Delivering the Promise to Healthcare:

Improving Patient Safety and Quality of Care through aviation-related Crew Resource Management (CRM) Training

by

Stephen M. Powell, Captain Delta Airlines

Healthcare Team Training, LLC
Definition of CRM

The empowerment of all team members to promote safety and increase overall team performance.

Organizational Culture

“The values, beliefs, and behaviors that are shared by members of groups.”

Delta Airlines Culture prior to CRM

“Captain’s Airline”

- Captains operated autonomously
- Captains were not standardized
- Subordinates did not know what to expect from one flight to the next
- Co-pilots took on a “go-with-the flow” mentality and were not assertive
- Lack of effective crew communication

“Captain as King”

Video
Resultant Pilot Behaviors

- No group decision-making
- Communication was top → down only
- Subordinate suggestions met with hostility
- Poor interpersonal diplomacy
- Inability to effectively manage resources
- 70% of errors were communication related
- Rule #1: Captain was always right
- Rule #2: See Rule #1

Summer of 1987

Series of Human Error Accidents and Near Misses

“Our Sentinel Events”

- Took off on wrong runway
- Inadvertent complete in-flight engine shutdown
- Landed at the wrong airport
- Near miss with Continental over the North Atlantic
- Took off with the flaps up resulting in a crash (14 fatalities)

Source: National Transportation Safety Board Accident Database. www.ntsb.gov
Why did other Airlines need CRM?
CRM chosen to Transform Delta’s Culture

Crew Resource Management (CRM) training developed to...

- Address specific attitudes
- Change related behavior
- Improve the performance of the cockpit crew

Source: Helmreich, R. 1990.
Steps used to Transform the Culture @ Delta

- Consultant facilitated process initially
- Identified Leader(s) for change
- Formed an internal CRM Team
- Established CRM Goals
- Used Error Reporting / Database(s) and measured pilot CRM Performance
- Customized the CRM Program

CRM Results

- Over 91% of participants felt CRM had improved their flight performance
- Over 85% of the participants believe that this training will improve flight safety
- There is recognition of the importance of the pre-flight briefing
- Flight attendants reported being treated with more respect after CRM and were made to feel more a part of the crew
- It is recognized that critique and debriefing are important

CRM Results

❖ Voluntary Reporting Rates Increased
   – Greater than 95% of error reports are sole source

❖ Accidents related to Crew Error Decreased

❖ Teamwork Improved
   – CRM trained teams performed better improving across all team performance dimensions

❖ Communication Improved
   – 41% improvement in communication interaction
Aviation Mishap Trend

Source: National Transportation Safety Board.
In the years 2002-2003, there were only 19 fatalities on major airlines in the United States.

Source: National Transportation Safety Board.
CRM CULTURAL EVOLUTION
Why Medicine needs CRM?
Junior staff should not question senior staff decisions?

Teamwork Level Rated “High”

More Healthcare Perceptions

Greater than 50% of doctors and nurses find it difficult to discuss errors due to:
- Personal Reputation (76%)
- Threat of Malpractice (71%)
- Egos of other Team Members (60%)

Only 33% of medical staff believe errors are handled appropriately in their hospital

Sound Familiar?
Steps needed to Transform the *Healthcare* Culture

- Identify Leader(s) for change
- Use an experienced CRM Consultant
- Form an internal CRM Team
- Establish CRM Goals
- Use your Error Reporting System / Database(s) and CRM Team Performance Metrics
- Customize the CRM Program to Align with your Organization’s Goals
Find a Leader

Dr. John Bookwalter, MD,FACS
Chief of Surgery, Brattleboro Memorial
Inventor of Codman “Bookwalter” Retractor

Video
Form an Internal CRM Team

- CEO and Senior Management
- Patient Safety Committee
- Quality/ Performance Improvement
- Risk Management
- Data Services
- Education
- Change Agents (Doctors, Nurses, Staff)
- Experienced CRM Consultants
Establish CRM Goals

- Enhance patient safety through **optimized** team performance
- Promote team development, individual non-technical skills and personal growth
- Increase job satisfaction, decision-making and communication skills
- Modify the corporate “shell”
- Remediate problem behaviors
Create a Database

- Enterprise wide non-punitive voluntary reporting system
- Benchmarking capabilities
- Feedback loop across departments and to the individual reporter
- Near-miss data collection
- Drill down capabilities to identify threats and create solutions before they become an adverse event
- Measure team performance
Customize the CRM Program

Use all collected data to determine…

💖 Who should participate:
  – All clinical and non-clinical staff who have direct patient contact

💖 Key elements of the program:
  – Leadership, Teamwork, Communication

💖 Specific curriculum elements:
  – Human Factors didactic sessions, role plays, case studies
  – Workplace Observations
  – Simulation
CRM-based Successes in Healthcare

Beth Israel Deaconess
- OB/GYN results: Adverse outcomes reduced by 53%

Hopkins ICU
- ICU average length of stay reduced by one full day resulting in estimated cost-savings $2M annually

Methodist Memphis Hospital
- 50% reduction in surgical count errors in the OR

Kaiser Permanente Oakland, CA
- Nurse turnover reduced by 16%
- Team satisfaction improved by 19%
Patient Safety Culture
Process Results

Structures Processes (EBM, Best practices)

Patient Safety Culture

Tools Technology (CPOE, EHR, IT)

Human Performance (CRM)

"Medicine needs to expand Virtual and Simulated Training opportunities to enhance not only technical skills, but also interpersonal, small group and interdisciplinary skills."

"Medical and nursing schools must address CRM training at the earliest stages of clinical training."

As medicine becomes even more complex, non-technical and interpersonal skills become increasingly important.

Future of CRM in Healthcare

NBC Video
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