### Introduction

- The 2016 Accreditation Council for Pharmacy Education Standards now incorporate interprofessional education (IPE) as part of the doctor of pharmacy accreditation standards.
- The TeamSTEPPS™ Teamwork Attitudes Questionnaire (T-TAQ) is a tool that measures individual attitudes towards teamwork. It consists of 30 questions that measure attitudes related to 5 teamwork constructs: team structure, leadership, mutual support, situation monitoring and communication.

### Objective

- To describe the use of interprofessional, high-fidelity patient simulations in a critical care pharmacy elective.

### Methods

**Course Methods**
- A critical care elective was offered in the Fall 2014 semester of the third professional year.
- The course utilized a variety of teaching methods including student group presentations, faculty-led clinical pearl discussions, journal club presentations and high-fidelity patient simulations.

**Simulation Methods**
- Three simulations offered: ventilator bundle, advanced cardiovascular life support (ACLS) and end-of-life care.
- Course faculty invited participation from faculty colleagues in the colleges of medicine, nursing and health professions to recruit students from their respective disciplines.

**Assessment**
- Students received feedback in an immediate debrief and video review immediately following the simulations.
- Pharmacy students were required to submit the T-TAQ and a written reflection after the ventilator bundle and end-of-life simulations. The T-TAQ uses a 5-point Likert scale (1=strongly disagree to 5=strongly agree).
- A post-simulation evaluation, using a 7-point Likert scale (1=strongly disagree to 7=strongly agree), was administered after each simulation to assess learner perceptions of the simulation.
- An end-of-semester course evaluation used a 5-point Likert scale evaluations.
- Mean (SD) values are reported for Likert scale evaluations.

### Results

#### TeamSTEPPS™ Teamwork Attitudes Questionnaire

<table>
<thead>
<tr>
<th>Construct</th>
<th>Ventilator Bundle Simulation</th>
<th>ACLS Simulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD) (n=12)</td>
<td>Mean (SD) (n=8)</td>
</tr>
<tr>
<td><strong>Team Structure</strong></td>
<td>4.79 (0.41)</td>
<td>4.47 (0.63)</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>4.83 (0.38)</td>
<td>4.68 (0.47)</td>
</tr>
<tr>
<td><strong>Situation Monitoring</strong></td>
<td>4.68 (0.50)</td>
<td>4.46 (0.63)</td>
</tr>
<tr>
<td><strong>Mutual Support</strong></td>
<td>4.32 (1.02)</td>
<td>4.25 (1.08)</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>4.35 (0.86)</td>
<td>4.49 (0.60)</td>
</tr>
</tbody>
</table>

### Discussion

- 28 interprofessional student learners participated in the ventilator bundle simulation, 22 in the ACLS simulation and 15 in the end-of-life simulation.
- Overall, students agreed that the simulations would help them in clinical practice (n=38, mean 6.67 ± 0.11).
- Students also agreed that the simulations were an engaging and safe learning environment (n=38, mean 6.75 ± 0.01).

### Course Evaluation

**Selected Questions**
- The simulation exercises enhanced my understanding of a pharmacist’s role in various clinical scenarios.
- This course has improved my ability to solve clinical problems.
- I would recommend this course to another student.
- What did you like best about this course?
- “The simulation activities.”
- “I loved going to the simulation center and working with other students from different colleges.”
- “This is tough to answer, it was very well crafted. The skills for presentations were great, but the longest lasting will be from the Sim.”
- “Simulations with other student professionals.”

### Implications

- High-fidelity patient simulations may be associated with positive attitudes towards interprofessional teamwork.
- Students enrolled in a critical care elective benefitted from interprofessional simulations.
- Colleges of pharmacy and other health professions should continue to seek opportunities to incorporate IPE using simulation exercises into their curriculums with an ultimate goal to improve patient care.

### References

1. ACPE Accreditation Standards and Guidelines for the Professional Program In Pharmacy Leading to the Doctor of Pharmacy Degree. “Standards 2016.”
2. TeamSTEPPS™ Teamwork Attitudes Questionnaire Manual.