Interprofessional Training and Practice at Duke

Karen Frush, BSN, MD
Chief Patient Safety Officer
Duke University Health System
January 7, 2011

Overview
- Provide an overview of "Duke Medicine"
- Describe a framework for providing safe and reliable care
- Discuss the importance of interprofessional collaboration and high-performing teams in healthcare
- Review case studies at Duke
- Share challenges and successes of interprofessional education and training for healthcare professionals

Duke Tradition
- Traditional culture of AMC
  - Described by D Kirch, AAMC President's Address 2007
  - Autonomous, expert-centered, hierarchical
  - High-achieving, competitive
  - Punitive
  - Human factors: fatigue, burn-out
- Leaders — the best and brightest clinicians
  - Medical directors
  - Charge nurses, clinical operations directors
  - No training; figure it out
- Clinical science
  - Major research center; randomized control trials
  - Quality department responsible for "improvement"

Framework for Safe, High Quality Care

Starts with Leadership: Attributes of the Right Stuff
- Most important factor in predicting success of safety improvement initiatives was quality of leadership
- Organizations highly successful in safety were also successful in operational performance
- What does it take to be a good leader?
  - Engage at all levels of the organization
  - Understand crucial aspects of human performance and relationships
  - To continuously improve performance and achieve superior results, culture must change — meaning behavioral change
Achieving Safe & Reliable Care

- Culture: collaboration and teamwork
  - Healthcare is highly complex
  - Clinical environment has evolved beyond limitations of individual performance
  - Effective teamwork and communication are essential, yet not taught in school
  - Many assumptions regarding effective communication and teamwork

Patterns of Communication Breakdowns Resulting in Injury to Surgical Patients

- 444 surgical malpractice claims
  - 4 liability insurers
- 69 cases with communication breakdowns resulting in harm to patient
  - Pre-op, intra-op and post-op
  - 74 verbal communications (1 transmitter, 1 receiver)
  - 60 failures to notify someone, i.e. an attending, of critical info
  - 59 responsibility ambiguity
  - 35 handoff breakdowns
- "Serious communication breakdowns occur across the continuum of care."

Communication breakdowns and adverse events at Duke Hospital

- Root Cause of Sentinel events at Duke Hospital similar to that reported to TJC
- Communication failures have resulted in harm to:
  - Patients undergoing surgery: wrong site
  - Patients on our medical floors and ICUs
    - Wrong medication, wrong procedure
    - Wrong newborn infant received vaccine
- Need for knowledge and tools to improve communication, collaboration and teamwork behaviors

Teamwork Climate is the consensus of Frontline Care Provider assessments Related to Collaboration

- Example Teamwork Climate Scale Items:
  - In this clinical area, it is difficult to speak up if I perceive a problem with patient care
  - Disagreements in this clinical area are resolved appropriately (i.e. not who is right, but what is best for the patient)
  - The physicians and nurses here work together as a well-coordinated team
Teamwork Climate Across 33 Clinical Areas

NOTE: Teamwork climate negatively correlated with annual average turnover rates, burnout, stress, and infection rates.

Teamwork Climate and BSI Across Michigan ICUs:
No BSI ≥ 5 Consecutive Months without a BSI

The strongest item level predictor of clinical excellence: caregivers feel comfortable speaking up if they perceive a problem with patient care.

Case Studies at Duke:
Interprofessional Practice and Training to Improve Patient Care

- Teamwork training and handoffs
  - TeamSTEPPS in PICU
- Healthcare acquired infections
  - CA-BSIs in Critical Care Units
- Next-generation Healthcare Professionals
  - Interprofessional training, education

Duke PICU

- Started team training in 2005, using earliest versions of TeamSTEPPS
- Transformational change model:
  - Strong leadership support
  - Trained everyone over a few weeks time in interprofessional groups
  - Hired consultants to train, coach, and observe
  - Chose several practice changes at once: sterile cockpit for rounds, morning huddle, SBAR nursing report, structured handoffs
  - Consistent metrics measured frequently: surveys, observation, outcomes

Duke PICU

- First 6 months... no traction
- End of year one: good results
  - Decrease in infection rates (3% to 1%)
  - Decrease LOS (0.6 days) and increased throughput (10%)
  - Work Culture survey score increased by 16%
- End of year three: fantastic results
  - Decrease in infection rates (<0.5%; >300 days with no BSI)
  - Improved handoffs (more efficient and effective)
- Consistent sustainment
  - New staff and new residents oriented each month
  - "The way we work here", not a separate initiative anymore
  - Tools and strategies are embedded into workflow

Cardiothoracic Surgical Hand-Off
Operating Room to PICU: Critical Care Unit (CCU)
OR – ICU Hand-Off Turnaround Time

• Time was reduced from 15.3 minutes to 9.6 minutes (p<0.001)
• Critical lab draw time reduced from 13.0 minutes to 2.4 minutes (p<0.001)
• Percent of chest radiographs completed within 15 minutes of arrival to PCICU increased from 60% to 94% (p<0.01)
• Most importantly, decrease in serious safety events related to handoffs from OR to PCICU

Improving Collaboration to Decrease CA-BSI

• Implement IT safety systems
  - Computerized SRS
  - CPOE, EHR
  - Automated Surveillance
  - Bar Coding, Smart Pumps
  - Patient Portal
• Standardize, align processes
  - Implement best practices
  - Use of checklists
• CA-BSI Bundle

Duke University Hospital

- Catheter Associated Primary Bloodstream Infections

- FY08 FY09 FY10 FY11

- Top Performer

- Internal TGT
- NEMJ Benchmark

Interprofessional Education for Students in the Health Professions

• Growing body of evidence to suggest interprofessional collaboration and teamwork are important for patient safety, outcomes
• How are we training next generation healthcare professionals?
• Personal experience...
Interprofessional Education

- 2007 grant funded interprofessional, inter-institutional study
- Duke/UNC SoN and SoM
- Using TeamSTEPPS in lecture, ARS, role play and high fidelity simulation

Teamwork Knowledge Results

Conclusions of Study

- Training significantly improved student
  - knowledge of TeamSTEPPS curriculum
  - attitudes toward interdisciplinary teamwork
- No significant difference between four different educational delivery methods
- Students reported positive experiences and asked for more opportunities for interdisciplinary education
Interprofessional Education

- Duke interprofessional sessions during Capstone
  - Scheduling difficulties: evening sessions
  - Team based learning; key interaction of medical and nursing students in small groups
- UNC Interprofessional Teamwork and Communication (IPT) Course
  - Semester long course; SoM, SoN, SoPh
  - Lecture, simulation, TBL, Faculty development
- Emory
  - Interprofessional team training; SoM, SoN, PA, PT
  - 460 students, 88 facilitators
  - Communication, Role identity, Team identity

Summary

- Growing evidence to link effective teamwork behaviors and collaboration with good patient outcomes, safe patient care
- Duke, others' experience supports focus on interprofessional training in healthcare
- Important to understand culture survey results and assess need for teamwork training
- AMCs have great opportunity to "mold" behavior and create new norms, rather than changing old patterns
- Challenges to IPE in healthcare professions include scheduling logistics, faculty development and role models