

BACKGROUND

Learning to communicate effectively with other members of the healthcare team is an integral component of dental students' education. All pharmacy students must complete advanced pharmacy practice experience (APPE) rotations during their last year of pharmacy school. Participating in interprofessional care teams is an important objective of the APPE. Establishing a pharmacy APPE in a university dental clinic may provide both disciplines with essential collaborative care experience. A recent study evaluated an interprofessional model between pharmacists and dentists in a university dental clinic, finding success in the pharmacy team's ability to identify drug therapy problems and procure primary care metrics.¹

Dental patients often have comorbidities and take multiple medications that can impact their dental treatment, including choice of prescribed medications, and/or anesthetics.^{2,3} Following best practice, dentists must evaluate the potential for medication dependence, drug-drug or drug-disease interactions, and oral adverse effects by acquiring a thorough medication history.⁴ Although pharmacology and/or pharmacotherapeutics are included in dental students' training, they could be supported by pharmacists and/or pharmacy students who are trained to assist healthcare professionals with the challenges of medication-related therapy.

RESEARCH QUESTION

The objective of this interprofessional educational collaboration was to design and implement an APPE rotation for fourth year pharmacy students in a dental clinic and assess the impact of patient interventions during the joint effort.

METHODS

Twenty-one pharmacy students rotated through a 5-week ambulatory care required APPE in the Creighton University School of Dentistry dental clinic from August 2015 to July 2017. Approximately 172 third and fourth year dental students train in the dental clinic each year. The pharmacy students were supervised by the Creighton University School of Pharmacy and School of Dentistry faculty member who had established the interprofessional site and clerkship. The students evaluated patients in the Assessment (4 dental chairs) and Oral Diagnostics (22 dental chairs) specialty areas of clinic. Students recorded interventions daily on a descriptive checklist for impact analysis.



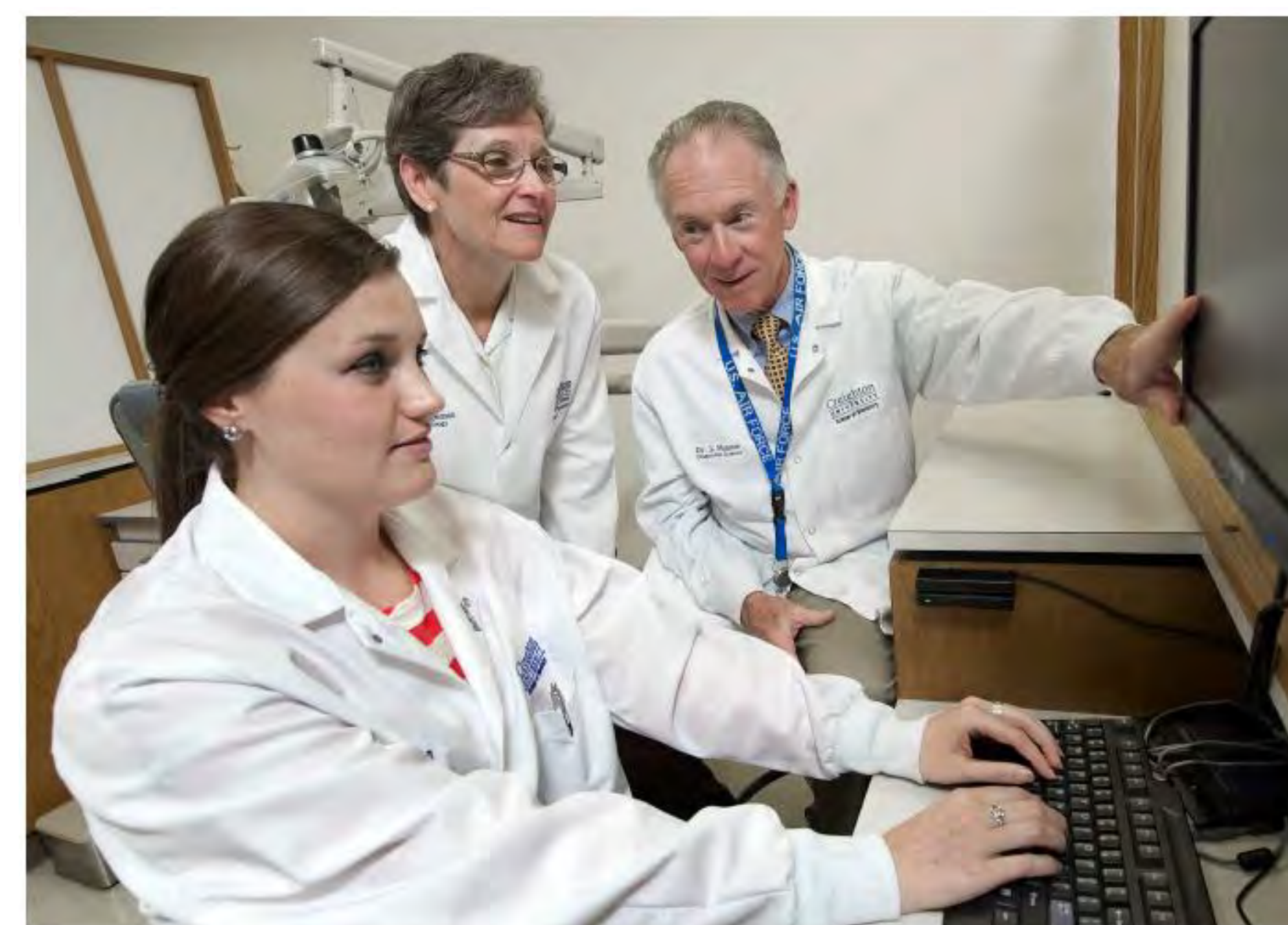
Dental student Jesse Varoz, left, and pharmacy student Brittany Stevens will benefit from the collaboration of Creighton's School of Dentistry and School of Pharmacy and Health Professions.

"The ability of the pharmacy student to speak directly to my patient and I about any concerns in medications that the patient is taking, has taught me a great deal about drug-drug interactions, and how to alter my treatment of the patient to provide safe alternative care, when needed." - Annika Van der Werf, DDS Candidate 2019

RESULTS

The pharmacy students, with oversight and assistance from a pharmacy faculty member, assisted dental students with acquiring, correcting, and evaluating over 2,700 medication histories. Intervention categories and the numbers identified may be found in Table 1. During the tracking period, the pharmacy students reviewed charts for 3,448 patients and recommended interventions in 1,289 patient charts and/or patients (37.4% of the charts reviewed). Multiple interventions were identified for some patients. Common interventions identified within the adverse reaction/drug interaction category included xerostomia, increased bleeding risk due to anticoagulant medications, and drug-drug interactions with epinephrine and other anesthetics.

"Discussions with the dental student and their patient help you improve your communication skills and challenges you to tailor your information to different audiences quickly. Overall, it is a wonderful and unique learning opportunity." - Tina Williams, PharmD Candidate 2018



Kalin Johnson, Pharm.D., Margaret Jergenson, DDS, and John Shaner, DMD, review a patient's medical history.

Table 1. Number and Type of Intervention Made by the Pharmacy Students

Type of Intervention	Number of Interventions
Adverse Reaction/Drug Interactions	575
Drug Choice Problems	553
Dosing Problems	228
Patient-Related Problems	458
Assistance with Medication Histories	2708
Accepted Dental Medication Recommendations	74

DISCUSSION

The data demonstrates the positive contributions pharmacy students can make through recommended interventions when participating on a pharmacy-dental team in a university-associated dental clinic. The pharmacy students made these interventions in the presence of the assigned dental student. Regular teamwork between pharmacy and dental students may result in an increased understanding of the role of the opposite profession, improved interprofessional communication, and positive outcomes for patients. It's reasonable to conclude that cultivating dental and pharmacy student collaborative relationships may result in enhanced interprofessional collaboration between practicing pharmacists and dentists post-graduation.

REFERENCES

1. Branch-Mays GL, Pittenger AL, Williamson K, et al. An interprofessional education and collaborative practice model for dentistry and pharmacy. *J Dent Educ.* 2017;81(12):1413-1420.
2. Weinstock R, Johnson M. Review of Top 10 Prescribed Drugs and Their Interaction with Dental Treatment. *Dent Clin N Am.* 2016;60:421-434.
3. Moore PA, Gage TW, Hersh EV, et al. Adverse drug interactions in dental practice: Professional and educational implications. *JADA.* 1999;130:47-54.
4. Lygre H, Kjome RLS, Choi H, Stewart AL. Dental providers and pharmacists: a call for enhanced interprofessional collaboration. *Int Dent J.* Available at: <http://onlinelibrary.wiley.com/doi/10.1111/idj.12304/full>. Accessed July 26, 2017.