

A Two-Year Experience with IPE Using High-Fidelity Simulation: Challenges and Opportunities

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Introduction

Interprofessional education, simulation, and utilization of virtual patients are increasingly utilized to prepare health professions students to enter the profession. High-fidelity simulation provides a safe environment for students to enhance clinical, professional, and communication skills. In this environment, students are free from the typical repercussions of mistakes, allowing them the freedom to practice and learn without fear of harming patients or embarrassment. High quality debriefing, following the approach described by Rudolph, et al., promotes reflective learning and repetitive practice. These events build in students appropriate communication techniques and excellence of performance of psychomotor skills.

Members of the faculties of the Schools of Pharmacy, Physician Assistant, and Nursing are sharing the experience of designing, executing, and continuously improving high-fidelity simulations to provide these experiences to interdisciplinary teams of students.

Methods

Every six weeks, Clinical Year PA students, senior Nursing students, and Pharmacy students in their second professional year meet in groups of five to six students. The groups work together on a pre-designed scenario to treat a patient. After ten to fifteen minutes of simulation, a debriefing session takes place with the students and faculty representatives of each program to discuss pertinent issues. The scenario is then repeated to allow the students to correct the mistakes they made in their prior attempt. Afterward, faculty and students again meet to discuss mistakes and reinforce improved performance. A final debriefing session is conducted in which each disciplines' students and faculty meet separate from the other disciplines to discuss issues pertinent to their roles.

With between 150 and 200 health professions students in these programs, and 1 ½ hours spent with each team, the simulation events require a great deal of time and resources to undertake. Currently, each event requires two simulation suites running for two full days to accommodate all students. Moreover, at least eight faculty are needed to participate in the event. Additionally, faculty representatives meet at least twice before each event and at least once after to plan objectives and assess the achievement of those objectives.

A student survey (22 questions) was completed to assess skills, abilities, and the learning experience using the Readiness for Interprofessional Learning Scale (RIPLS). Additional questions (7) were also added to assess other objectives such as student-student, student-faculty, and student-material interactions, and to identify areas for improvement.

Results

Survey Items and Results	
1. Discipline: <input type="checkbox"/> PA <input type="checkbox"/> Nursing <input type="checkbox"/> Pharmacy	137 total respondents
2. Year of birth: []	Average age 27.7±4.6
3. Gender: <input type="checkbox"/> M <input type="checkbox"/> F	33% M 67% F
Participants responded to the following items by checking a box from the list below	
<input type="checkbox"/> Strongly Agree <input type="checkbox"/> Agree <input type="checkbox"/> Undecided <input type="checkbox"/> Disagree <input type="checkbox"/> Strongly Disagree	
RIPLS Questions: Results are in gray using a scale: 1-5	
4. Learning with other students / professionals will make me a more effective member of a health and social care team	4.6
5. Patients would ultimately benefit if health and social care students/professionals worked together	4.7
6. Shared learning with other health care students/professionals will increase my ability to understand clinical problems	4.7
7. Communication skills should be learned with other health and social care students/professionals	4.7
8. Team-working skills are vital for all health and social care students/professionals to learn	Not Calculated
9. Shared learning will help me to understand my own professional limitations	4.7
10. Learning between health and social care students before qualification, and for professionals after qualification, would improve working relationships after qualification, and for better collaborative practice	4.6
11. Shared learning will help me think positively about other health and social care professionals	4.5
12. For small-group learning to work, students/professionals need to respect and trust each other	4.7
13. I don't want to waste time learning with other health and social care students/professionals	2.0
14. It is not necessary for undergraduate/postgraduate health and social care students/professionals to learn together	2.1
15. Clinical problem solving can only be learned effectively with students/professionals from my own school/organization	2.6
16. Shared learning with other health and social care professionals will help me to communicate better with patients and other professionals	4.5
17. I would welcome the opportunity to work on small group projects with other health and social care students/professionals	4.4
18. I would welcome the opportunity to share some generic lectures, tutorials or workshops with other health and social care students / professionals	4.3
19. Shared learning and practice will help me clarify the nature of patients' or clients' problems	4.4
20. Shared learning before and after qualification will help me become a better team worker	4.6
21. I am not sure what my professional role will be/is	2.3
22. I have to acquire much more knowledge and skill than other students/professionals in my own school/organization	3.1
23. What did you like best about the simulation exercise?	[]
24. What aspect of the simulation exercise would you change to make it a more effective learning tool?	[]

Selected Student Responses to Question 23 and 24

23. What did you like best...?

- Teamwork (collaboration-interaction)
- Debriefing (discussion-feedback)
- Critical Thinking (challenging)
- Communication

24. What ...would you change...?

- Discuss roles beforehand
- Clearer expectations
- Do this more often



Discussion and Conclusions

Student perception of these activities has been very positive. Feedback continues after the initial cohort of students has graduated with email communications expressing the realistic and beneficial nature of this learning process.

Challenges

- Student scheduling has been the greatest challenge we have faced as we have struggled to bring three busy, accelerated programs together every six weeks. This challenge has been met through many meetings with the course directors and faculty of the constituent programs. Nursing and Pharmacy faculties agreed to accommodate the PA End of Rotation schedule by allowing students to be absent from selected lectures. These lectures were videotaped for later viewing.
- Increasing class size mandates the dedication of additional human and physical resources.
- Faculty readiness is as significant as student readiness. Development opportunities must be provided with a focus on accreditation issues and proper debriefing techniques.
- Critical considerations for the future need to include the formation of a subcommittee with representatives from each programs' curriculum/assessment committees.

Opportunities

- This program enhanced collaboration among faculty and students and provided a venue for faculty and students alike to learn about, from, and with each other.
- Institutional support has been vital to the creation and continued success of this program. Institutional effectiveness has benefitted from this collaboration. Accreditation requirements were met to a significant degree.
- This program has been a springboard for other interprofessional educational activities such as telephonic prescriber-pharmacist interaction and nursing home visits. Other programs currently explored include Capstone projects, community outreach, research opportunities, and response to medical/security emergency on campus.

References

- Acquavita S, Lewis M, Aparicio E, Pecukonis E. Student perspectives on interprofessional education and experiences. *J Allied Health*. 2014;43(2):e31-e36
- Bloesat S, Chmil J. Interprofessional education among student health professionals using human patient simulation. *American Journal of Pharmaceutical Education*. 2014;78(5):1-9
- Hertweck M, Hawkins S, Bednarek M, Goreczny A, Schreiber J, Sterrett S. Attitudes toward interprofessional education: comparing physician assistant and other health care professions students. *The Journal of Physician Assistant Education*. 2012;23(2):8-14
- Meszaros K, Lopes I, Goldsmith P, Knapp K. Interprofessional education: cooperation among osteopathic medicine, pharmacy, and physician assistant students to recognize medical errors. *The Journal of the American Osteopathic Association*. 2011; 111: 213-218.
- Rudolph, J, et al. Debriefing as Formative Assessment: Closing Performance Gaps in Medical Education. *Academic Emergency Medicine*. 2008; 15(11): 1010-1016
- Wamsley M, Staves J, Kroon L, Topp K, Hossaini M, Vewlin B, Lindsay C, O'Brien B. The impact of an interprofessional standardized patient exercise on attitudes toward working in interprofessional teams. *J Interprofessional Care*. 2012;26:28-35.
- TeamSTEPS at <http://teamstepps.ahrq.gov/> accessed June 29, 2015

