

Section I. Research Question

The value of interprofessional education (IPE) and collaborative practice in improving patient outcomes is long-established.¹ Core competencies for interprofessional practice guide development of IPE activities in health professions programs.² Accreditation standards in both medicine and pharmacy have adopted these core interprofessional competencies and emphasize the importance of collaborative care in developing practice-ready graduates.³⁻⁵ Colleges and schools of pharmacy (C/SOP) have embraced these standards and have implemented several innovative IPE activities within their didactic curricula.⁶⁻⁸ However, widespread implementation of interprofessional activities during the experiential curriculum has been challenged due to a variety of barriers. Results from a survey of seventy C/SOP revealed a lack of intentional interprofessional education (IEE) in the experiential setting.⁹ IEE is defined as "the explicit effort by preceptors and practice sites to create/foster educational opportunities or activities specifically to achieve interprofessional educational competencies".⁹ Survey results also confirmed three major challenges for implementing intentional IEE in this setting: 1) it is often time consuming and labor intensive, 2) structured assessment of learning outcomes is uncommon, and 3) lack of other health care professional learners at the site.⁹ Implementation of IEE may be further challenged due to lack of preceptor expertise to design such activities, or the lack of equipment, such as high-fidelity simulators, to provide training for health professional students in a low-risk environment. An IEE activity delivered during the experiential year should address these barriers to achieve educational outcomes, thus promoting team-based care.

This proposal describes an IEE activity between third-professional year medical (M3) and fourth-professional year pharmacy (P4) students collaboratively managing a simulated opioid use disorder patient using an online virtual patient case. This project hypothesizes that **effective collaboration between student pharmacists and physicians will improve identification and resolution of drug related problems in a virtual patient case better than either profession alone.** We also hypothesize that student teams that display improved teamwork and collaboration skills during their recorded interactions will be associated with improved care of the virtual patient and will have improved attainment of learning goals of the activity. This proposal has three specific aims: 1) to compare differences in the identification and resolution of drug-related problems between care provided by a single discipline (medicine or pharmacy) vs. care provided by the team (student physician plus student pharmacist) for a virtual patient, 2) to evaluate associations between teamwork and collaboration dynamics and overall case performance, and 3) to evaluate student perceptions and attitudes of interprofessional collaboration and the influence of these attitudes on case performance. Overall, these specific aims will determine the effectiveness of the IEE activity in achieving interprofessional competencies for potential use by other C/SOP or medical education programs.

This proposal aligns with *AACP's Strategic Priority #2 – Objective 2.1.4* as it describes an innovative curriculum focusing on interprofessional education that other programs may be able to adopt to improve intentional IEE. Additionally, the proposal aligns with *AACP's Strategic Objective 2.4.2* through aligning interprofessional education curricula with the experiential setting to improve interprofessional team-based care. This proposal is a creative approach to an IEE activity as it describes the use of readily available resources for most college/schools of pharmacy (i.e., learning management system, videoconferencing platform, recorded patient case and vignettes) which may improve its generalizability to other C/SOP. It also addresses a significant challenge in implementing IPE in the experiential setting through design of a largely

asynchronous activity which may be implemented without significant preceptor training or physical space. The simplicity of its design and adaptability to a variety of settings may address the national need for intentional interprofessional education within clinical practice. Results of this project could be used by both medical and pharmacy schools to implement IPE within experiential settings or for post-graduate or professional training to improve intentional IPE activities in the practice setting. The authors expect this proposal to succeed given the experience and success with implementing virtual interprofessional education activities at our institution across three regional campuses, as well as the authors' coordination of courses in which similar activities described in the proposal are already implemented.

Section II. Project Design, Methods, and Implementation Plan

This project will involve two hundred Doctor of Pharmacy (P4) students and four hundred M3 doctor of osteopathy (D.O.) students while on assigned advanced pharmacy practice experiences (APPEs) or clerkships, respectively, during July to October 2023. Students will be assigned to an interprofessional team including six students (2 pharmacy: 4 D.O.). Student teams will be assigned to a course site in the learning management system (LMS) which will house all materials for the activity. The activity is designed using the Healthcare Simulation Standards of Best Practice™ framework.¹⁰ Students will first access an individual pre-briefing module which contains an introduction to the activity including learning objectives and interprofessional competencies, estimated time and logistics of the activity, a baseline knowledge assessment of management of opioid use disorder, and a baseline survey which will collect demographic information and include the Scale of Attitudes Toward Physician-Pharmacist Collaboration (SATP²C) evaluating each profession's attitudes on collaboration prior to the activity.¹¹

After completing the pre-briefing module, students will then begin the interprofessional activity. Each student will individually review the patient case and then watch a video of a standardized patient interacting with both a simulated physician and a pharmacist during the context of their care. After completing this portion, the next part of the case will be revealed which will contain new information and problems which the student is expected to assess and prioritize for a plan of care documented as a SOAP (subjective, objective, assessment, plan) note. Each student will individually document a SOAP note based on their discipline's approach to the case and will upload the note to the LMS. Next, student teams will meet via video conferencing software (e.g., Zoom©) to discuss the patient case and design a collaborative SOAP note as a team. Teams will record their interactions via Zoom© and upload the recording video to the LMS. Student teams will submit a revised SOAP note based on their discussions. Within one week after the activity, each student will then complete an individual post-activity reflection evaluating their attainment of learning outcomes and perceptions of the activity and will repeat the SATP²C. Following completion of the activity, faculty will hold an activity de-briefing session via Zoom. Five separate debriefing sessions at varying times will be held to limit the number of teams per session and to limit impact on students' clinical schedules. Debriefing sessions will follow the PEARLS debriefing tool and a script to ensure consistency between sessions.¹²

Demographic information will be analyzed with descriptive statistics. Differences in scores on attitudes towards collaboration between pre-and post-activity, and between medicine and pharmacy students will be evaluated using *t* tests. Identification and resolution of drug-related problems will be evaluated using a faculty-designed case-specific checklist which will assess differences in individual and team documentation of the plan of care in the submitted SOAP

notes. Recorded videos of team discussions surrounding the case will be evaluated by one pharmacy and one medicine faculty using the Performance Assessment of Communication and Teamwork (PACT) Simulation Observation Tool¹³, with a third observer used in tie-breaking for consensus. Recorded videos will also be uploaded into NVivo© qualitative software to identify emerging themes of collaboration, team dynamics, and interactions in discussion of the patient case. Correlations will be evaluated between scores on the PACT Simulation Observation Tool and scores achieved on the case rubric to evaluate associations between team competencies and case performance. Finally, student post-activity reflections will be evaluated using NVivo© qualitative software to analyze and summarize emerging themes regarding student perceptions of the IEE activity.

The timeline for implementation of this project is July 2023 to December 2023. Students will complete the IEE activity, including the pre-briefing module, individual and team plan of care, and post-activity debriefing between July and October 2023. During this time frame, pharmacy students are enrolled in a required course series where this activity will be housed. The Curricular Review course series is a three-course series that prepares students for licensure examinations and exposes students to activities to prepare them for future practice, including IPE activities. Medical students in the D.O. program are enrolled in a series of online required modules that must be completed during the clerkship years. Online modules consist of discreet training modules on special populations (i.e., geriatrics) or interprofessional education concepts that are encountered longitudinally during the clerkship year. Both pharmacy and medical students are assigned to a variety of practice settings in South Florida and Puerto Rico during this time frame and will engage with the activity while at different clinical sites. From October to December 2023, authors will analyze and summarize data collected during the activity. Results of the project will be disseminated through publication in high-impact, peer-reviewed biomedical education journal or presentation at an interprofessional focused conference, such as Collaborating Across Borders (CAB).

The budget amount requested is \$3951. This includes funds to pay a standardized patient actor to role-play the patient scenario which will be embedded in the activity module for the case. Standardized patient funds include a 1-hour training and up to four hours to record the scenario. The scenario will be recorded by Nova Southeastern University's (NSU) Learning Education Center (LEC), who provides recording studio facilities and equipment to NSU faculty at no additional cost. The majority of funds will be used to purchase two licenses for qualitative analysis software, including training for the software, for a pharmacy and medical faculty member. One of the investigators is experienced in qualitative analysis and will provide guidance and oversight of this portion of the analysis. Finally, to fund dissemination of project results, funds are included for travel to an interprofessional conference and for potential publication fees to publish in a high-impact, peer-reviewed journal targeted toward IPE. If this project is successful, investigators plan to expand the activity to include additional health professional programs at the institution. To expand beyond our institution and engage local health-systems, investigators will present results to the Association of Schools Advancing Health Professions (ASAHP), of which NSU is a member institution and recently hosted a [Regional Summit](#) to improve collaboration between academia and the healthcare industry to improve clinical education. Finally, further dissemination of the work to both pharmacy and medical programs can be achieved through publication in [MedEdPortal](#) so the activity may be used and adapted by other institutions seeking to implement intentional interprofessional activities during experiential training.

Appendix I. References

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Project Title: "Evaluation of an Intentional Interprofessional Education Activity During APPEs"

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Appendix II. Institutional Review Board Approval

Protocol approved as EXEMPT on 1/3/2023 by the Nova Southeastern University Institutional Review Board (IRB) (project #2023-3-NSU)

Enclosed is the approval memorandum.



MEMORANDUM

To: Karen Sando
College of Pharmacy

From: William "Bill" R Wolowich, Pharm.D.
College Representative, College of Pharmacy

Date: January 3, 2023

Subject: IRB Exempt Initial Approval Memo

TITLE: Evaluation of an Intentional Interprofessional Education Activity Between Student Pharmacists and Physicians During Experiential Training– NSU IRB Protocol Number 2023-3

Dear Principal Investigator,

Your submission has been reviewed and Exempted by your IRB College Representative or their Alternate on **January 3, 2023**. You may proceed with your study.

Please Note: Exempt studies do not require approval stamped documents. If your study site requires stamped copies of consent forms, recruiting materials, etc., contact the IRB Office.

Level of Review: Exempt

Type of Approval: Initial Approval

Exempt Review Category: Exempt 1: Educational research in educational settings

Post-Approval Monitoring: The IRB Office conducts post-approval review and monitoring of all studies involving human participants under the purview of the NSU IRB. The Post-Approval Monitor may randomly select any active study for a Not-for-Cause Evaluation.

Annual Status of Research Update: You are required to notify the IRB Office annually if your

research study is still ongoing via the *Exempt Research Status Update xForm*.

Final Report: You are required to notify the IRB Office within 30 days of the conclusion of the research that the study has ended using the *Exempt Research Status Update xForm*.

Translated Documents: No

Please retain this document in your IRB correspondence file.

CC: William "Bill" R Wolowich, Pharm.D.

Office of Sponsored Programs (OSP)