

CREATING HIGH RELIABILITY TO REDUCE PATIENT HARM



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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)

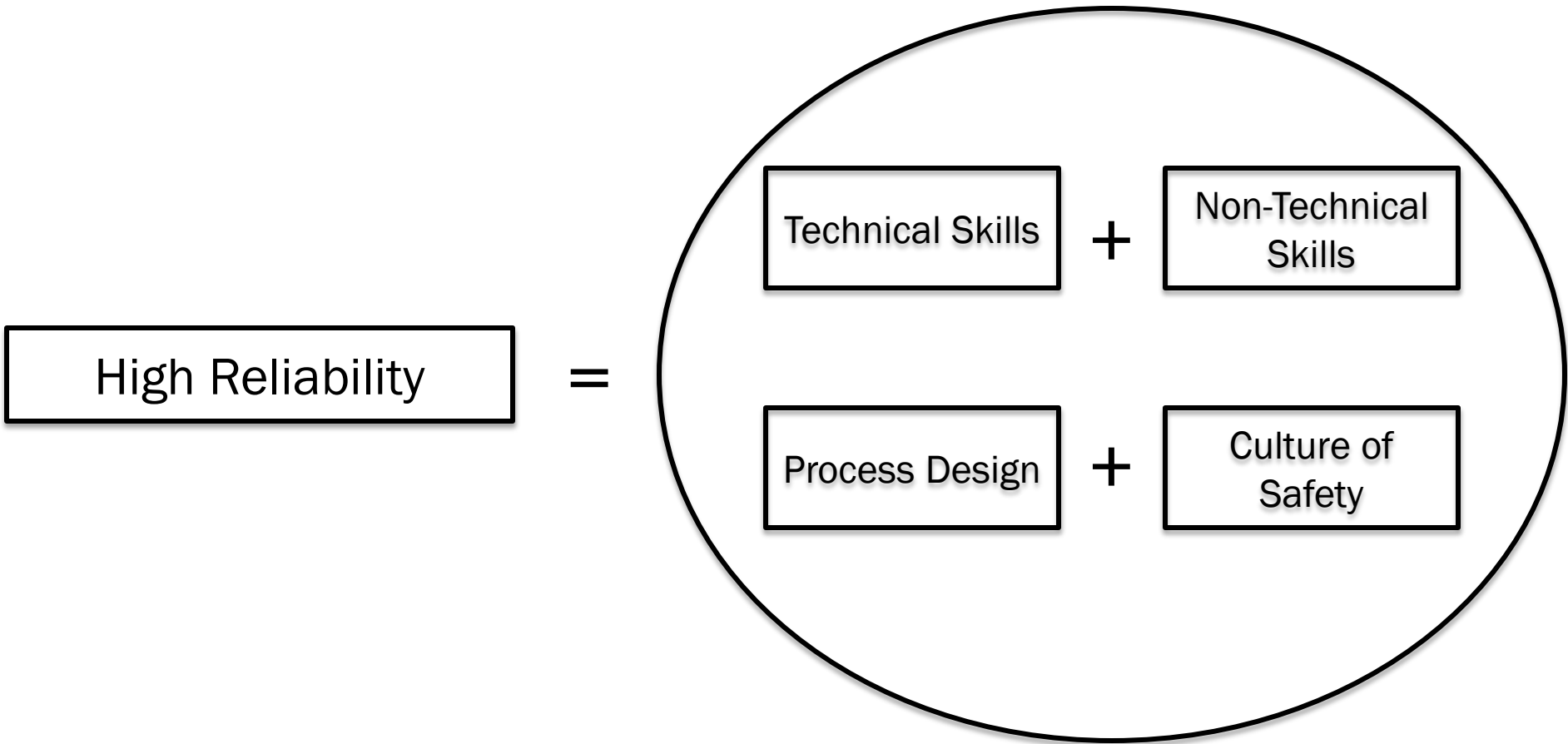
PATIENT SAFETY

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

HIGH RELIABILITY

- What is high reliability?
 - Consistency over time with the same quality result
- Why is it so hard to achieve?
 - Trained to be competent, vigilant, proficient individuals not trained as teams
 - Healthcare systems do not have culture of safety
 - Poor design & implementation of defensive barriers

COMPONENTS OF HIGH RELIABILITY



Source: Riley, Davis and Miller, 2010

WHY IPE FOR QUALITY & 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

¹ Headrick 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

² IOM, [Health Professions Education: A Bridge to Quality](#). 2003

³ Wakefield, [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

¹ Core 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  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

CRITICAL HUMAN FACTORS FOR TEAM SKILLS:

- Situational Awareness-**ME**
 - Being aware of what is going on around you and understanding what the information means

- Communication- **YOU**
 - SBAR (**Out**)
 - Closed-Loop Communication (**IN**)

- Shared Mental Model-**US**
 - Common understanding of the situation and the plan

HUMAN FACTORS #1

DISCUSSION

- Team Formation and Reformation
- SBAR Communication:
- Situational Awareness:
- Shared Mental Model:

HUMAN FACTORS #2-0R

DISCUSSION

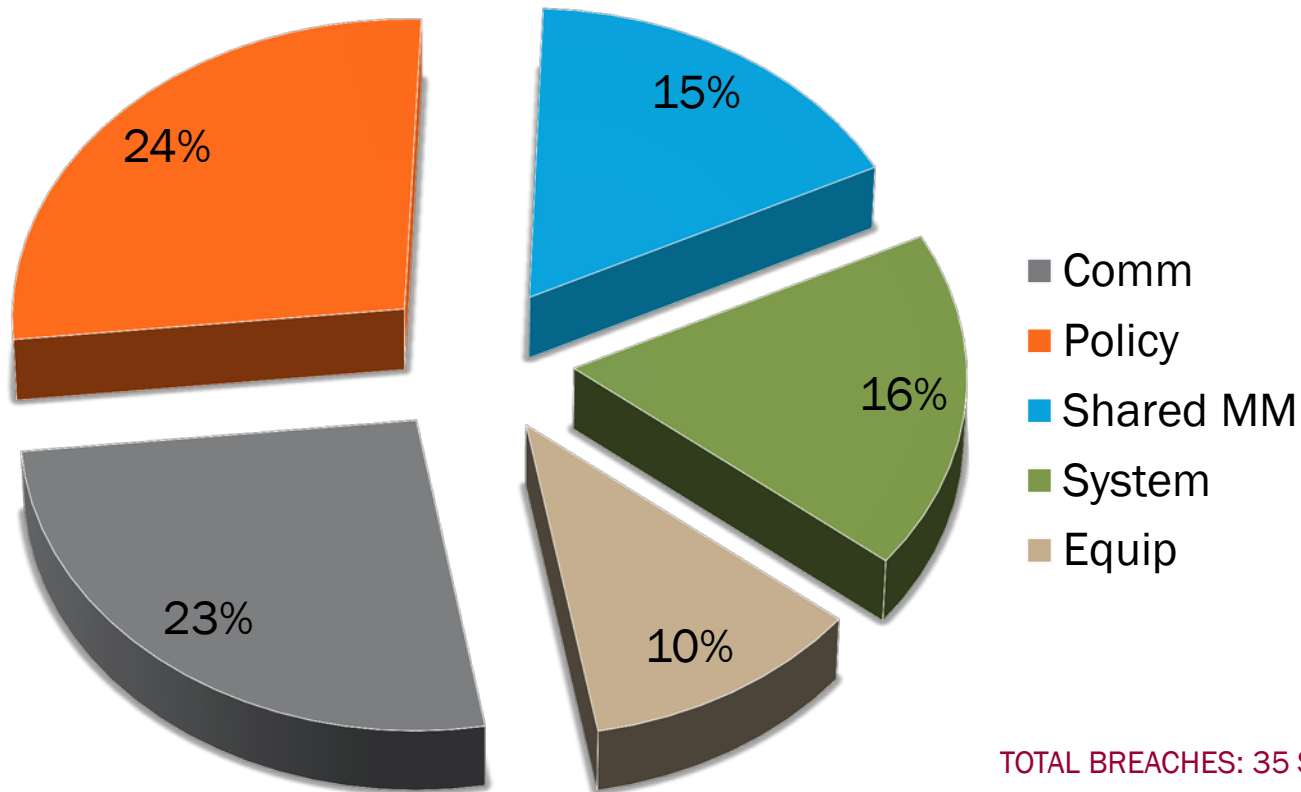
- Closed Loop Communication

HUMAN FACTORS #3-ANESTHESIA

DISCUSSION

- Situational Awareness
- Shared Mental Model
- Leadership Transfer

“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.
 - Very few six sigma processes
- The designed process for blood ordering and delivery is in total disarray.
- Forcing function: a step must be taken before going to next step.
- Countermeasure: a step that occurs if a threat emerges.

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.

TAXONOMY OF CLINICAL TEAMS

Type of Team	Features	Example	Team Members	Duration	Term
Ongoing (conventional)	Fixed staff with common training and stable leadership	GI procedure lab	-1 MD -2 RN -2 support staff	Worked for 4 years together	52 weeks per year, 3 days per week (M, W,F), 8 hours per day
Microsystem	Fixed and variable staff with a common work environment and common tasks	Orthopaedic surgery unit	-8 MD -1 Fellow -1 Resident -25 RN -2 Med students -15 CNA -2 float staff	Some have worked together for years, some rotating through short term	Varies by staff member (MD is permanent staff, fellow is one year, float staff could be one day)
Rapidly-Formed	Temporary and spontaneous with limited or no previous team interaction	Obstetrics emergency	-1 MD -1 MDA -1 CRNA -3 RN -1 HUC -1 NNP -1 Scrub Tech -1 SCN nurse	Identical combination of staff are not likely to have worked together	Any time, 24/7

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

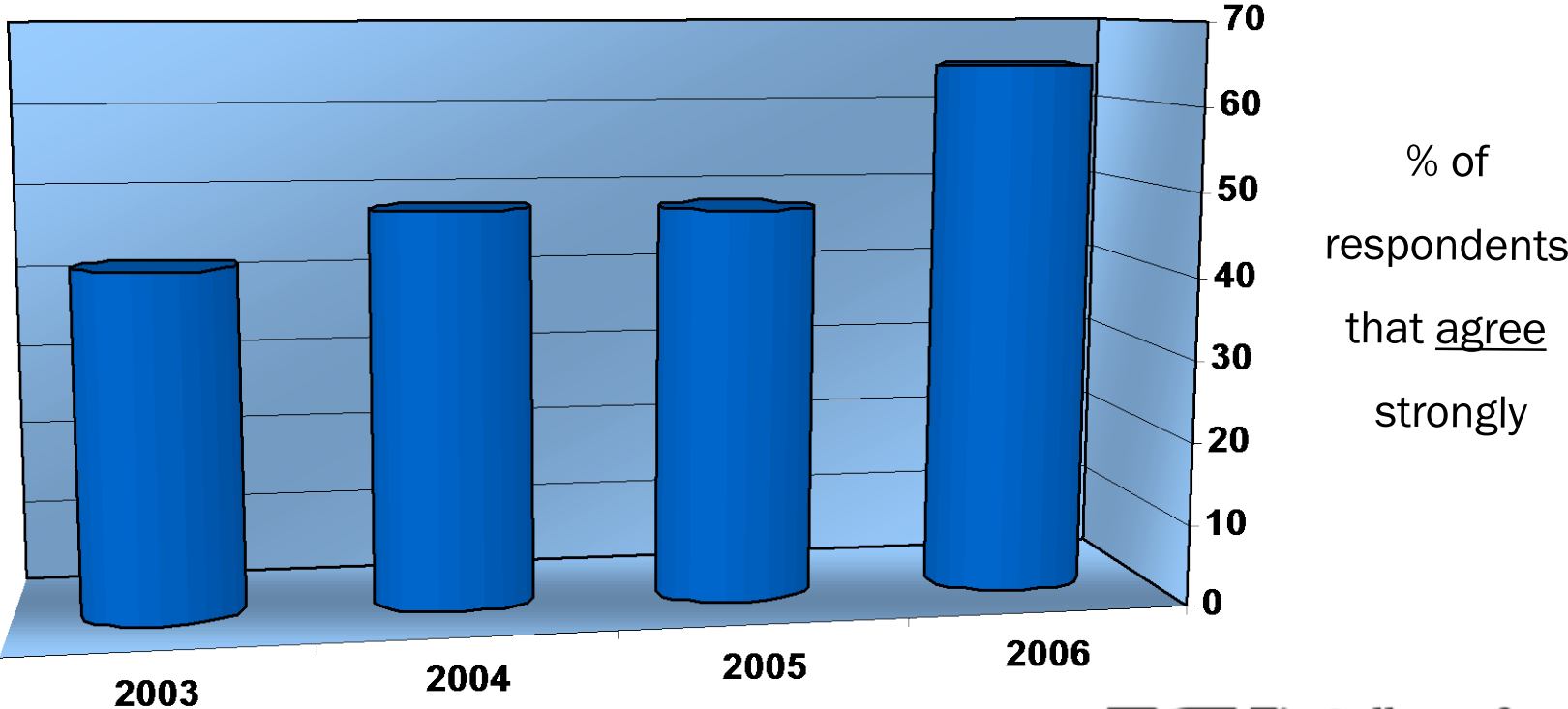
- *Team reformation* is defined as instances when the team membership changes in a significant way by the addition or deletion of team members directly involved in the critical incident.
- Team formation and reformation is characterized by recurrent stages that occur in predictable patterns during a 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.

FAIRVIEW SOUTHDALE OB DEPARTMENT

The Physicians and nurses here work together as a well coordinated team



A TEAM OF EXPERTS

IS NOT

AN EXPERT TEAM

GOT BLOOD?

ACKNOWLEDGMENTS

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THANK YOU!

Questions?

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