The UBC Pharmacists Clinic: A catalyst for practice change

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THE UBC PHARMACISTS CLINIC (THE CLINIC) is Canada's first university-affiliated, licensed, pharmacist-led patient care clinic. Located at the UBC Faculty of Pharmaceutical Sciences-Vancouver Campus, the Clinic was established to 1) model patient care best practices; 2) provide education for student and pharmacist learners; and 3) enable practice innovation and research. Although the Clinic meets community pharmacy licensing requirements, it operates like a medical office where patients are seen by appointment in a dedicated clinic space with 5 consultation rooms, meeting rooms and a reception area. The Clinic highlights the contributions pharmacists make to patient care and is a living laboratory to support primary care practice change within the profession.

Model of patient care best practices

At the Clinic, patients receive comprehensive medication management (CMM) from patient care practitioners (PCPs) who are pharmacists practising to the full extent of their scope. These PCPs use evidence-based and patient-centred approaches consistent with the Blueprint's Vision for Pharmacy in Canada.¹ This is similar to care environments in other Canadian provinces, where pharmacists work at clinically advanced levels of practice in primary care teams.²⁻⁴ The Clinic team uses a respectful, collaborative approach to building relationships and trust with patients and other health care professionals, enabling the Clinic to achieve early success. In its first 18 months, the Clinic has worked with more than 80

physicians and provided care for more than 2300 patients (Table 1). Most of these patients (64%) were referred to the Clinic by either their family physician or a specialist. Patients also come to the clinic via referral from a pharmacist, a hospital, another health care professional or self-referral.

The Clinic operates 2 patient care models. In the *pharmacist consultation model*, physicians, pharmacists and other health care professionals refer complex patients directly to a PCP for care at the Clinic site either in-person, via telephone or via telehealth (secure video conferencing). This model positions the PCP as a pharmacotherapy specialist providing support to the patient's health care team. The *pharmacist co-location model* has PCPs physically located in physician offices working in a team-based collaboration with physicians, community pharmacy-based pharmacists and other health care professionals in the care of complex patients. In the first 18 months, 60% of patients received care from a PCP in the consultation model and 40% received care in the co-location model.

A typical patient referred to the Clinic is complex, having numerous health conditions and requiring multiple drug therapies (see sidebar). Initial appointments are scheduled for 60 minutes and follow-up appointments for 30 to 60 minutes, depending on patient needs. During a CMM appointment, the patient undergoes an in-depth pharmacotherapy assessment in which all drug therapy problems are identified and prioritized and a plan

A patient seen at the Pharmacists Clinic

A.W. is a 95-year-old Cantonese-speaking woman referred to the Pharmacists Clinic for a review of her medications. Medical conditions include gout, hypertension, diabetes, hyperlipidemia, chronic generalized pain, heart failure and osteoporosis. Current medications include allopurinol, amlodipine, atorvastatin, codeine extended-release, docusate, glyburide, metoprolol, linagliptin, etidronate, diclofenac topical gel and additional non-prescription medications. Priority problem areas are identified in collaboration with the patient and her daughter as hypoglycemic episodes, ineffective pain control and chronic constipation. Over the course of several appointments, the PCP works with this patient's physician to adjust the diabetes medications and pain medications, resulting in improved safety and quality of life for the patient.

is developed for resolution. Patients participate in the creation of an individualized care plan, and follow-up is coordinated with the patient's care team, including physician and community pharmacy-based pharmacist. PCPs at the Clinic act in a complementary, consultative role to other members of a patient's care team. Existing patient-pharmacist, patient-physician and pharmacist-physician relationships are maintained and, in many cases, enhanced with the involvement of a PCP from the Clinic. All patients in need of CMM are eligible to receive care at the Clinic at no cost to the patient, regardless of their medical conditions, the number or type of medications they take, their health plan status or their geographic location within BC. The Clinic is funded by the Faculty of Pharmaceutical Sciences and the BC Ministry of Health.

Experience in other provinces has shown that a major barrier to effective practice change for

pharmacists is the lack of systems and support tailored for pharmacists to maximize their clinical time with patients.⁵ The UBC Pharmacists Clinic is using multiple approaches to remove this barrier.

The Clinic employs 4.8 full-time equivalent (FTE) people and engages students in a variety of learning opportunities that support the Clinic's operations (see Table 2). The Clinic also has a fully developed practice support infrastructure integrated into daily operations. This includes a customized electronic medical record (EMR) for pharmacist and physician documentation in a shared record (Oscar EMR), pharmacy software for provincial network (PharmaNet) access, a virtual private network for access to centralized patient records and documentation of care, secure e-mail and file sharing, connection to the provincial telehealth network, access to the provincial database for patient laboratory values (Excelleris), on-site

TABLE 1 UBC Pharmacists Clinic metrics (November 2013 to May 2015)

Parameter		Count
Patients receiving care (all)		2364
Service episodes (all)		2544
Patients referred by a physician		64%
Referral sources	Family physicians	81
	Specialists	8
	Other	Self-referral, hospital, pharmacist
Patient care models	Pharmacist consultation	60%
	Pharmacist co-location	40%

TABLE 2 Staff at UBC Pharmacists Clinic

Parameter		Count
Clinic staff	Director	1 FTE
	Receptionist/administrator	1 FTE
	Patient care practitioner	2.8 FTEs (1.2 FTEs for first 9 months)
Learners	Student volunteers	>190
	Student learners on rotation	20
	Pharmacist learners	2
	Pharmacist observers	>30

FTE, full-time equivalent.

point-of-care technology (e.g., blood pressure, lipid profile, international normalized ratio, hemoglobin A1C, renal function, spirometry), standardized service procedures, documentation standards, clinical resources, support for practitioner skill development, administrative support and quality assurance measures integrated into service delivery (including regular self-reflection, self-assessment, peer assessment and case study). The Clinic meets or exceeds all standards for practice, privacy, security, liability, risk assessment and technology conformance as set forth in professional regulations and university policies.

Education for student and pharmacist learners

As a teaching site, the Clinic involves learners in all activities under the appropriate supervision of pharmacist mentors, preceptors and administrative personnel. Learners from 4 educational programs (Entry-to-practice, Community Pharmacy Residency, Pharmacy Practice Residency and Graduate PharmD) participate in experiential education at the Clinic. Additionally, students participate as clinical assistants in various patient-care initiatives at the Clinic and around campus to help them develop their practical skills. The Clinic team has established collaborative partnerships with UBC Counselling Services, UBC Headache Clinic, UBC Multiple Sclerosis Clinic, UBC Movement Disorders Clinic, UBC Oral Health Centre, several remote First Nations communities and a number of family physician practices. These partnerships give students access to unique interdisciplinary and clinical learning experiences.

The Clinic also gives learners opportunities to develop additional skills through outreach presentations, workshops and health events with local groups, including the Parkinson's Society of BC, the Canadian Osteoporosis Patient Network, UBC Building Operations team, UBC Risk Management Team and UBC Health Wellness & Benefits team. These experiences help learners practice their communication skills and gain confidence in the role of health information resource for members of the public.

The UBC Pharmacists Clinic is committed to supporting the professional development of practising pharmacists. Pharmacists can visit

the Clinic facility to generate ideas for their own practice settings and access Clinic resources to support their patient care efforts. Pharmacists practising in BC can also participate in an accredited educational immersion program, the Medication Management Certificate Program, where they spend 5 days working alongside PCPs at the Clinic for practical skill development and confidence-building.⁶ The faculty is collaborating with McMaster University and Oscar Canada to make the open-source Oscar EMR an interdisciplinary record with customization of existing features and the addition of a pharmacist/drug therapy module. This new module is being developed and tested at the Pharmacists Clinic and then will be incorporated in a future version of Oscar EMR for use by interested clinicians, including pharmacists.

In its first 18 months of operation, the Clinic has hosted more than 240 learners and observers in patient care and skill development engagements (Table 2).

Practice innovation and research

The third focus of the Pharmacists Clinic entails evaluation and research. The systems and infrastructure for clinical, patient, learner, operational and opinion data are being established to support a rigorous research program in development for the Clinic. The first research initiative at the Clinic is the Cardiovascular Assessment and Medication Management by Pharmacists at a University Site (CAMMPUS). In CAMMPUS, UBC employees have access to cardiovascular health services at the Pharmacists Clinic, and these services are eligible benefits in their private health plan. The results of CAMMPUS will be used to inform future decisions about how private payers pay for pharmacist services within benefit plans. More information about CAMMPUS is available on the UBC Human Resources website: www.hr.ubc.ca/health/cardiovascular-health-assessment-program.

With the Pharmacists Clinic, the UBC Faculty of Pharmaceutical Sciences has made a bold commitment to stimulate and support pharmacist practice change in community-based primary care settings. More information is available at <http://pharmsci.ubc.ca/pharmacists-clinic>. ■

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