Objective Structured Clinical Examination and Standardized Patients
Development Proposal

Introduction

A model proposed by Miller (1990) has been used to clarify students’ acquisition of knowledge and assessment in medical education (Figure 1). Within the model, the Knows and Knows How are the areas assessed by traditional written exams, assignments and projects. The pinnacle of the triangle, Does, can only be tested within the real world of clinical practice. The Objective Structured Clinical Examination (OSCE) and the Standardized Patient (SP) used within the examination, have the potential to assess many aspects of both theory and practice in medical education. The OSCE sits just beneath the pinnacle, at the Shows How level, with the students ‘hands on’ performance and competence tested in a more objective and standardized way. Furthermore, traditional testing may fail to identify students who are struggling to apply didactic knowledge to clinical settings. Although SP encounters are labor intensive for both the patients and the faculty members observing them, they provide comprehensive student evaluation that transcends individual courses.

![Figure 1. Theory and practice of medical education.](image)

Harden et al. (1975) first introduced the concept of the Standardized/Simulated Patient. Standardized patients have proven to be effective educational tools and have been used extensively in the education of physicians. Approximately 95% of medical schools in the United States currently use SPs and 85% use them as a component of student assessment. The National Board of Medical Examiners implemented a clinical skills examination in 2004 using SPs as a component of the United States Medical Licensing Examination due to the assessment process being valid, reliable, and practical. It is still being used today. In a survey of 48% responding physician assistant programs, Coplan et al. (2008), reported that 97% of physician assistant programs utilize SPs and 82% use them as a Summative evaluation of their students’ competency.

Standardized patient performances are staged clinical encounters between health professional students and people who specialize in role-playing the part of patients. Standardized patients can be used effectively if clinical reasoning and problem solving are being evaluated, rather than the detection of physical abnormalities. Since the emphasis placed on student clinicians is on obtaining an appropriate history or selective performance of the medical examination and not
on the detection of physical abnormalities, SPs can be used to portray several different clinical scenarios. Standardized patients can be trained to accurately and consistently simulate a case, and each SP will present the same challenge to each learner. The SP can realistically recreate the history and physical findings, as well as the psychological and emotional responses of the actual patient on whom the case is based.

Faculty are obligated, not only by accreditation guidelines, but by future patients to thoroughly assess clinical reasoning and communication skills. Standardized patient encounters require students to integrate knowledge with skills in order to approach medical problems in a critical and systematic fashion. When these skills are assessed throughout the curriculum, there are opportunities for structured feedback, additional instruction and recommendations for improvement. Furthermore, simulated patient encounters provide an accurate evaluation of proficiency in nonverbal communication, including body language, eye contact, and social interactions—skills strongly associated with patient satisfaction with health care providers and poorly assessed in other traditional testing formats.¹¹

Case Development

Cases will be developed by a core group of PA faculty. Cases will be based on actual patient presentations seen in clinical practice, being mindful to avoid HIPPA violations. Cases will be designed in order for the student to complete the task in 20 - 30 minutes. Checklists will be developed based on each simulated scenario. Details such as equipment necessary for each case will be agreed upon by faculty during the development stage.

Simulation Scenarios

The types of cases that will be used are:

- Acute emergent
- Chronic
- Well care/Prevention
- Behavioral
- Ill-defined

Scenarios may include, but are not limited to, medical issues such as...

*Low back pain*— Back pain is one of the most commonly encountered problems in the outpatient, primary care setting. It has an important differential diagnosis, and the initial decision-making must be made on the basis of clinical findings. As such, it is an excellent training condition for teaching decision-making based on careful collection and interpretation of basic clinical data. Moreover, its requirement for skillful management, patient education, and support facilitate the assessment of these competencies. The training will extend a reciprocal learning experience regarding education / prevention to the SP as well as an understanding about being a patient.
Tobacco cessation—This will allow faculty to test knowledge, skills, and judgment related to tobacco cessation counseling for patients preparing for a quit attempt within the next month. Additionally, the training will extend a reciprocal learning experience regarding tobacco education /cessation guidance to the SP as well as an understanding about being a patient.

Scenarios will not include...

Examinations using the Butler University undergraduate/community standardized patients will not include examinations involving highly sensitive areas, including genital, rectal or breast evaluations. Our program hires surrogate patients with specialized training, including gynecological teaching associates and male urogenital teaching associates, to provide educational experience within these areas prior to experiential rotations and encounters with patients in the medical community.

The PA Student will not attempt to communicate with an SP out of role during the simulation exercises.

Standardized Patient Training

To develop SPs, individuals must be trained in standard fashion so that they learn how to express the symptoms as well as the emotional affect of actual patients. Similar to a number of health professional programs,8,12,13 I propose Butler University use undergraduate students and others in the Butler Community to serve as Standardized Patients.

A call for participation will be made to the Butler Community and individuals will volunteer to act as Standardized Patients. Opting to not participate in the project would not affect grading, progress, or status at the University. The Standardized Patients will be paid for their training and participation. They will be instructed how to portray a specific clinical scenario commonly seen in primary care. The Standardized Patient will be given clinical information about the condition that they would simulate, with instruction/feedback when necessary. If deemed acceptable, Standardized Patients are eligible to be trained on more than one case.

Training for each Case will take place in two sessions.

The first session (approximately 3 hours) will start off with a general orientation, where the objective is to familiarize the SPs with the Case. Here, more than one SP is being trained for the Case. The SP’s role in the Case is defined and the SPs are provided with information about the purpose and logistics of the examination or assessment where this Case will be used. The SPs’ rights and responsibilities are discussed and clarified. SPs must be at least 18 years of age and sign a waiver of consent prior to participation. The SPs are provided with an overview of the Case and the checklist. If the Case has been used before, a video is shown to the SPs being trained for the Case. The SPs will receive all training material, read through the material, and ask questions. Clarification of the patient’s personality, manner, attitude, and how s/he portrays it by means of body language, gestures or verbal responses are answered.
The second session (approximately 3 hours) is to role play the Case and practice filling out the checklist. Any questions are answered. The SPs are given a multiple choice quiz to test their content knowledge and ensure that they have learned the Case. The SPs are trained on the physical examination maneuvers. They learn what to expect and how to respond to the maneuvers. Role playing on the Case occurs while other SPs practice on the checklists while watching the performance. This helps to clarify the checklist items. Key reasons for this session are to encourage SPs to ask questions, train on physical maneuvers (if the case requires them), provide constructive criticism and positive feedback as often as possible, repeat role play with feedback until the performance of the SP matches that of the Case, compare and review checklists, and decide if each of the SPs are able to performing all of the tasks, i.e. performance and checklist. Those SPs who obtain less than 85% reliability on the checklists may need additional training.

After acquiring the knowledge and skills through training on cases, SPs may participate in the scheduled Standardized Patient experiences specific to their training and to meet the needs of the program.

**Recording**

In order to participate, the SP must sign a waiver that permits photographs, motion pictures, audio/visual recordings that may be published and reproduced in professional journals and medical books; to be used for any other purpose that the faculty members may deem fit in the interest of medical education or research; or to be used at professional meetings of any kind. However, the SP will not be identified by name. All recordings generated within the OSCE will be maintained on a private university network server. Recordings obtained will be maintained in accordance with University academic guidelines and can be used to:

- Provide feedback to students to improve their performance;
- Formally assess student achievement and/or competency;
- Help evaluate and improve college or program curriculum;
- Evaluate and improve our teaching and assessment processes using human and non-human simulations;
- Aid in the teaching of future students (Institutional Purpose);
- Research (Scholarly Purposes)

**Assessment of Student Learner**

The exercises provide each physician assistant student with several forms of unique subjective and objective feedback. Checklists are a customary methods of assessment used within SP experiences. Checklists typically assess the following skills: history taking, physical examination, assessment, plan development (including prescribing), information-sharing/counseling, clinical courtesy, patient-provider interaction and the patient’s overall satisfaction.

Videotaping: SP-physician assistant students’ interactions will be videotaped. In viewing the videotapes, the physician assistant student can watch their own interactions more than once. This enables them to identify details of the interaction and manipulations.
SPs and physician assistant students will know in advance they are being videotaped for educational purposes and permission to videotape the interaction will be obtained.

Standardized Patients: The physician assistant student receives direct written feedback from the SP in the form of checklists with comments. The SP provides specific feedback in the form of behaviors that the physician assistant student exhibited and how the patient felt as a result of the behaviors.

Self-evaluation: Students will evaluate themselves with a self-evaluation checklist and rating scale. Self-evaluation checklists have been shown to have good inter-rater reliability and high face validity. See Appendix 1 for a partial example of a self-evaluation checklist.

Faculty: Faculty will evaluate students via close circuit monitoring in Butler University simulation laboratories. The faculty will observe communication skills, interpersonal interactions with the SP as they occur without being physically present in the examining room. This simulates the actual working environment more closely. After the examination, additional lab or diagnostic information may be given to the student to assist in the diagnosis. Students then will be able to develop a differential diagnosis (or assessment) and plan for evaluation. This information will be written up similar to what would be expected in the primary care setting. Students will receive direct written and verbal feedback from the faculty supervising the entire clinical experience.

Outcomes will be well documented. The program will establish the “pass/fail” grading system utilizing the Angoff Method or other reliable measurement and remediation efforts to ensure student competency as required by Accreditation Standards.

**Accreditation Standards**

C3.01 The program must conduct frequent, objective and documented evaluations of students related to learning outcomes.

Annotation: Thorough assessment includes both formative and summative evaluations and involves multiple assessment approaches with multiple observations by multiple individuals.

C3.04 The program must conduct and document a summative evaluation of each student within the final four months of the program to verify that each student is prepared to enter clinical practice.

The proposed OSCEs would constitute one component of the PA program’s summative exam.

**Financial Implications**

Issues regarding the recruitment, financial compensation, and training of SP can be barriers to utilizing this assessment method. The physician assistant program at Butler University currently pays approximately $13,450 for 2-four hour sessions utilizing SP for the second year PA student.
at the Fairbanks Simulation Center, Indianapolis, Indiana. While this is a phenomenal simulation center, Butler University could replicate these efforts for minimal costs relative to what we pay the Fairbanks Center within its newly renovated simulation lab. If brought in house, we could incorporate the once cost prohibitive SP opportunities, as both Formative and Summative assessments, and use them throughout the program. Coplan et al. (2008) reported that 51.3% of the programs pay SPs between $10 and $25 per hour.\(^8\)

Approximate SP Costs/Case:

5 cases: Four—twenty minute Case
One—thirty minute Case

-Two Cases are required in history and physical examination class – Speaking Across Curriculum (20 minutes each)

*2011 – 2012 Academic Year per Dr. Mike Roscoe

**Training:**

6 hours required to train for each Case
6 hours x $20.00/hr = $120.00 for each SP trained on each Case

Estimated pool of 8 SPs trained for 5 different Cases
5 Cases x 8 SPs each Case = 40 SPs trained for 5 Cases x 120.00=
$4,800.00

**Time for OSCE:**

**Per 50 students:**

20 minute Case:
17 hours to complete each Case x 4 Cases = 68 hours
68 hours x $20.00 = $1,360.00 to implement four 20 min Cases

30 minute Case:
25 hours to complete each Case x 1 Case = 25 hours
25 hours x $20.00 = $500 to implement a 30 min Case

There will be recurring fees. It will be assumed that different Cases will be developed and new individuals will be added as SPs. Additionally, the fees will increase as the number of students requiring OSCEs increase or the more Cases per year that are added.
Future Suggestions

Develop or reassign a faculty FTE to develop/lead an OSCE/SP center. This person would be responsible for leading case development, training SP, coordinating SP schedules, set up, student scheduling, and expand to all health professional programs for utilization.
References

Appendix 1. Example of student self-assessment of lower abdominal pain

Student’s Name_____________________

History Checklist
Did you elicit the following history items?
Check it off if you did.

1. She has had pain for the past 12 hours.
2. The pain is a crampy, achy feeling low abdominal pain.
3. The pain comes in waves but never really goes away.
4. The pain does not radiate.
5. She denies fever.
6. She denies burning with urination.
7. Etc...

Physical Examination Checklist
Did you perform/ask to perform the following physical examinations?
Check it off if you did.

1. Wash hands prior to examining patient (1 item)
2. Examination of the abdomen (3 items)
3. Palpating for costovertebral angle tenderness (1 item)
4. Asking to perform pelvic and rectal exams (1 item)