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## IPE Reports

## Development and implementation of an interprofessional pharmacotherapy learning experience during an advanced pharmacy practice rotation in primary care

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## ABSTRACT

**Background:** There is increased focus and pressure to include interprofessional education during training of health professionals. This program describes an interprofessional education program between pharmacy, medical, and nurse practitioner students during a primary care clinical rotation elective.

**Interprofessional education activity:** The interprofessional education program (IPE) during a primary care rotation was developed to be included as a learning experience throughout the rotation period. The health professions included have a role in appropriate prescribing; therefore, the content emphasis is primary care disease states where pharmacotherapy is a treatment modality.

**Discussion:** Data assessing the program was collected using the Interprofessional Education Perception Scale (IEPS) from April 2014 to April 2016. A total of 56 IEPS pre- and post-surveys were collected for analysis. A significant difference in the IEPS scale was found in the subgroups of (1) professional competence and autonomy and (2) perceived need for professional competence ( $p < .05$ ). Qualitative results of the completed surveys show a trend of respectful and positive communication between students, lack of previous IPE experience prior to the intervention, and a collaborative environment where students had the opportunity to learn about each other's professions. Structured interactions between health professions student interactions during clinical rotations can be beneficial for students to learn about each other and may lead to better collaboration. The authors will use the current program as a foundation for other interprofessional activities between students.

## Background

The need for interprofessional education (IPE) and team-based learning has been described by multiple organizations and health professions schools.<sup>1–3</sup> IPE is often defined as an experience that occurs when students from two or more professions learn about, from, and with each other.<sup>1</sup> Programs that effectively weave interprofessional education into a curriculum have the propensity to encourage health professionals to practice at the level of their full professional scope, which can lead to improved quality of care and decreased cost.<sup>3</sup> The operational definition of interprofessional is vague; therefore, current literature suggests the related activities have been implemented to varying degrees in pre-clinical and clinical training.<sup>2,4</sup> Health professions student interactions during advanced clinical rotations are a unique opportunity for IPE in that they provide a context for application of patient-centered care.

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According to a Institute of Medicine (IOM) report, an alignment between IPE and health care delivery systems is needed in order to effect and impact outcomes.<sup>5</sup> Moreover, the Accreditation Council for Pharmacist Education (ACPE) outlines the importance of IPE during advanced pharmacy practice education experiences (APPEs) with an emphasis on learning opportunities that foster inter-professional team dynamics, education, and practice.<sup>6</sup> Although the ACPE standards clearly describe IPE objectives within training programs, implementation during rotations require resources and motivation from multiple health care providers. IPE during clinical rotations lends to the partnership of health professions schools, which may not have resources or other affiliated health professions schools, to partner and create a mutually beneficial program. This allows for interactions that may not be possible during pre-clinical coursework.

Interprofessional education provided through case studies allows students to learn in a structured environment while providing the knowledge, skills, and attitudes to work collaboratively.<sup>7</sup> Case studies is a solution for creating a safe environment for IPE, and may be used in conjunction with other activities during clinical rotations.<sup>7</sup> We developed a small group environment for problem-based learning with the intention that the intervention would set the foundation for other clinical interactions during APPEs.

The Interprofessional Education Collaborative (IPEC) released Core Competencies for Interprofessional Collaborative Practice, that reported 38 core competencies in four domains: (1) values/ethics for interprofessional practice, (2) roles and responsibilities, (3) interprofessional communication and (4) teams and teamwork.<sup>2</sup> The competencies identified by IPEC are related to an earlier initiative of core competencies created for all health professions by the Institute of Medicine.<sup>1</sup> These resources were used as a guide to formulate blended learning objectives and activities with an emphasis on professional roles and responsibilities.

Our study involves an outpatient family medicine clinic part of the Center for Family and Community Medicine through Columbia University Medical Center, which is an academic medical center that serves as a training facility for family medicine residents. In addition, health professions students (including pharmacy, medical, and nurse practitioner students) complete their clinical rotations in primary care at the site. During the time of the initial development of the IPE program, the pharmacist faculty member and pharmacy students were a relatively new addition to the setting. The faculty member is funded solely through St. John's University College of Pharmacy and Allied Health, and maintains clinical and educational activities at the site as part of this university appointment. The physician and nurse practitioner involved in the program are partially funded through Columbia University. Despite the site serving as an educational location for multiple health professions, the student groups had limited interactions or activities planned with one another prior to the IPE intervention described. The developed IPE program includes the use of case studies and problem-based learning methods to facilitate learning of conditions common in primary care as tools to improve interactions with health professions students.

### **Interprofessional education activity**

Medical, nurse practitioner, and pharmacy students all have roles in appropriate prescribing; therefore, the main content focus area for the development of the cases for the sessions were chronic disease states where pharmacotherapy is involved. The program described utilizes only resources available at the clinical site. Key characteristics, such as space for the activities, accessible technology/learning tools, and invested instructors, are defining aspects of the program.

The overarching learning objectives for the program are: (1) Identify professional roles and responsibilities through problem-based learning and (2) Identify attitudes and perceptions towards teamwork through the construction of a care plan. Six IPE case-based activities are created for the program. Students are notified in advance of the actual topics and each of the topic areas focuses on a single disease state or theme (e.g., asthma/chronic obstructive pulmonary disease, diabetes, hypertension, contraception, transitions of care, and over the counter medications). The cases within the topics vary in disease severity and patient population. In addition, Bloom's taxonomy is used to create different levels of learning and discipline specific questions in order to encourage identification of professional roles and collaboration where roles may overlap in appropriate prescribing.<sup>8</sup> Actual patient cases from practice are not used since this would potentially require more guidance and background experience (especially with the presence of complex comorbidities) which would be overwhelming to many student groups, especially those on early rotations. Types of interactive tools/techniques include devices related to the session topics (e.g., asthma inhalers and insulin pens) and the hospital system's electronic medical record (for test patients created for the cases).

Time is blocked within each rotation schedule during reading or project time for the IPE activity. Students meet once a week for approximately two hours for the duration of their rotation period (four to five weeks). Since faculty members create time within each program that would allow for the activity, it is a routine part of the rotation schedule. Students are given an organized learning plan on the day of the session. The topics included are commonly seen in a primary care rotation, which allows students to apply knowledge or learning pearls from their rotation experiences. At the beginning of each IPE session, emphasis is placed on communication and teamwork. Students are given a brief orientation before the beginning of the rotation and are also reminded that work is not grade-based (to remove any pressure of a test-taking culture). The setting of the IPE activities is the conference room at the clinical site.

Our aim is to have the faculty member to primarily serve as an instructor for the learning. The instructor is not present in the room during the IPE session but is present for the last half hour of each session to discuss the content of the created team care plans, highlight clinical pearls related to the disease state focus, and review other questions from the team discussion. Since the instructors are not present during the actual sessions, emphasis on collaboration is accomplished through education during orientation and creating a mixture of problem-based learning activities for students to be engaged throughout the sessions. In addition, the faculty group communicates and meets on an as needed basis to assure an adaptable and flexible program to continually meet educational needs.

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