Using Simulation to Enhance a Large-Scale Interprofessional Education Program

Presented by,
Marty Sexton Ph.D., RN, CNS
Cristina Alvarado MBA, RN
Carol Hasbrouck MA
“When students of two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes” (WHO, 2010).
When multiple healthcare workers from different professional backgrounds work together with patients, families, care givers, and communities to deliver the highest quality of care (WHO, 2010).
Preventable medical errors is the 6th leading cause of death in the U.S.

The Journal of Public Safety recently released a report stating that medical safety errors are over 4 times more than the 1999 estimate of 98,000, with totals now estimated over 440,000.

Cost of medical errors is estimated at 29 billion dollars (CDC, 2006).
**Interprofessional Education Collaborative (IPEC)**
- Convened an Expert Panel in 2011
- Developed interprofessional competencies

**4 Competency Domains**
- Values and Ethics for Interprofessional Practice
- Roles and Responsibilities
- Interprofessional Communications
- Teams and Teamwork

**IPEC Sponsors:** American Association of Colleges of Nursing, American Association of Colleges of Osteopathic Medicine, American Association Colleges of Pharmacy, American Association Schools of Public Health, American Dental Education Association, Association of American Medical Colleges

**New Institutional members:** American Association of Colleges of Podiatric Medicine, American Council of Academic Physical Therapy, American Occupational Therapy Association, American Psychological Association, Association of American Veterinary Medical Colleges, Association of Schools and Colleges of Optometry, Association of Schools of Allied Health Professions, Council on Social Work Education, Physician Assistant Education Association
Strategies and Tools to Enhance Performance and Patient Safety

Created by The Agency for Healthcare Research and Quality and the Department of Defense

4 primary teamwork skills

- **Leading teams**
  - Brief, huddle, debrief

- **Communication:**
  - SBAR, Call-Out, Check-Back, Handoff

- **Situation monitoring**
  - Situation awareness, shared mental model

- **Mutual support**
  - Task Assistance, Feedback, Advocacy and Assertion
    - Assertive Statement
    - Two- Challenge Rule
    - CUS
  - Conflict Resolution: DESC Script
An Interprofessional Approach to Patient Care
<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Teams and Teamwork</td>
</tr>
<tr>
<td>2 &amp; 3</td>
<td>Vital Signs Training</td>
</tr>
<tr>
<td>4 &amp; 5</td>
<td>Basic Communication Skills</td>
</tr>
<tr>
<td>6 &amp; 7</td>
<td>Roles &amp; Responsibilities</td>
</tr>
<tr>
<td>8 &amp; 9</td>
<td>Advanced Communication Skills: Interview standardized patient</td>
</tr>
<tr>
<td>10 &amp; 11</td>
<td>Communications/TeamSTEPPS Skills: SBAR, Check back, Feedback loop, Call out, Handoff</td>
</tr>
<tr>
<td>12 &amp; 13</td>
<td>Patient Safety Video, Transfer and Mobility, Room of Horrors</td>
</tr>
<tr>
<td>14</td>
<td>Wrap-up and evaluations</td>
</tr>
</tbody>
</table>
An interprofessional faculty team was formed
  - Now called the UT IPE Alliance
The committee developed learning objectives
Experiential instructional strategies, activities, and assignments were created
The program was presented to senior administrators, who supported it by:
  - Requiring programs to clear Friday afternoons of other classes
  - Requiring programs to mandate attendance by all 1st year students
554 students were divided into 48 IPE teams of 11-12 students.

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Pharmacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Therapy</td>
<td>Nursing-BSN</td>
</tr>
<tr>
<td>Physical therapy</td>
<td>Physician Assistant Studies</td>
</tr>
<tr>
<td>Respiratory Therapy</td>
<td>Speech Language Pathology</td>
</tr>
<tr>
<td>Clinical Psychology</td>
<td>Nursing-CNL</td>
</tr>
</tbody>
</table>
Interprofessional Immersive Simulation Center (IIISC)

- **Tri-Center Concept**
  - 1st floor Virtual Immersive Reality
  - 2nd floor Medical Simulation
  - 3rd Surgical simulation

- **Current use**
  - Since July 2015, over 13,000 learners
    - Clinical Staff
    - Students
    - Residents
    - Vendors

- **Accreditation**
  - American College of Surgeons
  - 1 of 84 in the world with comprehensive accreditation
iSpace
  - First 5 sided CAVE
  - 1st LED Cave in the World

LED curved CAD wall
  - First in Ohio
  - Current Applications:
    - Anatomy
    - Disaster Preparedness exercises
    - Radiological Imaging
Elliptical Hospital
- Operating Room
- Trauma
- ICU
- L & D

Task Trainers and Simulators
- Laerdal
- CAE
- Gaumard
- Limbs and Things


13 Surgical Stations
  - Karl Storz Center of Excellence

Ability to divide rooms

Control Room

Laparoscopic and Robotic Simulators

Sustainability
Use of Simulation

- Standardized Patients
  - Patient Interviewing
- Basic Skills- Vital Signs
- High Fidelity IPE Simulation Scenarios
  - DVT/Pulmonary Embolism
  - Congestive Heart Failure
- Safety Hazards- Room of Horrors
- Human Trafficking
Nursing Students
CNL & BSN

1st year semester 1
- IPE integrated into a course
- CNL: N5070: Therapeutic Communication Skills for Nurses
- BSN: N3080 Fundamentals of Nursing
- 8 IPE sessions considered learning experience/lab
- Attendance/ participation S/U=10% of course grade

1st year semester 2
- IPE integrated into different courses
- N5140 Designing Nursing Systems to Promote Self-Care
- N3280: Advanced Fundamentals of Nursing
- 2 IPE simulations and 1 elective IPE event
- Attendance/ participation S/U=5% of course grade
IPE needs a commitment and resources from administration

IPE should be clinically relevant and interactive

Logistics are complex and time consuming
  - Obtain an IPE coordinator

Outline consistent consequences for students across all professions

Determine faculty workload upfront

Clarify reporting mechanisms for students
Faculty development is crucial

Secure appropriate resources
  - Staffing
  - Equipment
  - Space
  - Funding

Recognize that developing multi-profession simulations is challenging

Allow for adequate debriefing time
  - Students
  - Staff
  - Faculty
IPE Resources

- National Center for Interprofessional Practice and Education
  - IPE resources, networking, educational offering, research projects
  - [https://nexusipe.org/](https://nexusipe.org/)

- Core Competencies for Interprofessional Collaborative Practice
  - IPEC Competency Domains
  - [http://www.aacn.nche.edu/education-resources/ipecreport.pdf](http://www.aacn.nche.edu/education-resources/ipecreport.pdf)

- TeamSTEPPS
  - Strategies and Tools to Enhance Performance and Patient Safety

- All Together Better Health
  - IPE/C Conference

- Collaborating Across the Borders
  - IPE/C Conference
  - Alberta, Canada April 2017