

## INNOVATIONS IN TEACHING

### An Interprofessional Activity Using Standardized Patients

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**Objectives.** To describe the development and implementation of an interprofessional activity using standardized patients.

**Methods.** In the interprofessional standardized patient experience (ISPE), pharmacy students are teamed with medical and nursing students. This team completes an assessment of a standardized patient. During this assessment, each student has time to interview the patient according to his/her own skills and patient care perspective. After the assessment is completed, the team collaborates to develop a patient care plan. Pre-experience and post-experience surveys were conducted.

**Results.** Pharmacy students' appreciation for each profession's role in patient care increased.

**Conclusions.** Despite multiple challenges, an interprofessional activity involving multiple health professionals from multiple institutions can be successfully implemented. Feedback from pharmacy students indicated that this activity increased students' awareness and ability to work as members of the health professional team.

**Keywords:** interprofessional education, interdisciplinary education, standardized patients

## INTRODUCTION

The importance of interprofessional education has been recognized on national and international levels. The Institute of Medicine published a report in 2003 entitled *Health Professions Education: A Bridge to Quality*.<sup>1</sup> In this report, the need for an increase in interprofessional education is emphasized, stating that health care education has not kept pace with the changing health care environment. The committee recommended the following: "All health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics."<sup>1</sup>

With this increased emphasis on interprofessional education within the health care community, it is essential that colleges and schools of pharmacy find ways to grant this opportunity to their pharmacy students.

The use of standardized patients for formative and summative assessments in the training of health professional students is becoming a common teaching tool.<sup>2-5</sup> These activities typically include one student, a standardized patient, and an evaluator. Within the University of Minnesota College of Pharmacy, pharmacy students are

exposed to standardized patient scenarios within the curriculum of the Pharmaceutical Care Learning Center. The Learning Center encompasses 5 semesters of skill development. Activities in that course sequence revolve around building skills necessary to become a successful pharmaceutical care practitioner.

Learning how to successfully communicate with patients and provide direct patient care requires a student to experience patient interactions with a faculty member or preceptor available to provide feedback on their skills and abilities. In the years before a pharmacy student begins his/her advanced pharmacy practice experiences, it can sometimes be difficult to give the student these opportunities in an environment that poses no threat to a patient. This is when the use of standardized patients is especially helpful.

In addition to developing the skills needed for direct patient care, pharmacy students also need to learn to communicate with other health care professionals as part of the health care team.<sup>6</sup> In order for effective communication to occur across professions, each profession needs to have a clear understanding of the role each team member plays. Creating the patient care activity in an interprofessional team environment with one simulated patient generates a unique learning experience for the students. The process of having the students work through a difficult case together breaks down communication barriers and

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helps them gain knowledge about the roles of the other health professionals.

Interprofessional standardized patient experiences (ISPEs) bring together 2 important aspects of training future pharmacists. The first is providing an opportunity for pharmacy students to collaborate with students from other health professions early in their curriculum. Through this collaboration, pharmacy students are able to observe other health care students communicating with patients and they are able to learn from one another. In addition, this activity provides an opportunity for pharmacy students to work with standardized patients to evaluate communication skills. This paper describes the development and implementation of this activity.

## **METHODS**

The ISPE was developed with the following learning objectives:

- Students will demonstrate the ability to communicate and collaborate with other health care professionals.
- Students will demonstrate the ability to efficiently interview and assess a patient.
- Students will develop a complete care plan for the patient's needs in collaboration with other health care professionals.
- Students will be able to describe the importance of caring for the entire patient to fulfill his/her needs.

This ISPE was started during the 2001-2002 academic year by faculty members in the University of Minnesota Duluth (UMD) Medical School and the Department of Nursing at the College of St. Scholastica (CSS), also in Duluth, Minnesota. The activity has been funded through an HRSA grant obtained by faculty members at the medical school. Once the University of Minnesota College of Pharmacy, Duluth, opened its program in fall 2003, pharmacy faculty members began discussions with the medical school about participating in this activity.

In the fall of 2004, second-year pharmacy students began working with second-year medical students and fourth-year bachelors of arts in nursing students from CSS. Each student was required to participate once in the ISPE over the course of the academic year. This activity was a required component linked to one course in each of the professional programs. For the pharmacy students, this interprofessional activity was considered part of their *Pharmaceutical Care Skills III* or *IV* course (depending upon the semester during which the student participated). The learning objectives identified for this activity were in concert with the objectives for the *Pharmaceutical Care Skills* courses, specifically: perform

a comprehensive patient assessment; be patient-centered, empathetic, and sensitive to patients' cultural and personal needs; identify drug therapy problems; develop individualized, culturally and clinically appropriate care plans; and communicate effectively with all patients, their families, and other health care providers. Due to the unequal enrollment numbers between the nursing program and the pharmacy and medicine programs, it was necessary to have 2 nursing students participate in each patient interview, for a total of 4 students per team.

The cases used in the ISPE were designed to have a large component of social, environmental, and mental health components. Each case needed to be complex enough for each professional to identify his/her role in the patient's care quickly. None of the cases were designed to have straightforward solutions. Rather, each of the patient cases had layers of complexity. As the students probed deeper for details, they discovered that the initial presenting complaint was merely the superficial layer. For example, only upon in-depth questioning of a "patient" with a sore shoulder did students discover that the woman was actually a victim of domestic abuse. Likewise, the patient coming in for a cat bite was also homeless with a history of bipolar disease that was currently untreated, and the HIV patient was currently having unprotected intercourse with his female partner who did not know about his HIV status. As the students interviewed the patient, these cases suddenly embarked into areas where many students felt uncomfortable. The students began to learn how to approach a patient who was in a delicate emotional state. Bringing the students together as a team was also helpful, because in most cases, each student was encountering these types of scenarios for the first time. The cases also required that students learn about resources available within the Duluth community to help patients in these situations.

The cases were developed primarily by the collaborative work of 3 of the authors. Each year, new cases are added, and some older cases are removed in order to keep the cases fresh for students and reduce the risk of students knowing what to expect. Predicting how a case will function in the interprofessional standardized patient environment is often difficult. Therefore, cases are usually adapted and edited after they have been used a few times.

All patient care events took place in a room with a one-way mirror. This allowed the student to feel as though they were alone with the patient, but at the same time allowed the remaining students from other professions and faculty members from each program to watch the interactions from the other side of the one-way mirror. During the 1-hour standardized patient scenarios, the events unfolded according to the following timeline:

:00 Students were introduced to each other and given a general overview of the ISPE activity

:05 The medical student was given a “door scenario,” which provided a brief description of the patient and their primary reason for visiting the “clinic” today. The medical student then entered the room with the patient and began to take a medical history. The pharmacy and nursing students as well as faculties from each profession, observed the interaction from the other side of the one-way mirror.

:15 The medical student left the room, and 2 nursing students entered the room and continued the assessment/interview with the medical student. Each nursing student was given 5 minutes for his/her portion of the assessment, then switched roles in the middle of the session. The medical and pharmacy students as well as faculty members from each profession observed the interaction from the other side of the one-way mirror.

:25 The pharmacy student entered the room to conclude the assessment/interview of the patient. The medical and nursing students as well as faculty members from each profession observed the interaction from the other side of the one-way mirror.

:33 The pharmacy student returned to the original classroom where the nursing and medical students and faculty members were gathered. At this time, the students were given a few minutes for group reflection on the patient case. They were then instructed as a group to begin developing a care plan with both short- and long-term goals. At this point, the faculty members left the room and allowed the students time to work as a group.

:45 The faculty members rejoined the group and facilitated a discussion of the students’ initial care plan. The students were given general feedback regarding their interactions with the patient and care plans during this time.

:53 Each faculty member met individually with the student(s) from his/her profession to provide one-on-one feedback on the demonstrated skills/performance of the student.

:58 The faculty members gave the students a follow-up assignment to complete as a group. This included constructing a detailed short-term and long-term care plan, as well as responding to a series of questions developed specifically for their case. The students were expected to begin working on the assignment

on-site as a group for a minimum of 30 minutes. After that, they were on their own to complete the assignment in whatever way was best for them (face-to-face meetings, e-mail, phone, etc). The assignment was due in 1 week.

Faculty members from each profession provided students in their disciplines with feedback on the quality of their patient interviews. Pharmacy faculty members specifically assessed the student’s ability to collect relevant background information, establish the patient’s current health status, and assess for drug therapy problems.

After the students submitted their follow-up care plan assignments, a faculty member from each discipline reviewed the group’s submission and provided feedback to the students. All of this was done electronically and every student was able to see the feedback from every faculty member.

Within the Learning Center’s curriculum, contract grading was used.<sup>7</sup> Under this system, students sign a contract that they will receive an “A” or a “B” in the course at the beginning of the semester. Each contract requires that they complete all required assignments and activities to a satisfactory level. All assignments/activities are graded as “above satisfactory, satisfactory, or less than satisfactory.” Students are only allowed to receive 4 “less than satisfactory” ratings before their grade will drop below their contracted grade. Under the “A” contract, an additional project is required. The ISPE counts as 2 of 38 grades assigned in the *Pharmaceutical Care Skills* courses. Each student received a grade for his/her patient interviewing skills and a grade for the follow-up care plan assignment.

This activity required a significant portion of faculty time, as approximately 1 hour of faculty time is required to complete the ISPE assessment for each of the 50 students. This is spread over the entire academic year, with a 2-hour session every afternoon for 2 interprofessional teams to participate. Within the college of pharmacy, 4-5 faculty members divide these times so that each faculty member will facilitate the activity approximately once every month. Additional time is required by the pharmacy faculty coordinator who oversees the administration, grading, and case development for the ISPE.

The largest costs of the program were faculty and staff member time. Resources from within the college of pharmacy have been used to support a course website designed to handle the logistics of the administration of the ISPE. The School of Medicine also contributes significant staff time to assist in recruiting and scheduling standardized patients, and coordinating training for the standardized patients. The Department of Nursing contributes the space and technological equipment necessary to run the

cases, as well as parking passes for the students and faculty members driving to the campus for this activity.

## RESULTS

Twenty-six of the 48 pharmacy students who participated in the ISPE during the 2004-2005 year completed pre-experience and post-experience survey instruments. The pharmacy students were asked to respond to the following question: "Describe, in no more than 4 sentences, what you think the role of the "physician/nurse/pharmacist" (medical student/nursing student/pharmacy student) will be in the ISPE."

In describing the physician's role, the pharmacy students stated in pre-experience and post-experience survey instruments that they felt the physician's primary role was to diagnose the patients' medical conditions and to complete a physical assessment. The pre-experience comments also focused on the need to gather medical and family history data on patients. The post-experience comments focused slightly more on recommending the best treatment plan. Several students stated that the physician should "confer with other health professionals to set up an appropriate care plan."

In describing the nursing role in patient care, there was a greater difference between the pre-experience and post-experience comments from pharmacy students. Comments on the pre-experience survey instrument indicated that some pharmacy students were limiting the role of the nurse to checking vitals and implementing orders. Comments from the pre-experience survey instrument included:

- "Nurse's role... is to make sure the doctor's orders were implemented in a timely manner."
- "Nurse will probably discuss and review vitals as well as symptoms the patient is experiencing."

Other pharmacy students were well aware of a broader role for nursing early on, saying "nurse will be responsible for the well being of the patient."

Comments on the post-experience survey instrument indicated a slight change in the pharmacy students' perception. Just over half of the students saw a greater role for nursing after completing the ISPE as evidenced by comments such as the following:

- "Provide emotional support to patient and provide care to patient. Provide support to family."
- "The nurse is more interested in the current health status of the patient. The nurse is key in making the patient as comfortable as possible."

The pharmacy students provided almost identical responses regarding the role of pharmacy before and after the ISPE experience. The majority of students stated that the pharmacists' role was to ensure that the medications

were indicated, effective, safe, and convenient for the patient. Some specific post-experience remarks included:

- "The pharmacist has the main role of assessing the patient's needs concerning medication experience and medication needs. The pharmacist will help assess the indication, effectiveness, safety and convenience of medications."
- "The pharmacist's role should be to talk with the patient about medications and related medical conditions."

## DISCUSSION

The results detailed above indicated that pharmacy students gained a better sense of how nurses, doctors, and pharmacists can work together to evaluate a patient and then develop a complete and in-depth care plan. The descriptions indicated that the students had expanded their perspective regarding the roles of other health care professionals through this exercise. They are able to better define the roles of each profession without any formal training in health care roles. Their initial comments stemmed primarily from their life experiences. Later comments resulted from a combination of their life experiences and their experience in the ISPE.

In addition to the survey results, the overall quality of the care plans received from student teams was excellent. Student teams were able to develop care plans that were remarkably detailed and appropriately reflected the perspective that each profession brings to patient care.

The results of these initial surveys illustrate that pharmacy students are gaining valuable experience by participating in this activity. These data are subjective, limited to 1 academic year, and the number of survey instruments returned by students was low. Therefore, there may be some bias in the results; students who viewed the ISPE more favorably may have been more likely to submit evaluations than students who did not view the ISPE as valuable. The feedback received from students and faculty participants was positive; however, more data need to be collected to fully understand the learning outcomes of the activity. Therefore, surveys will continue to be conducted every year to build more robust data.

Faculty members involved in the ISPE have identified one area in particular as lacking: there is not adequate opportunity for students to reflect on the simulation. The group is working on adjusting this aspect of the program in the 2005-2006 year by adding a faculty-facilitated reflection and debriefing time immediately following the interview of the simulated patient. This added piece will continue to be assessed by observation and student surveys.

Challenges and barriers continue to exist and emerge as the ISPE grows. Ongoing challenges include the cost

of developing and maintaining standardized patients, scheduling conflicts between schools, curriculum differences, faculty time to supervise sessions, and the development of new interprofessional cases. Thus far, we have been able to successfully address these challenges, although they will continue to emerge periodically as the resources available and areas of interest change. For example, new scheduling conflicts arise each semester and must be resolved to accommodate the priorities and calendars of the 3 different professional programs.

The development of new cases is also an ongoing challenge. As with any simulation, cases need to be experienced by students and standardized patients in order for faculty members to identify the flaws in the case itself. Designing cases that maintain an appropriate balance of complexity for each profession while taking into account the limited time available to students can be difficult. Therefore, each new case is modified to some extent after its initial introduction.

The faculty members involved have developed additional new cases to be used. These cases will continue to involve patient scenarios in which social and environmental issues pose the biggest challenge for the students. Cases under development involve mental illness, language barriers, recreational drug abuse, and the use of complementary and alternative medicines.

In addition to adding new cases, a pilot program that adds graduate social work students from the University of Minnesota Duluth to the ISPE team will be launched. The social work perspective will add a valuable piece to the patient cases and care plan development. The faculty members and students in each profession are looking forward to this valuable addition to the team.

## CONCLUSIONS

Interprofessional standardized patient experiences require significant effort to build and maintain. Effective communication between the coordinators from each college or school is essential to keep the ISPE running smoothly. The students from each profession enjoy the activity and value it highly as a learning experience. In addition, students have indicated in surveys that the ISPE increases their knowledge of the roles of other

professions. This activity will be sustained and continually reevaluated, with appropriate adjustments made frequently to improve the students' learning experience.

## ACKNOWLEDGEMENTS

Many faculty and staff members from each college are actively involved in facilitating and evaluating students' participation in the ISPE. This interprofessional activity could not run smoothly without the time and support of these faculty and staff members. The efforts from the following individuals are greatly appreciated: at the College of Pharmacy, Duluth: Michael Gulseth PharmD, BCPS, Paul Ranelli PhD, Angela George RPh MS; at the UMD School of Medicine: Dan Mareck MD, Glenn Nordehn MD, and Jan Pierce; at the SCC Department of Nursing: Tessie Bushey, RN FNP, Patricia Nielsen RN FNP, and Paul Wartman, RN FNP.

## REFERENCES

1. Greiner A, Knebel E, eds. Committee on the Health Professions Education Summit. *Health Professions Education: A Bridge to Quality*. The Nation Academies Press; 2003.
2. Monaghan MS, Turner PD, Venderbush RE, Grady AR. Traditional student, nontraditional student, and pharmacy practitioner attitudes toward the use of standardized patients in the assessment of clinical skills. *Am J Pharm Educ*. 2000;64:27-32.
3. Gardner SF, Stowe CD, Hopkins DD. Comparison of traditional testing methods and standardized patient examinations for therapeutics. *Am J Pharm Educ*. 2001;65:236-40.
4. Sibbald D. Using first year students as standardized patients for an objective structured clinical exam for third – year pharmacy students. *Am J Pharm Educ*. 2001;65:404-12.
5. Williams RG. Status of Standardized Patient Assessment. *Teach Learn Med*. 2004;16:215-22.
6. Accreditation Council for Pharmacy Education. Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor in Pharmacy Degree. Standards for Curriculum, Standard 12: Professional Competencies and Outcome Expectations. Adopted January 15, 2006. Available at: [http://www.acpe-accredit.org/pdf/ACPE\\_Revised\\_PharmD\\_Standards\\_Adopted\\_Jan152006.DOC](http://www.acpe-accredit.org/pdf/ACPE_Revised_PharmD_Standards_Adopted_Jan152006.DOC). Accessed March 24, 2006.
7. Sorensen TD. Contracting for a grade in a pharmaceutical care practice laboratory. Presented at the American Association of Colleges of Pharmacy Annual Meeting, Boston, Massachusetts; July 1999.