

Background

- Entrustable professional activities (EPAs) are a new requirement within U.S. colleges of pharmacy, however, the implementation of these activities has not been mandated or standardized yet.
- To build upon this new endeavor, a mock pharmacy and therapeutics (P & T) committee monograph and presentation activity was implemented in the Interprofessional Education and Clinical Simulation V (IPECS 5) course, a Third year Fall course.

Objective

- This study describes a new activity in the IPECS course series, which serves as an EPA, aimed at improving students' utility of evidence based medicine.

Methods

- Teams, comprised of 6-7 students (n=28 teams over 3 campuses), were asked to deliberate a formulary decision. To accomplish this task, pairs of teams were assigned a drug and instructed to complete the following activities: (1) background literature search; (2) drug monograph; (3) 5 minute presentation to simulate a live P & T committee meeting; and (4) to vote on a formulary drug per drug class.
 - Drug classes included: Combination inhalers, DOACs, GLP1s, SGLT2s,
- Students completed a pre/post 5 point Likert scale [1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree] self-efficacy survey describing their confidence in their practice of EBM via Qualtrics [FIGURE 1].
- A scoring rubric assessed monograph and presentation elements (max points = 30) [FIGURE 2]. One instructor (NBH) evaluated all submissions.
- Descriptive statistics were used for assignment grades. Wilcoxon signed-rank tests analyzed pre and post self-efficacy surveys.

FIGURE 1. Self-efficacy Survey

	PRE	POST	CHANGE	
I'm confident in my medical writing skills.	3.01	3.83	0.82	P<0.001 for all
I am confident in my ability to properly cite sources.	3.31	4.01	0.70	
I'm confident in my ability to interpret and combine information from multiple sources into a concise response to complete a drug information request.	3.48	4.00	0.52	
I can evaluate information from primary literature (for example, a clinical trial)	3.44	3.97	0.53	
I'm confident in using the libraries resources to answer a drug information question.	3.49	4.08	0.58	
When asked a clinical question, I have the appropriate resources available to answer the question.	3.65	4.09	0.44	
I'm confident in applying the results of a study into making a clinical recommendation.	3.57	4.02	0.45	
I am confident in my Medline searching skills	3.16	3.77	0.61	
I can prepare a drug monograph.	2.72	3.85	1.13	

FIGURE 2. Scoring Rubric

Monograph Elements (MAX SCORE IN THIS SECTION = 24)			
Checklist Tool for Guiding Formulary Decision Making (5 pages MAX)			
Name of the medication and use 1. Generic name/Brand name and the Manufacturer/ 2. Therapeutic use - Disease state(s) or Clinical Use(s)/ 3. Food and Drug Administration (FDA) approved indication(s)/ 4. Off-label indication(s)	0	1	2
Clinical pharmacology	0	1	2
Pharmacokinetics 1. List clinically relevant parameters/ 2. Route of administration/ 3. Peak levels/ 4. Time to Peak/ 5. Elimination/ 6. Half-life	0	1	2
Safety (Adverse effects) a. Summary (table format)/ b. Monitoring (i.e., labs, tests, etc)	0	1	2
Allergies and Interactions a. List components of the medications that have been reported to be contraindications to the patient (i.e., allergy to sulfa)/ b. Drug interactions	0	1	2
Availability and dosing a. Drug formulations (i.e., tablets, capsules, injectables, etc)/ b. Strengths/ c. List the different indications and the different dosing for each/ d. Dosing for renal or hepatic impairment/ e. Maximum dose	0	1	2
Efficacy a. Brief paragraph summary of the evidence from the clinical trials before the evidence table(s) b. And background information needed to interpret the results (i.e., explain the clinical scales or scores or instruments used for the primary endpoints) c. Provide an evidence table which should have the following columns (not inclusive) 1.Study/ 2. Study design/ 3. Patient population/N/ 4. Medication cohorts/groups/ 5. Duration/ 6. Primary/secondary outcomes/ 7. Results/ 8.Notes/comments	0	2	4
Pharmacoeconomic section should contain a comparison cost between the study medication and other medications (gold standard or comparable meds) and a cost of dose per day, month, year, or schedule at minimum	0	1	2
Summary should condense the therapeutic efficacy and cost analysis section and provide a recommendation (i.e., approve, deny, add to the formulary, do not add to the formulary, place restrictions, etc.)	0	1	2
References (3 must be primary literature, 1 must be the package insert, no limit on any other resource, AMA citation style)	0	1	2
General Concise, organized, minimal spelling errors, professional level for health care provider	0	1	2
Presentation Elements (MAX SCORE IN THIS SECTION = 6)			
Slide includes (1 slide only): indication, efficacy, safety, cost, and stance	0	1	2
Concise, organized, minimal spelling errors, professional presentation	0	1	2
Able to answer questions from P&T committee members	0	1	2

Results

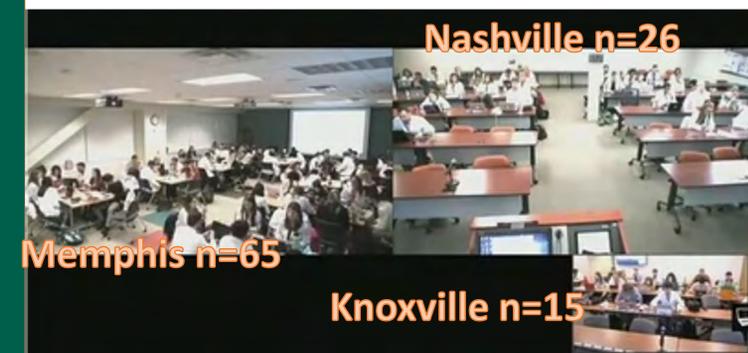
- One hundred and six (55%) students completed the pre-post self-efficacy survey.
- Students perceived statistically significant improvement for all 9 items; p<0.001. The largest difference was seen in the last question, related to ability to prepare a drug monograph (change =1.13)
- Median monograph and presentation rubric score were 20 points (range 13-24) and 5 points (range 5-6), respectively.
- Students voted for the following drugs to formulary:
Advair Diskus, Eliquis, Trulicity, Invokana
- Additional acknowledgements for students included **Best Monograph** and **Best Presentation**

Discussion

- Students' perception of self-efficacy improved with this activity
- More time was needed for students to work on this activity in the classroom

Conclusion

Research concerning the development, conduction, perceptions and efficacy of EPAs is sparse. A mock P&T activity represents an innovative way to validate an EPA within the curriculum.



References

- Pittenger AL, Chapman SA, Frail CK, et al. Entrustable Professional Activities for Pharmacy Practice Am J Pharm Educ. 2016;80(4):57.
- Haines ST, Pittenger AL, Stolte SK. Core entrustable professional activities for new pharmacy graduates. Am J Pharm Educ. 2017;81(1):S2.
- Timpe EM, Mott SE, Eichner SF. Weekly active-learning activities in a drug information and literature evaluation course. Am J Pharm Educ. 2006;70(3):52.
- AMCP Foundation Annual Pharmacy & Therapeutics Competition. Available at: <http://www.amcp.org/amcpfoundation/PT/>. Accessed September 30, 2017.
- Law AV, Jackevicius CA, Bounthavong M. A monograph assignment as an integrative application of evidence-based medicine and pharmacoeconomic principles. Am J Pharm Educ. 2011;75(1):1.