

Implementing a pharmacy immunisation and injection training programme through interprofessional collaboration

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Abstract

In 2014, Manitoba joined other Canadian provinces by approving legislation allowing pharmacists to administer immunisations and other injections. To address the challenge of training practicing pharmacists and pharmacy students in an unfamiliar skill set, a stakeholder group consisting of professionals from pharmacy, nursing, and later medicine was formed. The stakeholder group, termed the Immunisations and Injections Program Group (IIPG), developed a training program useable for both practicing pharmacists and pharmacy students that included a didactic and practical lab portion. Online delivery was largely utilised for the didactic portion. Nurse instructors were utilised at a minimum of 6:1 participant to instructor ratio for the practical lab component for education, demonstration, and evaluation roles. Pharmacist instructors with immunisation experience obtained out-of-province, educated on new assessment, monitoring, and legal requirements for the practice advancement. The newly developed training program has been successfully utilised to train 796 participants.

Keywords: *Immunisations, Injections, Pharmacy Practice, Interprofessional*

Introduction

Among the new professional responsibilities granted to several Canadian provinces, administering immunisations and injections to patients has been a cornerstone of advancing pharmacy practice (Canadian Pharmacists Association, 2015). The United States (US) has granted immunisation privileges to pharmacists since the mid 1990's, which has resulted in very positive outcomes such as improved vaccination rates (American Pharmacists Association and Academy of Managed Care Pharmacy, 2011). The role of the pharmacist as a provider of immunisations has been described as "clinically sound, cost-effective, readily accessible and supportive of public health goals." (American Pharmacists Association and Academy of Managed Care Pharmacy, 2011).

A new piece of legislation known as the Pharmaceutical Act (Bill 41) implemented January 1, 2014 in Manitoba, Canada allowed pharmacists to administer vaccinations as well as other injectable medications (Legislative Assembly of Manitoba, The Pharmaceutical Act, 2006). As with any new practice direction, appropriate background knowledge and practical training was required to provide current and future practitioners with the necessary skills for injection administration. Since these skills were new to pharmacists, an interprofessional educational collaboration for training was imperative. This paper describes the development of a certificate program and refresher course through an interprofessional Immunisations and Injections Program Group (IIPG). The IIPG was founded by representatives from the disciplines

of pharmacy and nursing with medicine providing support through the later stages of the program. All members shared a common goal to prepare pharmacy students and practicing pharmacists for the administration of immunisations and other injections.

Context

The IIPG was comprised of stakeholders focused on the development of a certificate program with delivery to both practicing pharmacists and pharmacy students simultaneously. The IIPG was asked to proactively create the certificate program prior to having legal authority to administer immunisations and injections in order to ensure pharmacists and pharmacy students had the prerequisite skills once the Pharmaceutical Act (Bill 41) received Royal Assent by the government. The IIPG included representation from the University of Manitoba, College of Pharmacy, College of Pharmacists of Manitoba (CPhM), Manitoba Society of Pharmacists (MSP), Canadian Society of Pharmacists, and Manitoba Health (Department under the responsibility of the Minister of Health comprised of representatives from various health professionals and administrators). The certificate program was available to both practicing pharmacists and pharmacy students in 2012, although as a result of governmental delays the Pharmaceutical Act (Bill 41) received Royal Assent on January 1, 2014. As a consequence of the delay, many pharmacists and pharmacy students participated in the certificate program up to 17 months prior to the passing of the legislation.

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This resulted in the necessity to create refresher sessions, in order to ensure continued proficiency in the administration of immunisations and injections.

Description of Programme

The IIPG completed a comprehensive survey of existing immunisations and injections programmes available in Canada. Additionally, the IIPG performed an internal environmental scan of current immunisation and injection curricula within the Health Faculties at the University of Manitoba. Based on this information, an appropriate online programme was selected to form the foundational knowledge module necessary for participants. An *ad hoc* committee from the IIPG was then created, comprised of members from the University of Manitoba, College of Pharmacy, College of Nursing, and the CPhM to create a detailed practical skills workshop which trained and evaluated participants. The ad-hoc committee also worked with the CPhM to create an online module to address specifically the legal requirements and best practices for Manitoba pharmacists to administer immunisations and injections. The IIPG developed an immunisation and injections certificate programme comprised of two distinct parts; a course summary is illustrated in Table I.

Part 1: Pre-requisites to the Practical Skills Workshop

Pre-requisites include standard or emergency first aid and CPR level C (Cardiopulmonary resuscitation course which meets specific Provincial regulations) and the completion of the online Immunization Competencies Education Program (CCCEP #1066-2013-787-I-P) developed by Advancing Practice (Immunization Competencies Education Program, 2011) which has been currently updated and known as the Education Program for Immunization Competencies (CCCEP #1066-2015-1324-B-P). This programme was selected by the IIPG for its thorough content, user friendly interface, French language option, 24 hour availability, and commitment to annual updates to reflect current best practices. The *ad hoc* committee created a Manitoba specific module (CCCEP #1193-2013-853-I-P) to ensure participants have access to regional specific content such as Provincial legislation and practice direction. Each online module is comprised of learning objectives, a pre-test (test yourself questions), module content (written and audio/visual), learning summary, post-test, discussion forum, course evaluation, and references. In order to successfully complete each module, the participant is required to complete a post-test, course evaluation and post on an open discussion forum. The post-test must be passed with a grade of 70% or greater. Failure to complete the post-test with 70% or greater in two attempts will result in failure of the online portion and the inability to complete the certificate programme or participate in the practical skills workshop. The University of Manitoba, Faculty of Pharmacy 3rd year students must also complete an in-class assessment with a grade of 60% or greater to ensure competency.

Table I: Overview of Immunisations and Injections Program

Part 1: Classroom and Didactic portion Requirements (Pre-requisites to the Practical Skills Workshop)	
A.	Emergency First Aid and CPR Level C
B.	Online Didactic Modules (Advancing Practice)
1.	The Immune System and Vaccines
2.	Vaccine-Preventable Diseases
3.	Vaccine Development and Evaluation
4.	The Types of Immunising Agents and their Composition
5.	Population Health
6.	Communication
7.	Storage and handling of Immunisation Agents
8.	Administration of Immunising Agents
9.	Adverse Events Following Immunisation
10.	Documentation
11.	Populations Requiring Special Considerations
12.	The Canadian Immunisation System
13.	Immunisation Issues
14.	Legal and Ethical Aspects of Immunisation
15.	Manitoba Module – Administration of Injections
Part 2: Immunisation and Injections Practical Skills Workshop	
A.	Didactic portion (Pharmacy)
	- Introduction and overview
	- Regulations
	- Informed Consent
	- Patient Assessment
	- Vaccination Myths
	- Preparing Medications Summary
	- Post-injection Monitoring
	- Anaphylaxis/Adverse Event Management
	- Needle Stick Injuries
	- Documentation
B.	Didactic portion (Nursing)
	- The 7 Rights
	- Landmarking
C.	Skills Part 1(Nursing)
	- Routine practices review
	- Sharps handling review
	- Reconstitution and withdrawal
	- 7 Rights and Patient Assessment
D.	Skills Part 2 (Nursing)
	- Subcutaneous Injections
	- Intradermal Injections
E.	Skills Part 3 (Nursing)
	- Intramuscular Injections
F.	Practice and Technique Assessment (Nursing/Pharmacy)

Part 2: Practical Skills Workshop

The practical skills workshop facilitates practice and assessment of the administration of intradermal, subcutaneous, and intramuscular injections. The workshop is a joint teaching venture between pharmacists and nurses acting as facilitators and evaluators. Nurse instructors were utilized at a minimum of 6:1 participant to instructor ratio for the practical lab component for

education, demonstration, and evaluation roles. Pharmacist instructors with immunisation experience obtained out-of-province, educated on new assessment, monitoring, and legal requirements for the practice advancement. The agenda (Part 2 of Table I) describes the flow of the immunisations and injections workshop. The participants practice their skills using a Limbs and Things® injection trainer, which is a simulated soft tissue injection pad. This trainer was selected because of its ability to demonstrate all three of the injection types. Each individual participant is given a practice kit comprised of the following equipment; Practi-Ampules™ (2 mL of sterile water), BD 3 mL syringe Luer-Lok™, BD Eclipse™ Needle 25G x 1", BD Integra™ Syringe with Retracting BD PrecisionGlide™ Needle 3 mL 21G x 1", and a VanishPoint® Tuberculin syringe 1 mL 27 G x 1/2". Additional supplies such as gloves, cotton balls, and saline for injection are also provided to the participants. Participants were then evaluated on their technique of the Pre-injection phase, Injection Phase (intradermal, subcutaneous, and intramuscular injections), and Post Injection Phase by administering injections on other participants while supervised by a trained Pharmacy or Nursing facilitator.

Refresher Sessions

As a result of the governmental delay it was essential to allow practicing pharmacists and students the opportunity to practice their newly acquired skills. The refresher session allowed participants to administer intradermal, subcutaneous, and intramuscular injections on a partner while under supervision. Practicing pharmacists through MSP partnered with nurses to allow pharmacists an opportunity to re-train in a small group setting. The College of Pharmacy took a slightly different approach and partnered with the College of Medicine, Immunization programme. Students in the fourth year of the pharmacy programme participated in a small group refresher session but were also given the opportunity to provide immunisation in a clinic held on the University of Manitoba campus. These clinics were scheduled throughout the year and allowed fourth year pharmacy students to practice in a collaborative environment with second year medical students. In 2015, in order to provide students with additional practical experience the College of Pharmacy established a licensed pharmacy within its academic building. The pharmacy, known as Steele's Apothecary allowed the procurement of Provincially-funded vaccinations, access to health records, reporting privileges, and a mechanism for reimbursement. The added services afforded by Steele's Apothecary resulted in further collaboration with students and Faculty from the College of Nursing and Medicine to offer services in various clinic settings on and off campus.

Evaluation

In 2015, there were over 700 immunisations administered and reimbursed through Steele's Apothecary during interprofessional clinics. The training programme has run

numerous sessions since its inception in August 2012 and has certified 253 pharmacy students and 543 practicing pharmacists with a 100% pass rate. Feedback received both in written evaluation and in-class debrief sessions has been overwhelmingly positive regarding both the training programme and interprofessional clinics. The positive feedback is directed towards the interprofessional nature of the programme, clinics and the unique perspective of different health professionals as educators.

Future Plans

The success of the interprofessional clinics has resulted in a plan to expand the clinic opportunities to our third year pharmacy students. There is also preliminary discussion for creating online modules and a practical workshop for delivering a drug intravenously through an established central or peripheral venous access device by pharmacists and pharmacy students as described in the Pharmaceutical Act (Bill 41). This will also result in expansion of the clinical services through Steele's Apothecary to create interprofessional infusion clinics.

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Declaration of Interest

The authors report no declarations of interest

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