

Creating High Reliability to Reduce Patient Harm

*Exemplar of Interprofessional Education in
Quality and Safety*

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Objectives

1. Relate the Four IPE Core Competencies to Practice
2. Explain the nature and characteristics of health care teams
3. Describe How In Situ Simulation Learning Can Be Used to Improve High Reliability and Reduce Harm

Overview of High Reliability

- Patient injury is at epidemic levels.
 - IHI estimates 15 million instances of medical harm occur each year (IHI, 2007).
- Processes are not deliberately designed for defenses in depth.
- Professional training is not synonymous with team training.
- Current models focus on preventing error by individuals when the bulk of care is given by teams. (Van der Schaaf, 2002).

Patient Safety

- Safety is freedom from unintended harm
- Injury caused by:
 - Unsafe Acts
 - System Complexity

Components of High Reliability

**High Reliability = Technical Skills + Non-technical skills +
Designed Processes**

Culture of Safety

– Source: Riley, Davis and Miller, 2010

Why IPE for Quality and Safety?

- Lack of IPE Skills: Causes improvement in health care quality and safety to be slow¹
- IPE is still not the norm in the health professions²
- Team Care: Is Fundamental for a new strategy to optimize how to provide care³
- Professional Education: Must shift from silos to one that fosters collaboration, communication and team approach to care³

¹Headrick et al, "Results of An Effort To Integrate Quality and Safety Into Medical and Nursing School Curricula and Foster Joint Learning" Health Affairs Dec, 2012

²IOM, Health Professions Education: A Bridge to Quality. 2003

³Wakefield, Team-Based Competencies: Building a Shared Foundation for Education and Clinical Practice. IPEC Conference Proceedings . Washington DC. Feb 16-17, 2011

IPEC Four Core Competencies ¹

- Values/Ethics for Interprofessional Practice
- Roles/Responsibilities for Collaborative Practice
- Interprofessional Communication
- Interprofessional Teamwork

¹Core Competencies for Interprofessional Collaborative Practice: Report of An Expert Panel. (2011). Washington DC. IPEC.

Overview of Health Care Teams

- Teams are stable → a myth.
- Leadership is constant → unsupported by evidence.
- Leadership transfer → is performed poorly.

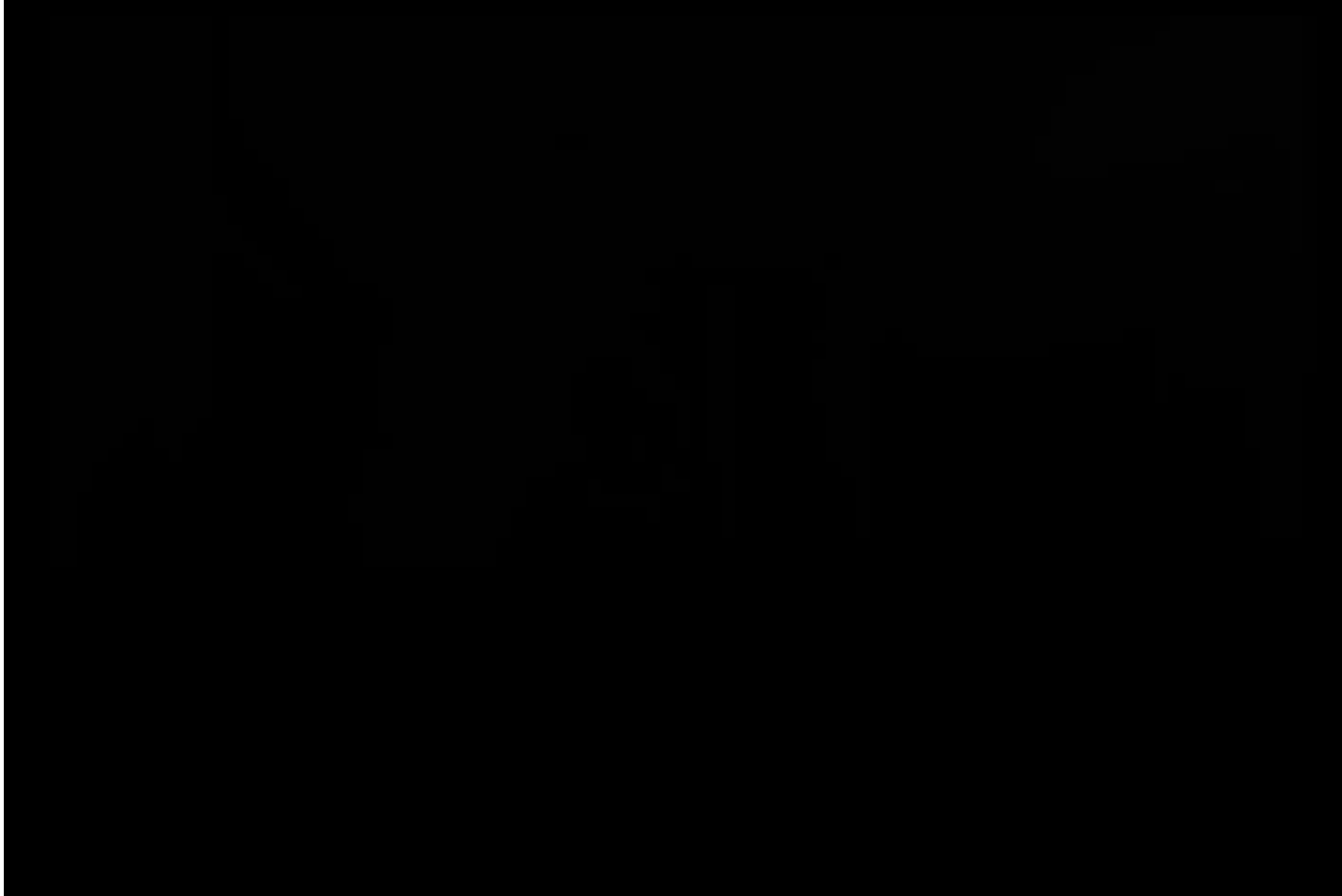
Unsafe Acts

- Errors
 - The failure of a planned action to achieve desired goal
- Violations
 - A deliberate deviation from safe practices and rules
- Negligence
 - Failure to use degree of care required by law to protect others from harm

Human Factors #1



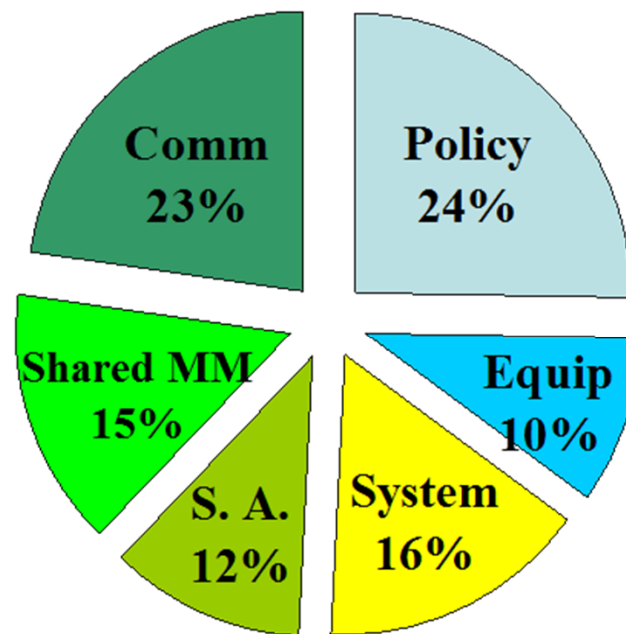
Human Factors #2-OR



Human Factors #3-Anesthesia



“Breaches” That May Affect Safety



TOTAL BREACHES: 35 Simulations in 6 Hospitals
AVE: 24.2 BREACHES/ SIMULATION

Defenses in Depth

- In HC, countermeasures and forcing functions are very sporadic. Only Blood Bank and anesthesia are six sigma.
- But, next slides will show the process in blood is in total disarray. The patient will always get the right blood, but our research shows they may exsanguinate first.
- Forcing function: a step must be taken before going to next step The light in an airplane lavatory
- Countermeasure: a step that occurs if a threat emerges. The oxygen masks drop down.

Health Care Team

- Communication failures responsible for preponderance of sentinel events.
- A *team* consists of two or more individuals,
 - Who have specific roles,
 - Perform interdependent tasks
 - Share a common goal
- Team Stages: form, storm, norm, perform

- Salas, E., T. L. Dickinson, and S.A. Converse. 1992. "Toward an Understanding of Team Performance and Training." In *Teams: Their Training and Performance*, edited by R.W. Swezey and E. Salas, pp. 3–29. : Ablex.

The Nature of Critical Event Teams, Quality Control, and Reliability

Variability:

Obstetricians	93
L&D Nurses	50
Anesthesiologists	16
NNPs	12
Scrub Techs	14
CRNAs	35

- How many C-Section teams are possible with these staff numbers?
- **437.5 Million**

Health Care Teams

- **Conventional View**
 - a team has established hierarchy and known leadership
 - with stable composition with extensive training together,
 - with many team performances over long periods of time
- **New View:** (For Certain types of teams)
 - Teams rarely train together
 - Team building processes, such as establishing team performance norm, building personal trust, socialization, are abbreviated or absent.
 - The team comes together for a specific purpose, extremely short duration, likelihood of same team again is non-existent.
 - Team members come from separate discipline with diverse educational programs

Team Leadership

- That person who is physically present and performs three specific tasks:
 - 1) prioritizes decisions,
 - 2) co-ordinates activity of other team members, and
 - 3) communicates a shared mental model for the other team members.

Leadership Transfer (During Critical Events)

- The handoff of leadership from one member of the team to another member.
- The leadership transfer occurs (usually) when a new person physically joins the team and assumes the three specific leadership tasks.
- The leadership transfer occurs when the existing leader explicitly concedes leadership, and the new leader explicitly assumes it.
- The leadership role is dependent on the phase of the group formation and the specific role of the team member(not the authoritarian hierarchy).

Team Formation

- Team Formation: a group of persons with special expertise assemble to execute a specific task. Can be a critical event or more routine event.
- During a critical event participants continually flow in and out of the team. The team is not stable and leadership is not constant.

Team Reformation

- *Team reformation* is defined as instances when the team membership changes in a significant way by the addition or deletion of team members directly involved in the critical incident.
- Team formation and reformation is characterized by recurrent stages that occur in predictable patterns during a critical event.
- Most of the leadership transfer occurs concurrently with the stages of team formation and reformation.
- The nature of the tasks is different in each of the phases.

In Situ Simulation Team Training

- TeamSTEPPS intervention at three community hospitals, totaling 1800 deliveries per year over a four year period(2005-2008).
- Measured Weighted Adverse Outcomes Score (WAOS) for all deliveries
- Interdisciplinary team training and simulations were utilized in delivery units to improve communication and teamwork
- 37% decrease in perinatal harm
- Source:
 - IHI, 2007 10 Best Innovations
 - Riley et al 2010, Joint Commission Journal of Quality and Safety
 - Salas, 2010, Joint Commission Journal of Quality and Safety

- A TEAM OF EXPERTS IS NOT AN EXPERT TEAM

Got Blood?



Acknowledgments

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- Thank You!
- Questions?