Teaching Multidiscipline CRM via Medical Simulation.

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Overview

Crew Resource Management (CRM)

Medical Simulation

Teaching CRM via Medical Simulation
Patient Care Goals of CRM

Block or prevent clinical errors.

Improve patient outcomes.

Increase patient satisfaction.

Increase staff satisfaction.

Manage workload efficiently.

Reduce malpractice claims.
Incidence of Wrong Sites has Not Improved Since Universal Protocol Implemented.
CRM Training Fundamentals

Understand that every team member is responsible for a good outcome.

Establish and maintain team structure.

Use “closed-loop” communication.

Create and Maintain a Shared Mental Model.

Resolve conflicts constructively.

Reinforce behaviors to avoid extinction.
LEADERSHIP AND TEAMWORK SKILLS

Communication

Workload Distribution

Problem Solving

Team Dynamics

Video 1
Poor Teamwork
Poor Teamwork

Video 1 (2 min)
LEADERSHIP AND TEAMWORK SKILLS

Communication

Workload Distribution

Problem Solving

Team Dynamics
Recommendation 8.1

“Healthcare Organizations …establish interdisciplinary team training programs for providers to incorporate proven methods of team training, such as simulation…..for personnel in areas such as the emergency department, intensive care unit, and operating room; and incorporating methods of managing work in teams as exemplified in aviation.”

Principle 3

Train in teams those who are expected to work in teams.
Why Should I Change My Practice? (The uphill battle…)

I don’t need a check-off list.

Don’t burden me with more time-consuming, low-yield tasks because of a single bad outcome, somewhere.

Who’s paying me for my loss of productivity?

Don’t tell me I’m a pilot flying a plane.

There are some bad apples. You know who they are...

Show me the data.
Change the Premise

This is about my skills and judgment. Any questions are therefore challenges to my abilities and authority. Teamwork impedes my efficiency.

vs.

This is about the patient’s safety and well-being. Therefore, any challenge, check-back, or clarification is in the interest of a good outcome. Teamwork improves my overall efficiency.

Shift the focus of error prevention from individual performance to teamwork behaviors.
Shared Responsibility for a Good Outcome

The challenge to leaders:
Understand that shared responsibility is not a dilution of your authority, but a means by which patient care is improved and your control is increased.

The challenge to all team members:
Recognize that you have a responsibility for patient safety and for departmental workflow, and therefore a duty to speak up when issues arise.
Swiss Cheese Error Theory

The Sharp End…

Active failures are sometimes referred to as errors at the "sharp end," figuratively referring to a scalpel. In other words, errors at the sharp end are noticed first because they are committed by the person closest to the patient. This person may literally be holding a scalpel (eg, an orthopedist who operates on the wrong leg) or figuratively be administering any kind of therapy (eg, a nurse programming an intravenous pump) or performing any aspect of care. To complete the metaphor, latent errors are those at the other end of the scalpel—the "blunt end"—referring to the many layers of the health care system that affect the person "holding" the scalpel.

Sharp End vs. Blunt End

Institutional Policies, Procedures, Resource Allocations

Workload, Interruptions, Staffing level, Patient volume

Health Care Provider

Patient
Improved Teamwork

Video #2 (2:40)
LEADERSHIP AND TEAMWORK SKILLS

- Communication
- Workload Distribution
- Problem Solving
- Team Dynamics
Metrics

Challenges:

Low Incidence of measurable harm.
Surrogate Markers
Near-Miss Reporting
Survey-based Data

Ideal:

“Hard outcomes.”

Adverse Outcomes Index (AOI)
Morbidity, Mortality rates
Suits, claims
Proven Results and Patient Safety

ED Observed Errors

OR Teamwork Climate and Postoperative Sepsis Rates
(per 1000 discharges)

L&D Adverse Outcomes
(Weighted Adverse Outcome Score)
L&D

Patient Safety Grade

Please give labor and delivery an overall grade on patient safety.

Proportion marking “Excellent” or “very good”
L&D
Communication Openness

Staff will freely speak up if they see something that may negatively affect patient care.

Proportion agreeing with the statement

Overall  LDR Nurses  Obstetricians
Pre CRM Training  Post CRM Training
Briefings about patient care are common on the labor and delivery unit.

Proportion agreeing with the statement
All Claims, Suits, and Potential Claims by Department

Figures 1 and 2

All Claims, Suits, and Potential Claims by Department

Miriam ED Suits, Claims, Potential Claims

Number of Events

0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5

95 96 97 98 99 00 01 02 03 04 05

RIH ED Claims, Suits, Potential Claims

# of Events

0
5
10
15
20
25

91 92 93 94 95 96 97 98 99 00 01 02 03 04

MedTeams Implemented

A. Nathanson, MD; personal comm. Used with permission.
Outcomes: New Suits – Emergency Medicine

as of 12/1/08

- 1998: 8
- 1999: 4
- 2000: 3
- 2001: 5
- 2002: 3
- 2003: 7
- 2004: 1
- 2005: 2
- 2006: 3
- 2007: 1
- 2008: 2
Medical Simulation
Hybrid Simulation
Hybrid Simulation
Culture Change

Culture

Collective Behaviors

Individual Behaviors

Change Individual Behaviors

Change Collective Behaviors

Reinforce changes until automatic

Culture change
## Steps to Create a Multidiscipline CRM-based Scenario

<table>
<thead>
<tr>
<th>Discuss goals with departmental leaders.</th>
<th>Collaborate with departmental champions on clinical content of simulation scenario.</th>
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</thead>
<tbody>
<tr>
<td>Form team of internal departmental champions</td>
<td>Practice, practice, practice.</td>
</tr>
<tr>
<td>Discuss application of CRM principles to target department.</td>
<td></td>
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</tbody>
</table>
Craft scenario(s) to force interdisciplinary interactions

Medically straightforward
Serial participant arrivals
Inexorable case progression
Successful resuscitation
Concluding interaction
Medical Simulation
CRM Training via Medical Simulation
Debriefing:

Video Review
Acknowledge the clinical, then move forward.
Ask the questions that lead participants to make your points.
Analyze the interactions.
Reinforce the positive.
Extrapolate to the real work milieu.
Multidiscipline CRM via Medical Simulation
2007-2009

Labor and Delivery Women and Infants’ Hospital, Providence, RI
Triage/ED Women and Infants’ Hospital, Providence, RI

Labor and Delivery Kent Community Hospital, Warwick, RI
Emergency Department Kent Community Hospital, Warwick, RI

Neurosurgery, Rhode Island Hospital, Providence, RI

Emergency Department The Miriam Hospital, Providence, RI

Pediatric Intensive Care Unit Hasbro Children’s Hospital, Providence, RI
CRM:
**TeamSTEPPS vs. MedTeams®**

**Team Strategies and Tools to Enhance Performance and Patient Safety**

1. Public Domain.
2. Free.
4. Can be customized.

**MedTeams® Team Coordination Course®**

1. Privately licensed.
2. $$$
4. Can be customized.

Dynamic Research Corporation
Part of a Strategy

Safety Infrastructure
  Plan/Road Map
Standing Safety Committee
Safety Officers
Executive Education and Leadership
Adverse Event Discussions

Patient Safety Tasks
  CRM Training
  Leadership Training
  Feedback/Information
  Identify/Mitigate Risk

Maintenance
Improvement
Refreshment
Reinforce Behaviors to Avoid Extinction.

“Train in teams those who are expected to work in teams.”

These behaviors are not intuitive, nor commonly taught, but are easily learned. To be maintained, they must be periodically refreshed and reinforced.

IOM, To Err is Human, 1999
Refresher Training is Necessary to Sustain Teamwork

Immediate positive impact
50 percent reduction
Army aviation class A accidents

When Aircrew Coordination Training no longer emphasized
Class A accident rate increased
Teamwork-Focused M&M Conference

Video 3 (1:54)
LEADERSHIP AND TEAMWORK SKILLS

Communication
Workload Distribution
Problem Solving
Team Dynamics

No discussion of clinical management decisions, yet marked impact on patient outcome.
References


5. Harkins D. Trauma is a team sport. Journal of Trauma Nursing. 2009; 16(9): 61-63.


