Teamwork Simulations: Interprofessional Simulation

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Objectives:

- Define interprofessional education (IPE) principles and other simulation-based education principles
- Discuss how to implement interprofessional education and team training in your curriculum
- Provide examples of how to use simulation, team training, and simulation-based education and interprofessional education principles to influence patient care outcomes in your programs
Simulation Definitions pertaining to team training

- Interprofessional education (IPE), as defined by the World Health Organization, is a form of experiential learning whereby “students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health care outcomes.”

- Team-based Learning: groups of persons working together for some purpose, especially “group of people acting together to bring suit;”
  - A learning method which makes use of small group discussion and collaborative, self-directed study to foster new learning as opposed to imparting information. After a period of preliminary individual accountability, teams of learners complete with each other to learn information and solve problems. This is in distinction to tradition learning in which information is imparted from teacher to learner.
  - A learning method with many similarities to Problem Based Learning (PBL). Unlike PBL, where a complex, open ended case is given without the information to solve it, team-based learning capitalizes on the use of carefully chosen learning activities based on reading assignments.
IOM Reports encouraging healthcare education for changes:

- The Institute of Medicine (IOM) reports on several occasions to emphasize several principles:
  - “Educating for the Health Team”, 1972 challenged national healthcare educators and administrators to
    - Engage in interprofessional education
    - Develop clinical settings to begin interprofessional innovation
    - Lobby governmental and professional support for interprofessional education for healthcare delivery team
  - “to Err is Human: Building a Safer Health System,” 1999, encouraged the reduction of preventable medical errors through
    - Provision of support to multidisciplinary teams of researchers, healthcare facilities, and organizations to determine the cause of medical errors
    - Development of new knowledge to assist in the creation of demonstration projects
IOM Reports encouraging healthcare education for changes:

- The Institute of Medicine (IOM) reports on several occasions to emphasize several principles:
  - “Crossing the Quality Chasm: A New Health System for the 21st Century,” 2001
    - made provisions to ensure licensing and accreditation organizations begin the evolution of our siloed educational process through
      - Stressing evidence-based practice instruction
      - Providing opportunities for interprofessional training
  - “Health Professions Education: Building a Bridge to Quality,” 2003, reiterates the need for all healthcare professions to be:
    - Educated to deliver patient centered care as members of an interprofessional team
    - Prepared to use evidence-based practice, quality-improvement approaches, and informatics
IOM Reports encouraging healthcare education for changes:

- The Institute of Medicine (IOM) reports on several occasions to emphasize several principles:
  - “The Future of Nursing: Leading Change, Advancing Health,” 2010, recommended that nurses need to be an integrated part of the healthcare team by:
    - Practicing to do the full extent of their education and training
    - Intertwining advanced competencies within higher levels of training and education
    - Becoming equal partners in redesigning and improving healthcare
    - Participating in workforce planning and policymaking
Interprofessional Education Collaborative (IPEC)

- Expert panels included:
  - American Association of Colleges of Nursing (AACN)
  - American College of Osteopathic Medicine
  - American Association of Colleges of Pharmacy
  - American Dental Education Association
  - Association of American Medical Colleges
  - Association of Schools of Public Health

- Core Competencies for Interprofessional Collaborative Practice
  - 4 measurable core competency domains
  - 38 sub competencies for curriculum foundation for IPE and practice in all healthcare realms
  - Not merely practicing in the same room or on the same team, but a deliberate practice of professions to reflect and develop an integrated practice model on addressing the needs at the level of patient/family or populations

Core Competencies for Interprofessional Collaboration Practice from the Interprofessional Education Collaborative

1. Values and ethics: Work with individuals of other professions to maintain a climate of mutual respect and shared values.

2. Roles and Responsibilities: Use the knowledge of one’s own role and those of other professions to appropriately assess and address the healthcare needs of the patients and populations served.

3. Communication competency: Communicate with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease.

4. Teams and teamwork: Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient/population-centered care that is safe, timely, efficient, effective, and equitable.
Factors to Consider for IPE team training

Academia:
- Didactic lectures
- Static
- One discipline
- Silos of dogma
- Task based
- Testing memory of facts
- Passive learning
- Cognitive and technical skill focused

IPE SBE:
- Immersive experience
- Dynamic
- Interdisciplinary
- Multiple participants
- Patient-centered care
- Real performance
- Active learning
- Behaviors impact outcomes

Immersive Patient Care
- Experiential
- Transfer Knowledge into right action at right time for right reason
- Safe to risk mistakes
- Objective data capture
- Debriefing to achieve...
- Defined and targeted performance improvement

PROGRAM DEVELOPMENT

Stakeholders Identified
Outcomes Defined
Outcomes linked to ROI
Standardized Simulation Methodology
Program Outcomes
Factors to Consider for IPE Team Training

**Scenario**
- Standardized frames
- Targeted learner gaps
- Performance measures based expectations

**Fidelity**
- Realistic events and timelines
- Realistic environment and equipment
- Standardize process for learner experience
- Learners make all action choices

**Debriefing**
- Objective review using video
- Guided group discussions with IPE facilitators and debriefers
- Close the performance gap
Factors to Consider for IPE team training

Maintains Integrity of Experience
- Multiple providers and learners have same
  - Experiences
  - Baseline performance expectations

Integrates Threads
- Curriculum
- Best Practices
- Core Indicators
- Standards

Ensures Comparative Outcomes
- Variable experiences
- Variable learner levels
- Variable learner groups
University of Pittsburgh airway management mishap claims have decreased from an average of 24 per year to less than 10.

- Harvard noted a 50% decrease in malpractice claims for anesthesiologists that have attended a simulation-based risk reduction course.
- Beth Israel in Boston decreased the number of adverse events in obstetrics by 50% since they instituted a simulation-based risk reduction program.

Michael DeVita, University of Pittsburgh, Wiser Center, Luke Soto, Harvard Risk Management Foundation

Dartmouth-Hitchcock Medical Center integrated simulation with competency development in nurse residency program:
- Decreased nurse turnover by 70 percent
- Increased retention by nearly 50 percent after 18 months
- Decreased vacancy rate to 3 percent
- Decreased length of orientation
  - Med/Surg from 26 weeks average to 14 weeks average
  - Critical Care from 32 weeks average to 22 weeks average
  - ICU from 34 weeks average to 24 weeks average

Excerpts from Mary Patterson’s 9/21/07 Grand Rounds Video “Medical Simulation: Current State and Future Direction.”

Cincinnati Children’s Hospital Medical Center
Inter-disciplinary trauma team training results:
- Management of PICU hypothermia increased from 53% to 81%
- Pain medication administration time decreased from 89 to 20 minutes
Examples of IPE on Texas Tech Campus:

- Created “Train the Trainer” courses for simulation educators in El Paso for TT Nursing, UTEP Nursing, and Community College Nursing to learn simulation design and theory to provide education for their learners.

- Created a pediatric trauma in situ simulation to help improve interdisciplinary team communication and process improvement for UMC trauma accreditation (ED, Trauma, PICU, EMS).

- Created a geriatric trauma in situ simulation to teach geriatric trauma principles specific to pelvic fractures due to help improve UMC geriatric trauma outcomes (ED, Trauma, Ortho, IR).

- Disaster and tactical medicine in situ simulations for disaster training and tactical medicine training (EMS, Surgeons, EM nurses, nursing students, and physicians, Radiologists).
Examples of IPE on Texas Tech Campus:

- TeamSTEPPS principles taught by simulation-based education with medical, nursing and pharmacy students
- Incorporated SBE and IPE with EM residents, Nursing and EMS students in EM residency curricula
- IPE simulation about an impaired and difficult healthcare provider with EM, anesthesiology, surgical residents, and nursing students
- Courses with SBE and IPE:
  - Neonatology instructors teaching NPR principles with RT, nurses, and transport team
  - Emphasized core measures: sepsis, CHF, SSI, stroke and MI
  - APLS, PALS, AHLS, TCCC, and ACLS with simulation cases emphasizing pediatric and adult patient care concepts and principles
Team Training and SBE

- Are you ready?
- Areas where you can incorporate this into your curricula?

QUESTIONS
References