



# Lessons Learned from a Three Year Competency Based Medical Simulation Interprofessional Experience



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## Objectives

Provide teams of medical, pharmacy, and nursing students a safe simulated clinical environment to:

1. Gain an understanding of the value of Interprofessional education.
2. More fully understand Interprofessional teamwork.
3. Recognize the roles/responsibilities, value and expertise of other health professions
4. Listen actively and encourage ideas and opinions of other team members.
5. Respond respectfully, as a team member, to feedback from others and/or provide instructive feedback to others about their performance on the team.

## Background

Interprofessional education (IPE), where members of different professions learn with, from and about each other is being integrated in many health profession colleges; however, it can be challenging to demonstrate that this often traditional classroom based education translates to measurable outcomes in a clinical setting. Utilizing simulation based education to create a safe learning and practice environment in a clinical setting is one method that bridges the gap between classroom curriculum and the clinical setting.

West Virginia School of Osteopathic Medicine (WVSOM) is a free standing Osteopathic Medical School located in Lewisburg, WV and the University of Charleston (UC) is a small liberal arts university located in Charleston, WV. WVSOM and the UC School of Pharmacy have partnered since 2012, adding in the UC BSN Nursing program in 2014 and the UC PA program in 2015. This has inherently created an atmosphere of comradery among our institutions as we work together to provide interprofessional education experiences that we would be unable to accomplish separately.

We encountered common obstacles such as coordinating scheduling across 2 to 4 programs, integrating new curriculum into several existing curricula, lack of IPE and medical simulation knowledge and experience amongst faculty. Additional obstacles including differing curricular schedules, distance that faculty, staff and students have to travel (generally a 2 hour drive one way for meetings and in-person Inter-professional events), negotiating affiliation agreements between colleges and determining an equitable formula for shared and real cost that each program is responsible for further complicated our efforts.

The pilot program in March of 2012 was voluntary for both pharmacy and medical students and involved nine students from each profession. The program expanded in November of that year to include 44 third year medical students and 32 fourth year pharmacy students. In both of these programs the students participated in two standardized patient cases. In November 2014 the participants included 26 medical students, 35 pharmacy students and 29 nursing students who participated in a full day of interprofessional activities.

## Methods

For each IPE medical simulation event 3 to 5 exploratory planning meetings take place, one of which is a face to face meeting. At these meetings, discussion and eventual consensus amongst all programs regarding: global objectives, profession specific objectives, topics of cases, content of cases, case development, pre and post evaluation tool content, faculty/staff assignments, faculty development needs and a detailed logistical map of the overall IPE program is completed. An in person dry run is conducted for any new cases or substantial case content changes from the previous year.

Prior to each event all student participants receive: an electronic pre-evaluation questionnaire containing questions regarding general objectives and profession specific objectives where appropriate and pre-case work as determined by faculty. On the day of the event students who self-identify as having not completed the pre-evaluation questionnaire complete it at this time. Following each event students complete a post-event questionnaire and a debrief is held with participating staff and faculty.

Students participate in all activities in pre-assigned interprofessional groups. Each interprofessional group participates in an ice-breaker activity that explores the education and roles and responsibilities of participating professions. While in their interprofessional groups an introduction of: global and profession specific objectives, medical simulation and the fictional contract, medical simulation as a safe environment, communication styles and models and a detailed agenda review take place.

Students participate within their interprofessional groups in experiential learning including:



Center stage medical simulation activities utilizing a mannequin simulator and/or a standardized patient, audience response system, faculty facilitators from each profession, basic science faculty and use of the Electronic Health Record is available on I-Pads as requested.



Structured Standardized Patient encounters that begin with the nursing student conducting an assessment on the patient and presenting their findings to the rest of the team in a SBAR format. The students have a set amount of time to treat the patient as they see fit, discuss as an interprofessional team an assessment, return to the exam room and explain the status/diagnosis, elicit patient concerns and/or questions and reach an agreement on the plan for the patient. After the encounter students participate in small and/or large debriefs led by faculty from each profession.



Mannequin Simulation encounters are conducted in small groups with designated doers and watchers. The watchers have a check off list of critical factors they are to identify during the encounter. Students have opportunities to be both doers and watchers.



Reflective practice via debriefing and observation Students were provided time within their learning activities to participate in structured observation activities and facilitated debriefing exercises. These reflective activities provided students opportunities to learn from one another at a deeper level in a controlled, safe environment.

## Results

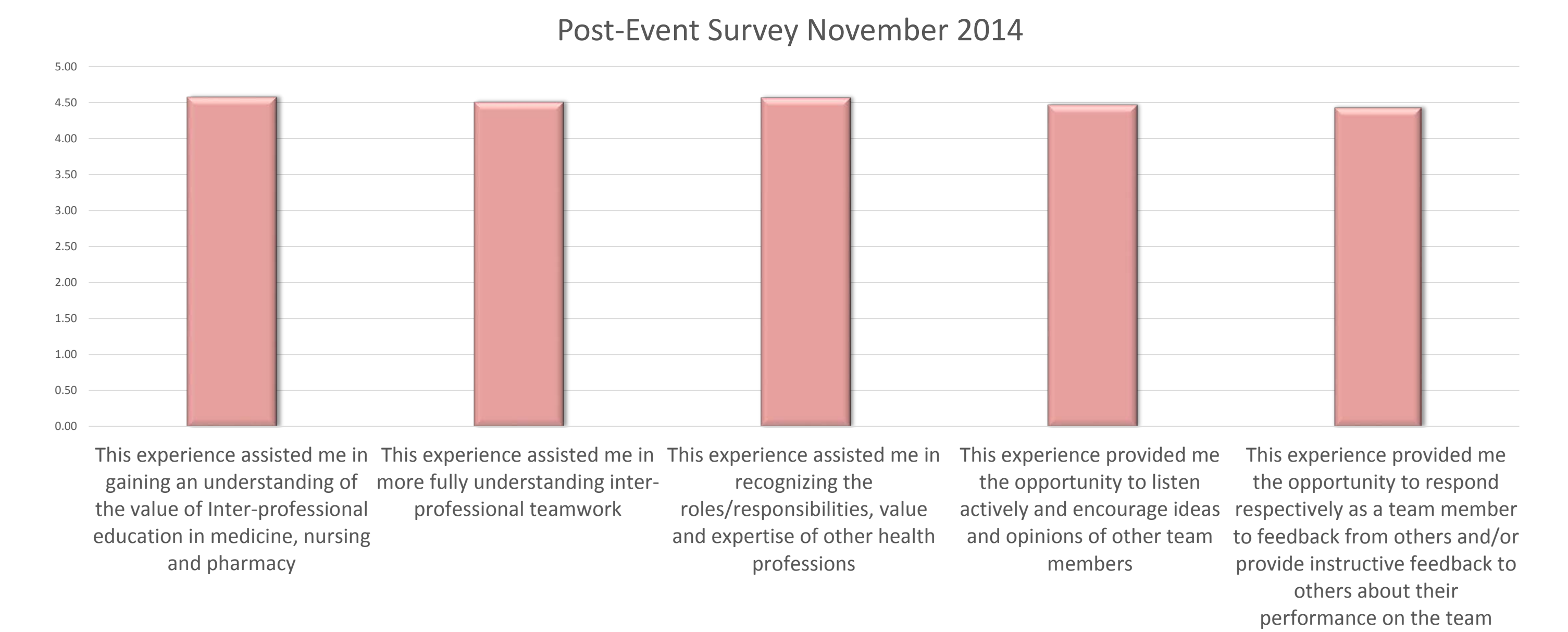
	Year 1 (1st Event)	Year 3 (6th Event)																																																		
Participants	<ul style="list-style-type: none"> <li>9 Pharmacy Students</li> <li>9 Medical Students</li> </ul>	<ul style="list-style-type: none"> <li>35 Pharmacy Students</li> <li>26 Medical Students</li> <li>29 RN Students</li> </ul>																																																		
Content	2 Standardized Patient Cases with group debrief added onto an existing Medical Student Education Day	<ul style="list-style-type: none"> <li>One Center Stage Standardized Patient Case with audience interaction</li> <li>One Small Group Standardized Patient Case with small and large group debrief</li> <li>Three Mannequin Simulation Cases with small and large group debrief</li> </ul>																																																		
Goals and Objectives	Allowed the cases developed to drive the objectives - which were then linked back to competencies.	Chose competencies first - then developed cases to best assess chosen competencies.																																																		
Agendas	<p style="text-align: center;">AGENDA</p> <p>Interprofessional Day WVSOE and UC March 22, 2012 10:00 a.m. - 2:30 p.m.</p> <p>Attendees: WVSOM Year 3-4 Medical Students UC Year 3&amp;4 Pharmacy Students</p> <table border="1"> <tr><td>10:00am</td><td>Welcome to WVSOM</td><td>CEC Faculty and Staff</td><td>Clinical Evaluation Center</td></tr> <tr><td>10:30am-10:45am</td><td>Orientation</td><td>Stephanie Schuler, Andrea Nezer D.O., David Bowyer</td><td>CEC Room 192</td></tr> <tr><td>10:45am - 11:15am</td><td>Case One</td><td></td><td>Exam Rooms 1-10</td></tr> <tr><td>11:15am - 11:40pm</td><td>Video Review</td><td></td><td>Ironbow Rooms 1-5</td></tr> <tr><td>11:40pm - 12:15pm</td><td>Group Debrief</td><td>Andrea Nezer D.O., David Bowyer</td><td>CEC Room 192</td></tr> <tr><td>12:15pm - 1:00pm</td><td>Lunch</td><td></td><td>CEC Room 192</td></tr> <tr><td>1:00pm - 1:30 pm</td><td>Simulation Case</td><td></td><td>Exam Rooms 1-5</td></tr> <tr><td>1:30pm - 2:30pm</td><td>Debrief and Wrap Up</td><td>Andrea Nezer D.O., David Bowyer</td><td>CEC Room 192</td></tr> </table> <p>Additional Instructions: Professional attire please. Medical students please bring your stethoscopes with you. Pharmacy students please bring your performance of relevance materials. Note: Lunch will be provided.</p>	10:00am	Welcome to WVSOM	CEC Faculty and Staff	Clinical Evaluation Center	10:30am-10:45am	Orientation	Stephanie Schuler, Andrea Nezer D.O., David Bowyer	CEC Room 192	10:45am - 11:15am	Case One		Exam Rooms 1-10	11:15am - 11:40pm	Video Review		Ironbow Rooms 1-5	11:40pm - 12:15pm	Group Debrief	Andrea Nezer D.O., David Bowyer	CEC Room 192	12:15pm - 1:00pm	Lunch		CEC Room 192	1:00pm - 1:30 pm	Simulation Case		Exam Rooms 1-5	1:30pm - 2:30pm	Debrief and Wrap Up	Andrea Nezer D.O., David Bowyer	CEC Room 192	<p style="text-align: center;">AGENDA STUDENT</p> <p>University of Charleston/WVSOM Interprofessional Day November 21, 2014</p> <table border="1"> <tr><td>9:45 AM</td><td>Check in</td></tr> <tr><td>10:15 AM</td><td>Welcome Goals of Today's Program Learn Our Acquired - Roles and Responsibilities</td></tr> <tr><td>10:45 AM</td><td>SBAR Case Two Groups Two Panels</td></tr> <tr><td>11:45 AM</td><td>Lunch</td></tr> <tr><td>12:15 PM</td><td>Explanation and student placement for next activity</td></tr> <tr><td>12:30 PM</td><td>Round 1 Group One: Mannequin Simulation Group Two: SP Simulation</td></tr> <tr><td>2:15 PM</td><td>Snack</td></tr> <tr><td>2:30 PM</td><td>Round 2 Group One: SP Simulation Group Two: Mannequin Simulation</td></tr> <tr><td>4:15 PM</td><td>Wrap up and Evaluation</td></tr> </table>	9:45 AM	Check in	10:15 AM	Welcome Goals of Today's Program Learn Our Acquired - Roles and Responsibilities	10:45 AM	SBAR Case Two Groups Two Panels	11:45 AM	Lunch	12:15 PM	Explanation and student placement for next activity	12:30 PM	Round 1 Group One: Mannequin Simulation Group Two: SP Simulation	2:15 PM	Snack	2:30 PM	Round 2 Group One: SP Simulation Group Two: Mannequin Simulation	4:15 PM	Wrap up and Evaluation
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Pre-Event Survey	Three general questions relating to student's feelings about the day and interprofessional learning in general.	Goal specific questions linked to chosen competencies. Profession specific questions linked to specific objectives.																																																		
Post-Event Survey	Five general questions relating to student's feelings about the day.	Goal specific questions linked to chosen competencies. Profession specific questions linked to specific objectives.																																																		

## Lessons Learned from Year 1

- Students felt...
  - "It advocated good teamwork and gave us an opportunity to work together to figure out what was going on with our patients."
  - "...fostered active learning"
  - "Maybe the DO students should be more aware of what a PharmD Student is capable, which is medication expertise."
- We needed more informal but guided ice breaker activities to allow the groups of students to begin communication
- We needed more structure or specific instruction to the disciplines on their role in the encounter
- Case conferences would be more beneficial if they had some application for pharmacy or if pharmacy students also presented (eventually we took these out)
- Pharmacy faculty should have a more active role in the simulations
- More specific roles should be outlined for the pharmacy students
- We knew how to structure cases for med students but needed to tweak the instruction for pharmacy students

## Lessons Learned from Year 3

- Students felt...
  - "I liked the opportunity to see the other roles of the professions and collaborating as peers rather than the hierarchy it is in the hospital setting."
  - "It was a great experience for me and I learned a lot"
  - "Maybe give some study material ahead of time."
- Groups need to be smaller to allow for more hands on participation for each participant
- Pre-work might be beneficial for all participants so that they feel more prepared for the simulations



## Going Forward . . .

2015-2016

- Inclusion of additional professions: Nurse Practitioner and Physician Assistant Students and Faculty.
- Groups made smaller for the mannequin simulation cases by doubling the number of stations.
- Partnering with an additional college (West Virginia Wesleyan College) to increase the number of students and even out the proportions of groups.

## Conclusion

Since UC and WVSOM's first IPE in 2012, our interprofessional events have grown in both number and scope. Each Fall and Spring Osteopathic students from WVSOM and Pharmacy, Nursing and Physician Assistant students from UC participate in a medical simulation IPE. Through the collaboration and development of programs, we have expanded and refined cases, techniques and logistics to more effectively integrate learners from different professions and backgrounds into a cohesive program that allows them to gain a better understanding of the value of interprofessional education.

Traditionally, medical simulation has provided a bridge between classroom and clinical learning and that bridge holds true for interprofessional activities. Students report that interprofessional simulation opportunities assist them in more fully understanding interprofessional teamwork and recognizing the roles/responsibilities, value and expertise of other health professionals. They also reported that it afforded them the opportunity to listen actively and encourage ideas and opinions of other team members and respond respectfully as a team member to feedback from others.

Purposefully facilitating communication among predetermined learner groups via ice breaker activities adds to the cohesiveness of the groups throughout the event. Intentionally structuring the flow of the day to include specific instruction as building blocks allows team members to build confidence. For example, medical and pharmacy students are introduced to the SBAR concept in morning sessions. This is then implemented into subsequent simulation exercises.

Cases and event flow are customized to fit the needs of the professions involved in the IPE. This allows maximum participation and utilization of staff and resources. To maximize the learner experience, multiple simulation modalities are utilized including standardized patient, standardized participant, task trainers, high fidelity simulators and any combination of these.

Integrating medical simulation into an interprofessional curriculum provides students an opportunity to work with other members of the healthcare team in a clinical environment. Students report that the opportunity is a positive learning experience regardless of when in their curriculum they have this experience. Working with other members of the healthcare team in a safe clinical environment allows them to work as a team as they collectively make clinical decisions, practice their skills and gain a deeper understanding of the roles and responsibilities of each member of the healthcare team.

## References

Interprofessional Education Collaborative Expert Panel. (2011). Core competencies for interprofessional collaborative practice: Report of an expert panel. Washington, D.C.: Interprofessional Education Collaborative.

Rudolph, J., Simon, R., Raemer, D., Eppich, W. (2008). Debriefing as Formative Assessment: Closing Performance Gaps in Medical Education. American Emergency Medicine, 15(11), 110-1016.

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## Acknowledgments

West Virginia Wesleyan College of Nursing

