

THE DANIEL K. INOUE COLLEGE OF PHARMACY SCRIPTS

Ambulatory Care Clinical Pharmacy Services Through the Daniel K. Inouye College of Pharmacy Faculty

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HJH&SW contributing editor of the Daniel K. Inouye College of Pharmacy (DKICP) Scripts column is Jarred Prudencio PharmD, BCACP, BC-ADM. Dr. Prudencio is currently Assistant Professor of Pharmacy Practice, and is a Board Certified Ambulatory Care Pharmacy Specialist with experience in outpatient family medicine and specialty clinics.

Background

Clinical faculty members at the Daniel K. Inouye College of Pharmacy (DKICP) work as educators for pharmacy students in both the didactic and experiential settings. Experiential education at the DKICP provides pharmacy students direct experiences in various patient care settings through shorter introductory rotations in the first three years of schooling, and full-time advanced rotations in the fourth year.

Ambulatory Care is a field of clinical pharmacy in which pharmacists, in collaboration with clinicians such as physicians and nurses, work with patients in an outpatient clinic setting to optimize medication regimens. Currently, there are 5 faculty who practice as ambulatory care clinical pharmacists at 4 clinic sites which provide students with hands-on learning experiences in this field of pharmacy.

Ambulatory Care is a broad and growing field of clinical pharmacy.¹ An ambulatory care pharmacist starts with assessing a patient's medical needs and identifying any medication-related problems. The pharmacist then works with the patient and other clinicians to develop a patient-specific care plan focused on optimizing medication regimens. The pharmacist will then work with the interdisciplinary team to follow-up with patients and continually reassess the patient to improve outcomes.² Although the general responsibilities are common among all types of ambulatory care pharmacists, each clinical service may have different foci. For example, some ambulatory care pharmacists focus on a specific condition such as diabetes, anticoagulation, or transplant, while others may have a more comprehensive focus. Additionally, some services may leverage various types of collaborative practice agreements or therapeutic protocols for the pharmacist to implement the medication plans with patients.

This article highlights 4 of the clinics in Hawai'i where DKICP ambulatory care faculty practice. These clinics provide students with valuable hands on experience, and improve the health care services available in the community.

Hawai'i Island Family Health Center

The Hawai'i Island Family Health Center (HIFHC) is an interdisciplinary family medicine clinic located in Hilo. The clinic is a primary care training site, where various healthcare learners are trained, including family medicine residents, pharmacy students, clinical psychology fellows, as well as medical and nursing students. Two pharmacy faculty members, Dr. Michelle Kim and Dr. Jarred Prudencio, serve as the clinical pharmacists at HIFHC.

The clinical pharmacy service at HIFHC focuses on comprehensive medication management (CMM), in which pharmacists work directly with patients to optimize medication regimens. Patients are scheduled on the pharmacist's independent patient panel for an in-clinic visit to discuss their medications and chronic disease states. With a progressive collaborative practice agreement, these pharmacists are able to make adjustments including initiating, discontinuing, or adjusting any non-controlled substance on a patient's medication regimen. These pharmacists also place orders for laboratory tests that may be necessary to ensure the medications are safe and effective for patients. Patients are often referred to this service for assistance in improving chronic disease state control. The most common conditions these pharmacists manage are cardiovascular diseases, diabetes, and respiratory diseases, but the focus is comprehensive. The pharmacists also work with patients who may need help understanding the purpose of their medications, improving medication adherence, or with polypharmacy concerns.

As the primary outpatient facility of the Hawai‘i Island Family Medical Residency Program, the pharmacists at this clinic are also relied on to help with making medication recommendations and answering drug information questions from other clinicians. The pharmacists work with educating family medicine residents on pharmacotherapy issues. Third-year and fourth-year pharmacy students rotate through HIFHC to gain introductory and advanced experiences in the ambulatory care setting. This also allows students to gain exposure to working in a well-integrated interdisciplinary healthcare setting.

The Physician Center of Mililani

Similar to the Hawai‘i Island Family Health Center, the Physician Center at Mililani (PCM) is a family medicine clinic that provides interdisciplinary management of patients in central O‘ahu, (Mililani, Wahiawa and neighboring areas), and is staffed by Dr. Camlyn Masuda. PCM is also a training site for the John A. Burns School of Medicine (JABSOM) Family Medicine residency program and works collaboratively with a pharmacist and psychologists to provide integrated care. PCM is a site for medical students and pharmacy students to achieve their advanced practice experiences. In partnership with the psychiatric residency program, psychiatric residents fulfill their primary care visits at PCM.

Dr. Masuda’s interest and expertise is in diabetes. She provides individual office visits with patients for diabetes education and management. With a collaborative agreement with the physicians, she is able to make medication dosing changes, start and discontinue medication and order labs to monitor medications ordered. Dr. Masuda also assists with addressing health maintenance for patients with diabetes such as performing monofilament exams, reminding patients to schedule dilated eye exams, and ordering immunizations. This helps with preventing patient complications but also helps fulfill quality metrics for the clinic, which can increase revenue from certain insurance companies. Although her interest is in diabetes management, she also provides management of asthma, chronic obstructive pulmonary disease, hypertension, hyperlipidemia, smoking cessation and comprehensive medication management, as any ambulatory pharmacist is able to.

As an ambulatory care pharmacist in the clinic, Dr. Masuda also assists the providers with medication therapy selection by answering drug information questions, solving issues from retail pharmacies, obtaining prior authorizations for medications, and researching preferred formulary medications. Fourth-year pharmacy students rotate with Dr. Masuda at PCM to gain experience in an ambulatory care setting.

Kea‘au Bay Clinic

Dr. Bryce Fukunaga practices ambulatory care pharmacy at the Bay Clinic in Kea‘au on the island of Hawai‘i. Bay Clinic is a

federally qualified health center with multiple locations across the island. The Kea‘au location opened an outpatient pharmacy in April 2019. This pharmacy greatly benefits the underserved patients of Bay Clinic by dispensing medication prescriptions at a lower cost. Dr. Fukunaga’s primary role is to handle primary care provider referrals for patients with chronic conditions such as diabetes, hypertension, and hyperlipidemia. He counsels these patients and makes recommendations to the other providers for medications, monitoring, and lifestyle interventions. His area of focus is diabetes treatment and besides having face to face appointments, he gets a weekly list of patients who visited the clinic with uncontrolled diabetes. He calls the listed patients to provide diabetes phone counseling then makes recommendations to their providers. The pharmacists in the outpatient pharmacy perform medication therapy management and refer complicated patient cases to Dr. Fukunaga for assistance.

Dr. Fukunaga is involved in non-pharmacy related services as well. He is 1 of 3 certified lifestyle coaches who lead a weekly Diabetes Prevention Program (DPP) for prediabetes patients where they follow a set curriculum approved by the Centers for Disease Control and Prevention (CDC) to help prevent diabetes through lifestyle interventions. Bay Clinic also has Diabetes Self-Management and Education (DSME) classes and the pharmacist teaches some of the didactic portions including medications, complications, monitoring, and physical activity. Currently third-year and fourth-year pharmacy students may go to Bay Clinic to gain hands-on experience and learn in the experiential setting with Dr. Fukunaga.

The Queen’s Physician’s Office Building III

The University Health Partners of Hawai‘i Department of Medicine Faculty Practice clinic is located on the island of O‘ahu at The Queen’s Medical Center, Physicians Office Building III, where Dr. Wes Sumida practices. This outpatient ambulatory clinic is comprised of internal medicine primary care physicians and board certified sub-specialists in pulmonology medicine, rheumatology, allergy and immunology, cardiology, and infectious disease. This practice also serves as the clinical learning environment for UH JABSOM medical students, Hawai‘i Residency Program medical residents, and DKICP pharmacy students and residents.

Pharmacy services began at the University of Health Partners of Hawai‘i Department of Medicine Faculty Practice clinic during the fall of 2017. Currently, pharmacy patient service activities involve internal medicine patients with medication reconciliation, drug information, patient and medication education, post-hospital discharge transitions of care medication reviews, medication monitoring and follow-up, medication refills, and prior authorization with insurance support. Additional pharmacy related services to the practice include medication inventory supply storage audits, and research and support for medication guidelines and policies.

This pharmacy academic teaching experience originated at the Lau Ola clinic which was an extension of JABSOM Department of Native Hawaiian Health. Since then, this site has continued its relationship with the Department of Native Hawaiian Health in pursuit of professional cultural education activities and community outreach such as *Papakolea lomilomi* health screening. Fourth-year pharmacy students may rotate with Dr. Sumida in this setting to gain experience in ambulatory care.

Benefits of Ambulatory Care Pharmacists

There is a plethora of evidence that supports the implementation of ambulatory care clinical pharmacists into healthcare teams. One large systematic review found that the addition of a pharmacist in a multidisciplinary team had favorable outcomes on hemoglobin A1c, cholesterol, blood pressure, and adverse drug events.³ Pharmacists are the medication experts in health care, therefore, having a clinical pharmacist working with other clinicians such as physicians, nurses, and psychologists can make for an ideal, team-based approach to patient-centered care.

The incorporation and use of ambulatory care pharmacists can also financially benefit medical clinics, both in terms of revenue enhancement and cost control. Proper adherence to medication schedules results in improved quality metrics and ultimately improved third-party payments. In addition, ambulatory care pharmacists may participate in chronic disease management, which is a billable visit with appropriate documentation. Ambulatory care pharmacists are also able to perform Medicare Wellness visits (after the patient has their initial wellness visit) which is a reimbursable visit by Medicare.

Conclusion

As noted in these 4 different clinic settings in Hawai'i, ambulatory care pharmacists can be implemented in a diverse range of outpatient clinics. The primary similarity between these clinical pharmacy services is that the pharmacists work in direct patient care roles to help optimize medication regimens, with the goal of improving long-term patient outcomes. Logistics and focuses of each service can vary and be adapted depending on the needs of the clinic and patient population. Pharmacists working in clinical roles alongside other clinicians in this setting is a great way to provide patient-centered team-based healthcare.

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