Canadian Experiential Education Project for Pharmacy
Priority 1

National Approach to Learning Outcomes and Corresponding Assessments at Each Stage of Experiential Education

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List of Abbreviations

AACP-American Association of Colleges of Pharmacy
AFPC- Association of Faculties of Pharmacy of Canada
ELPD – Entry Level Doctor of Pharmacy Degree
CanExEd- Canadian Experiential Education Project for Pharmacy
CPhA-Canadian Pharmacists Association
CSHP-Canadian Society of Hospital Pharmacists
ExEd – Experiential Education
NAPRA-National Association of Pharmacy Regulatory Authorities
OEE – Office of Experiential Education
PEP-C – Pharmacy Experiential Programs of Canada
SC-Steering Committee
Universities:
      MUN – Memorial University of Newfoundland School of Pharmacy
      Dal – Dalhousie University College of Pharmacy
      U de M – Université de Montréal Faculté de Pharmacie
      U of T – University of Toronto Faculty of Pharmacy
      U of W – University of Waterloo School of Pharmacy
      U of M – University of Manitoba Faculty of Pharmacy
      U of S – University of Saskatchewan College of Pharmacy
      U of A – University of Alberta Faculty of Pharmacy
      UBC – University of British Columbia Faculty of Pharmaceutical Sciences

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I.   Preamble

A.   Context and Scope

The Canadian Experiential Education (CanExEd) Project for Pharmacy operationalizes the priorities identified within the "Project Detailed Plan to Enhance Pharmacy Experiential Education in Hospitals and Primary Care" (2013). This plan was the product of a 2012 multistakeholder workshop(1) convened by the Associations of Faculties of Pharmacy of Canada (AFPC) in response to the Canadian Blueprint for Pharmacy Initiative(2). The Canadian Blueprint for Pharmacy's mandate is to, "catalyze, coordinate and facilitate the changes required to align pharmacy practice with the health care needs of Canadians". Their vision for Pharmacy is described as, "Optimal drug therapy outcomes for Canadians through patient-centered care. The Blueprint for Pharmacy is a collaborative initiative, led by the Canadian Pharmacists Association (CPhA), to develop and achieve this vision for the future of pharmacy in Canada." The Blueprint identifies five key areas for action, one of which includes, "Education and continuing professional development". Further, the Blueprint includes detailed statements concerning experiential education (ExEd):

- Ensure that core pharmacy curricula address the knowledge, skills and values required for future pharmacy practice
- Address challenges that affect the education, recruitment and retention of pharmacy educators and learning facilitators
- Increase the accessibility, quality, quantity and variety of ExEd learning opportunities

The CanExEd project is conducted under the auspices of AFPC. It maintains a national perspective in developing best practices with the aim of developing prototype initiatives facilitating the achievement of each priority. The project includes input and review by stakeholders in ExEd from each province and representatives from national advocacy bodies through the Steering Committee (SC) for the CanExEd Project (see Acknowledgements).

B.   Project Objectives

The original priorities identified in the "Project Detailed Plan to Enhance Pharmacy Experiential Education in Hospitals and Primary Care" (2013) (1) were revisited in 2014 to ensure clarity and relevancy given the interval between authorship and the work commencing. The review was undertaken by the Project Manager and the members of Practical Education in Pharmacy in Canada (PEP-C), a special interest group of AFPC as well as the project's Steering Committee (SC) (see Acknowledgements). The Project Manager updated the priorities incorporating feedback from these consultations.

As a result of these consultations, two of the original priorities were removed. Priority #4 was felt to be out of date, as the majority of provinces had expressed commitment to integrate the internships into Faculty-administered ExEd programs. Priority #6 was considered to be of a jurisdictional rather than national issue. The remaining 8 were edited for relevancy and clarity. The table below provides comparison between the current iteration of the priorities and the original expression. The suggested order for addressing is included in the Original Priority column. The order of delivery is still being determined.

Table 1: Priorities of the CanExEd Project.

Current Priority	Original Priority
1. National approach to learning outcomes and corresponding assessments at each stage of experiential education	8. Development of a guide for year-by-year learning outcomes
2. Integration of the full spectrum of preceptoring models in experiential education	2. Development of models of experiential education
Best practice in preceptor development to establish/augment best qualities/abilities in preceptors	1. Development of a national preceptor development program
Optimisation of preceptor recruitment and retention	7. Improved recruitment and retention of preceptors
Description and promotion of the value students add to host organisations and their mandate	3. Identification and promotion of how students add value to host organizations
Promotion of experiential education to stakeholders	9. Promotion of experiential education and precepting

(organisations, preceptors, colleges)	
Technology utilization to enhance quality and capacity of student placements	5. Enhance capacity and quality through technology
Characterisation of exceptional experiential education sites' best practices	10. Development of best practices for exceptional experiential education sites
Removed	4. Integration of internship into experiential education program
Removed	6. Improved funding for experiential education

C.   Audience and Intended Use

These reports are reference documents for further development, implementation and evaluation of initiatives undertaken by all (individually or in national collaborations) Canadian university Faculties and Schools of Pharmacy and their stakeholders in ExEd. Canadian Faculties/Schools of pharmacy are at varying stages of implementing new entry-level Doctor of Pharmacy (ELPD) degree programs. Those learning institutions already transitioned may place greater value on aspects of this report pertaining to measuring and benchmarking quality indicators and consultation on best practice as their programs evolve. Programs on the verge of initiating major changes to curricula may find value in the reports in their entirety.

Other professions and international pharmacy organisations may find instruction in the collaborative and research approaches employed in the project.

The reports are the centerpiece of the project. Further dissemination is expected in the form of research papers, conference presentations and multimedia products.

II.   Introduction

A.   Purpose of Report #1

This report communicates the investigation and findings of the current state of ExEd in Canadian Pharmacy Faculties/Schools, best practices and recommendations to achieving best practice relating to CanExEd Priority #1:

Guide development describing learning outcomes and corresponding assessments at each stage of experiential education.

Faculties of Pharmacy across the country are currently in the midst of transitioning from Bachelor of Science degrees as the entry-to-practice degree to an entry level Doctor of Pharmacy (ELPD) degree. At time of writing, four schools had transitioned to the ELPD. The remaining 6 schools are expected to join the shift over the next 5 years. With the onset of major changes to curricula across the country, now is an opportune time to join resources and establish a national approach to discerning learning outcomes, assessments and how ready-to-practice students are at each juncture of ExEd.

Canadian practice of pharmacy is more similar across the nation than different. Although certain provinces are experiencing higher rates of scope of practice expansion, all provinces are seeing scopes expand and eventually, through the efforts of individual pharmacy licensing bodies (colleges and boards) and the National Association of Pharmacy Regulatory Associations (NAPRA), scope of practice balance out across Canada.

B.   Previous and Upcoming Reports

This is the first in a series of reports to be delivered between 2014 and mid-2016. The order of reporting does not indicate level of importance. The first priorities were selected based on anticipated level of complexity and early delivery timeline.

C.   Knowledge Translation Dissemination

1.   Conferences and Meetings

Insert details

2.   Multimedia

INSERT links once developed and available

3.   Websites

Insert final report link on AFPC website

III. Priority 1: National Approach to Learning Outcomes and Corresponding Assessments at Each Stage of Experiential Education

A.   Priority Description

This priority addresses two major points of pharmacy students' experiential learning:
1. Learning outcomes and objectives achieved by students at the conclusion of each ExEd course
2. Student performance assessment during ExEd courses

Establishing expectations and abilities of students at the start and endpoint of every ExEd stage in the form of consistent, graduated, and clear learning outcomes (or goals) and learning objectives and student performance assessment is necessary for students, preceptors and faculty (both ExEd and faculty-based designers/instructors) (3) . Many educators purport that assessment drives learning(4) therefore, providing clear, consistent assessment describing the level at which a student is expected to perform is crucial in students' learning and preceptors' instruction and rating of performance. Learning outcome and objective statements establish expectations for students' abilities at the end of an ExEd course and must congruent with the end assessment. Campus-based faculty depend on the learning outcomes to assist them in course design so that students will have developed to a point that prepares them for the rigors of performing in true clinical environments. AFPC's Learning Outcomes are high-level goals that are further delineated using descriptive objectives within each outcome. There is an intermediary third concept that may benefit participants in ExEd - the student readiness to practice or ability. It describes what a student is capable of when the preceptor begins supervising students. In effect, it makes explicit the learning gap that the student needs to surmount during the time on clinical rotation. This concept will also be discussed in this report. If an ExEd course does not include guidance in the form of these documents, students and preceptors may have negative experiences and compromised learning during placements.

B.   Research Questions

In order to address this priority, research was undertaken to determine current approaches, describe best practices and consider ways to achieve these best practices in relation to learning outcomes, ability guides and performance assessment. The following questions were developed iteratively through the work of the project team and integration feedback from the PEP-C group and SC in order to address the goals of the project.

1. What student learning outcomes (LOs), ability guides and assessments fore each section of ExEd are currently being used?
2. What abilities does a student arrive with to begin a given stage of ExEd (early vs. advanced)
3. How are LOs and abilities ascertained?
4. How do preceptors best assess students for successful achievement of learning objectives?
5. What assessments (forms, items, frequency) best discern learning outcomes?

6. Is there sufficient commonality between programs for common LOs, ability guides and assessments to be developed?
7. What degree of interest is there from stakeholders in developing common LOs, student ability guides and student assessments for multiple pharmacy faculties?
8. What are the expectations of preceptors as student arrive at their practice site? Are these expectations consistent with the preceptors' eventual findings and/or Faculties' expectations?
9. Are these outcomes congruent with those expected by preceptors?

C.   Methods

The CanExEd Project is a quality improvement initiative that borrows useful methodology from the qualitative research realm. Findings from literature review (peer-reviewed and grey*) are integrated with combined deductive and inductive thematic analysis of interview data.

1.   Data Sources
- Peer-reviewed literature identified through database searches and interviewee referrals
- **Grey literature** from academia and policy makers
- Semi-structured interview with ExEd Faculty members at all Canadian Faculties/Schools of Pharmacy and SC members
- Surveys to cross-section of Canadian ExEd preceptors and current students
- Stakeholder feedback from advisory committees (SC and PEP-C) and end users of prototype products

2.   Data Collection
Peer-reviewed literature
Searches for relevant literature from the last 20 years were conducted using established educational, science and health professions databases. Appendix A provides specific search strategies employed to identify relevant citations. In addition to these searches, interviewees were invited to provide articles felt to be germane to the development of a national approach to student learning outcomes and assessments.

Grey literature
Academic institutions' documents were collected secondary to interviewees' reference and referral and via searching academic institution websites for relevant ExEd documents.

Semi-structured interviews
The Interview protocol was developed to explore research questions related to Priority #1. The interview used semi-structured interview questions to guide discussion. Appendix B provides the complete interview guide. Interviews were iterative and emergent.
Interviews with key informants were conducted at the interviewee's convenience using audio and/or video capture technology. Informants were identified through AFPC's PEP-C group and the CanExEd steering committee.
Interviewees consented to being recorded by signing, "Informed Consent for Interview Recording". Appendix C contains content of the consent form.

Surveys of students and preceptors
The final report will include survey data from students and preceptors on certain aspects of learning objectives, readiness to practice and assessment in ExEd. Surveys will be administered in the late winter of 2015.

Stakeholder feedback
Iterations of the report were provided to the Project Steering Committee (SC) as well as the Practical Experiential Programs-Canada (PEP-C), a special interest group of AFPC and feedback and further data were integrated into the data and subsequent results of the final report for Priority #1.

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* **Grey Literature** is a field in library and Information science that deals with the production, distribution, and access to multiple document types produced on all levels of government, academics, business, and organization in electronic and print formats not controlled by commercial publishing i.e. where publishing is not the primary activity of the producing body. Definition from Grey Literature Network Service. [Accessed December 1, 2014] Available from: http://www.greynet.org/greynethome.html

3.   Data Analysis

Peer-reviewed literature
Searching-identified literature abstracts were reviewed for relevancy to Priority #1. Those deemed relevant were reviewed in detail and summarized using a structured data extraction guide. Appendix D provides the approach for critique and summary. Articles referred to by interviewees were similarly reviewed and summarized by the PM, a Faculty member and two research assistants.

Grey literature
Grey literature from various Faculties was analysed in entirety for commonality and divergence. Data from schools already transitioned to ELPD curricula were scrutinized separately from those schools yet to transition to identify key differences in format and content.

Semi-structured interviews
A single research assistant transcribed and two researchers reviewed the audio-visual interview data. Qualitative research techniques were used in the analysis. Specifically, interview transcripts were thematically analysed according to pre-determined subject areas to consolidate findings. Some new data-driven thematic areas were inductively identified as the analysis progressed. NVivo software (NVivo qualitative data analysis software; QSR International Pty Ltd. Version 10, 2014) was used to organise and categorise segments of transcription.

Surveys of students and preceptors
Will be conducted in late winter of 2015 and will refer to findings in this report and to the prototype product

Stakeholder feedback
Incorporate upon provision at upcoming meetings

Integrated Analysis of All Data
The research team met to examine data in its entirety with the overarching goal of answering the research questions (as per Section III B above) thereby describing how ExEd programs across the country currently employ learning outcomes, assessments and student ability guides and what best practice is for each of these components of ExEd.

D.   Results

1.   Process

Peer-reviewed literature
Three hundred and fifty-six abstracts were initially identified and reviewed to determine relevancy to Priority #1. Of these, 61 were identified as appropriate for inclusion. In addition, citations thought relevant by academics to this priority were reviewed. Appendix E lists the 44 relevant available citations identified via searching to this priority. Many pharmacy citations were conference abstracts and unavailable to the researchers.

Grey literature
Much of the grey literature resulted from interviewees' direct referral. There were a number of documents that emerged as cornerstones to developing learning outcomes and assessments of student. The chart in Appendix F specifies the curricular documents from faculties that were procured and analysed. At time of writing, all Faculties of Pharmacy in Canada had responded to requests for documents except one for a response rate of 9/10 Faculties. Not all Faculties provided all course syllabi (26/36 = 72% potential syllabi were located) either due to the documents being in revision (2 syllabi) or because the school did not include (8 syllabi; mostly service learning). Similarly, only 25/36 (69%) assessment forms were procured. These missing forms were unable to be viewed because they were only accessible through the Faculties' secure electronic rotation platform, because they were currently under review or the Faculty did not respond to requests from the PM.

Appendix G lists documents identified by interviewees as being pertinent to best practice in designing learning outcomes, and assessments.

Semi-structured interviews
Sixteen interviews were conducted between July and January 2015. Interviews were predominantly one-on-one with two exceptions where the interviewer interviewed 2 participants simultaneously.

- 13/16 interviews were with Canadian Academics (Dean =1, Experiential Educators =11, assessment expert =1) within Pharmacy Faculties. All Faculties were included with the exception of two.
- 1/16 was with a US ExEd expert (Texas Tech)
- 1/16 was a member of NAPRA
- 1/16 was with a student

Interview duration ranged from 45 to 180 minutes. Long interviews were completed over 2-3 sessions. All interviews were conducted by the Project Manager and captured via audio and when possible, video.

Interviewees were very forthcoming in their conversations regarding ExEd and were keen to participate. None expressed concern or questions regarding informed consent for recording.

Surveys of students and preceptors
Will be conducted in late winter of 2015 and will refer to findings in this report and to the prototype product

Stakeholder feedback
Although student ability guides or readiness-to-practice descriptions received less attention in this priority, in the course of completing Priority #4 and 5, it became evident that these documents would contribute to more accurate portrayal of just what degree of benefit a student could be to the site as well as impact recruitment and retention success for ExEd programs as preceptors would be able to make better informed decisions as to begin and/or continue precepting students.

2.   Findings

Current Synopsis of Canadian ExEd Programs

AFPC's Educational Outcomes(5) are referred to in every ExEd syllabus and were identified as a cornerstone document by every ExEd academic during interview. The degree to which they are used to shape the Learning Outcomes/Objectives and Assessments vary. Very few ExEd Syllabi refer to NAPRA's entry-to-practice competencies(6) despite the document frequently being mentioned in interviews as being a major influence on the learning outcomes within ExEd programs. Overall, interviewees characterized the NAPRA and AFPC documents as up-to-date and relevant and expressed they would commonly update their own experiential education syllabi and assessments in response to emerging updates to these cornerstone documents.

The Canadian Council for Accreditation of Pharmacy Program (CCAPP) Accreditation Standards and Guidelines for the First Professional Degree Programs(7) was not cited in syllabi but was mentioned in a few interviews as being an important document influencing the development of Learning Outcomes/Objectives.

All but one program explicitly states learning outcomes or objectives within syllabi for ExEd courses/rotations. In those that do, the number varies between 6 (Waterloo) and 30 (MUN). In contrasting these two sets of learning outcomes/objectives, Waterloo uses the high-level learning outcomes as stated within the AFPC Educational Outcomes document. MUN includes detailed statements that might be considered traditional learning objectives that break down the high-level learning outcomes into distinct tasks, processes, skills and behaviours. Using distinct learning objectives requires numerous statements to comprehensively underpin high-level outcomes.

It is useful to closely examine learning outcomes/objectives used within ExEd programs already having transitioned to ELPD curricula as these programs have invested resources into determining what outcomes are relevant to each level of ExEd. In addition, these programs to a varying extent have had opportunity to refine their expectations and learning outcomes based on prior years' experience. The Table 1 compares and contrasts AFPC's Educational Outcomes with the learning outcomes of transitioned Faculties' advanced pharmacy practice experience (APPE) rotations.

Table 1: Canadian ExEd programs' Learning Outcomes Employed in Student Performance Assessments (Note: Laval University not available at time of press).

AFPC Educational	APPE (Year 4) Learning Outcomes			
	U de M	Laval	U of T	Waterloo

Outcome	Dans cette année terminale, il est attend que les étudiants de 4e année démontrent toutes les competences dans leurs globalités. Pour le stage, ces competences seront mises en pratique:	(not available)		Upon completion of PHARM___, students will be able to:
Care Provider	Soins Pharmaceutiques		Provision of Patient Care	Apply core knowledge, skills and professional judgment to provide pharmaceutical care
Communicator	Communication		Communicate effectively	Communicate with diverse audiences using a variety of strategies
Collaborator	Travail en équipe et interdisciplinarité			Collaborate with a full range of healthcare team members to provide effective, quality health care
Manager	Gestion de la pratique et des opérations			Manage the medication therapy of patients with common and complex medication therapy problems
Advocate	Services a la communauté			Advocate on behalf of the patient and the profession to advance healthcare models
Scholar	Raisonnement scientifique set pensé critique			
Professional	Professionnalism			Honour their roles as self-regulated professionals through individual patient care and fulfillment of their professional obligations to the profession
	Autonomie dans l'apprentissage			
	Leadership			

Examining yet-to-transition Faculties' ExEd course syllabi indicate the learning objectives/outcomes in some cases are a direct translation from AFPC's Educational Outcomes and in others, are mapped as contributing to each of AFPC's Educational Outcomes. Learning objectives/outcomes therefore vary from high-level outcomes statements to task and process-based abilities and combinations thereof. Learning "Goals" have also been used as intermediary statements to link leaning objectives with discrete aspects of each of the 7 Educational Outcomes.

Yet-to-transition ExEd programs consistently used statements such as, "At the end of the APPE rotations, students will be able to…"

No ExEd faculty was able to provide quality improvement data to support the effectiveness of their chosen learning outcomes/objectives although one Faculty had used focus groups of preceptors and institutional education coordinators during course development to elicit feedback on the relevancy, comprehensiveness and terminology of the learning outcomes/objectives. This feedback was incorporated into the course prior to it commencing.

Student ability or readiness-to-practice guides were explored during the interviews. Two ExEd Faculties use them to inform preceptors and students of aspects of practice that students arrive at a given rotation able to perform. They were seen as potentially beneficial as a communication strategy contained within their respective syllabi. One Faculty included a single statement describing the readiness of students when they arrive at the practice site.

Interviews quickly moved from learning outcomes/objectives and student ability guides to the measurement of learning outcomes - the all-important performance assessment.

Some interviewees noted that they had received feedback from preceptors in hospitals that such a common assessment tool (i.e. same software) would be advantageous.
To date, across Canada, in Pharmacy ExEd, student performance has been judged on an individual rotation basis rather than longitudinally throughout the experiential program.

No interviewees felt that they had perfected their assessment tools. There was awareness that the tools should be succinct (2-3 pages), easy to navigate, and accessible via electronic platform. Most ExEd faculty indicated there was a mandatory mid-point and final assessment. In terms of content items, all participants identified that the cornerstone reference should be the AFPC Educational Outcomes document. The NAPRA Competencies document was also

frequently mentioned as requiring consultation to ensure that those competencies were addressed within the developed assessment tool given that most provinces regulatory licencing bodies were integrating internships into the APPE rotations. The assessment of professionalism was mentioned as a particularly challenging learning outcome to assess in 2 interviews. Most ExEd academics sought consultation with assessment experts either within or outside their institutions. There was also much collegiality in sharing of forms as Faculties were preparing to implement new ELPD curricula. Few ExEd faculty conducted quality assurance on their assessment tools using preceptor and student surveys at the conclusion of a given rotation.

One interviewee indicated there is a working group currently developing a common approach to assessing students in Ontario. The U of W, U of T, Ontario College of Pharmacists (OCP) and the Ontario Chapter of the Canadian Pharmacy Residency Board are collaborating in producing a common assessment form that will be piloted in the winter of 2015.

Best Practice as Described in the Literature

Learning outcomes/objectives are integral for all stakeholders and participants in ExEd. These statements of expectation focus preceptors and students on accomplishing and assessing specific practice abilities and competencies (or as the case may be tasks and processes). (8) Canadian Pharmacy has well developed and described Learning Outcomes and Competencies as set forth by AFPC and NAPRA respectively. These cornerstone documents provide the high-level expectations of students finishing their respective programs and must be used to inform ExEd curricula across the nation. Further research on development and expression of learning outcomes and competencies was not undertaken due to the well-developed and accepted approach of these cornerstone documents.

Student ability guides were found to be of lesser concern and so a review of the literature was not completed. Confirmation of benefit to student and preceptor should be sought via survey and focus groups of these particular stakeholders prior to wide implementation. If they are eventually include, they must be regularly revisited to ensure curricular changes are reflected.

Assessment best practice was extensively researched as this seemed to have the greatest benefit and also the greatest challenge to national ExEd programs. Assessing students in the practice site is unique to ExEd and poses challenge as in no other learning environment are the conditions so uncontrolled and variable.

> *"Performance can be seen as the result of competence combined with the conditions which both enable and impose boundaries on the practitioner."*(9)

The **purpose** of an assessment must be considered as the assessment tool is developed. Student learning should be considered the overarching purpose of ExEd rotations but practically there are multiple competing purposes(10):

1. Diagnostic of individual student performance: Students and preceptors require assessment tools that help students improve on sub-par performance through identification of the precise components that comprise the issue and also help strong students refine performance.
2. Formative assessment: Formative assessment equates to feedback. Students and preceptors require regular, frequent assessment in the form of more informal feedback. These informal, frequent feedback sessions should be separate from formal summative assessment because they serve different purposes and are completed at different times (immediate vs. days to weeks later) but should coalesce into the eventual summative assessment
3. Summative assessment: Summative assessment is the final, high-stakes performance assessment required to signify whether a student has met the criteria for passing. Students, preceptors and ExEd faculty require final assessments to ensure learning outcomes/objectives have been met. Summative assessments can be used formatively to help students carry forward the skills and knowledge gained in one rotation to the next. This could be achieved through provision of written/electronic synopsis that could be released to an upcoming preceptor. As well if there are deficiencies that need further future focus, this is the point where that is expressed. Midpoint assessments are difficult to categorise but likely fall under summative assessments as they are considered a formal check-in to signal to the student and Faculty whether a student is at risk of not meeting the learning outcomes set out in the rotation.
4. Certificative: The stakes have increased with licensing regulatory organisations integrating internships into the final year of APPEs. When a student is considered to have been successful, so too are they considered competent and practically ready for licensure (after the national licensing exams)
5. Program evaluation of educational outcomes: Faculties require quality assurance that the program learning outcomes have been met.

In addition, assessment tools should be developed by a stakeholder team(8,11) to ensure **certain criteria** are met. The following list of 10 criteria is loosely ordered according to importance.

1. **Alignment** with stated learning outcomes and objectives: Rotation participants require clarity of expectation from the beginning of a rotation to the end. The assessment indicates whether a student has met the outcomes or objectives.
2. **Rater accuracy**: Structured forms direct assessor attention to specific dimensions of performance. Rater accuracy increases greatly when structured forms are used. (12)
3. **Authenticity/meaning:** Similar to #9 below, high-stakes assessments of professional students should be outcome-based rather than individual task-based or process-based because the same problem can evoke different strategies (tasks and processes) for arriving at the same solution. (13) Meaningful assessments instead focus on the impact of performance on the patient and care team (12,14) Participants experience more motivation to complete assessments fully if they experience congruency of the form with the goals of clinical work in general. The further performance is reduced to discreet actions, the greater the risk of a preceptor's observations, perceptions and judgments being inconsistent. At this time, most ExEd assessments consider process heavily rather than the impact on patients and the care team. This is not unexpected given the vocabulary contained within the AFPC Educational Outcomes and the way the patient care process is often taught within Faculty walls
4. **Ease of use**: Instruments should be short (maximum of 10 assessment domains plus one global item) and should use a maximum of 5-7 rating levels (12) . The jury is still out on the ideal number of ratings/rubric categories per assessment domain. Student assessments should consider the cognitive effort required of preceptors and not exceed that load. If load limits are exceeded, rater error results. (15) Rater fatigue can occur with the use of overly long assessments. Implementation of supplementary assessments may be required for struggling students to better identify performance issues and to offer in-depth formative assessments (with schedules) to raise the student's performance. Supplementary assessments would allow the structured midpoint and final assessments to remain brief for the adequately performing vast majority of participants while providing focused remediation strategies for the few who require extra guidance to meet the educational outcomes of the rotation.
5. **Structure and clear descriptive standards**: Set domains and descriptive performance ratings (or rubrics) minimize uncertainty in preceptor judgment. There is a set of rubrics collaboratively developed by the Association of American Colleges and Universities that may be informative as descriptions of performance are elucidated (https://www.aacu.org/value-rubrics). Domains of assessment should be ordered according to priority with the most important domain in first position. It is also important to facilitate flexibility in the use of free-text writing opportunities. (16)
6. **Criterion-referenced grading**: The minimum standard acceptable for passing is decided before the assessment occurs.(10)
7. **Multiple sources of feedback**: The number of administrations of a multi-source feedback tool is more important than the number of questions asked (17) therefore, feedback tools should aim to globally assess performance and be simple and short to facilitate other health care providers, peers and patients providing feedback to students. Students can provide cards or electronic links to assessors to collect this data. (14)
8. **Prompt assessment** documentation: Assessors are more accurate when ratings are recorded immediately. The use of pocket forms or personal mobile devices may encourage prompt reporting of informal feedback assessments.
9. **Validity**: The assessment tool must actually test the learning outcomes it sets out to test (10,18) . APPEs are geared to provide opportunity for achieving high-level educational outcomes so global and holistic judgment is required. These judgments of highly complex behaviour are induced through the commensurate language within the assessment form. This quality also avoids trivialization that can occur when highly complex performances are reduced to their components.
10. **Reliability:** The measure of the reproducibility or consistency of an assessment tool should be considered in the development of the tool/s of assessment. A generalizability coefficient of 0.8 is considered the minimum value for reliability(10) and that 6-12 raters per student (19) are needed to achieve this however, this statistic applies to norm-referenced grading (tests) rather than the criterion-based rating that ExEd uses. Nevertheless, frequency of assessment is more important than the standardisation of the tool or the training in its use. (12,18,20,21)
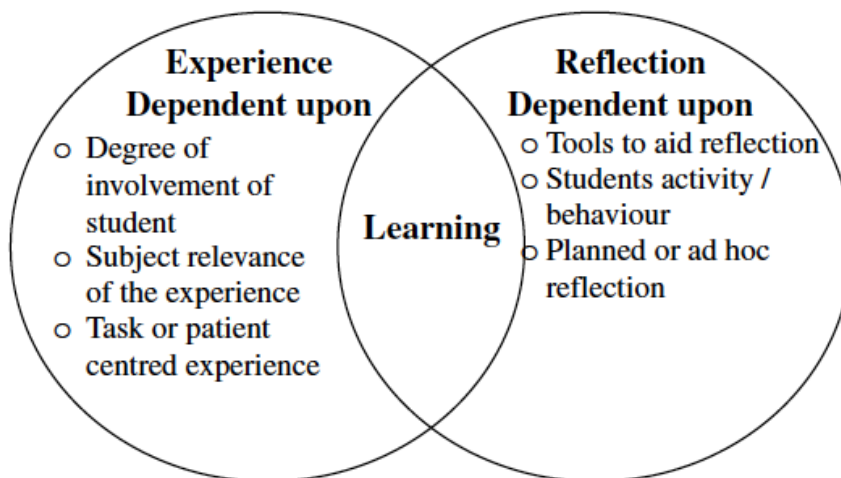
A single tool will not fulfill all these purposes. Multiple medical educators suggest that **separate tools** may be preferred.

The **first** is the familiar structured assessment form currently used in many ExEd programs. ExEd structured assessments should include only those competencies not able to be assessed elsewhere in the curriculum so that assessors and students are focused on the highly complex aspects of performing in the clinical educational environment. For instance, if the Scholar educational outcome can be assessed in campus-based courses, then it could be excluded from ExEd assessments.

Intelligent testing of competencies is a strategy of interest for ExEd. Intelligent testing adjusts the assessment domains based on the outcome of previous performance. As an example, if a student in EPE rotations was shown to have 7-11 assessments of the communication outcome judged on a satisfactory or better level, further assessments would be eliminated as it would be extremely unlikely to change the finding. (9) Assessments can therefore focus on aspects of practice that the student may be lacking in. Intelligent testing would require sophisticated electronic platforms but implementing this technology would reduce the amount of time and effort required for students to be considered competent. Intelligent testing may also provide detailed analysis of the type and complexity of patients students care for. This type of data may help students take ownership of their rotations if they can identify what areas of practice they lack exposure to such as different therapeutic areas, patient demographic as well as areas of outcomes/competencies they still need feedback on(22). The data will also inform Faculties of just what students are seeing in practice in real time and assist with future iterations of the program to ensure students receive preparatory instruction for particularly prevalent clinical scenarios. Whether minimum number of encounters within certain therapeutic domains or within certain demographic groups could be mandated is debatable. Perhaps this approach would be better used as instructive for students on their learning gaps.

The **second** tool is a student reflection tool. The act/skill of **reflection** is important in enabling students to self-assess. In turn, self-assessment is a critical skill to inform life-long learning which is an outcome of the AFPC Educational Outcomes and a competency in the Professional competencies for Canadian Pharmacists at entry to practice (NAPRA). Reflection is considered a necessary companion to experience for learning (see Figure 1 below for graphical representation) (23) and can be considered the basis for developing highly flexible, creative practitioners. (18,24,25) Indeed, in a self-regulating profession, practitioners must be able to recognise strengths and weaknesses in order to *"generate a capacity for finding an effective balance both in daily practice and in setting personal learning goals. In daily practice, a balance of confidence and caution, of persistence and flexibility, of experimentation and cooperation"* (26) . Inducing reflection without direction to students results in variable effect but "scaffolding" and providing supplemental instruction on specifically how and what to reflect on enables students to improve their skills and to achieve a deeper learning (27) . *Self-assessment and reflection aren't just introduced in experiential rotations. "Action planning, learning contracts, reflective writing skill-building, relevant lectures and activities regarding specific knowledge aspects and practicing workplace protocols in the classroom context are some of the strategies that universities use to provide scaffolded experiences and accelerate student learning prior to the commencement of clinical placement"* (28) . Effective reflective practice must occur in concert with engaging others so that self-absorption and unquestioned judgements (characteristic of internal self-talk) are avoided. In order to do so, there should be a community of practice in the rotation site where participation in reflective discussions is encouraged. Training on reflective practice is required through preceptor training programs to ensure that workplace culture, business of work and preceptors who are challenged to practice reflection do not preclude the practice of reflection in visiting students (29) .

Figure 1: from *Fowler J. Experiential learning and its facilitation. Nurse Educ Today 2008;28:427*. The quality of the experience and the reflection (headings within each circle) are impacted by the factors (bullet points within circles)

Experience
Dependent upon
o Degree of involvement of student
o Subject relevance of the experience
o Task or patient centred experience

Learning

Reflection
Dependent upon
o Tools to aid reflection
o Students activity / behaviour
o Planned or ad hoc reflection

Learning contracts completed pre-placement are one type of reflective task used to initiate student self-assessment by having the student identify specific learning outcomes/objective that are not already included in the APPE assessment. They can be outcomes/objectives more specific to the clinical area of their placement or can be ones that the student has self-identified to address specific knowledge or skills that they want to improve on. The learning contract can build on the student self-assessment which would involve the student assessing himself or herself against the APPE assessment form that their preceptor will use to evaluate them. Both are excellent tools to promote discussion between student and preceptor during their first meeting, a mid-point evaluation and a final evaluation.

Learning portfolios have been suggested as a way to both showcase a student's work and as a tool for discussion and planning between student and preceptor to monitor progress across their APPE rotations. *"The power of the portfolio lies in the reflection"* (30) . A significant challenge that cannot be underestimated when considering portfolios are the resources required to mark/monitor them*. "There are three areas of student performance that should be assessed: knowledge, skills, and attitudes. Assessments need to determine not only the quality of student performance in the different area, but also that the required quantity of experiences and proficiencies are consistent for each student. Student portfolios can be used to assist in this process. The portfolio's can include checklists of required elements, records of skills and activities performed during experiences etc. Portfolios should include assessments by preceptors and self-assessments by students."* (31)

Potential for National ExEd Learning Outcomes and Assessment

When interviewees were asked about potential for a national approach to determining learning outcomes/objectives and assessments, participants generally expressed that since there were national Educational Outcomes (AFPC) and competencies (NAPRA), there should be commonality on this front for APPE rotations. APPE rotations are the final component to all ELPD curricula no matter which Faculty and therefore, students should all be at similar levels across Canada. Academics recognized greater challenge to achieving national consensus on EPE rotations as there would be variability in ordering curricular courses across the nation.

Interest levels were highest in yet-to-transition to ELPD Faculties for developing a national approach to outcomes and assessments. Most participants agreed that there would be economic benefits and maximizing the robustness of ExEd. Those Faculties who had already developed their ExEd ELPD programs were less interested in the collaborative task however, they were willing to share materials such as syllabi containing learning outcomes, student ability guides and assessment forms to assist in the work and were certainly interested in the outcome in the event that the end products could influence future iterations of their own program.

Some participants indicated there were such a small number of students crossing provincial borders for ExEd that there may not be benefit for many preceptors with this initiative. In contrast, there were also some participants who indicated they place students in areas that have preceptors taking multiple students of differing academic origins.

Many interviewees recommended assessment experts that would be beneficial in developing a common assessment. Of note, in Ontario, U of T, U of W, The Ontario College of Pharmacists and the Ontario branch of the Canadian Pharmacy Residency Board are developing a structured assessment form jointly. It is scheduled for pilot in early 2015.

There are other jurisdictions that have implemented a National approach to ExEd in Pharmacy. Australia has undergone a similar reform and there are consortiums in the US that have banded together to offer a consolidated approach to learning outcomes and assessment.

E.   Discussion

1.   Interpretation

Given that the majority of ExEd Faculty leaders have been interviewed for their perspective, experience and ideas, Priority #1 findings are generalizable on a national level. Alignment between programs was most evident when it came to using AFPC's Educational Outcomes and NAPRA's Competencies for Pharmacists for setting out learning outcomes and assessment strategies. Faculties with the transition to the ELPD on the 3-5 year horizon were most interested in coming together to work on a common approach. The work being done in Ontario on a common assessment form for all levels of learner (Pharm D, resident, intern) may be informative for this Priority in terms of content and collaborative process.

There were differing opinions in terms of the benefit to preceptors of common approaches to assessment as well as whether there would be benefit to benchmarking performance across the country with the use of common assessment forms.

The single US counterpart interviewed illustrated quite an individualized (with the exception of a few consortium of schools, most have their own structure/philosophy/expectations) and specific (variability between therapeutic practice areas) approach to learning outcomes and assessment in the US. The Canadian situation where there are fewer Faculties of Pharmacy and a consensual approach (i.e. Educational Outcomes and competencies) lends itself to working collaboratively toward a common national vision for learning outcomes and performance assessment.

It is possible that some ExEd courses were developed prior to the publication of AFPC and NAPRA documents. With the ELPD looming, programs may have been inclined to continue with existing course structure and map to the outcomes and competencies knowing that upon transition, ExEd courses would require major revisions that may include more closely aligning with AFPC outcomes and NAPRA competencies.

The concept of longitudinal assessment must be considered for ExEd given that Learning Outcomes/Objectives and assessments will be of a high-level and applicable to all direct patient care rotations. Development of clear thresholds for passing performance will require careful consideration.

Advantages

FOR STUDENTS:
- Common learning outcomes and assessments might enable students to complete some or all ExEd placements in other provinces as preceptors would be comfortable with a single ExEd skill set.
- Students would know that they are being consistently evaluated, regardless of where they are in Canada

FOR PRECEPTORS:
- Preceptors, especially those who may be working with students from more than one school, would be comfortable and efficient sine there would be consistency in the rotation expectations and assessments.
- Less training would be required to prepare for a student from another jurisdiction.

FOR SCHOOLS:
- Pooling resources across the country could help create a more robust, validated tool than would be possible if all schools work in isolation
- Establishes a mechanism for continual quality improvement initiatives that may not be possible on a jurisdictional level
- Pooling resources allows for efficiencies of scale when it comes to investment in expertise and enabling technology

Challenges

- Each Faculty delivers particular materials (in particular therapeutic topics) at different times
- Assessment styles vary across schools
- Different types of rotations might require different types of assessment forms (as in the US)
- Logistically difficult to gather contributors across the country to collaborate on the initiative
- Materials must be produced in English and French
- Reluctance to collaborate or a wish to remain distinct for competitive advantage or preservation of intellectual property
- Producing an approach to assessment that meets all the 'best practice' criteria (see above).
- Accommodating or avoiding the slight differences in scope of practice between provinces

Disadvantages
- Individual Faculties have different ways of thinking about education. These philosophical differences may not emerge with a consolidated approach to ExEd outcomes and assessment
- Students' ability to complete placements in other provinces might produce competition for 'best' placement sites

2.   Limitations

The literature pertaining to this priority is predominantly American-based. Applicability to the Canadian situation will be variable given the difference between the countries. High-level evidence may have some benefit but site-specific or therapeutic-specific approaches would not be as applicable.

Data gathered from Canadian Pharmacy ExEd faculty is only applicable for the Canadian environment and for a limited time (2014-2016). The time limitation is important as more Faculties transition to new curricula and scope of practice expands on a national level. The pace of change is unprecedented and so the picture will be quite different in the next two years.

3.   Recommendations and Prototypes

Prototypes

Appendix H presents an initial is a conceptual model for a national approach to setting learning outcomes and corresponding assessments. The prototype is meant to induce critique and generate ideas germane to the eventual piloted product. APPE rotations were chosen for modeling given that this culminating component of ExEd must be developed before EPE components and would have the highest degree of commonality across the country. The urgency and broad applicability also lend it the greatest potential for success. Similar products should follow to establish similar prototypes for EPE 1 and 2 courses. Post-graduate practice experience (i.e. residency) may also benefit from a similar prototype.

The APPE model is composed of:

 Tier 1 components (base documents):
1.   Student Learning Outcomes common to all ExEd programs
2.   Summative/Certificative assessment form (Midpoint and Final Assessments)
3.   Reflection induction and assessment tool

Tier 2 components (optimal additions):
1.   Supplementary Assessments (look at Maize article-in Evidence folder)
2.   Formative feedback e-forms
3.   Feedback dashboard

Quality Outcome Measurement

Embedding quality assurance tools into the structure of ExEd courses provides signalling mechanisms of effectiveness to ExEd faculty. The plan to build a robust, relevant and feasible national approach for setting learning outcomes and corresponding student assessments without integrating performance indicators would miss an opportunity to determine whether ExEd in Canadian Pharmacy Programs is achieving its purported goals and objectives.

Macroscopically, determining and measuring indicators of graduates' competency is necessary for licensing bodies charged with protecting the public, governments, employers and the profession of Pharmacy. Mesoscopically, learning institutions interest in quality measurement for a myriad of reasons not least of all, funding of programs and competition for students and research grants. While the literature pertaining to quality is geared to macro and meso levels of quality measurement, it is instructive to consider principles that might apply to the microscopic level of ExEd.

Identifying and selecting quality indicators at this ExEd level should focus on effectiveness (32) (a combination of efficiency and quality) rather than simply efficiency. To this end, quantitative information regarding the number of students, administration staff and faculty members, placements obtained, patients seen, etc. will have limited use in isolation but is valuable in conjunction with information on how well the program served students, staff/faculty members, preceptors and the organisations and patients they work for and with. Quality indicators aligned with the learning institutions' mission facilitate discernment of measures that matter (32) . There may be benefit to distilling a mission statement for ExEd on a national level to ensure wise selection of indicators.

Quality indicators can be categorised in two different ways:

A.   Indicators may be student (satisfaction levels, employability, cognitive development), faculty/preceptor (assessment validity and reliability, teaching effectiveness, publications) or staff/faculty (placement matching, monitoring of performance)-related (32) .

B.   Indicators can be input (numbers of students, staff/faculty, preceptors, electronic platforms to deliver the ExEd program), output (number of rotations completed, assessments filled out, number of return preceptors and number of students who take on a precepting role) or teaching/learning as it effects cognitive development (breadth and frequency of student exposures to therapeutic areas, tracking change in learners' patient volume and complexity from EPE 1 to the final APPE rotation, determinations preceptors' teaching abilities and conduciveness to learning at rotation sites) in nature (33) . It is this final category of performance indicator that is arguably the most telling and least well-defined (34) Pharmacy is advantaged to this end by having a well-developed national set of educational outcomes and professional competencies that are the foundation for measuring whether programs actually produce practitioners that fulfill these abilities and competencies held as requisite for the profession.

According to the association of Universities and Colleges of Canada (35) , true performance indicators meet 7 criteria. In selecting short-term performance indicators from the table below, these 7 criteria should be considered. It is not necessary to implement measuring of all indicators rather a select one or two should be implemented and periodically reviewed to determine whether the measure continues to provide useful instruction, is feasible and valid. Collecting and examining outcomes over time allows for identification of trends and/or understand whether changes to the program have had meaningful implications to participants. Measuring a few core indicators in each jurisdiction allows for comparison between programs. These comparisons should be confidential and only shared within the OEE as a means for improvement. There may be mechanisms for providing blinded benchmarking so that each OEE receives their data highlighted against other anonymised OEE results.

1. Goal or result oriented (related to mission statements)
2. Include a reference point (a target, performance over time or comparison across institutions)
3. Provide strategic information about the condition or functioning of an institution
4. Evaluate (assessing and judging)
5. Are strategic, specific, policy-oriented and issue-driven
6. Connect outcomes to structure and process, taking inputs into account
7. Purposed for improvement, enhancement and positive reform

The table below provides a selection of indicators and measurement tools that may be utilised for this Prototype (and possibly others) during the pilot and larger scale implementation stages. Once selected, changes to the tools should only occur after careful deliberation as changes weaken the ability to compare over multiple years and between multiple programs. Further research and engagement of experts regarding best practice for program evaluation of ExEd is imminently required.

Table 2: Short-Term Performance Indicators for ExEd (36)

Indicator	Measurement Tool	Possible Item Applicable to this Priority	Focus
Learning Outcomes met by end of EPE 1, EPE 2 and all APPE rotations	Final Student Assessment	As per the final assessment form domains (See Appendix H)	**Student**
Summative assessment is valid and reliable	To be developed		**OEE**
Competency / internship expectations met by the end of APPE rotations	Final Student Assessment	As above	**Student**
Impressions of educational experience within rotations	End of rotation student evaluation of OEE, preceptor teaching and site conduciveness to learning	Were the learning outcomes for this rotation: 1. easy for you to understand 2. useful for directing learning activities 3. relevant and doable? Were assessment forms: 1. aligned with learning outcomes 2. reasonable in terms of length 3. reasonable in terms of performance	**Student OEE Preceptor Learning Site**

	expectations 4. easy to electronically complete? 5. Reasonable in terms of frequency? 6. Explained well? Was the reflective component of assessment 7. Reasonable in terms of length/effort 8. Easy to electronically submit 9. Explained well in terms of purpose and expectations		
Preceptor stringency/leniency	At conclusion of each year, provide each preceptor longitudinal (from all prior years) benchmarking of preceptors' grades to the aggregate. (12) OEE in each Faculty may also compare their preceptors' degree of stringency to other jurisdictions		**Preceptor OEE**
" " " "	Student focus group and preceptor focus group	Discern what improvements could be made to the learning outcomes and assessment tools using a few key questions.	
Preparedness for commencement of each level of ExEd course	Student evaluation survey at the end of preparations for a given rotation Preceptor survey at the end of a rotation	Did the pre-rotation preparation sufficiently inform you about the learning outcomes and assessment strategies used in this rotation?	**OEE Student**
Contribution to developing and sharing best experiential education practices	Number of publications and presentations		**OEE (perhaps in conjunction with Preceptor/ Learning Site)**
Impressions teaching in ExEd rotations	Rate of preceptors re-engaging in teaching annually		**OEE**
" " " "	Preceptor survey at conclusion of rotation	Were the learning outcomes for this rotation: 1. easy for you to understand 2. useful for directing learning activities 3. relevant and doable? Were assessment forms: 1. aligned with learning outcomes 2. reasonable in terms of length 3. reasonable in terms of performance expectations 4. easy to electronically complete? 5. Reasonable in terms of frequency? 6. Explained well? Was the reflective component of assessment 7. Reasonable in terms of length/effort 8. Easy to electronically submit 9. Explained well in terms of purpose and expectations	**OEE**
Advancing cognitive abilities in providing patient care	Collecting statistics for each level of ExEd course on number of meds/patient and medical	Online feedback forms from assessors with this data	**Student**

	issues/patient for a representative sample		
Students provide value to the organisation they are placed with	Preceptor survey at conclusion of rotation. Collecting statistics for each level of ExEd course on number of meds/patient and medical issues/patient for a representative sample Workload measurement tools of the institution	Did the student extend your ability to care for patients (in terms of number or comprehensiveness) Did the student allow the site to implement new services or processes?	**Student**
Matching students with rotations appropriately	Proportion of students/rotations that were completed in areas other than student interests		**OEE**
" " " "	Sufficient number and variety of rotations to satisfy numbers (literature suggests 20% overage is ideal)		**OEE**
Students receive appropriate interventions and support from OEE	Staff monitoring of passing grades, struggling students and completed documentation. Remediation rates		**OEE**
" " " "	Number of OEE faculty/student, number of OEE staff/student, number of rotations/faculty, number of rotations/staff, number of students requiring remediation/faculty		**OEE**
Continuing preceptor improvement/interest in the scholarship of teaching and learning	Number of hours of CE in the field of teaching and learning/preceptor		**OEE Preceptors**

Table 3: Long-Term Performance Indicators for ExEd

Indicator	Measurement Tool	Possible Item	Focus
Former students support ExEd	Rate of former students requesting preceptor roles		**OEE**

Development Process

Full-scale development of the prototype components (learning outcomes, possibly student ability guides and assessments) for all ExEd courses (EPE 1, EPE 2 and APPE) requires commitment of time and funding from Faculties to allow OEE faculty to work collaboratively (with stakeholder input). A group linked to the PEP-C special interest group and the Assessment special interest group (both under the umbrella of AFPC) should be struck and maintained initially for a 2-3 year period to ensure continuity from inception through to completing the first APPE rotations. Once the initiative has run a cycle, membership may be revisited to better reflect the maintenance phase of the initiative. There is definite advantage to having multiple assessment experts, users and experienced ExEd faculty influence the assessment of educational outcomes in that the end product will be more robust, consider regulatory bodies requirements, and be grounded in realistic practice. Estimated time for a working group of 6-8 individuals to further refine and develop EPE and APPE documents is 80 hours. Estimated time required on an annual basis to maintain the tools for a group of 6 - 8 is 40 hours.

Sustainability practices include literature review, quality assurance data review from stakeholders, refinement of the initiative and planning for subsequent cycle's quality assurance and possibly generating research on this component of ExEd.

Funding will be needed to engage consultants to ensure reliability and validity of the developed tools. Perhaps the greatest expenditure will be to establish and develop (infrastructure and human resources) the electronic platform necessary to administer the sophisticated approach to feedback and assessment and to ensure that quality indicators are established, measured, analysed and influence subsequent iterations. The human resourcing may be in the order of a 0.25-0.5 FTE. The electronic platform issue will be considered in a future Priority report.

Identification of leadership on this project is ongoing. The special interest group currently consists of the PM, 2 ExEd academics and 2 assessment experts. The group will benefit from increasing breadth of stakeholders in ExEd in the design and implementation (37) . Specifically the imminent addition of 2 preceptors, 2 students (ad hoc) and a representative from NAPRA is advisable.
The first package developed sets out the APPE rotations however, it will be the last package implemented. The pilot will commence in the summer of 2016 with the inaugural EPE-1 rotations at a volunteering Faculty (likely U of M).

Moving forward, the steering committee will take ownership of this initiative and make recommendations for further developing, refining and implementing the prototype. The current small working group will be integral for moving the work forward in an informed and timely fashion.

Implementation Process
Tier 1 components should be completed first. To pilot EPE 1, EPE 2 and APPE Tier 1 components, the chosen Faculty will commence the changes to the ExEd curriculum with EPE-1. For all ExEd courses, the following must be addressed prior to implementation:
1. Integrate the common (anticipate APPE to be uniform across Faculties) and variable (EPE 1 and 2 will likely require individual Faculty-developed) learning outcomes into the syllabus
2. Consider including a detailed description of student abilities prior to the rotation
3. Integrate the structured summative assessment form into the syllabus
4. State the threshold for a passing grade in the syllabus
5. Program the structured formative (midpoint) and summative assessment forms into the electronic learning platform
6. Test the electronic assessment form (ease of use, links, automated grading, submission, retrieval by faculty)
7. Develop student and preceptor orientation sessions on learning outcomes and assessment
8. Open dialog within the curriculum committee pertaining to reflective practice utilisation within campus-based courses and how to best-prepare students for an augmentation of this skill as they progress through the degree program (including within ExEd courses)
9. Determine the preferred reflective practice tool in conjunction with the curriculum committee and integrate it into the syllabus
10. Establish methods and resources for providing meaningful feedback to students on their reflective submissions
11. Program the electronic platform to allow uploading by students of these documents
12. Test the electronic platform for submissions, retrieval and provision of feedback
13. Develop student and preceptor education sessions to prepare them for the reflective practice component of ExEd learning
14. Edit/develop quality assurance strategy to evaluate the success of these new tools. In the case of the pilot there should be a mid-rotation check-in with a cross-section of preceptors and students re: the acceptability and issues with the tools via a short survey or focus group. For EPE 1 and 2 a survey should be provided to students and preceptors measuring the success of the pilot as well as a focus group convened from each type of rotation to understand what changes will be necessary for future EPE-1 and EPE-2 rotations. For the APPE pilot, similarly, a check-in should occur at the midpoint of the first rotation. Subsequent evaluations of the tools should occur at the mid-point of all APPEs in case there are major issues for rectification before the second half of rotations begin. At the final point, all participants should again be surveyed and focus groups convened to determine effectiveness of the tools.
15. ExEd Faculty (administrative and academic) should convene as a group at the conclusion of each ExEd course to determine changes for the next iteration of the course (resources, formatting, communication, electronic automation).
16. Studies of validity and reliability (QA) of the assessment tools are required at the conclusion of the pilot rotations.
17. QA results are provided to the Priority #1 working group for integration into the final version for wide national release.

To be considered a success, this project should present comprehensive set of APPE documents including a plan for evaluating the quality of the initiative as well as a flexible set of EPE documents in November of 2015 and implement the EPE packet in a pilot Faculty by the summer of 2016. Reliability and validity of the assessments (QA) should be determined before January of 2017 for analysis and prompt integration into EPE-2 and APPE assessments prior to those courses commencing.

F.   Conclusion

Establishing an approach for describing learning outcomes and corresponding assessments for experiential education in Pharmacy is desirable and achievable on a national level. There is a wealth of previous experience within stakeholders and the PEP-C group to inform this exercise. This report sets out an evidence-based, stakeholder-influenced prototype for best practice in the Canadian environment. Facilitators to achieving a national approach include ExEd academics independently coming to similar conclusions as to the forces that have driven and will drive current and future iterations of learning outcomes and performance assessments as well as the existence and widely accepted AFPC Educational Outcomes and NAPRA Competencies. Other jurisdictions in the US and Australia have implemented similar initiatives and Occupational Therapy ExEd educators have adopted a national Canadian assessment. Surmountable challenges to moving the initiative forward include resources, urgency (which can at times preclude collaboration), lack of a common electronic assessment platform and variability in 1st and 2nd year of in-house curricula between Faculties of pharmacy which results in students having diverse pre-rotation knowledge and skills. Multiple Faculties of Pharmacy are on the verge of commencing new ELPD curricula which makes continued work on this Priority time-sensitive.

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