National Trends in Interprofessional Education and Simulation

PRESENTER

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Objectives

1. Describe the history of a Kaiser Permanente Interprofessional Education and Simulation
2. Discuss where our programs and simulation are headed in the future
3. Demonstrate how team training and simulation can improve outcomes
What is your role?

A. Academic
B. Hospital
C. Outpatient Center/Clinic
D. Simulation Center
E. Administrative
F. Other
Why Simulation?
The Opportunity to Improve

- Diagnosis Related
- Treatment
- Surgical
- Medication
- Birth
Culture of Safety

Characteristics of Highly Reliable Organizations:

• Safety as the highest priority
• Preoccupation with what could fail
• Open environment to discuss error
• Everyone encouraged to speak up about hazards
• Rewards for safe actions
• Training for hazardous situations
Goals of Simulation

- Teamwork
- Communications
- Testing of systems and processes
- Skills training
- Development of protocols and guidelines
- Cultural change
Where We are Now
Standardized Skill & Team-based Training

- Didactic
- Human Factors
- Expert Modeling
- Hands-on practice
- Simulation
- Debriefing
- Pre- and Post-Tests
- Outcomes measures
Testing New Equipment & Facilities
Transitions in Care
Testing New Processes
Teamwork and Communication
Patient Care and Service
Are you including real patients in your simulations?

A. Yes
B. No
C. Unsure

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Next Steps

• Designing and providing education
• Assessing and improving care systems
• Education and maintenance of competence
• Privileging and credentialing
Next Steps in Improving Patient Care and Safety

- Speaking up culture
- Diagnostic reliability
- Workplace safety and care of the high BMI patient
Are you including a speaking up objective in your simulations?

A. Yes
B. No
C. Unsure

0% 0% 0%
Perceptions Vary by Position and Gender

Easy to speak up about errors and mistakes in dept

Men find it easier to speak up than do women for all job positions except senior leaders, managers, and service and maintenance staff.

* Significantly different between genders, such that males are more favorable on item than females

Source of demographic data: Self-reported on People Pulse

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Perceptions Vary by Tenure

Easy to speak up about errors and mistakes in dept.

Employees with higher tenure find it less easy to speak up than employees with less tenure.

Source of demographic data: My HR
Number of respondents reflect responses to “Easy to speak up about errors and mistakes in dept”
Are you including workplace safety objectives in your simulations?

A. Yes
B. No
C. Unsure
Improving Workplace Safety

• Traditional Safe Patient Mobility Training included PowerPoint presentations and demonstration of patient handling equipment
  – Injuries continued to occur in spite of regular training

• Revised training included:
  – Two hour mandatory training for one medical/surgical unit RNs, PCTs, and ANMs
  – Two simulations: video-recorded patient mobility scenarios in each session—one scenario was about a patient of size
Improving Workplace Safety: Mobility Training

- Training Results:
  - Statistically significant improvement in staff comfort when dealing with a patient in distress when safety required a delay
  - Identification of a piece of mobility equipment easier to use than the one available on the unit
  - No patient mobility injuries on the unit where training occurred since the training in June 2014
Are you including virtual simulations in your programs?

A. Yes
B. No
C. Unsure
Improving Diagnostic Reliability

- Developing virtual simulation and standardized patient scenarios to simulate the decision process
  - will better prepare clinicians to avoid the cognitive pitfalls that lead to delays and failures in diagnosis.
  - Use of real cases
What Can Virtual Simulation Literature Tell Us About Physician Diagnostic Accuracy, Confidence and Resource Use?

- 118 general Internists in the US recruited to evaluate 4 previously validated cases of variable difficulty (2 easier, 2 more difficult)
- Web-based (virtual sim) format with 4 phases simulating the natural flow of history, physical exam, test evaluation, definitive diagnosis
- After each phase, they recorded up to 3 possible diagnoses and rated their confidence that they had the correct diagnosis in the differential
- Diagnostic accuracy: 56% easier cases, 6% difficult cases
- Physician confidence rating: 7.2/10 easier cases, 6.4/10 difficult cases
- Higher confidence rating = decreased requests for additional tests
- Conclusion: Physicians confidence level may be insensitive to diagnostic accuracy and case difficulty. This mismatch might prevent physicians from reexamining difficult cases in which their diagnosis may be incorrect.

Changing Healthcare Culture

*Training for safety is not something we do “in addition to” our patient care, but rather training for safety is part of our patient care.*
Rethink Instructional Design

“I think you should be more explicit here in step two.”

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How Do We Get People to Change?
How Do We Get People to Change?

thefuntheory.com

http://www.youtube.com/watch?feature=player_detailpage&v=cbEKAwCoCKw
RULES

• You have 1 MINUTE to build
• Must follow building pattern:
  One LARGE then 3 SMALL
• No two of same color may touch
• ONLY 5 Items per runner/per run
• Runners can’t build and builders can’t run
• All unused blocks must be returned by time called or will be deducted from top
Paradigm Shift to Team System Approach

From (INDIVIDUAL)
- Single focus (clinical skills)
- Individual performance
- Under-informed decision-making
- Loose concept of teamwork
- Unbalanced workload
- Having information
- Self-advocacy
- Self-improvement
- Individual efficiency

To (TEAM)
- Dual focus (clinical and team skills)
- Team performance
- Informed decision-making
- Clear understanding of teamwork
- Managed workload
- Sharing information
- Mutual support
- Team improvement
- Team efficiency
Are you always including teamwork objectives in your simulations?

A. Yes  
B. No  
C. Unsure
Dream Team

World Of Hurt

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Team Training: Team Strategies & Tools to Enhance Performance & Patient Safety
Threats to Patient Safety

- Poor handoffs – incomplete information transfer
- Avoidable interruptions & distractions
- Unresolved conflict & lack of respect among team members
- Premature closure and failure to close-the-loop on abnormal tests leading to delays/failures in diagnosis
- Lack of standardized language to communicate critical info
Does Teamwork Training Matter Healthcare?

- **Length of ICU Stay After Team Training**
  - **50% Reduction**
  - (Pronovost, 2003) Johns Hopkins Journal of Critical Care Medicine

- **OR Teamwork Climate and Postoperative Sepsis Rates**
  - Group Mean
  - Low Teamwork Climate
  - Mid Teamwork Climate
  - High Teamwork Climate
  - AHRQ National Average

- **Adverse Outcomes**
  - 50% Reduction
  - (Mann, 2006) Beth Israel Deaconess Medical Center Contemporary OB/GYN

- **Indemnity Experience**
  - Pre-Teamwork Training: 20
  - Post-Teamwork Training: 11
  - 50% Reduction

*References:*
- Mann, 2006
- Pronovost, 2003
- Sexton, 2006
- Johns Hopkins Journal of Critical Care Medicine
Surgical team behaviors and patient outcomes

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KEYWORDS:
Operating room;
Team behavior;
Patient outcomes;
Human factors;
Behavioral markers

Abstract

**BACKGROUND:** Little evidence exists that links teamwork to patient outcomes. We conducted this study to determine if patients of teams with good teamwork had better outcomes than those with poor teamwork.

**METHODS:** Observers used a standardized instrument to assess team behaviors. Retrospective chart review was performed to measure 30-day outcomes. Multiple logistic regressions were calculated to assess the independence of the association between teamwork with patient outcome after adjusting for American Society of Anesthesiologists (ASA) score.

**RESULTS:** In univariate analyses, patients had increased odds of complications or death when the following behaviors were exhibited less frequently: information sharing during intraoperative phases, briefing during handoff phases, and information sharing during handoff phases. Composite measures of teamwork across all operative phases were significantly associated with complication or death after adjusting for ASA score (odds ratio 4.82; 95% confidence interval, 1.30–17.87).

**CONCLUSION:** When teams exhibited infrequent team behaviors, patients were more likely to experience death or major complication.

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Poor Teamwork Closely Correlated to Complications

What makes or break a team?

- **LEADERSHIP**
  - Who’s in charge? Is there a clear plan?

- **COMMUNICATION**
  - Are we talking and hearing each other? Or are we just assuming?

- **SITUATION MONITORING/Awareness**
  - Are we aware of what’s going on? Are we all on the same page?

- **Mutually Supportive**
  - Do I know how to assist others or ask for help? Do I know the resources we have to help the team?
Are you including all team members (IPE) in your team based simulations?

A. Yes
B. No
C. Sometimes
D. Unsure

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An Example of a Team...
Team Training: Team Strategies & Tools to Enhance Performance & Patient Safety
Effective Team Leaders

• Organize the team
• Articulate clear goals
• Make decisions with input of team members
• Empower members to speak up & challenge
• Actively promote & facilitate good teamwork
• Effectively manage conflict & resources
Information Exchange Strategies
Clear – Concise - Timely

• SBAR:
  – Situation
  – Background
  – Assessment
  – Recommendation

• Call-Out
• Cross-Check
• Check-Back

Closed-Loop
A Continuous Process

Situation Monitoring (Individual Skill)

Shared Mental Model (Team Outcome)

Situation Awareness (Individual Outcome)
Mutual Support

– The essence of teamwork

– Protects team members from work overload which could reduce effectiveness and increase the risk of error

– It involves task assistance, feedback, and advocacy/assertion
How was the leadership?

A. Not observed
B. Unacceptable
C. Poor
D. Average
E. Good
F. Excellent
How was the communication?

A. Not observed
B. Unacceptable
C. Poor
D. Average
E. Good
F. Excellent
How was the situation monitoring?

A. Not observed
B. Unacceptable
C. Poor
D. Average
E. Good
F. Excellent

0% 0% 0% 0% 0% 0%
How was mutual support?

A. Not observed
B. Unacceptable
C. Poor
D. Average
E. Good
F. Excellent
Are we much different are we in an emergency?

• LEADERSHIP
  – Is it always clear who is coordinating or in communicating the plan? Should it always be the surgeon, the anesthesiologist...or the one in the cockpit who’s steering the plane?

• COMMUNICATION
  – Do we often assume too much, or don’t know exactly how to communicate to each other during the “heat of the moment”? Are there moments when we’re not sure if something we asked for was done or not done?
Is “The Office” an Analogy for “The OR”?

• SITUATION MONITORING
  – Are we always on the same page, or do we operate in our own individual worlds? Is it hard to stay aware of changes that are going on?

• MUTUAL SUPPORT
  – Are we aware of how to ask or offer assistance? Do we know about our checklists, or other resources when they are needed during an emergency?
Use of Checklists or Job Aids
In Summary

Mission

*Reduce adverse events*

*Improve patient safety*

Vision

*Practice using simulation to improve patient safety*

Goal

*Create "highly reliable" teams*
Questions?