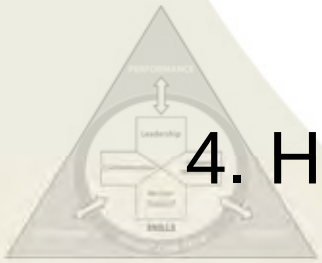
2. Measure?

   Conflict, complaints, case reviews

3. Technique to implement change?

   Brief, Huddle, De-Brief on rounds

4. How do we integrate, develop, & evolve?



HMC ED Example

1. What do we want to change?

   Lack of notification of In-Coming EMS

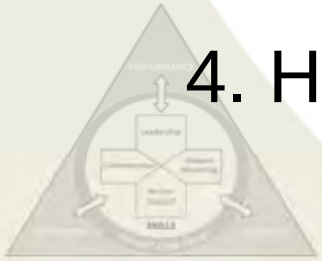
   Lack of Plan Sharing by Trauma Doc

2. How will we measure the change?

   Current status? End State?

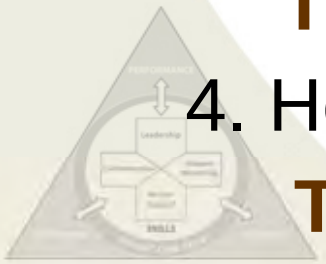
3. What techniques can we use to implement change?

4. How do we integrate, develop, & evolve?



HMC ED Example

1. What do we want to change?
   Call-Out of In-Coming EMS (Trauma & Med)
   Sharing of Plan at Bedside (Trauma & Med)
2. Measure?
   Charge Nurse Debrief records
3. Technique to implement change?
   TeamSTEPPS Course (staff)
   TeamSTEPPS Intro (rotating residents)
4. How do we integrate, develop, & evolve?
   TeamSTEPPS Course (workshop model)



UW/HMC Example

1. What do we want to change?

   Providers establish behaviors in training

   Challenging to change behaviors later

2. Measure? **(Questionnaire)**
3. What techniques can we use to implement change? **(TeamSTEPPS?)**
4. How do we integrate, develop, & evolve?

UW/HMC Example

1. What do we want to change?

   Open communication (Voice)

   Provider <-> Nurses, Pharmacists, MHA's

2. Measure the change? **(Questionnaire)**
3. What techniques?

   TeamSTEPPS Capstone, Orientation

4. Evolve? **(Student feedback)**

   "Train the attendings!"

100 – 200 – 300 Level Team Skills

100 Level	200 Level	300 Level
Brief	Huddle	Debrief
Call-Out	Sharing the Plan	Advocate & Assert
Check-Back	Cross Monitoring	CUS
SBAR	STEP	Two-Challenge Rule
Handoff		Feedback
		DESC Script
		Collaboration

Integration & Evolution

1. No longer a separate program
2. Part of "how we do things"

   Problem solving

   New processes, techniques, equipment

3. Analysis of:

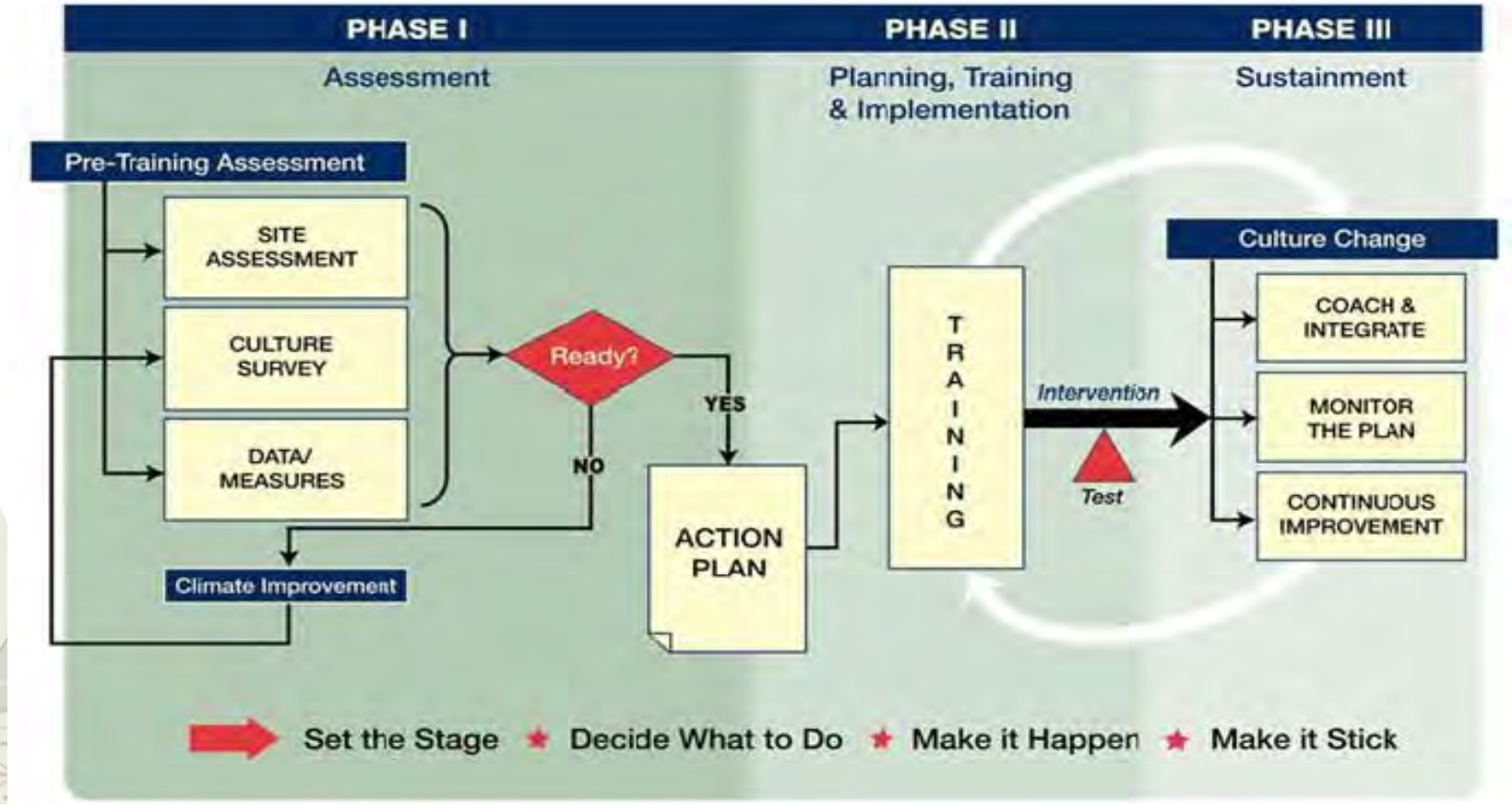
   Clinical/Technical Needs & Skills

   Teamwork Needs & Skills

Applying TeamSTEPPS

- What patient safety issue is your organization facing that is linked to a problem or problems with teamwork?
- What can I do to improve it?

TeamSTEPPS Change Model



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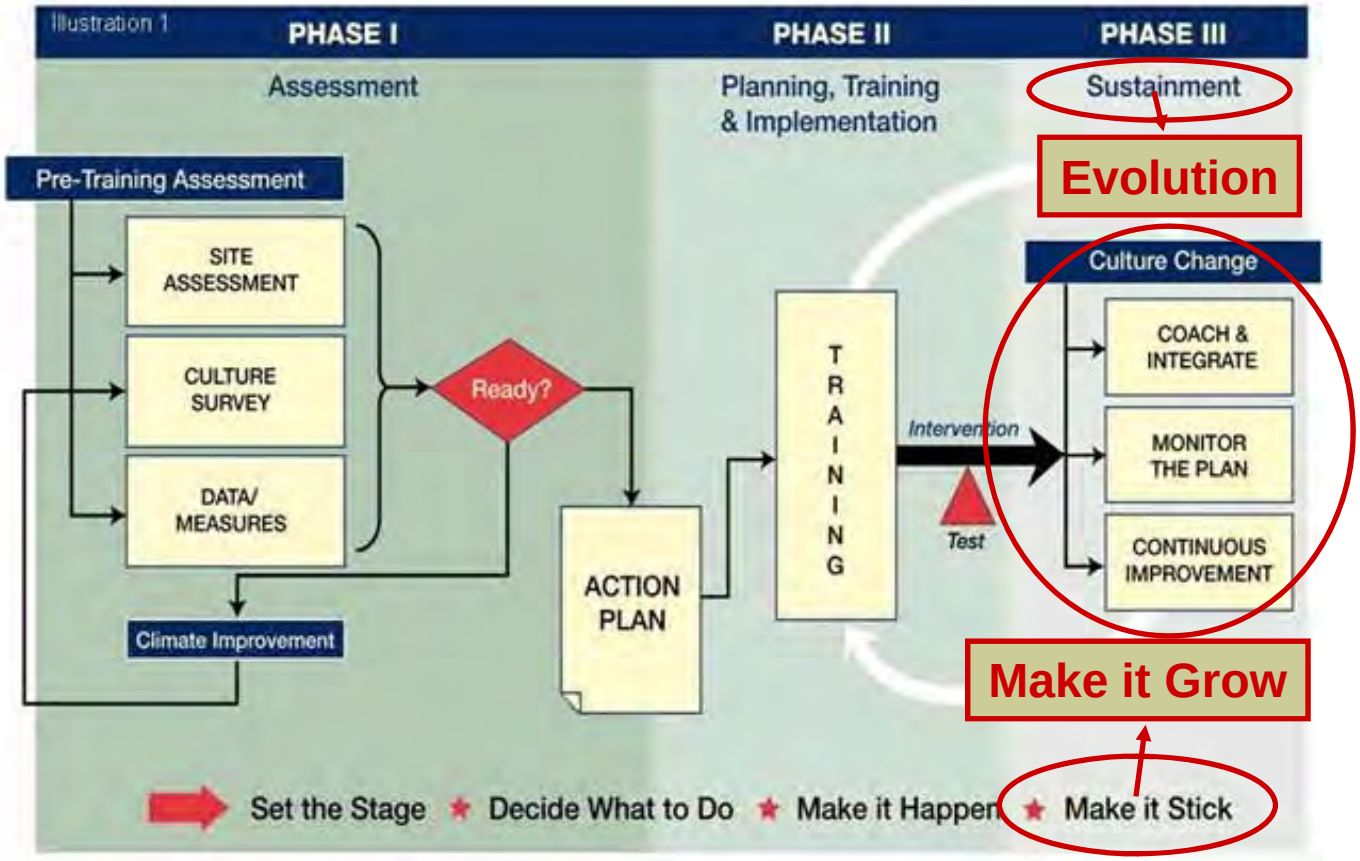

Change Management Models

- **PDSA:** Plan, Do *(TeamSTEPPS)*, Study, Act
- **DMAIC:** Define, Measure, Analyze, Improve *(TeamSTEPPS)*, Control
- **IHI Model for Improvement:** Forming the Team, Setting Aims, Establishing Measures, Selecting Changes, Testing Changes, Implementing Changes *(TeamSTEPPS)*, Spreading Changes
- **CUSP:** Assemble the Team, Engage the Senior Executive, Understand the Science of Safety, Identify Defects through Sensemaking, Implement Teamwork and Communication *(TeamSTEPPS)*
  - AHRQ Professional Education

Applying TeamSTEPPS

- What patient safety issue is your organization facing that is linked to a problem or problems with teamwork?

EXERCISE

TeamSTEPPS® 2.0

Summary—Pulling It All Together

Barriers – Tools - Outcomes

BARRIERS

- Inconsistency in Team Membership
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  - Mutual Support
- Culture
  - Error Assumption
  - Error Containment
  - Finding of "Voice"

TeamSTEPPS Evolution

http://www.ahrq.gov/teamstepps

- **2.0 Version**
- **New Modules:**
  - **Rapid Response**
  - **Dental**
  - **Long Term Care**
  - **Primary Care**
  - **Limited English Proficiency**
  - **Use of Simulation**

Review of Methods to Improve Effectiveness of the Health Care Team

- 48 publications (6 1990-2000, 42 2000-2010)
  - 32 Described training methods
  - 8 Described tools
  - 8 Described organizational interventions
- Buljiac-Samardzic M, et al. **Interventions to improve team effectiveness: a systematic review.** Health Policy. 2010 Mar; 94(3):183-95.

EM Teamwork Benefits (CRM)

- Prospective, multicenter evaluation 9 hospitals
- ED staff before & after medical team training
- Trained observers & surveys
  - Error reduction and performance improvement in the emergency department through formal teamwork training: evaluation results of the MedTeams project**.** Morey JC (2002) *Health Serv Res,* 37(6), 1553-81.

EM Teamwork Benefits (CRM)

- Higher Teamwork Scores (Observers)
- Improved outcomes (Admission Preparation)
- Reduced Errors
- Increased satisfaction (nurses & patients)
  - Error reduction and performance improvement in the emergency department through formal teamwork training: evaluation results of the MedTeams project**.** Morey JC (2002) *Health Serv Res,* 37(6), 1553-81.

Teamwork Benefits

- Reduced Errors
- Reduced malpractice claims
  - Lessons from the cockpit: How team training can reduce errors on L&D. Mann, S (2006) *Contemporary OB/GYN* 1-7.

Outcome Study OB/GYN

- Cluster-randomized controlled trial
- 7 intervention & 8 control hospitals
- 28,536 deliveries analyzed
- Adverse Outcome Index similar at baseline & after implementation
- Training did not transfer to a detectable impact in this study

  - **Nielsen PE, et al. Effects of teamwork training on adverse outcomes and process of care in labor and delivery: a randomized controlled trial. Obstet Gynecol. 2007 Jan;109(1):48-55.**

Outcome Study OB/GYN

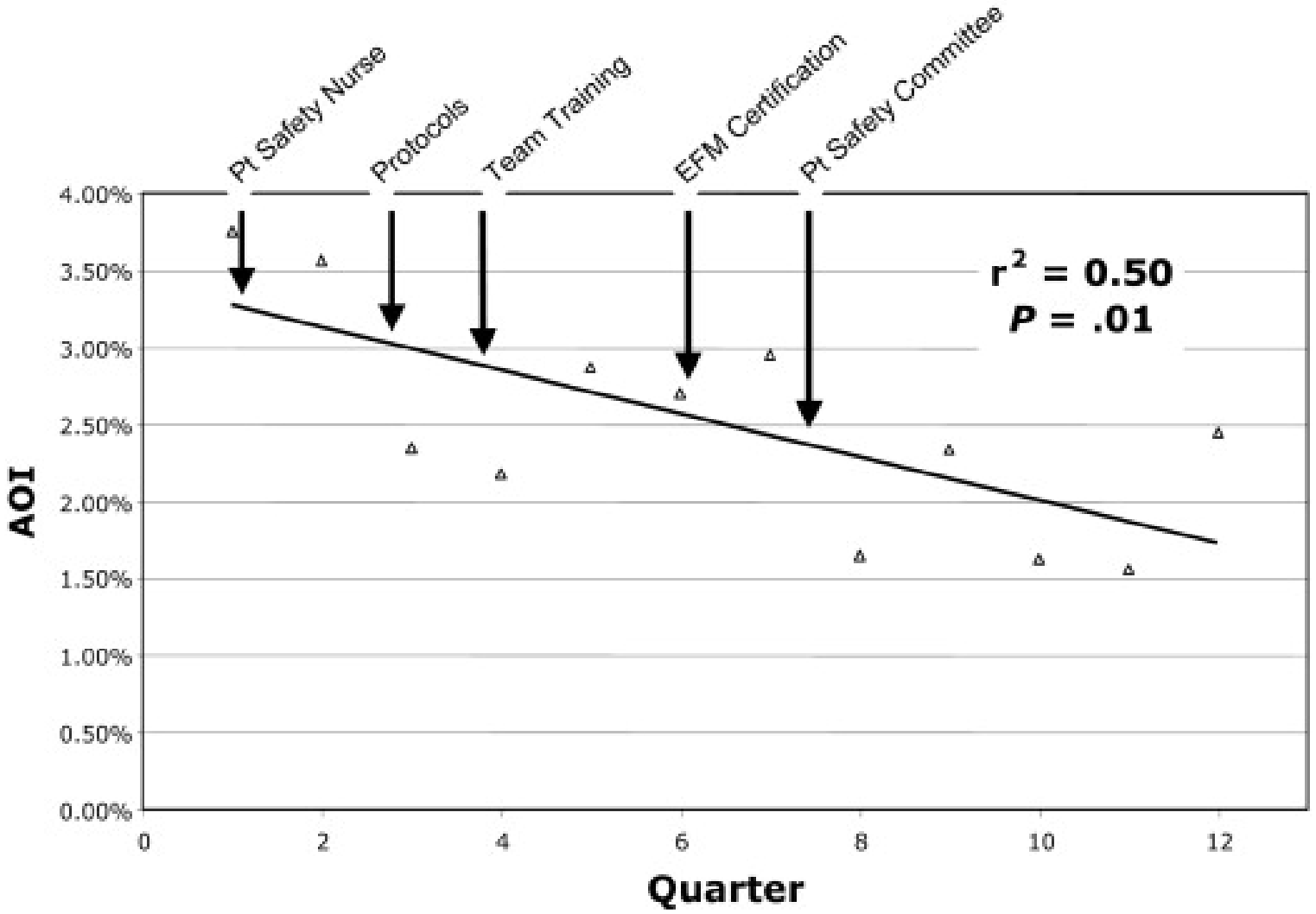
- Single institution
- Comprehensive patient safety strategy
- Team skills (TeamSTEPPS) plus
- Protocol standardization, patient safety nurse position, patient safety committee, training in fetal heart monitoring interpretation
- 13,622 deliveries over 36 months

- Pettker et al. Impact of a comprehensive patient safety strategy on obstetric adverse events. Am J Obstet Gynecol. 2009 May;200(5):492.e1-8.

Adverse Outcome Index indicators

Blood transfusion
Maternal death
Maternal ICU Admission
Maternal return to OR or labor & delivery
Uterine rupture
Third- or fourth-degree laceration
Apgar score < 7 at 5 min
Fetal traumatic birth injury
Intrapartum or neonatal death > 2500 g
Unexpected admission to neonatal ICU > 2500 g and for > 24 h

Summary—Pulling It All Together



Pettker, et al Comp OB safety strategy

Outcome Study OB/GYN

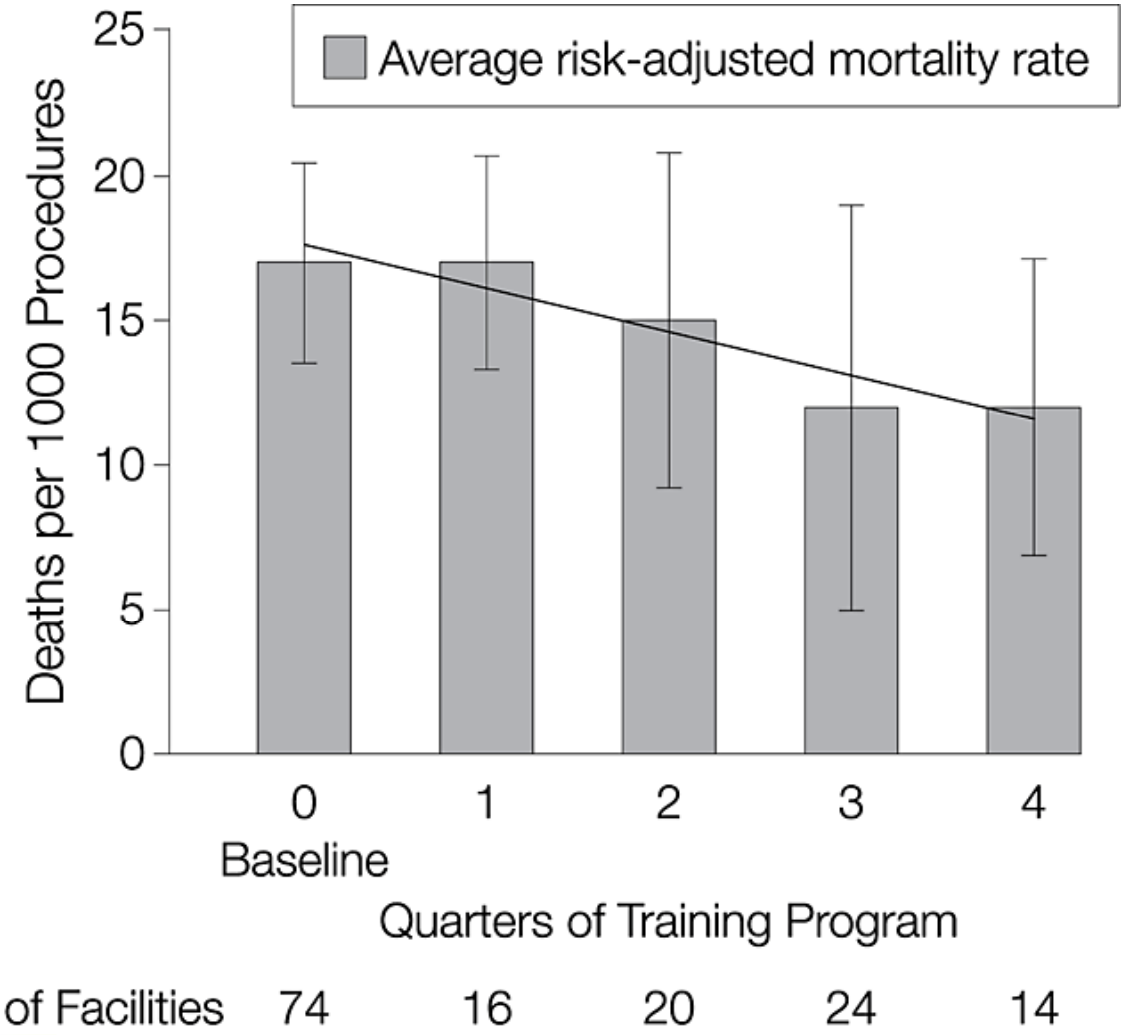
- Comprehensive patient safety strategy
- Team skills plus
  - Protocol standardization, patient safety nurse position, patient safety committee, training in fetal heart monitoring interpretation
- Progressive & continuous improvement of AOI over 36 months

- Pettker et al. Impact of a comprehensive patient safety strategy on obstetric adverse events. Am J Obstet Gynecol. 2009 May;200(5):492.e1-8.

VA Surgery Medical Team Training Program

- Briefings & debriefings in the OR
  - Driven by checklists
  - 2006-2008 Data
    - 180 000 procedures, 108 hospitals
- 18% reduction in annual mortality
  - 74 facilities in training program
  - 7% decrease in 34 control facilities
    - Neily J, et al. **Association between implementation of a medical team training program and surgical mortality.** JAMA. 2010 Oct 20;304(15):1693-700.

Summary—Putting It All Together



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