

AFPC

Association of Faculties of Pharmacy of Canada

Proposal

For a

Pharmacy Educator Peer Leader Network (PEPLN)

March 11, 2014 (Revised)

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- Catherine McCann (Lead Writer)

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- Lisa Bishop (Memorial University of Newfoundland)
- Donna Pipa (Project Manager, Educational Program for Optimizing the Use of Pharmacy Information and Information Technology)
- Marie Rocchi (University of Toronto)

Executive Summary

The **Association of Faculties of Pharmacy of Canada** (AFPC) is the national non-profit organization advocating for the interests of pharmacy education and educators in Canada. Through the Canada Health Infoway *Clinicians-In-Training* program, AFPC developed entryto-practice health informatics competencies for pharmacists and the *Informatics for Pharmacy Students eResource*. Three competencies were identified and the educational content to support the attainment of these competencies are addressed through the five domains contained in the e-Resource. The e-Resource was officially launched in January 2014. Demonstrations of the e-Resource have occurred or are planned for each of the ten faculties. The AFPC e-Resource does address the Infoway consumer health program educational and clinical practice priorities. This faculty peer leader network proposal builds upon the AFPC structure, processes and outputs achieved through the *Clinicians-In-Training* project.

The project will utilize a Pharmacy Educator Peer Leader Network (PEPLN) to facilitate the integration of the AFPC e-Resource into pharmacy faculty curricula with a focus on the key objectives related to Consumer Health, including:

- To build awareness and achieve a state of readiness to enable the integration of Consumer Health education in the classroom.
- To link Faculty Peer Leaders with their colleagues to support and mentor them in the use and integration of Consumer Health and eHealth competencies into the curriculum.
- To develop the educational tools and peer support services that contribute to the use and optimization of Consumer Health and eHealth competencies in the classroom.

AFPC will recruit peer leaders from each of the ten pharmacy faculties. Peer leader and e-Resource mentor/coaches will support the faculty peer leaders. With research funding from this project, faculty peer leaders will conduct local integration projects and document their approaches, results and lessons learned in the form of case studies. The project will conduct a robust internal evaluation of the project and its integration approaches through the data collected and from analysis of the case studies conducted. It is anticipated that the project will identify numerous common and local engagement barriers and the most useful strategies to overcome those barriers.

The project consists of four discrete phases:

- 1. Project Initiation,
- 2. Establish Pharmacy Educator Peer Leader Network,

- 3. Peer Leader Integration Projects, and
- 4. PEPLN Knowledge Transfer Workshop / Evaluation.

The project timeline is 24 months to be conducted from April 1, 2014 until March 31, 2016. The funding requirement for the project is \$295,400 exclusive of in kind contributions from AFPC and GST. This AFPC proposal fulfills the project requirements outlined in the December 2013 Infoway Faculty Peer Leader Network guidance sheet.

Introduction

The **Association of Faculties of Pharmacy of Canada** (herein referred to as "AFPC") is the national non-profit organization advocating the interests of pharmacy education and educators in Canada.

Mission Statement

AFPC is an association of faculties of pharmacy whose members are committed to the promotion and recognition of excellence in pharmacy education and scholarly activities.

AFPC Mission Statement for Pharmacy Education in Canada

The mission of pharmacy education is to provide programs of excellent quality, which by their content and presentation produce graduates who contribute significantly to societal, professional, and patient care responsibilities, and who are committed to lifelong learning.

To achieve this mission:

- A spectrum of educational programs is required in Canada, B.Sc., Residency, Pharm.D., M.Sc. and Ph.D., to provide graduates with the knowledge, skills and values needed to carry out these responsibilities with the goal of decreasing drug-related morbidity and mortality, promoting health and preventing disease.
- The direct patient care responsibility is the primary practice responsibility of pharmacists and this responsibility can be met through the provision of pharmaceutical care.
- Close cooperation among all pharmacy organizations (academic, licensing, and voluntary) is required in all areas of education, including continuing education.

AFPC Goals

The following are the goals of the AFPC

- 1. To foster excellence in pharmaceutical education.
 - a. To stimulate and provide an opportunity for exchange of information, ideas and discussion among pharmaceutical educators.
 - b. To encourage quality education in pharmacy by assuming an advisory role for development of policies and standards.

c. To recognize innovations in pharmaceutical education.

2. To foster excellence in scholarly activities

- a. To provide members with opportunities for the exchange of information, ideas and discussion on scholarly activities.
- b. To recognize excellence in graduate studies.
- c. To recognize innovation in scholarship.
- d. To recognize achievements in undergraduate research.
- 3. To establish and maintain liaison with external organizations for the development, support and improvement of pharmaceutical education and research
 - a. To recognize significant contributions and achievements of other organizations or individuals towards the mission of AFPC.
 - b. To promote the achievements of our members to the wider pharmacy and health care community.
 - c. To represent the broad interest of our members to external organizations.
 - d. To gather and report statistical and descriptive data in order to provide information about the state of academic pharmacy in Canada.

AFPC has access to subject matter experts and an infrastructure for conducting national projects. Over the last five years, national projects have included the development of national educational outcomes and a program evaluation guide.

National educational outcomes have been established for educating students to become pharmacists in Canada. The educational outcomes are routinely used in the planning, implementation and evaluation of university pharmacy degree programs. The *Educational Outcomes for First Professional Degree Programs in Pharmacy in Canada* document was approved in June 2010. One set of educational outcomes is available for all entry-to-practice pharmacy programs in Canada, regardless of the degree offered (Bachelor of Science in Pharmacy or entry-level Pharm D). The revised educational outcomes are formatted with the overall goal of graduating **Medication Therapy Experts**. This requires graduates to integrate knowledge, skills and attitudes from seven educational outcomes, which have been defined under the roles of: **Care Provider**, **Communicator, Collaborator, Manager, Advocate, Scholar**, and **Professional**.

Emphasis is placed on the multiple roles of graduates through explicit statements within the appropriate educational outcomes. Knowledge and understanding of information and information technology is an enabling factor for pharmacy students to successfully attain the above educational outcomes and become licensed pharmacists.

The website <u>http://www.afpc.info</u> has additional information about AFPC and for information about the educational outcomes see <u>http://www.afpc.info/node/39</u>.

Background

This funding proposal will leverage a project previously funded by Canada Health Infoway (herein referred to as "Infoway") entitled *Educational Program for Optimizing the Use of Pharmacy Information and Information Technology*. This project is in its evaluation phase and will be concluding shortly. AFPC will use this new project to focus on enhanced engagement of educators to encourage adoption of the *Informatics for Pharmacy Students eResource* (herein referred to as the "e-Resource") in the Pharmacy undergraduate curriculum.

Educational Program for Optimizing the Use of Pharmacy and Information Technology

The purpose of the *Educational Program for Optimizing the Use of Pharmacy Information and Information Technology* was to develop, implement, and evaluate a comprehensive national on-line educational program that prepares undergraduate pharmacy students to optimize the use of current and future pharmacy and health information and information technology. The program was to be incorporated into the current undergraduate pharmacy curricula at Canadian universities.

A funding proposal was submitted to Infoway in the summer of 2011 and approved in September 2011. The project phases were as follows:

- 1. Project oversight,
- 2. Background research,
- 3. Development of an on-line education program,
- 4. Student award recognition program, and
- 5. Program evaluation.

Project Oversight

This phase included: project direction, coordination and reporting.

A project management team was assembled and included:

- Harold Lopatka (Project Sponsor),
- Donna Pipa (Project Manager),
- Marie Rocchi (Faculty Lead), and
- Doreen Sproule (Administrative Assistant).
- Nancy Kleiman assisted as a subject matter expert.

A multi-sector project steering committee was established with the following members:

- David Edwards (Chair),
- Nancy Waite / Ann Thompson (AFPC),
- Doris Nessim (CSHP),
- Justin Bates (CACDS),
- Jillian Grocholsky (CAPSI),
- Marc Desgagne (AFPC),
- Janet MacDonnell (CPhA),
- Margaret Woodruff (CPTEA),
- Anne Fazzalari (CHI), and
- Valerie Leung (CHI).

Background Research

A literature search was conducted with the assistance of the University of Alberta library services. The search focus was on pharmacy informatics and pharmacy informatics competencies. Only a small number of relevant articles were found. The informatics competencies developed by the Canadian Association of Schools of Nursing were reviewed.

A pharmacy informatics competency framework was developed, consisting of foundational skills (on device and application use) and three competencies. The competencies are:

- Information and knowledge management,
- Professional and regulatory accountability, and
- Information and communication technologies.

The competency framework was reviewed and validated through a survey of external stakeholders. Next, the competency framework was used to develop a content matrix.

The content matrix contains six content domains and over 50 specific sub-domains. Each domain contains common design elements and recurring themes. The content matrix was reviewed through focus groups with volunteer faculty members for content validity, and the participants provided feedback about how the educational program might be used in faculties. A key priority identified was to create content for pharmacy students in the first or second year of their studies, and to format the e-Resource so that it could be used in part or in whole.

Informatics for Pharmacy Students e-Resource

The AFPC website was redesigned to provide a student portal for online e-learning programs. The Drupal open source content management system was selected for the AFPC website. Based on a business case analysis, the Moodle open source learning management system was selected for the online program. Zuberco, a company who specializes in customizing e-learning programs, configured the learning management system software for the development of the eResource. The new domain (www.afpc-education.info) was acquired for this program and for use with future AFPC education programs.

Once the learning management system was configured, development of the e-Resource included a cadre of authors and student award winners, who convened in a virtual project workspace.

Version 1 of the e-Resource has been released. Five domains are available in this version:

- 1. Concepts and context in pharmacy informatics,
- 2. Information management and technology,
- 3. Knowledge management and technology,
- 4. Privacy, security and confidentiality, and
- 5. Consumer health informatics.

The program is designed to engage pharmacy students in a comprehensive foundational treatment of this area, using media-rich material with innovative learning activities, including virtual patients, polls, discussion forums and self-assessment quizzes. Our faculty lead, Marie Rocchi, did a significant amount of work and provided leadership in format and content development. The contributing authors were as follows: Marie Rocchi, Lisa Bishop, Kelly Grindrod, Neil de Haan, Doris Nessim, Olavo Fernandes, Monique Pitre, Jeff Barnett, Donna Pipa and Harold Lopatka.

The following is a screen shot of the e-Resource:

Home	Student e-Resources	Faculty	e-Resources	Canada Health Infoway	AFPC Website		You are log	ged in as Donna Pipa (Logo
🛱 Adminis	STRATION	=	HOME / ALL	RESOURCES / STUDENT RES	SOURCES		Search domains:	Go
🖿 My pr	ofile settings					Domain categories:		
						Student Resources •		
Select La French	nguage late			ain 1: Concepts and macy Informatics ain 2: Information N nology				6 ڪ
				ain 3: Knowledge Ma nology				⊡ • 6
				ain 4: Privacy, Secu identiality				G- 6
			2's Dom	ain 5: Consumer He	alth Informatics			G + 6

Sections of the e-Resource have been pilot tested for use in undergraduate pharmacy classes at Memorial University, University of Alberta and University of Toronto.

Demonstrations of the e-Resource were provided to members of several faculties, including curriculum committees, and to representatives from other organizations (e.g., CHI, COACH, AACP, ISMP, CSHP among others). Marie Rocchi and Donna Pipa gave a presentation about the e-Resource at CAPSI Professional Development Weekend 2014 in Vancouver, BC. Student access to the e-Resource was officially launched at this event. The e-Resource can be accessed by students and faculty members through the student online education portal on the AFPC website.

Numerous presentations and dissemination activities about the development process, the e-Resource and the evaluation have occurred or are planned. These include presentations at the AFPC Canadian Pharmacy Education and Research Conference, the E-Health Conference, the Canadian Pharmacists Conference, CAPSI Professional Development Weekend, the International Congress on Nursing Informatics, and the International Federation of Health Informatics Management Associations Congress. A number of these presentations were with the Association of Faculties of Medicine of Canada and the Canadian Association of Schools of Nursing.

The e-Resource is unique. We are not aware of any similar educational project for use with pharmacy students.

Student Award Recognition Program

A student award competition was held in the fall of 2012. AFPC received 28 submissions for six awards, one for a graduate student and five for undergraduate students. The award winners were announced at the CAPSI PDW conference in

Montreal. The undergraduate student award winners were Patrick Monaghan (Dalhousie), Chelsea Barr (Waterloo), Danny Wong (British Columbia), Phillip Curran (Saskatchewan), and Jereme Parenteau (Alberta). The graduate student award winner was Neil De Haan (Victoria). A press release about the award recipients was issued. Students assisted the project team members and lead authors with research activities and with development of program content.

Project Evaluation

Stanley Varnhagan and Jason Daniels, Faculty of Extension, University of Alberta, are conducting an external project evaluation. The evaluation will collect information from faculty, students and other key stakeholders who have been involved in the project or have used the education materials. A combination of surveys, interviews and focus groups will be used to collect feedback. The evaluation will be completed by March 31, 2014.

Information Technology in Pharmacy Practice and in Pharmacist Education

In the funding proposal, approved by Infoway in September 2011, extensive information was provided about the information technology use in pharmacy practice and the state of health information technology education in Faculties of Pharmacy across Canada. While the information contained in that proposal is still relevant to this funding request, it will not be repeated here. Please refer to that document for further information.

Faculties of Pharmacy in Canada

Undergraduate and graduate pharmacy education is delivered through the ten university faculties of pharmacy in Canada. Each faculty is a member of AFPC. There are approximately 5,000 undergraduate students and approximately 1,250 students graduate from Canadian pharmacy faculties each year. There is approximately 600 faculty members with half being tenure track.

University / Faculty	Faculty	Website Address
University of British Columbia	Faculty of Pharmaceutical Sciences	http://www.pharmacy. ubc.ca/

Table 1 - Summary of Faculties of Pharmacy in Canada

University of Alberta	Faculty of Pharmacy and Pharmaceutical Sciences	http://www.pharm.ual berta.ca/
University of Saskatchewan	College of Pharmacy and Nutrition	http://www.usask.ca/p harmacy-nutrition/
University of Manitoba	Faculty of Pharmacy	<u>http://www.umanitoba</u> .ca/faculties/pharmacy ∠
University of Toronto	Leslie Dan Faculty of Pharmacy	http://www.pharmacy. utoronto.ca/Page4.aspx
University of Waterloo	School of Pharmacy	http://www.pharmacy. uwaterloo.ca/
Université Laval	Faculté de pharmacie	http://www.pha.ulaval .ca/
Université de Montréal	Faculté de pharmacie	http://www.pharm.um ontreal.ca/
Dalhousie University	College of Pharmacy	http://pharmacy.dal.ca /index.php
Memorial University of Newfoundland	School of Pharmacy	http://www.mun.ca/p harmacy/about/

Until recently, the first professional practice degree in all faculties was the Baccalaureate degree. Recently, four faculties, the Université de Montréal, Université Laval, University of Toronto, and University of Waterloo have made the Doctor of Pharmacy (Pharm D) degree as the first professional practice degree.

Bachelor degree students are required to take at least one year of pre-pharmacy university courses followed by four years of pharmacy courses. The University of Waterloo is unique in that their Pharmacy Bachelor degree offers a co-operative education program. The Pharm D degree is one additional year in comparison to the Bachelor degree when taken as a first professional practice degree. The Pharm D degree can also be taken as a post-graduate degree. The University of British Columbia, University of Alberta, and University of Toronto offer post-graduate Doctor of Pharmacy programs. Many of the universities also grant Master and Doctor of Philosophy degrees from the Pharmacy faculties.

Although all pharmacy programs must meet AFPC Educational Outcomes, there are some variations in the undergraduate pharmacy curriculum at each University. Curriculum design can be integrated or non-integrated. Integrated design structures therapeutics and other course materials on a specific topic in one course to be taught within the four year program. Experiential education occurs throughout the curriculum but in most pharmacy programs is focused in the last year. Faculties use the AFPC educational outcomes to map and evaluate curricula.

Engagement Strategies

Engagement in this context refers to obtaining a commitment from pharmacy faculty members to make changes to their curricula and courses in order to integrate the new e-Resource. In order to obtain that commitment, it is important to understand the barriers to making changes to curriculum. Research into this area produced little published research on this specific topic. Although some evidence on faculty barriers to technology-enabled education exists, this project may be breaking new ground.

The following information provides some background to potential barriers to curriculum change and some suggested strategies for overcoming those barriers. It is not known if these barriers will prove to be the same in the target audience for this project, but it provides a useful framework for starting the project.

Barriers to Making Curriculum Changes

In research involving the adoption of educational technology in post-secondary teaching of courses (Birch et al. 2009), a number of barriers were identified that must be overcome in making curriculum changes. The following are a selection of barriers that may be relevant to this project.

- 1. Institutional Barriers
 - a. Engagement with Faculty Leadership
 - i. Standards and policy direction
 - ii. Curriculum Committee leadership
 - b. Need for a clear process for integration into curriculum
 - i. Awareness of planning and development cycles for curriculum
 - c. Need for role models, mentors and champions within each institution
- 2. Individual Barriers for Faculty
 - a. Lack of time
 - b. Increasing academic workloads
 - c. Failure of faculties to provide time relief or opportunities for professional development
 - d. Faculty time needs in order to:
 - i. Think, conceptualize, research, and strategize curriculum change.
 - ii. Plan, learn about and come to terms with the new curriculum competencies.
 - iii. Train, develop, edit, update and maintain their courses.

- 3. Pedagogical Barriers
 - a. Being able to differentiate between the core content and content that is recommended for students or "good to know."
 - b. Avoiding student information overload: as new content is introduced, what content must be removed to accommodate it.

In addition to these barriers, additional considerations might include:

- 1. Timing of the engagement strategies.
- 2. Articulation of the benefits to the educator and to students.
- 3. Understanding of the various curriculum approval processes.
- 4. Adaptability and flexibility of use of the e-Resource.
- 5. The nature of the e-Resource as a technology-enabled delivery method.

Recommendations for Overcoming Barriers to Engagement

This project will introduce a number of strategies for overcoming barriers to integration and implementation of the e-Resource within faculties.

Potential Strategies for Overcoming Institutional Barriers

The following are potential strategies for overcoming institutional barriers:

- 1. Engage with faculty leadership through the Council of Deans to encourage integration of the e-Resource into pharmacy curricula.
- 2. Promote the e-Resource in faculties to the intended audiences.
- 3. Provide ongoing institutional and technical support where feasible.
- 4. Build a network of leaders and mentors in pharmacy informatics training to support faculty in integrating the changes in their courses.
- 5. Offer learning programs for faculty, some delivered online, on teaching pharmacy informatics in the curriculum.
- 6. Liaise with university Learning and Teaching Centres to provide access to instructional design and pedagogical advice on integrating the e-Resource for faculty.
- 7. Promote collaboration among faculties of pharmacy in delivering pharmacy informatics training to students.
- 8. Offer incentives for faculty to participate in research in pharmacy informatics.

Potential Strategies for Overcoming Individual Barriers

The following are potential strategies for overcoming individual barriers:

- 1. Brainstorm and pursue strategies to provide time needed to obtain the training to make changes in their courses.
- 2. Provide support through peer-to-peer interactions with faculty members.
- 3. Provide strategies for implementing the changes in the curriculum in a staged approach by integrating the core elements first or those elements considered to be the most foundational.
- 4. Ask members to reflect on their efforts to integrate the e-Resource into their courses and document the successes or challenges.
- 5. Provide positive incentives to academics for researching and publishing on the learnings of integrating pharmacy informatics into their curriculum.

Potential Strategies for Overcoming Pedagogical Barriers

The following are potential strategies for overcoming pedagogical barriers:

- 1. Provide guidance using the faculty guide to assist in rationalizing, using, and prioritizing the content of the e-Resource.
- 2. Assist with strategies for determining the amount and timing of materials in the courses to avoid student information overload.
- 3. Assist with educational design strategies to ensure that students will learn how to effectively use the information from e-Resource.

Development of a Support Network for Faculty Members

The primary legacy of this project will be the establishment of a Pharmacy Educator Peer Leader Network (PEPLN) for pharmacy faculty members across Canada. The network is expected to be self-sustaining provided the appropriate structure can be established and champions can be identified.

Within each faculty, one or two peer leaders will be asked to participate in the support network for faculty members. Leaders may be identified by the faculty or may be selfidentified as having an interest in participating in the network.

There will be a number of commitments required of these peer leaders in order to qualify for training and participation in research opportunities. See below for additional criteria.

Proposal for a Pharmacy Educator Peer Leader Network (PEPLN)

"Pharmacy educators should equip students with core knowledge about the health information technology they will encounter in practice. They should understand its role, benefits, and limitations as a tool to support their future practice as well as patient care. Through efforts in professional organizations, pharmacy educators should seize opportunities for research, policy development, education, and advocacy as it relates to health information technology." (Fox, B. 2013)

This was a challenge issued to pharmacy educators in the *American Journal of Pharmaceutical Education* in 2013. This project is a response to that call to action.

Project Purpose

The purpose of the Pharmacy Educator Peer Leader Network (herein referred to as "PEPLN") is to build on the success of the development of the e-Resource and to actively facilitate the integration of e-Resource into the pharmacy undergraduate curriculum across Canada.

Increased use of the e-Resource will enable PEPLN to focus on key objectives related to Consumer Health, including:

- To build awareness and achieve a state of readiness to enable the integration of Consumer Health education in the classroom.
- To link Faculty Peer Leaders with their colleagues to support and mentor them in the use and integration of Consumer Health and eHealth competencies into the curriculum.
- To develop the educational tools and peer support services that contribute to the use and optimization of Consumer Health and eHealth competencies in the classroom.

Project Goals

- 1. **Pharmacy Educator Peer Leader Network:** To foster leadership in pharmacy informatics by creating an environment that encourages faculty members to assume mentorship and expertise roles within their institutions.
- 2. **Faculty Development:** To prepare faculty members for teaching pharmacy informatics competencies in their courses.

- 3. **Continuous Quality Improvement:** To motivate faculty members to integrate the new pharmacy informatics competencies into the curricula of pharmacy undergraduate programs.
- 4. **AFPC Special Interest Group in Pharmacy Informatics:** To encourage faculty members to conduct research, or collaborate in conducting research, in pharmacy informatics and to publish findings to advance the field of study.

Project Objectives

- 1. Pharmacy Educator Peer Leader Network:
 - a. Identify Peer Leaders who can support and sustain a network of pharmacy educators with an interest and/or experience in pharmacy informatics.
 - b. Offer opportunities for Peer Leaders to meet face-to-face two times over a 24 month period to network, learn about teaching pharmacy informatics, overcoming barriers to integration of the e-Resource in the pharmacy curricula, change management, and continuous quality improvement.
 - c. Offer train-the-trainer type programs to interested Peer Leaders to apply in direct coaching/mentoring activities.
 - d. Offer ongoing opportunities through online forums or other mechanisms to support Peer Leader networking between meetings.

2. Faculty Development

- a. Engage Peer Leaders to collect and promote teaching and learning resources within their institutions to assist faculty members in integrating the e-Resource into their curriculum.
- b. Encourage Peer Leaders to provide information and education to faculty members within their institutions on e-Resource.
- c. Ask Peer Leaders to share across the network their successes and challenges in order to learn from each other.

3. Continuous Quality Improvement

- a. Promote existing resources for teaching pharmacy informatics in the curriculum.
- b. Assess the appropriate timing for curriculum changes and to offer ideas on integration into existing courses.
- c. Offer assistance and support through the PEPLN for faculty as they integrate and teach the material in their courses.
- d. Provide feedback or trouble shooting assistance as issues arise during the development or teaching of the material.

4. AFPC Special Interest Group in Pharmacy Informatics

- a. Establish a Special Interest Group of pharmacy faculty who teach and/or conduct research in pharmacy informatics.
- b. Provide support and funding for research related to the use of pharmacy informatics whether in teaching, supporting practitioners in the uptake of pharmacy informatics, or in development of best practices, in order to create incentives for integration of pharmacy informatics into the curriculum.
- c. Offer participation in research and publishing opportunities through involvement the project.
- d. Study the results of the integration of the e-Resource into the curriculum and the impact on student learning.
- e. Create a critical mass of pharmacy researchers in pharmacy informatics across Canada.

Intended Audience

The primary intended audiences for this project are educators in the Faculties of Pharmacy, specifically, educators in the areas of pharmacy practice, pharmacy administration, skills-based labs, and experiential education.

There are approximately 600 faculty members across the Faculties of Pharmacy. All faculty members will be encouraged to be aware of the e-Resource, but PEPLN will be targeted to those educators who are part of the groups identified above.

Intended Beneficiaries

While the primary audience is educators in the Faculties of Pharmacy, there will be a number of beneficiaries of the changes made in the pharmacy curriculum.

Pharmacy Undergraduate Students

The direct beneficiaries of changes in the pharmacy curricula are students who will receive the education to fulfill the identified competencies. Students will be expected to obtain competency in the use of pharmacy informatics in practice and will be tested on those competencies as part of their undergraduate training. There are approximately 5,000 pharmacy undergraduate students in Canada and 1,250 students who graduate each year.

Licensed Pharmacists

The e-Resource may be made available to practitioners in a number of ways. Professional development departments within faculties may use the modules to create continuing education opportunities for pharmacists. Preceptors within experiential education programs may be provided access to modules to update and improve their knowledge of pharmacy informatics. There are approximately 32,600 licensed pharmacists across Canada.

The following table forecasts the expected "spread" resulting from the PEPLN.

Measures	Faculty (Educator /	Students
	pharmacist preceptors)	
Targeted # peer leaders /	10 educators	10 undergraduate or graduate
student research assistants		students
Targeted # participating in	10-20 educators, 100-200	250-1250 undergraduate
projects	pharmacist preceptors	students
Total # available	600 faculty, ~2000 pharmacist	5000 undergraduate students
	preceptors	_

Related Organizations

The following is a list of national organizations that will be consulted during the project on an as needed basis.

- Canadian Association of Pharmacy Students and Interns (CAPSI)
- Canadian Pharmacy Technician Educators Association (CPTEA)
- Canada's Health Informatics Association (COACH)
- Canada Health Infoway (CHI)
- Association of Faculties of Medicine of Canada (AFMC)
- Canadian Association of Schools of Nursing (CASN)

Support of Canada Health Infoway Priorities in Consumer Health Program

The cornerstone of the project will be the creation of PEPLN, a network that will offer peer-to-peer support to integrate the various components of Infoway's Consumer Health program, such as:

- e-Visits: Secure messaging between patients and their care providers
- e-Views: Patient/informal caregiver access to personal health information
- **e-Renewal/e-Refill:** Patient-initiated electronic requests for prescription renewals/refills
- **e-Scheduling:** Electronic patient self-scheduling with their community or ambulatory care-based clinician
- **Remote Patient Monitoring:** Delivery of health care to a patient's home, made possible by connecting the patient and a health care provider through a technology device.

During the initiation workshop, as outlined in Phase II of the project, the project will emphasize to Peer Leaders the importance of these priorities. Peer Leaders will be asked to incorporate these priorities in their own local integration projects.

Project Description

The following sections will outline the project scope, principles and values for conducting the project, the design of the program, and the required personnel.

Project Scope

The project will be carried out over a 24-month time period starting in April 2014 if funding is approved. The project will include five phases.

Project Principles and Values

The project will incorporate the following important principles and values in the development of the project.

- 1. The program components will be based on best practices and research to encourage a greater likelihood of success.
- 2. The program will be designed through consultation with the intended audiences and beneficiaries to ensure that the project meets the needs of these groups.
- 3. The program will be developed in iterative stages, with lessons learned during each phase used to inform and improve the next phase of the project.
- 4. Any research conducted within the project will be reviewed for ethics approval.

Program Design

This project will incorporate strategies to improve the integration and engagement of educators in the use of the e-Resource that have recently been designed to incorporate pharmacy informatics into pharmacy undergraduate education. It is expected that as a result of the project and the resulting program, there will be a significant increase in the uptake of the e-Resource within curricula across Canada.

The corner stone of the project will be the creation of PEPLN, a network that offers peerto-peer support. PEPLN will provide the mechanism for fulfillment of the other goals of this project. PEPLN will be used to engage faculty members, encourage the integration of the e-Resource and to be founding members of the AFPC Special Interest Group in Pharmacy Informatics. A Project Leadership Committee will be established to provide oversight of the project. Activities of the Committee will include communications on the work of the project, setting strategic direction, and decision-making on detailed aspects of the project. The Committee will ensure delivery of the project as outlined in this proposal.

Project Personnel

The following personnel, and their roles in this project, are listed here.

- 1. **Project Sponsor** The project sponsor is the AFPC Executive Director who will provide leadership to the project and personnel. In addition, the project sponsor will provide leadership for conducting the project evaluation framework.
- 2. **Project Manager** The project manager will assist in setting up the PEPLN and group activities and provide briefings and reports to the funder.
- 3. **Peer Leader mentor / coach** The peer leader mentor / coach will liaise directly with individual faculty leaders and provide guidance in PEPLN projects. The position will provide coaching / mentoring to the local peers. In addition, the peer leader mentor / coach will provide leadership in the content and format for the two PEPLN workshops.
- 4. **Peer Leaders** There will be ten peer leaders. Each peer leader will participate in workshops and coordinate and conduct local projects to integrate the e-Resource into their respective pharmacy curricula. Each peer leader will coach and mentor their colleagues by participating in train-the-trainer workshops as well as coordinate/conduct local projects to integrate the e-Resource into their respective pharmacy curricula.
- 5. **e-Resource mentor / coach** The e-Resource mentor / coach will liaise with the peer leader mentor / coach and the peer leaders to guide them in the use of the e-Resource and make refinements to the current version of the e-Resource.
- 6. **Clerical Support Person** The clerical support person will assist the project sponsor and other key staff in conducting the project.

Project Timeline

The following sections highlight the proposed project phases and timelines.

Project Phases

The project will be undertaken in five phases over a 24 month time period in compliance with the requirements for use of Infoway funding.

The program will incorporate an iterative design approach. The expectation is that as the program evolves, improvements will be made based on the lessons learned. Feedback and improvements will be incorporated in each successive phase. While the overall goals of the program may not change, it is expected that there may be changes in terms of how the program is managed, designed and delivered that cannot be anticipated at the beginning of the project. It is anticipated that many of the tasks outlined in the phases will overlap among the phases, however; the tasks are not repeat in each phase for simplicity.

Phase I – Project Initiation

Phase I will occur from April 2014 until July 2014. The following activities are anticipated:

- 1. Establish the Project Leadership Committee.
- 2. Hire personnel for project.
- 3. Develop a detailed work plan for each phase of the project.
- 4. Develop communication and marketing strategies for the project both to project participants and to the wider pharmacy community and health informatics community.
- 5. Use the data from the *Educational Program for Optimizing the Use of Pharmacy Information and Information Technology* evaluation to determine perceived or actual barriers to implementation of the e-Resource within the curriculum.
- 6. Develop content and logistics for face-to-face session(s) with Peer Leaders.
- 7. Promote the Initiation Workshop and the project opportunities.
- 8. Establish reporting templates and research priorities.
- 9. Establish any necessary ethics approval needs.
- 10. Establish research and evaluation questions and mechanisms for the project.

Phase II – Establish Pharmacy Educator Peer Leader Network (PEPLN)

Phase II will occur in August 2014. The following activities are anticipated:

- 1. Identify and highlight leaders within the pharmacy informatics communities for PEPLN.
- 2. Hold an initiation workshop.
- 3. Content of the workshop will include:
 - a. Information about the content of the e-Resource.
 - b. Discussion of the Consumer Health Program priorities and potential integration approaches.
 - c. Strategies for integration of the modules into the curriculum.
 - d. Information on change management.
 - e. Information on continuous quality improvement principles.
 - f. Information about the research and publishing opportunities for Peer Leaders.
- 4. Establish mechanisms for ongoing communication between the workshops.
- 5. Establish regular reporting and contact intervals with the Peer Leaders after the face-to-face session.
- 6. Evaluate the session.

Phase III – Peer Leader Integration Projects

Phase III will occur from September 2014 until May 2015. The following activities are anticipated:

- 1. Establish the guidelines and criteria for the research and publishing opportunities in the program.
- 2. Collect data for required reporting and for research projects.
- 3. Prepare for the PEPLN Knowledge Transfer Workshop.
- 4. Hold monthly updates sessions via distance communication technology.
- 5. Permit Peer Leaders to engage with faculty members and implement changes.

Phase IV – PEPLN Knowledge Transfer Workshop / Evaluation

Phase IV will be in June 2015. The following activities related to the knowledge transfer workshop are anticipated:

- 1. Hold the second face-to-face workshop.
- 2. Invite peer leaders to provide sessions and presentations.
- 3. Report on the peer leader integration projects conducted since the initial session.
- 4. Identify peer leaders and pharmacy faculty members who would like to establish a Special Interest Group in Pharmacy Informatics (modeled on the current AFPC Special Interest Group - Program Evaluation/Assessment).
- 5. Evaluate the session.
- 6. Report on lessons learned from Phase III and encourage faculty to review and revise their courses accordingly.

The evaluation component will occur from August 2015 until March 2016. Please note that evaluation activities will be conducted throughout the project timeline. The following activities are anticipated:

- 1. Evaluate the successes and barriers to implementation of the curriculum changes to date (lessons learned).
- 2. Establish the collaboration process for writing and publication of research results.
- 3. Publish results of the peer leader integration projects.
- 4. Collate, analyze, and report on the evaluation and research in the project.
- 5. Initiate incorporation of the program within the AFPC services in particular the establishment of the Special Interest Group in Pharmacy Informatics.
- 6. Encourage additional improvements and ongoing integration activities for the e-Resource within the faculties of pharmacy based on the project findings.
- 7. Wrap up the project.
- 8. Final report to Infoway for accountability of funding.
- 9. Promote PEPLN and the Pharmacy Informatics SIG groups and their subsequent activities.

Criteria for Eligible Faculty

In order to set expectations about participation and productivity as a Peer Leader within the project a number of eligibility criteria will be established. They may include, but are not limited to, the following:

Participation Criteria

- 1. Is a member of a Canadian pharmacy faculty.
- 2. Willingness to participate in PEPLN and commitment to two face-to-face workshops.
- 3. Willingness to provide regular updates and participate in monthly meetings.
- 4. Willingness to participate in research and to fulfill requirements of the research component of the project.
- 5. Willingness to participate in the network between sessions.
- 6. Willingness to act as mentors to other pharmacy faculty members who are working to integrate the e-Resource into their courses.

Funding Support Criteria for Participants

AFPC will establish criteria for receiving funding, in three releases, contingent on fulfillment of specific reporting requirements. Criteria may include:

- 1. Fulfillment of project's goals and objectives.
- 2. Individual peer leader integration project proposals that are well-defined, discrete, viable, and evidence-based.
- 3. Provision of a budget for use of funding.
- 4. Peer leaders will seek ethics approval for local projects (it is anticipated that most will be considered quality improvement projects).
- 5. Tangible outputs from the funding (publications, posters, conference presentations).
- 6. Fulfillment of reporting requirements for use of the funds.

Face-to-Face Meetings

All the face-to-face meetings of the Support Network will be scheduled or integrated as feasible with other major meetings such as AFPC annual conference to increase the likelihood of participation and reduce costs.

Project Deliverables

The project is expected to produce a number of tangible outputs. These include, but are not limited to, the following:

- 1. Publication of the results of the engagement strategies and the strategies to reduce barriers to the implementation of the e-Resource and resulting successes or challenges based on case studies coming from the internal evaluation.
- 2. Research publications resulting from the teaching and learning of pharmacy informatics as produced by the leaders and faculty who implement the e-Resource.
- 3. A mechanism to facilitate distance group communication for the PEPLN or for individual consultation through use of existing technology within the Faculties.
- 4. Use of the information gathered from the project to improve the e-Resource.
- 5. An increase in the number of faculty members who teach pharmacy informatics in Faculties of Pharmacy and utilize the e-Resource.
- 6. A peer-to-peer support network guide or operations manual based on the collection of case studies produced in the PEPLN research as well as the evaluation component of the project.

Project Budget

The project budget will be a cost share budget based on in-kind contributions from AFPC and funding from Infoway. Infoway's funding contribution is estimated to be a total budget amount of \$295,400.

Budget

The following is the proposed budget for the project.

PROJECT PHASE	BUDGET AMOUNT
1) Project oversight	
<u>Description</u> - project direction, coordination, reporting, communications	
Resource requirements	
Project management (Manager, clerk)	52800
Office expenses (supplies, materials, communication and committee	
expenses)	6000
2) Establish peer leader network (PLN) / Initiation Workshop	
Description - network structure, recruitment / selection peer leaders,	
orientation / training, initiation workshop	
Resource requirements	
PLN mentor / coaches (network and e-Resource)	28800
Workshop (subject matter experts, workshop materials, travel /	
accommodation, equipment rental, facility costs)	32000
3) Peer leader integration projects	
Description - develop guidelines, evaluation tools, confirm reporting	
requirements, conduct local integration projects, monthly PLN webinars	
Resource requirements	
PLN mentor / coaches (network and e-Resource)	28800
Peer leader local integration project research grant (10 peer leader /	
1-3 projects per leader)	100000
4) PLN Knowledge transfer workshop / evaluation	
Description - PL present individual case study reports, PLN members	
discussion, report preparation, e-Resource revisions	
Resource requirements	
Workshop (subject matter experts, workshop materials, travel /	
accommodation, equipment rental, facility costs)	32000

295400

Total

Budget Notes and Assumptions

- 1. In Kind Contributions (Project Sponsor AFPC Executive Director's time; Local faculty Peer Leader time; AFPC Program Evaluation/Assessment SIG time).
- 2. No overhead charges will be applied.

Potential Project Constraints

The most likely project constraint will be the willingness and availability of peer leaders within each faculty. Educators are already stretched in terms of time and interest in projects such as this one. One possible means of using positive incentives for participation will include opportunities to obtain funds for research and to publish findings.

Another potential project constraint may be the time frame for establishing and implementing the program. The project manager and the project sponsor will need to be diligent in meeting timelines and project requirements.

Project Evaluation Framework and Reporting Requirements

The overall assumption for participation in the project is that PEPLN will develop a cohort of peer leaders who will champion and facilitate the integration of the e-Resource within Canadian pharmacy faculty curricula. The project will provide an opportunity for faculty development within pharmacy faculties and provide experience in the development of national communities of practice in pharmacy education. The evaluation framework will provide the information necessary to assess if this project has provided value to faculty members and students.

The following sections summarize the evaluation framework including scope and evaluation process, for the project.

Evaluation Scope

To assess the value of PEPLN for integrating the AFPC developed e-Resource into Canadian pharmacy curricula.

This evaluation will be conducted internally and will be based on the work of PEPLN and their integration projects. The evaluation will determine how well the PEPLN was able to integrate the e-Resource into the curricula. Evaluation data will be based on ten case studies within in the same subject area as a means for building evidence in the area of engagement of faculty.

Evaluation Process

The following outlines the process for the evaluation of the project:

- 1. **Engagement of stakeholders**: Key pharmacy education stakeholders are faculty and students. Faculty members will be incentivized to participate through the availability of research funding and the opportunity to conduct scholarly activities.
- 2. **Description of PEPLN**: Student peer leader models are the most common approach utilized in education for change management. This project will focus on faculty peer leader models to improve the integration of the e-Resource. A cohort of faculty peer leaders will be created. Members of the PEPLN will receive training on change management and on continuous quality improvement. The e-Resource was designed for use early in the pharmacy curriculum and for partial or full integration within courses. Through the PEPLN it is expected that multiple approaches and strategies will be identified and assessed for ongoing use and spread within faculties.
- 3. **Evaluation design:** The evaluation will be a mixed design including quantitative and qualitative approaches. Where possible quantitative data will be collected and analyzed for responses to surveys and for participation rates. Qualitative data will be collected and analyzed from other sources, for example, interviews and focus groups. Members of PEPLN will conduct a series of case studies. The cases may be faculty specific or collective. The project with input from PEPLN will establish templates and guidelines on the reporting requirements for each case study (e.g., case study content and format, common benchmarked measures). Where appropriate common surveys and interview guides will be developed to collect data and for other data collected common themes will be identified for content analysis. Members of the AFPC Special Interest Group on Program

Evaluation/Assessment will provide assistance to the PEPLN in the evaluation.

- 4. **Evidence:** The results from the case studies will be reviewed by PEPLN. PEPLN will identify scenarios where similar and dissimilar results were obtained. The accumulated evidence from the cases will be synthesized and translated for use in the faculty resource section in the e-Resource.
- 5. **Dissemination:** The individual case studies will be consolidated into a written project report. The report will be distributed to individual faculties and will be available on the AFPC website. Group and individual publications and presentations by PEPLN are anticipated. In addition, AFPC can facilitate communication of the results through webinars, submissions for publication or presentations at conferences.

Measures

The following is a preliminary list of potential process, output and impact measures:

Process / output measures	Impact related measures
Number and nature of PEPLN communications	Curriculum mapping of e-learning competencies
Costs of maintaining PEPLN	Faculty satisfaction level with specific integration strategy (see multi question
Number and nature of challenges associated with maintaining PEPLN	survey – MUN / U of A)
Number and typology of integration opportunities identified	Student satisfaction level with specific integration strategy (see multi question survey – MUN / U of A)
Number and types of integration tools and aides produced (e.g., teaching cases, quality improvement tools)	Number and types of successful approaches for integration of e-learning into course (or curriculum)
Number and types of additions / inclusions for e-learning faculty teaching guide	Number and types of unsuccessful approaches for integration of e-learning into course (or curriculum)

Number and nature of challenges associated with integrating e-learning into course	
Number of students in course (where integration approach being assessed)	
Number of students responding to respective surveys	
Student characteristic in course (where integration approach being assessed)	

Potential Evaluation Questions

The lists of questions, four separate survey questionnaires found in the Appendices, have been used in the initial project evaluation of the e-Resource. The questions will be reviewed with PEPLN and modified for use with individual faculty and student assessments where the e-Resource has been integrated into curricula during the next phase of the project.

Some examples of questions that might be answered through evaluation data are:

- 1. What synergies, efficiencies, benefits and challenges occurred from participation in PEPLN?
- 2. What are the potentially most effective, feasible and practical approaches / strategies / scenarios for integrating the e-Resource into pharmacy curricula?
- 3. What are the best practices (measures and methods) for assessing and evaluating the integration of the e-Resource into pharmacy curricula? (e.g., effectiveness, efficiency)
- 4. What were the successful and unsuccessful approaches utilized by faculties for integrating the e-Resource into pharmacy curricula?

Project Reporting

The project manager will be required to submit monthly project update reports to the project sponsor as well as regular (to be determined) reporting to the Project Leadership Committee.

As required for funding, seven quarterly reports plus a final evaluation report will be provided to Infoway as a condition of the funding provided.

Project Communications

AFPC and Canada Health Infoway will partner on communications about the project. The following written project reports will be prepared; i) initial report, ii) mid-term report and iii) final report. The reports will be developed for internal and external audiences, and will be posted on the AFPC website.

Project Sustainability

A plan will be created as part of the project and program development to operationalize the PEPLN as part of the ongoing operations within AFPC. The e-Resource will be updated as required to ensure currency. AFPC will continue to provide support for distance meetings through existing infrastructure within the faculties of pharmacy.

The most likely threat to sustainability of the project will be the inability of the program to continue to find or develop leaders in the area of pharmacy informatics. However, by encouraging and seeding a research agenda within the faculties of pharmacy, the expectation is that a research and leadership community will be established and continue to grow beyond the time of the project.

The PEPLN members will be encouraged to participate as part of the project, and after the end of the project, in the AFPC Special Interest Group (SIG) on Pharmacy Informatics. The AFPC, as part of its services to members is actively recruiting leaders to establish SIG groups to foster closer working relationships among the Faculties of Pharmacy and to share teaching and research interests. SIG group membership may be open to more than those members of the PEPLN group. Infrastructure is already in place to facilitate the establishment of SIG groups. Terms of Reference for the Program Evaluation/Assessment SIG are available in the Appendices.

Contact Information

Dr. Lopatka is available to clarify any questions regarding this funding proposal.

Harold Lopatka, B.Sc Pharm, MHSA, PhD Executive Director AFPC 14612-64 Avenue Edmonton, AB, Canada T6H 1T8

E-mail: <u>hlopatka@telus.net</u> Cell phone: (780) 868-5530 Website: <u>http://www.afpc.info</u> Appendices

Glossary

For the purpose of this document:

Education - is interpreted to include: curricular design, teaching methods, student assessment, program evaluation and continuing education.

Scholarly Activities - includes: graduate education; publication/dissemination, discovery/new information; discovery/creation of new knowledge and innovations; acquisition of resources for research; develop interdisciplinary collaboration; adherence to ethical standards of scholarship.

Acronyms

PEPLN	Pharmacy Educator Peer Leader Network
AFPC	Association of Faculties of Pharmacy of Canada
CHI	Canada Health Infoway
COACH	Canada's Health Informatics Association
AACP	American Associations of Colleges of Pharmacy
ISMP	Institute for Safe Medication Practices
CSHP	Canadian Society of Hospital Pharmacists
CAPSI	Canadian Association of Pharmacy Students and Interns
SIG	Special Interest Group
CPhA	Canadian Pharmacists Association
NAPRA	National Association of Pharmacy Regulatory Authorities
CACDS	Canadian Association of Chain Drug Stores
CAPT	Canadian Association of Pharmacy Technicians
CPTEA	Canadian Pharmacy Technician Educators Association
CIHI	Canadian Institute for Health Information
CASN	Canadian Association of Schools of Nursing

The following acronyms have been used throughout this document.

Pharmacy Student Survey

AFPC Association of Faculties of Pharmacy of Canada

Online Student Survey

The purpose of this survey is to obtain pharmacy student feedback about an elearning resource, "Informatics for Pharmacy Students", that was developed by the Association of Faculties of Pharmacy of Canada through a grant provided by Canada Health Infoway. The information collected through this survey will be used to help evaluate and make future improvements to the e-learning resource.

To complete this survey, you will need to register to view the e-learning resource and briefly review Domain 1 "Concepts and Context in Pharmacy Informatics". There are 6 separate topics addressed in Domain 1 (Framing the Context, Patient Records and Systems, Key Concepts in Informatics, Pharmacy Informatics, e-Health, and Toward Competence). It is suggested you allow 4-5 minutes per topic (24-30 minutes overall) in reviewing Domain 1. The web site URL is http://afpc-education.info/moodle/index.php. Please note that you will have to use your university email for the registration process.

The survey should take less than 5 minutes to complete. At the end of the survey you will have an opportunity to submit your contact information for a chance to win one of two \$50 iTunes gift cards. We will only use your contact information to let you know if you win one of the two gift cards.

1. Please rate your level of agreement with the following statements:

	Strongly disagree 1	2	3	4	Strongly agree 5
The registration process was easy.	0	0	0	0	0
Navigating through Domain 1 was easy.	0	0	0	0	0
Domain 1 was well organized.	0	0	0	0	0
The content of Domain 1 was relevant.	0	0	0	0	0
Domain 1 inspired me to review other domains.	0	0	0	0	0

2. Were you unable to access any of the following elements on your computer?

Please select all that apply:

- □ Tab content
- □ Quizzes
- □ Polls
- □ Discussion forum
- □ Virtual Patients
- 🗆 Wiki
- □ Other (please specify): _____
- □ Not applicable

3. Please estimate the amount of time you spent reviewing Domain 1.

- O 1-10 minutes
- 11-20 minutes
- O 21-30 minutes
- O 31-40 minutes
- O over 40 minutes

4. In which of your pharmacy course(s) could the content in this e-learning resource be best utilized to assist in your learning?

Please select all that apply.

- □ Introductory pharmacy practice course
- □ Advanced pharmacy practice course
- □ Introductory pharmacy practice laboratory
- □ Advanced pharmacy practice laboratory
- □ Introductory experiential education program
- □ Advanced experiential education program
- □ Inter professional education course
- □ Other (please specify): _____

5. The e-learning resource was developed with the intention of enabling students to improve their proficiency in the following competencies.

Information and knowledge management - Uses relevant information and knowledge to support the delivery of evidence based patient care.

Professional and regulatory accountability - Uses information and communications technology in accordance with professional and regulatory standards and workplace policies. **Information and communication technologies** – Uses information and communication technologies in the delivery of patient / client care.

	Not at all useful1	2	3	4	Very useful 5
How useful do you think your pharmacy curriculum is in enabling you to be proficient in Information and Knowledge Management ?	Ο	0	0	0	0
How useful do you think your pharmacy curriculum is in enabling you to be proficient in Professional and Regulatory Accountability ?	0	0	0	0	0
How useful do you think your pharmacy curriculum is in enabling you to be proficient in Information and Communication Technologies ?	0	0	0	0	0
How useful do you think the completion of the e-learning resource would be in enabling you to be proficient in Information and Knowledge Management ?	0	0	0	0	0

How useful do you think the completion of the e-learning resource would be in enabling you to be proficient in Professional and Regulatory Accountability ?	0	0 0 0 0	
How useful do you think the completion of the e-learning resource would be in enabling you to be proficient in Information and Communication Technologies ?	0	0 0 0 0	

Do you have any additional comments about the e-learning resource?

DEMOGRAPHICS

The next questions are for classification purposes only.

Are you...

- O Male
- O Female
- O Prefer not to say

Please enter your age:

Select your pharmacy faculty:

- O British Columbia
- O Alberta
- O Saskatchewan
- O Manitoba
- O Toronto
- O Waterloo
- O Laval
- Montreal
- O Dalhousie
- O Memorial

Select your current year of pharmacy study:

- O Year 1
- O Year 2
- O Year 3
- O Year 4
- O Year 5

Please rate your knowledge level about pharmacy informatics:

- O Novice
- O Intermediate
- O Advanced

Thank you for completing the survey. If you are interested in winning a \$50 iTunes or App store gift card please enter your name and email address below. There are 2 chances to win.

Name

Email address

Faculty Member Survey

AFPC Association of Faculties of Pharmacy of Canada

Online Faculty Member Survey

The purpose of this survey is to obtain feedback from faculty members about the e-Resource "Informatics for Pharmacy Students" that was developed by the Association of Faculties of Pharmacy of Canada through a grant provided by Canada Health Infoway. The e-Resource was designed to be used by faculty members in their individual courses, or in its entirety by pharmacy programs. The information collected through this survey will be used to help evaluate and develop approaches for utilization of the e-learning resource.

You will need to register to access the e-learning resource. Please note that you will have to use your university email for the registration process. The e-learning resource contains 5 domains; each domain has a number of topics (akin to chapters in a textbook). Please select a topic from the list provided below, and then access the e-learning site by clicking the following link: <u>http://afpc-education.info</u>.

Once you have briefly reviewed the topic of your preference, select the topic from the list below and click next to complete this survey.

1. Please select which of the topics listed below you have reviewed:

- O Topic 2.2: Information in Healthcare and Pharmacy Informatics
- O Topic 2.3 Computational Thinking
- O Topic 3.2: Electronic Resources and Decision Support Tools
- O Topic 3.3: Documentation of Clinical Interventions
- O Topic 3.6: Computerized Provider Order Entry and Medications at Discharge
- O Topic 3.8 e-Prescribing
- O Topic 4.1: Privacy: Provincial Regulatory Codes of Ethics
- O Topic 4.2: Legal Frameworks: Core Concepts and Consent
- O Topic 4.3: Disclosure and Access
- O Topic 4.4: Types of Breaches and Security Measures
- O Topic 5.1 Innovation and Adoption
- O Topic 5.5 Consumer Health Informatics: Focus on Pharmacy Practice

2. Prior to this review how familiar were you with the AFPC e-learning resource "Informatics for Pharmacy Students"?

- O I had used the site before
- I had registered but did not use the site
- O I had heard about the site but never used it
- I had never heard about the site
- O Other (please specify): _____

3. Please estimate the amount of time you spent reviewing your selected topic?

- Less than 15 minutes
- O 15-30 minutes
- O 30-60 minutes
- O Over 60 minutes

4. Please rate your level of agreement with the following statements:

	(1) Strongly disagree	(2)	(3)	(4)	(5) Strongly agree
The material in the topic reviewed was current/timely	0	0	0	0	0
The topic reviewed was relevant for pharmacy students	0	0	0	0	0
The topic reviewed was relevant for my course	0	0	0	0	0
The topic reviewed motivated me to explore other topics	0	0	0	0	0
I would be likely to use the e-Resource in my course	0	0	0	0	0

5. Was your computer able to support all elements (e.g. tab content, quizzes, polls, assignments, Virtual Patients) of the e-learning resource?

- O Yes
- O No
- O I don't know

6. The e-learning resource was developed with the intention of enabling students to improve their proficiency in the following competencies.

Information and knowledge management - Uses relevant information and knowledge to support the delivery of evidence based patient care.

Professional and regulatory accountability - Uses information and communications technology in accordance with professional and regulatory standards and workplace policies.

Information and communication technologies – Uses information and communication technologies in the delivery of patient / client care.

a) To what extent do you feel that your school's curriculum enables students to be proficient in:

	Not at all(1)	(2)	(3)	(4)	To a great extent (5)
Information and Knowledge Management	0	0	0	0	0
Professional and Regulatory Accountability	0	0	0	0	0
Information and Communication Technologies	0	0	0	0	0

b) To what extent do you feel that completion of the e-Resource would enable students to be proficient in:

	Not at all(1)	(2)	(3)	(4)	To a great extent (5)
Information and Knowledge Management	0	0	0	0	0
Professional and Regulatory Accountability	0	0	0	0	0
Information and Communication Technologies	0	0	0	0	0

7. How likely are you to use the e-Resource in your class(es)?

 Not at all(1)
 (2)
 (3)
 (4)
 Very likely (5)

 O
 O
 O
 O
 O

8. How might the AFPC support the integration of the e-Resource into your course?

Select all that apply.

- □ Faculty Guide (suggested activities, key teaching points)
- □ Dedicated Training Session
- □ Support by Dean/Division Chairs
- □ Recognition of Scholarly Activity (by adoption within your course context)
- □ IT Support
- □ Other (please specify): _____

Do you have any additional comments about the e-learning resource?

DEMOGRAPHICS

The next questions are for classification purposes only.

Select your pharmacy faculty:

- O Alberta
- O British Columbia
- Dalhousie
- O Laval
- O Manitoba
- Memorial
- Montreal
- O Saskatchewan
- O Toronto
- O Waterloo

Please select your teaching area/division:

- O Experiential Education
- O Pharmacy Practice
- O Pharmaceutical Sciences
- O Social and Administrative Pharmacy
- O Other (please specify): _____

Please select the year(s) you regularly teach:

Select all that apply.

- □ Year 1
- □ Year 2
- □ Year 3
- □ Year 4

Please select the course format you regularly teach:

Select all that apply.

- □ Lecture
- 🗆 Lab
- □ Lecture and lab
- □ Experiential rotation
- □ Online
- □ Blended (online integrated with lecture/lab/experiential)
- □ Other (please specify): _____

Thank you for completing the survey. Please click submit to save your responses.

Memorial University e-Resource Evaluation

The Association of Faculties of Pharmacy of Canada is developing an e-Resource in Pharmacy Informatics for Canadian pharmacy undergraduates.

As a student who was involved in the inaugural use of the e-Resource in Pharmacy Skills 5150 (Dr. Lisa Bishop), we are very interested in your feedback.

The survey should take approximately 5-10 minutes to complete.

All results will be strictly confidential.

Your participation is greatly appreciated and will be carefully considered for future use of the e-Resource by other Canadian pharmacy students.

Impressions

***1.** Prior to this e-Resource pilot, had you accessed online learning materials (aside from course content on D2L) within other University courses?

\mathbf{O}	Yes
~	103

O No

If yes, please describe/name the course(s):

	^
	▼

*2. Prior to accessing the e-Resource, did you think you would be satisfied with this delivery method?

O Yes	C	No opinion
C No	O	Unsure
Comments:		

lemorial University e-Resource Pilot: Documentation						
User Experience						
st 3. Where did you access/use the e-Resourc	e? (Chec	k all tha	t apply)			
Faculty building	Coffee	shop				
Library	Friend'	s home				
Home/residence	In trans	sit				
Other (please specify)						
×	1					
v						
	- 					
*4. What day(s) of the week did you use the a	_	Cer (Une	eck all that	appiy)		
Monday	Friday					
Tuesday	Weeke					
Wednesday	Cannol	recall				
Thursday						
$m{st}$ 5. What times of the day did you use the e-R	lesource	? (check	all that ap	ply)		
□ 8am-12pm	🗌 8pm-12	2am				
□ 12pm-4pm	🗌 12am-8	Bam				
☐ 4pm-8pm	Cannot	recall				
st6. For the following questions, please rate t	ha avtan	t to which			••	
following statements:	ne exten		in you agree	; with th	le	
	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree	
My computer system was able to support all elements (e.g. tab content, quizzes, polls, assignments, Virtual Patients) of the e-Resource.	C	C	O	O	Ō	
A user manual or tour/tutorial prior to use of the e-Resource would have been helpful.	O	O	O	O	O	
The email with log-in and e-Resource URL provided adequate	0	0	\odot	0	\odot	

۸.

information for access. Comments:

The email with log-in and e-Resource URL provided adequate

Page 3

*7. I accessed the e-Resource with a tablet (e.g. iPad, Samsung Galaxy, others)

O Yes

O No

If yes, please name the tablet brand and describe your experience.



Satisfaction

***8.** For the following questions, please rate the extent to which you agree with the following statements:

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
The e-Resource was engaging.	0	0	0	0	O
Using the e-Resource was convenient.	C	O	0	O	C
The amount of time spent on e-Resource activities was appropriate.	O	0	0	0	O
It was easy to navigate within the e-Resource and find specific topics or activities.	O	O	O	O	O
I would have preferred if the material and cases in the e-Resource were taught and practiced solely in the classroom or lab setting .	O	O	0	O	O

Comments:



Effectiveness

The following questions recognize that you have been taught documentation skills prior to using the e-Resource. These questions will allow you to self-assess any change in your knowledge or skills as a result of using the e-Resource.

*9. Regarding knowledge:

	Little knowledge	Some knowledge	Knowledgeable	Extremely knowledgeable
Please rate your knowledge of documentation PRIOR TO using the e- Resource.	C	O	O	O
*10. Regarding skills:	Begin	ner Developin	n Competent	Expert

	Beginner	Developing	Competent	Expert	
Please rate your documentation skills PRIOR TO using	\odot	\bigcirc	\odot	\odot	
the e-Resource					

*****11. Regarding knowledge:

	Little knowledge	Some knowledge	Knowledgeable	Extremely knowledgeable
Please rate your knowledge of documentation AFTER using the e- Resource.	C	O	0	O

*12. Regarding skills:

	Beginner	Developing	Competent	Expert
Please rate your documentation skills AFTER using the e-	O	\odot	O	0
Resource				

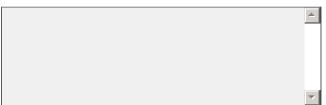
Other

*13. For the following questions, please rate the extent to which you agree with the following statements:

	Strongly	Disagree	Neither Agree	Agree	Strongly
	disagree	Disagree	nor Disagree	Agree	agree
Overall, I was satisfied with the e-Resource.	O	\odot	0	0	\odot
I would recommend use of the e-Resource's additional topics (e.g.	C	C	C	O	O

Privacy, Automation, Key Information Resources) within other Pharmacy courses.

Comments:



*14. What is ONE WORD that you would use to describe your overall impression of the e-Resource?

15. Do you have any other comments or suggestions?

16. Would you be interested participating in a focus group in Winter 2014? Refreshments would be served and the focus group would take place at a time that does not conflict with your clerkship. If sufficient interest is expressed, we will send an invitation with details.

C Yes

🗌 No

This is the end of the survey - thank you for participating.

Your feedback is greatly appreciated.

University of Alberta e-Resource Evaluation

The Association of Faculties of Pharmacy of Canada has developed an e-Resource in Pharmacy Informatics for Canadian pharmacy undergraduates.

As a student who was involved in the inaugural use of the e-Resource in PHARM 494 (taught by Dr.Harold Lopatka), we are seeking your feedback.

In addition, we would like to evaluate your experience with the use of Adobe Connect as a virtual classroom.

The survey should take approximately 10 minutes to complete.

FOR MARK ASSIGNMENT BY DR. LOPATKA, PLEASE SAVE A SCREEN SHOT ONCE YOU COMPLETED THE SURVEY.

Your participation is greatly appreciated and will be carefully considered for future use of the e-Resource and Adobe Connect by other Canadian pharmacy students.

Impressions

*1. Prior to using the e-Resource, had you accessed online learning materials (aside from course content on Moodle) within other University courses?

es

No

If yes, please describe/name the course(s):

	^
	•

*2. Prior to accessing the e-Resource, did you think you would be satisfied with this delivery method?

C Yes	O	No opinion
C No	O	Unsure
Comments:		
<u>–</u>		
v		

Iniversity of Alberta PHARM 494 e-Re	eso	urce	& Add	be Coni	nect	
User Experience						
st3. Where did you access/use the e-Resourc	e? (C	Check	all that	t apply)		
Faculty building		Coffee sh	ор			
Library		Friend's h	ome			
Home/residence		n transit				
Other (please specify)						
*4. What day(s) of the week did you use the e^{-1}			e? (Che	ck all that	apply)	
Monday		Friday				
Tuesday		Weekend				
Wednesday		Cannot re	ecall			
Thursday						
$m{*}$ 5. What times of the day did you use the e-R	leso	urce?	(check	all that ap	oply)	
8am-12pm		8pm-12ar	n			
□ 12pm-4pm		12am-8ar	n			
4pm-8pm		Cannot re	ecall			
f st6. For the following questions, please rate t	he ex	xtent	to whic	h you agre	e with th	e
following statements:						
		ngly gree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
My computer system was able to support all elements (e.g. tab content,	C		\odot	\odot	O	\odot

	uizzes, polls, assignments, Virtual Patients) of the e-Resource.	,					
T	he User Manuals were helpful.		0	C	0	0	\bigcirc
Сс	omments:						
		^					
		~					

*****7. I accessed the e-Resource with a tablet (e.g. iPad, Samsung Galaxy, others)

O Yes

O No

If yes, please name the tablet brand and describe your experience.

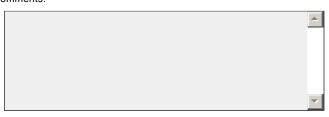


Satisfaction

***8.** For the following questions, please rate the extent to which you agree with the following statements:

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
The e-Resource was engaging.	0	O	0	0	0
Using the e-Resource was convenient.	0	O	0	O	O
The amount of time spent on e-Resource activities was appropriate.	C	O	0	O	O
It was easy to navigate within the e-Resource and find specific topics or activities.	O	O	0	O	O
I would have preferred if the material and cases in the e-Resource were taught solely in the classroom.	igodot	0	0	igodot	0

Comments:



Effectiveness

The following questions recognize that you may have been taught various topics prior to using the e-Resource, as well as having practical experience during your training. These questions will allow you to self-assess any change in your knowledge or skills as a result of using the e-Resource.

*9. Regarding knowledge:

	Little knowledge	Some knowledge	Knowledgeable	Extremely knowledgeable
Please rate your knowledge of Documentation (Topic 3.3) PRIOR TO using the e-Resource.	C	O	C	O
Please rate your knowledge of CPOE and Discharge Medications (Topic 3.6) PRIOR to using the e-Resource.	O	O	O	O
Please rate your knowledge of e-Prescribing (Topic 3.8) PRIOR TO using the e-Resource.	O	0	0	0
Please rate your knowledge of Privacy, Security and Confidentiality (Domain 4) PRIOR TO using the e-Resource.	O	O	O	O
Please rate your knowledge of Consumer Health Informatics (Domain 5) PRIOR TO using the e-Resource.	C	O	O	O

***10. Regarding skills:**

	Beginner	Developing	Competent	Expert	N/A
Please rate your Documentation skills PRIOR TO using	O	0	\odot	O	\odot
the e-Resource					

*****11. Regarding knowledge:

	Little knowledge	Some knowledge	Knowledgeable	Extremely knowledgeable
Please rate your knowledge of Documentation (Topic 3.3) AFTER using the e-Resource.	C	O	O	C
Please rate your knowledge of CPOE and Discharge Medications (Topic 3.6) AFTER using the e-Resource.	O	O	O	C
Please rate your knowledge of e-Prescribing (Topic 3.8) AFTER using the e-Resource.	C	O	O	C
Please rate your knowledge of Privacy, Security and Confidentiality (Domain 4) AFTER using the e-Resource.	O	O	O	C
Please rate your knowledge of Consumer Health Informatics (Domain 5) AFTER using the e-Resource.	C	O	O	C

***12. Regarding skills:**

	Beginner	Developing	Competent	Expert	N/A
Please rate your Documentation skills AFTER using the	O	0	\odot	\odot	O
e-Resource					

Other

*13. For the following questions, please rate the extent to which you agree with the following statements:

	Strongly	Disagree	Neither Agree	Agree	Strongly
	disagree	Disagree	nor Disagree		agree
Overall, I was satisfied with the e-Resource.	O	O	0	O	\odot
I would recommend use of the e-Resource's additional topics (e.g.	0	O	O	0	O

Electronic Resources, e-Health, Computational Thinking) within other Pharmacy courses.

Comments:



*14. What is ONE WORD that you would use to describe your overall impression of the e-Resource?

15. Do you have any other comments or suggestions about the e-Resource?

*****16. Adobe Connect was used as a virtual classroom on February 6, with a "practice" session on January 30.

Instructions were also provided by Dr. Lopatka.

Prior to using Adobe Connect, had you participated in a virtual classroom within other University courses?

O Yes

O No

If yes, please describe/name the course(s):



*17. Prior to your exper with this delivery method	iece with Adobe Connect, did you think you would be satisfied 1?
© Yes	C No opinion
C No	C Unsure
Comments:	
*18. Where did you acc	ess/use Adobe Connect?
Faculty building	Coffee shop
Library	Friend's home
Home/residence	In transit
Other (please specify)	
	▲ ▼

*19. For the following questions, please rate the extent to which you agree with the following statements:

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Using Adobe Connect was convenient.	0	0	0	0	0
Using Adobe Connect was easy.	0	O	0	O	0
I would have preferred if the class had occurred in the physical classroom setting.	0	0	0	O	0
The practice session and instructions were helpful.	0	O	0	O	O
Using Adobe Connect is a good alternative to the physical classroom setting.	0	O	0	O	0
The facilitation was engaging.	\odot	0	O	O	O

Comments:



*20. What is ONE WORD that you would use to describe your overall experience with Adobe Connect?

21. Do you have any other comments or suggestions about the use of Adobe Connect?

22. As part of the AFPC project, evaluators from the University of Alberta are undertaking evaluation research of the e-Resource. Would you be interested participating in a focus group or interview in Winter 2014? If sufficient interest is expressed, we will send an invitation with details.

	Yes
	No
Othe	r (please specify)

This is the end of the survey - thank you for participating.

Your feedback is greatly appreciated.

PLEASE SAVE A SCREENSHOT OF THIS PAGE TO VERIFY COMPLETION OF THE SURVEY

Program Evaluation/Assessment SIG Terms of Reference

The Association of Faculties of Pharmacy of Canada

Name of Group: Program evaluation / assessment Special interest group (SIG)

Introduction

Numerous initiatives have been conducted by AFPC to contribute towards the development and implementation of a national strategy / approach on program evaluation / assessment. A recent initiative was to stage a national stakeholder workshop. The workshop objectives were as follows.

• To provide an environment for participants to communicate about program evaluation / assessment concepts, strategies, and initiatives.

• To increase participant knowledge and understanding of i) important evaluation / assessment principles and concepts; and ii) awareness about current faculty evaluation / assessment initiatives.

• To identify national program evaluation / assessment priorities AFPC could potentially support.

The following workshop group activities could not be addressed because of insufficient time.

- Organization / governance This group will identify key organization / governance activities and create a "straw man" framework for organization / governance for a relevant and sustainable national program evaluation / assessment program. One organizational action identified in preliminary discussions is to create terms of reference and recruit members for a national special interest (SIG) group on program evaluation / assessment.
- Infrastructure This group will identify and prioritize key program evaluation / assessment activities, tools and aides required to support a relevant and sustainable national program evaluation / assessment initiative. For example, AFPC completed the development of a program evaluation guide for use by faculties. Should this tool be further developed? Are activities such as ongoing faculty educational programs on program evaluation / assessment needed?
- Measurement This group will examine the feasibility and outline a high level framework for planning and implementing a national initiative to collect data for key performance indicators that would be used by faculties to compare performance in selected domains. For example, can a short list of 15-30 highly relevant key performance indicators be established and maintained for faculties? What process would be used to determine the most relevant indicators?

At their October 6, 2013 the AFPC Council of Deans agreed to proceed with the organization and governance activity by establishing a program evaluation / assessment SIG, and identified members from each faculty to serve on the SIG.

The following is a draft of the SIG terms of reference.

DRAFT - Special Interest Group (SIG) Terms of Reference Program Evaluation / Assessment

Purpose:

<u>Mission</u>: The program evaluation / assessment SIG shall focus on, promote and address key issues related to program evaluation / assessment in pharmacy schools to ensure that programs are meeting and / or exceeding current and future needs and requirements.

<u>Goal</u>: To serve as a resource for pharmacy faculties and faculty members for helping them to address program evaluation / assessment issues.

Objectives:

- To scan the environment and disseminate information about best program evaluation / assessment practices.
- To compile and maintain inventory of current shareable / shared program evaluation / assessment resources.
- To develop new program evaluation / assessment resources (e.g., guidance statements, tools and measures) for shared use.
- To identify and promote information exchange about program evaluation / assessment between leaders and innovators.
- To establish guidelines for program evaluation / assessment best practices.

Membership:

Open to AFPC members with interest in subject and faculty program evaluation specialists.

Term:

One year term of office with annual renewal.

Committee Remuneration:

There is no remuneration for serving on the SIG. Contributions are expected to be "in kind".

Decision Making:

Wherever consensus is not possible, and where required, a vote may be called by the Chair. A two thirds majority will carry a motion.

Organization:

<u>Chair</u> – sets agenda, presides at scheduled meetings of SIG, assigns charges and oversees SIG activities, and develops annual budget.

Vice-chair / secretary – assumes duty of Chair if required, and keeps minutes of meetings.

<u>SIG subcommittees / work groups</u>- at the discretion of the Chair, subcommittees or work groups may be created for routine or special purposes.

<u>Communications</u> – Email and teleconferences will be the primary means of communication.

Meetings:

Suggested that SIG hold at least 1 conference call meeting and 1 in person meeting in conjunction with AFPC annual meeting. Other meetings (teleconference preferred) may be held at the call of the Chair. Meeting minutes should be prepared and distributed to the Executive Director.

Reports:

The SIG Chair will provide progress reports and an annual report to the Executive Director (e.g., current activities, implications to AFPC, recommendations, future activities). The reports will be disseminated to the Council of Faculties and Council of Deans for information and review.

References

Birch, Dawn and Burnett, Bruce. Bringing Academics on board: encouraging institutionwide diffusion of e-learning environments. **Australasian Journal of Educational Technology**, (2009) 25 (1). pp. 117-134.

Fox B. Health Information Technology: Are We Aware and Engaged?. **American Journal Of Pharmaceutical Education**. (2013, Aug), 77(6): 1-2.

Herbert, Marilynne and Lau, Francis. Management and Evaluation of a pan-Canadian Graduate Training Program in Health Informatics. **Journal of Distance Education**. (2010), 24(1): 107-122.

Association of Faculties of Pharmacy of Canada, *Educational Program for Optimizing the Use of Pharmacy Information and Technology*, Canada Health Infoway, Clinician Peer Support Network Program, Clinicians in Training Project Proposal, August 5, 2011.