



## Development of an Interdepartmental Objective Structured Clinical Exam (OSCE) as Part of a Pharmacotherapeutics Course

Thomas Franko<sup>1</sup>, PharmD, BCACP, Ajay Bommareddy<sup>2</sup>, PhD, Ka Lok Hong<sup>2</sup>, PharmD, PhD, Vicky Shah<sup>1</sup>, PharmD

1. Department of Pharmacy Practice, Nesbitt School of Pharmacy, Wilkes University
2. Department of Pharmaceutical Sciences, Nesbitt School of Pharmacy, Wilkes University

### Background

The Nesbitt School of Pharmacy at Wilkes University is located in Northeastern Pennsylvania and follows a 2+4 model. The class size in the professional program is seventy two students. The pharmacotherapy course is divided amongst twelve unique, system based modules taught across the second to third professional years. The primary method of assessment in each module is a traditional written exam.

Based on student response forms from the previous year's course, instructors of PHA 521, Pulmonary Pharmacotherapy, decided to incorporate an additional active learning exercise as part of the assessment process.

### Objective

To describe the development and implementation of an OSCE incorporating both pharmacy practice and pharmaceutical science into a Pharmacotherapeutics course. Secondary objective was to assess the impact on student's knowledge, skills and satisfaction.

### Methods

Instructors from the pharmacy practice and pharmaceutical sciences departments collaborated to develop four case situations related to the science and clinical practice covered within the pulmonary module (asthma, smoking cessation and COPD). Cases were written by the practice faculty and reviewed by a group of three faculty from each department.

PHA 521 is offered to students in the third professional year and is worth two credits. Cases were provided at the start of the course and the OSCE was scheduled at the end. Students were informed that one of the four cases would be used for the OSCE. The selected case combined the therapeutics, pharmacology and medicinal chemistry of asthma. As this was a pilot program, the OSCE score counted as 2.5% of each student's final grade.

### Methods

For the OSCE students presented to the usual classroom in two separate groups of 36 one hour apart. Students were then brought in groups of six to the testing area. The testing area consisted of six identical stations. Each student was assigned a station upon arrival. At the start of the OSCE students were provided with a prescription and medical chart. Students had to identify a medication-related problem and communicate their concern to a physician (standardized patient). The physician inquired about the scientific basis for the recommendation. Standardized patients were current fourth year students and the evaluators were pharmacy faculty members not associated with the course. All six students would start at the same time and have up to seven minutes to complete the simulation. Following the assessment, students were isolated in a secure room with no cellphone or laptop use to prevent the sharing of case information.

### Checklist Items

Asks about medical history

Asks about social history (e.g. smoking, alcohol, illicit drug use)

Asks about allergies to medications

Recognizes propranolol should not be given to an asthmatic patient

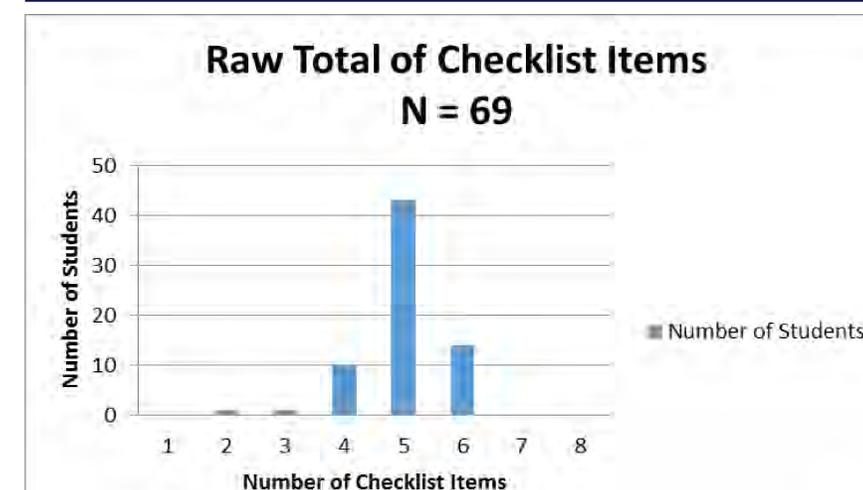
Educates physician about nature of the interaction (i.e. non-selective beta blockers can exacerbate symptoms of asthma)

Provides the mechanism of action of propranolol

Recommends not prescribing propranolol to a patient with asthma

Provides opportunity for follow up (e.g. contact information, call your doctor, go ask your local pharmacist)

### Results



### Discussion

The simulation received mostly positive feedback from students. Several students commented that it was beneficial and a great way to practice with the material taught in class. Constructive feedback included increasing the weight of the simulation beyond 2.5% and to improve the timing of the exercise to coincide with other active learning exercises in the course.

Interestingly, most students received a low grade (4-6 items achieved on checklist) on the simulation. Grades on the traditional exam covering similar concepts a few days later were significantly higher. Future investigation is needed to better determine if students perform better on traditional exams as compared to simulated assessments on similar material. This could serve as a more reliable marker of Advanced Pharmacy Practice Experience (APPE) readiness.

### Conclusion

Faculty from the departments of pharmacy practice and pharmaceutical sciences developed a well received simulation assessment. We plan to continue this assessment for future classes. The logistics in coordinating the simulation, especially recruiting evaluators, is the most challenging issue.