

COMMUNITY PHARMACIST-LED ANTICOAGULATION MANAGEMENT SERVICE NOVA SCOTIA DEMONSTRATION PROJECT

INFORMATION FOR PHARMACY

Despite the introduction of new oral anticoagulants, warfarin continues to be used in the prevention and treatment of thromboembolism. The advent of affordable point-of-care testing, computer decision support software presents an opportunity for community pharmacists to provide anticoagulation management services. This service has been shown to reduce the workload on medical practices and blood collection services while improving health outcomes, accessibility and convenience for patients.

Background and Research

- The Community Pharmacist-led Anticoagulation Management Service (CPAMS) has been well researched and published in New Zealand by professors Jeff Harrison, John Shaw and Jenny Harrison at the University of Auckland. Their independent research has resulted in the New Zealand government sponsoring a national program currently involving more than 160 (of the 900) community pharmacies in New Zealand. The most significant outcome in New Zealand was a **20% improvement in Time in Therapeutic Range (TTR)** of the International Normalized Ratio (INR) to 78.6%. TTR studies in North America have typically been less than 60%. Novel oral anticoagulants (NOAC/DOACs) have a TTR range between 55% and 64%. This 20% improvement in TTR has been demonstrated to result in a 50% reduction in costly adverse events such as stroke or hemorrhage.¹
- A 2014 CADTH Optimal Use Report on POCT INR testing found POCT results to be comparable to those obtained with the use of standard laboratory methods in monitoring patients on anticoagulant therapy.
- A POCT program was implemented in two Winnipeg community based clinics. Results reported an additional 1585 days spent by 101 patients in therapeutic range over a six month period. They also reported a decrease in emergency room visits, as well as increased satisfaction amongst staff and patients.

Overview of the Service

CPAMS is a thoroughly researched and validated model of care whereby accredited pharmacists provide anti-coagulation management services, utilizing point-of-care INR testing (using a CoaguChek XS Pro device) by way of a capillary blood sample (finger prick) and adjust warfarin doses with the support of a

computer decision support software system ([INR Online](#)). Pharmacists will be trained and accredited by the [University of Waterloo's Management of Oral Anticoagulation Therapy \(MOAT\) program](#).

- ✓ Patients will be referred by their family physician. A referral template will be provided to physicians which will include details of a collaborative management plan.
- ✓ Pharmacists will perform the POCT test, and upload results to the INR online decision support software and will ask patients a series of questions to assist with their recommendations to the patient.
- ✓ INR Online calculates: the recommended dose of warfarin, the optimal date of the next INR test, and the patient's TTR and the mean TTR for each pharmacy. INR Online also tracks: patient compliance with appointments (INR testing), episodes of bleeding/bruising, thromboembolic events and hospitalizations.
- ✓ Pharmacists will be able to make the recommendations and/or adjust doses within a pre-determined INR range. The pharmacist will be adjusting doses and therefore prescribing, as per the Nova Scotia College of Pharmacists' Standard of Practice – Collaborative Prescribing with a Diagnosis.
- ✓ A pre-determined action plan will be in place for each patient. Results outside of a pre-determined range will prompt an immediate call to the physician to discuss the appropriate next steps.
- ✓ In all cases a record of the test result and any actions taken by the pharmacists will be provided to the physician for the patient's file.
- ✓ The physician may revoke the agreement at any time and return to usual care and prescribing for this patient.

Benefit for Pharmacies

- Pharmacists report increased job satisfaction and utilization of skills
- Improved relationships with patients and other health care providers
- Online billing to Pharmacare for the monthly per patient management fee of \$50 per patient
- Ability to offer a brief (approx. 10 minutes) appointment based service, that can fit seamlessly into the workflow

Benefits for Patients

- Health Benefits
 - Increased Time in Therapeutic Range
 - Reduction in serious adverse events
 - Increased warfarin adherence
- Convenience with improved access to testing
 - Results available in 10 minutes or less, by appointments available days, evenings, and weekends
 - Potential to reduce travel time and less likely to incur expenses such as parking

- Patient Reported Benefits
 - Warfarin Dosing calendar provided
 - Pharmacy follow-up when INR tests are overdue
 - Finger Prick preferred over blood draw

Benefits for Family Physicians

- Re-allocation of time and resources to other areas of their practice, with overall time savings reported by physicians and practice staff in New Zealand
- Delivery of patient centered care – patient reported acceptability and convenience
- Collaboration with community partners and strengthened multi-disciplinary relationships

The Demonstration Project Details

- The Nova Scotia Department of Health and Wellness (DHW), has providing funding for this project.
- A Steering committee comprised of representatives from various stakeholders approved the Demonstration Project. Stakeholders included among others DHW Physician Services, DHW Pharmacy Services, Pharmacy Association of Nova Scotia and Doctors Nova Scotia.
- Approximately 40 pharmacies throughout Nova Scotia will be selected to participate in this demonstration project.
- Patients that are enrolled must be Pharmacare beneficiaries (Seniors, Family Pharmacare, Department of Community Services).

Pharmacy Requirements

Standard	Notes/rationale
Meeting NSCP Standards of Practice for Prescribing	Will be providing collaborative prescribing with a diagnosis. Includes but is not limited to, having a private room.
Meeting NSCP Standards of Practice for Testing	Will be ordering, conducting and interpreting INR point of care tests
Computer in consultation area with high speed internet access (preferred)	To access INR Online and positioned for patient to view their own results and file.
Printer (preferably color but not required)	For dose calendar print out.
Fax machine	For faxing results to family physician.

Training & Education

University of Waterloo Management of Oral Anticoagulation Therapy Primary Care Certificate Program (MOAT)

Two pharmacists per CPAMS location will be required to complete the MOAT program. The program costs will be covered by the CPAMS Demonstration Project budget and at no expense to the participating pharmacists.

This program provides pharmacists with the knowledge and skills to effectively and safely manage oral anticoagulation therapy under a medical directive. The online component is delivered through Waterloo's online learning management system, LEARN. It consists of readings and several case studies designed to prepare you for your clinical site visits. You will have access to the online module one month before your first site visit. This will be followed by a full day live training session.

Timeline for Project

- Application Period: September 15th- September 29th, 2017
- Complete online education: November 30th, 2017
- Live Training dates: December 1st (Halifax) or December 2nd (Antigonish)
- Local physician meetings: December 2017/January 2018
- Patient enrollment: January 1st, 2018-April 30th, 2018
- Service Provision: 12 months following the enrollment date

Useful links:

NZ College of Pharmacists <http://www.psnz.org.nz/public/cop/index.aspx>

INR Online www.inronline.net

Roche: http://www.coaguchek.com/coaguchek_hcp/en/home/products/xs_pro_system.html

University of Waterloo MOAT program <https://pd.uwaterloo.ca/PharmacyOverview.aspx>

CADTH: <https://www.cadth.ca/point-care-testing-international-normalized-ratio-inr-patients-taking-warfarin-or-other-vitamin-k>

If you would like further information, regarding this project, please contact:

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