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## Currents in Pharmacy Teaching and Learning

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Experiences in Teaching and Learning

## Describing pharmacy student participation in an international, interprofessional medical mission trip as part of an advanced pharmacy practice experience (APPE)

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## ABSTRACT

**Background and purpose:** Several schools of pharmacy across the United States have taken steps to incorporate international medical mission trips into the doctor of pharmacy (PharmD) curriculum. This study aims to describe the impact of advanced pharmacy practice experience (APPE)-level student pharmacists on an interprofessional team during an international medical mission trip to Jamaica.

**Educational activity and setting:** The Jamaica Medical Mission (JMM) trip is an annual event involving healthcare professionals from several disciplines across multiple universities and healthcare systems. At this institution, the JMM trip is included as part of a rural health elective APPE rotation. Students electing to participate in this rotation are provided with the opportunity to serve as active participants on an interprofessional healthcare team in underserved and under-resourced communities throughout Jamaica. The JMM trip that took place during June 2016 included healthcare professionals and students in the fields of medicine, dentistry, optometry, nursing, and pharmacy. A total of five pharmacist preceptors and 10 pharmacy students attended the JMM trip in June 2016. Approximately three to five clinic sites per day were conducted simultaneously on each of the seven clinic days at various locations throughout Jamaica. The interprofessional healthcare teams provided free medical care, including physical exams and access to prescription and non-prescription medications.

**Findings:** The interprofessional healthcare team saw a total of 1014 patients and dispensed 1879 prescriptions during the seven clinic days. A total of 811 clinical recommendations were made by student pharmacists and/or pharmacy preceptors. Of these recommendations, 561 (69%) were made by student pharmacists without pharmacy preceptor prompting, 103 (13%) were made by the student pharmacist with preceptor prompting, and 147 (18%) were made by pharmacy preceptors. Over 70% of recommendations made by student pharmacists without pharmacy preceptor prompting were accepted by prescribers.

**Discussion and summary:** This study sought to describe the impact of APPE-level student pharmacists on an interprofessional team during an international medical mission trip. Our findings demonstrate that APPE-level student pharmacists were capable of making a substantial number of clinical recommendations without preceptor prompting. The number of recommendations made by students without preceptor prompting were consistently greater than the number of recommendations made with preceptor prompting throughout the trip. Future studies should

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address student competence in achieving learning objectives associated with international, interprofessional APPE rotations.

## Background and purpose

Several schools of pharmacy across the United States have taken steps to incorporate international medical mission trips into the doctor of pharmacy (PharmD) curriculum.<sup>1</sup> International medical mission trips have the potential to benefit underserved communities and have been shown to provide student healthcare professionals with increased compassion toward patients, awareness of resource use, and cultural competence.<sup>1-3</sup> These unique experiences target specific key elements of the Accreditation Council for Pharmacy Education (ACPE) Standards 2016. For example, Standard 13 states that advanced pharmacy practice experiences (APPEs) should emphasize patient care, expose students to diverse patient populations, and provide in-depth experience in delivering direct patient care as part of an interprofessional team.<sup>4</sup> Many APPEs that take place in the United States (US) emphasize patient care and several rotations provide experience in delivering patient care as part of an interprofessional team. In addition to these factors, a unique key element that is emphasized on international mission trips is exposure of students to diverse patient populations with lower socioeconomic status and limited access to healthcare resources.<sup>1-3</sup> During a medical mission trip, pharmacists and student pharmacists work alongside other healthcare professionals to develop clinical recommendations, educate patients on lifestyle modifications, dispense, and counsel patients on their medications. Medical mission trips provide a unique venue for students to apply their skills and abilities by addressing the medical needs of an underserved population.<sup>5-8</sup>

According to a recent survey sent out to 127 accredited or candidate-status US PharmD programs, 34 of the 55 programs who responded to the survey reported offering international medical mission trips as either introductory pharmacy practice experiences (IPPEs) and/or APPEs.<sup>2</sup> Although the number of opportunities for international medical mission trips is on the rise, studies that describe student pharmacist participation in these experiences are lacking. Much of the published literature regarding pharmacy involvement in medical mission trips is limited to the contributions made by licensed pharmacists and/or the general process of incorporating student pharmacists into this type of experience.<sup>5-9</sup>

A few studies have addressed involvement of APPE-level student pharmacists on medical mission trips. Results of these studies were mainly limited to cultural competency and recommendations to optimize the operation of medical mission trips.<sup>3,10</sup> These studies did not address clinical recommendations made by student pharmacists on the medical mission trips and provided only limited information on the interdisciplinary nature of these experiences. A study by Scopelliti et al.<sup>11</sup> evaluated interventions made by pharmacy students on a short-term medical mission trip to Nicaragua and perceived clinical competence of student pharmacists in an interprofessional setting. This study was limited to pharmacy students in the first to third professional years of the PharmD program and the interprofessional approach was limited to pharmacists, physician assistants, and physical therapists and students of these programs. There is a need to further explore the impact of APPE-level student pharmacists on interprofessional, international medical mission trips and to differentiate the impact of the student pharmacists from the impact of the licensed pharmacist preceptors who also participate in these experiences. This study aims to describe the impact of APPE-level student pharmacists on an interprofessional team through documented clinical recommendations made on a medical mission trip.

## Education activity and setting

The Jamaica Medical Mission (JMM) trip is an annual event involving healthcare professionals from several disciplines across multiple universities and healthcare systems. At this institution, the JMM trip is included as part of a rural health elective APPE. Students electing to participate in this rotation are provided with the opportunity to serve as active participants on an interprofessional healthcare team in underserved and under-resourced communities throughout Jamaica. Some of the learning objectives for this elective experience include development and maintenance of a medication formulary, delivery of therapeutic recommendations to improve patient care, provision of medication education to patients and healthcare providers, and engagement in scholarly activity. Prior to departure, students participate in activities related to formulary management, medication inventory, preparation of evidence-based medication use guidelines, and development of research projects and continuing education presentations. The medical mission trip takes place over approximately 10 days during the middle of the five-week APPE. Following the medical mission trip, students participate in additional rotation activities as previously described.

The JMM trip that took place during June 2016 included approximately 165 healthcare professionals and students in the fields of medicine, dentistry, optometry, nursing, and pharmacy. A total of five pharmacist preceptors and 10 APPE-level student pharmacists participated in the JMM trip. Students from other healthcare disciplines who participated in this medical mission trip were in various stages of their training; for example, student pharmacists were in their final year of training, student physicians had just completed their first professional year, and student dentists ranged from first professional year to fourth professional year. Approximately three to five clinic sites per day were conducted simultaneously on each of the seven clinic days at various locations throughout Jamaica. The interprofessional healthcare teams provided free medical care, including access to prescription and non-prescription medications. Medications were purchased using monetary donations and the formulary included 82 different drugs used to treat a variety of medical conditions commonly seen in rural areas of Jamaica.

Each clinic was divided into stations based on healthcare discipline to facilitate an organized workflow. Although each healthcare

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