Beyond Implementation: Development, Integration, & Evolution

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TeamSTEPPS

Strategies & Tools to Enhance Performance & Patient Safety
What Makes Up Team Performance?

Knowledge
Cognitions
“Think”

Skills
Behaviors
“Do”

Attitudes
Affect
“Feel”
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

Requires Measurement
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
- Brief
- Call-Out
- Check-Back
- SBAR
- Handoff

200 Level
- Huddle
- Sharing the Plan
- Cross Monitoring
- STEP

300 Level
- Debrief
- Advocate & Assert
- CUS
- Two-Challenge Rule
- 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

Pre-Training Assessment

- Site Assessment
- Culture Survey
- Data/Measures

Climate Improvement

Preparation

Set the Stage ✴ Decide What to Do ✴ Make it Happen ✴ Make it Stick

Ready?

Yes

No

ACTION PLAN

Training

Culture Change

- Coach & Integrate
- Monitor the Plan
- Continuous Improvement

Intervention

Test
TeamSTEPPS Phases

- Evolution
- Make it Grow
- Sustainment
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?
# Barriers – Tools - Outcomes

## BARRIERS
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## OUTCOMES
- Shared Mental Model
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- Mutual Trust
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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

  - 32 Described training methods
  - 8 Described tools
  - 8 Described organizational interventions

EM Teamwork Benefits (CRM)

- Prospective, multicenter evaluation 9 hospitals
- ED staff before & after medical team training
- Trained observers & surveys
EM Teamwork Benefits (CRM)

- Higher Teamwork Scores (Observers)
- Improved outcomes (Admission Preparation)
- Reduced Errors
- Increased satisfaction (nurses & patients)

Teamwork Benefits

- Reduced Errors
- Reduced malpractice claims

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

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

### Adverse Outcome Index Indicators

<table>
<thead>
<tr>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>Blood transfusion</td>
</tr>
<tr>
<td>Maternal death</td>
</tr>
<tr>
<td>Maternal ICU Admission</td>
</tr>
<tr>
<td>Maternal return to OR or labor &amp; delivery</td>
</tr>
<tr>
<td>Uterine rupture</td>
</tr>
<tr>
<td>Third- or fourth-degree laceration</td>
</tr>
<tr>
<td>Apgar score &lt; 7 at 5 min</td>
</tr>
<tr>
<td>Fetal traumatic birth injury</td>
</tr>
<tr>
<td>Intrapartum or neonatal death &gt; 2500 g</td>
</tr>
<tr>
<td>Unexpected admission to neonatal ICU &gt; 2500 g and for &gt; 24 h</td>
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Pettker, et al Comp OB safety strategy
Summary—Pulling It All Together

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

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

AHRQ Website

http://teamstepps.ahrq.gov/
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