The AGILE Project
Final Report

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December 2013
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Acknowledgements

The work of this project was supported by the University of British Columbia’s Teaching and Learning Enhancement Fund (TLEF). A TLEF grant allowed the AGILE Project to employ a number of pharmacy students and a qualitative research specialist.

The project lead would also like to acknowledge the support and active participation provided by all the Health Authority staff members who took time out of their busy schedules to participate in this process.

A special thanks to coordinators and site volunteers who helped arrange and facilitate the AGILE site visits.

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Foreword

The AGILE Project (Advancing experiential LearninG In Institutional Pharmacy PracticE) was initiated by the Faculty of Pharmaceutical Sciences at the University of British Columbia. The project falls within the Faculty’s Practice Innovation portfolio. Its goal was to develop recommendations to inform new approaches to institutional experiential pharmacy education in British Columbia. In particular, it sought to identify solutions for placement capacity concerns and identify the support needs of preceptors, learners and sites.

The project began in November 2012 and ran for one year. As project lead, and a Health Authority clinical pharmacist and preceptor, I was responsible for designing and executing the project methodology. One of the major aims of AGILE was to foster broad engagement of the stakeholders involved in the pharmacy experiential education that occurs in BC’s six Health Authorities. Key stakeholders across the province included Health Authority pharmacists, coordinators and directors, pharmacy learners and faculty members.

The recommendations in this document are the result of province-wide stakeholder engagement. Stakeholders provided their perspectives regarding barriers and challenges to experiential education as well as viable solutions. Feedback was analyzed in a rigorous manner using qualitative research methodology. The most frequently mentioned challenges and solutions provide the basis for the AGILE Project recommendations. In addition, an extensive review of pharmacy and other health discipline literature was conducted to identify successful strategies employed elsewhere. Strategies used by other experiential programs in Canada and North America were also considered when developing the recommendations.

The AGILE recommendations are intended to address existing and future challenges relating to institutional pharmacy experiential programs in BC. While some of the recommendations would most easily be implemented as part of the new Entry-to-Practice (E2P) Doctor of Pharmacy program, it is important to begin implementing most of the recommendations as soon as possible. Increased enrolment in the current E2P program will begin affecting placement sites in the 2014-2015 academic year and solutions will need to be in place prior to students arriving at sites.

It will also be important to ensure that the front line preceptors who were engaged in developing these recommendations remain actively involved in their implementation. Implementation will require a customized approach for each Health Authority and site, and this process should involve preceptors, coordinators and the Faculty.

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Terminology

Office of Experiential Education (OEE)
The Office of Experiential Education is responsible for experiential student support, site recruitment/retention and scheduling placements for students in the Faculty of Pharmaceutical Sciences’ Entry to Practice Program at the University of British Columbia. The office is also responsible for the ongoing support for practice educator development to enhance the quality of student learning at the site.

Entry to Practice Program (E2P Program)
The Faculty of Pharmaceutical Sciences’ Entry-to-Practice program, currently the Bachelor of Science in Pharmacy degree program.

E2P Students
Students from the Faculty of Pharmaceutical Sciences’ Entry-to-Practice program. Preceptors sometimes refer to these students as OEE (Office of Experiential Education) Students or SPEP students.

PharmD Students
Students from the Faculty of Pharmaceutical Sciences’ post-graduate Doctor of Pharmacy program.

Pharmacy Practice Residents (or Resident)
Graduate pharmacists who are enrolled in one of the province’s Health Authority administered Pharmacy Practice Residency programs.
Executive Summary of the Recommendations

I. The Faculty and Health Authorities should establish formal and mutually beneficial partnerships.

II. Increase the practice-readiness of Entry-to-Practice (E2P) students and their exposure to hospital practice by:
   » Adding an early pharmacy practice experience after the 2nd year of the E2P program.
   » Embedding acute care content throughout the curriculum.
   » Creating an enhanced orientation prior to the 4th year E2P institutional placement.

III. Provide robust, on the ground support for preceptors and learners at the placement site.
   » Support should include a combination of the following:
     • Experiential Education Facilitator(s).
     • Allocation of protected teaching time for preceptors.
     • Administrative support.
   » The support strategy should be customized to the Health Authority and to the site to account for the unique needs and challenges of each.

IV. Embrace non-traditional learner-preceptor models by:
   » Promoting and supporting the adoption of non-1:1 models.
   » Placing E2P students in pairs by default wherever possible.
   » Making greater use of residential care placement sites through a facilitated multi-placement model.

V. Promote participatory learning whereby learners actively contribute to departmental initiatives.

VI. Develop program design and placement process by:
   » Adding placement blocks to cover most of the calendar year (48-50 weeks).
   » Consider increasing rotation length to 6-8 weeks in the future (when feasible).
   » Implementing system-wide, centralized coordination of learner placements and matching of learners to rotations that are most appropriate for their level of skill development.

VII. Expectations of learners, preceptors, sites, and the Office of Experiential Education (OEE) need to be clearly defined in an easily understood format and must be readily accessible on the OEE website.

VIII. Add dedicated staff in OEE to coordinate inpatient placements and to provide information technology support.

IX. The Faculty should provide a series of preceptor development and support resources including:
   » An online preceptor and professional development program.
   » A Preceptor Network.
   » On site tailored preceptor development sessions.

X. The Faculty should create a preceptor recognition and rewards program that includes:
   » Awards that recognize excellent preceptors and sites.
   » Hosting of an annual event to honour award recipients and celebrate experiential education.
   » A points system for preceptors rather than the current honoraria system.

XI. The Faculty should provide grants for equipment purchase or other resources at sites on a case-by-case basis.

The above recommendations will necessitate support from the following additional initiatives:
   » Preceptor education in advance of system changes.
   » Pilots of non-traditional learner-preceptor models.
   » Unified online evaluation platform.
   » Creation of a rotation inventory database.
   » A preceptor recruitment strategy.
   » Strategies for staffing shortages at sites while learners are present.
   » An experiential education quality control strategy.
   » A mobile device strategy.
Background: Institutional Experiential Education and the Future of Pharmacy in BC

Experiential placements are a critical component of health discipline degree programs. They allow learners to cement the theoretical knowledge obtained in the classroom into practical real-life skills. While few will debate their value, organizing and delivering experiential placements is associated with significant challenges for academic institutions and practice sites (1). A shortage of preceptors and experiential rotation sites is a common issue identified by academic programs, while practice sites and preceptors often describe challenges managing teaching workload alongside existing workplace demands (1, 2). This is certainly true of hospital pharmacy in Canada. A 2010 Canadian hospital pharmacy survey found that competing workplace demands and lack of backfill for staff who are precepting were the top two issues for hospital sites (3).

Across Canada these challenges are expected to become increasingly acute in the coming decade. The adoption of the Entry-to-Practice Doctor of Pharmacy Degree by all programs in Canada and the associated mandated increase in experiential time will further stress the academic institution-practice site relationship (4). In anticipation of these challenges, the Association of Faculties of Pharmacy of Canada convened an experiential education stakeholder workshop in November 2012. A number of national action priorities were identified, such as developing a national preceptor development program, exploring models of experiential education, improving funding for experiential education and promoting the value of learners to the host organization (5).

In British Columbia the new Entry-to-Practice Doctor of Pharmacy program is slated to begin enrolling students in the next few years. In addition, the Faculty of Pharmaceutical Sciences recently increased enrolment in the current undergraduate program from approximately 165 students to 224 students per year. These changes will increase the demand for experiential placements in both the short and long term. For hospital pharmacy sites, these changes are especially challenging since many of them report being at capacity already with respect to providing experiential placements. Another important consideration is that currently in British Columbia two other experiential programs effectively compete with the Entry-to-Practice program for placements at institutional sites. The Faculty’s postgraduate Doctor of Pharmacy students (eight students yearly) complete most of their 12 rotations in the institutional setting. In addition, each Health Authority operates its own Pharmacy Practice Residency program, totaling an approximate 30 residents per year in the province with each requiring 8-10 institutional placements. While clearly there are challenges facing institutional experiential education in BC there is also great potential for mutual benefit and collaboration between the three programs to enhance the experience of learners and leverage peer-assisted learning. It is also clear that a comprehensive strategy will be needed during this time of transition.

In an effort to develop proactive solutions to these challenges, the Faculty of Pharmaceutical Sciences embarked on the AGILE Project. The goal of the project was to develop and execute an exhaustive multi-stakeholder engagement initiative and use the feedback obtained through this process to develop a series of recommendations for change.

Project Timeline

The AGILE Project employed a one-year multi-phase approach as outlined in Figure 1 below.

Figure 1. Project Timeline
AGILE Project Methodology

Stakeholder Engagement

In order to develop informed, relevant and applicable recommendations, the AGILE Project sought to obtain detailed feedback from the major stakeholders involved with institutional experiential pharmacy education in British Columbia. This stakeholder engagement effort comprised the largest portion of the project timeline.

A mixed methods qualitative research approach was employed for the collection and analysis of stakeholder feedback. Qualitative methods based on grounded theory are useful for systematically describing behaviors, motivations and perspectives of target participant groups (6). Rather than beginning with a hypothesis, the first step is data collection (6,7). From the data, key points are extracted and coded. Codes are grouped and themes are identified which form the basis of a theory or hypothesis. This methodology was felt to be ideal for AGILE. A scholarly approach maximizes the validity of the project recommendations and will facilitate broad dissemination of the findings through publication. AGILE’s findings could aid other faculties and their institutional partners as they implement change locally.

The stakeholder groups who participated in AGILE were Health Authority pharmacists, pharmacy learners (including undergraduate Entry-to-Practice (E2P) students, Pharmacy Residents, postgraduate Doctor of Pharmacy students), and Health Authority pharmacy leaders. Four main approaches were used to ascertain participants’ views and perspectives: site visits, interviews, focus groups, and electronic surveys (see Figures 2 and 3).

Health Authority Site Visits

The project lead visited each Health Authority outside of the Lower Mainland on two separate occasions. Within the Lower Mainland, a two-visit strategy was employed for the eight largest teaching sites. The initial visit consisted of a prepared 20-minute project introduction followed by a 40-minute discussion period. Participants were asked to voice their perceptions of the barriers to hosting rotations at their sites and identify possible solutions to these barriers. After the first visit each Health Authority or major teaching site was asked to form an experiential learning working group to further discuss issues and identify workable solutions. One month later the project lead returned to conduct a semi-structured group interview with each experiential learning working group. These sessions lasted between 60 and 90 minutes. Questions and key content areas for feedback were prepared ahead of time and were consistent between sites and Health Authorities.

Learners

Focus groups were conducted with 3rd year Entry-to-Practice students and postgraduate Doctor of Pharmacy students. One-on-one interviews were conducted with 4th year Entry-to-Practice students, mostly while they were at the institutional site on their experiential placement.

Ambulatory Care and Residential Care Pharmacist Focus Groups

Pharmacists in these clinical practice settings were underrepresented at the hospital site visits during AGILE. Since precepting in these settings is associated with unique challenges, specific focus groups for these pharmacists were organized. An Ambulatory Care Pharmacist focus group was arranged via teleconference. Pharmacists from several sites in the Lower Mainland and from the Interior participated. A second planned focus group involving Residential Care Pharmacists was changed to two one-on-one telephone interviews due to difficulty attracting participants.

Electronic Surveys

An extensive electronic survey designed to evaluate pharmacists’ perceived benefits and barriers associated with precepting was distributed to all Health Authority pharmacists in BC. The content of this survey was developed in collaboration with a team of pharmacists from Interior Health and was based on a similar survey they conducted in that Health Authority. It was hoped that an electronic survey would facilitate broader pharmacist participation than the AGILE site visits would permit. Due to scheduling some preceptors were not able to participate. The electronic survey provided a mechanism for all hospital pharmacists to provide input. The survey was also useful in that it provided quantitative data to supplement the qualitative feedback obtained through the other methods.

Data Collection & Analysis

Detailed field notes were documented for all site visits, focus groups and interviews. When the setting and participants allowed for it, an audio recording of the proceedings was made. All recordings were fully transcribed by the AGILE student assistants, and participants’ names and other identifying information was excluded from the transcripts in order to protect their identities. Session field notes and transcripts of audio recordings constituted the raw dataset. After transcripts were generated an opportunity was provided to the participants to verify the transcribed account of the discussion. This opportunity was solicited explicitly, and was designed to improve the validity of the data.

Field notes and transcripts from recorded sessions were analyzed by a qualitative research specialist. Documents were organized into the following participant groups: pharmacist/preceptors, learners and Health Authority pharmacy leaders. Participant feedback was further organized and coded in order to identify themes. Themes were extracted separately from each participant group. The number of mentions of each theme was tabulated and then further categorized into related groups, such as challenges and recommendations.

The electronic survey results were summarized using descriptive statistics.
Formulation of Project Recommendations

Frequently mentioned challenges and solutions derived from the analysis of the stakeholder feedback formed the basis of the AGILE Project recommendations. A thorough literature review was also conducted to identify proven approaches employed in health discipline experiential education. In addition, novel strategies adopted by other pharmacy programs in Canada and the United States were considered.

The project lead developed the Preliminary Recommendations using solutions identified from the above sources. The project steering committee at the Faculty reviewed the recommendations and provided input and advice throughout their development. The Preliminary Recommendations were then circulated to stakeholders for review. The recommendations were then updated based on the feedback to produce the Final Project Recommendations.

Figure 4. Formulation of AGILE Recommendations
Results of Stakeholder Engagement

The AGILE Project events were well received and well attended. There was a great deal of interest in the topic and a significant amount of feedback was provided. A total of 75 engagement events occurred across all six Health Authorities in BC. There were a total of 25 site visits, and videoconferencing and teleconferencing were used to connect with additional sites across each Health Authority. A wide cross section of hospitals participated including sites with as few as 18 acute beds up to the largest site that had 650 acute beds. The project lead met with approximately 200 pharmacists on initial Health Authority/site visits and about 140 during the experiential learning working group meetings. A total of 50 learners participated in the learner focus groups and interviews. Twenty-six Health Authority leaders provided feedback during one-on-one interviews and through a short open-field electronic survey.

The Pharmacist Survey was deployed to nearly all Health Authority pharmacists in the province. There were 233 responses, which constituted a 23% response rate. Pharmacist feedback is summarized in Appendix A. Themes from the qualitative analysis of the site visit and experiential learning working group transcripts are listed in Table 2. Tables 3 and 4 are intended to aid the reader in interpreting the themes from Table 1 by listing the most frequently mentioned challenges and solutions and dividing the solutions into categories. Table 5 provides a summary of the responses to the Pharmacist Survey. Learner and Health Authority pharmacy leader feedback are detailed in Appendices B and C respectively.

Tables detailing qualitative results list the number of mentions in brackets after each theme. It should be noted that this number is not intended to provide an exact measure of frequency but is useful because it provides a sense of how strongly a participant group emphasized the theme.

Pharmacist Feedback: Perceptions and Challenges

Health Authority pharmacists feel that teaching is an important component of their duties. They appear to be intrinsically motivated to precept; most indicating that they feel that teaching is a professional responsibility. They also felt that teaching helps them build their knowledge and makes them a better practitioner. Hosting learners is also perceived to benefit the site by creating educational opportunities for staff and as a method of recruiting future employees. There is also a sense that learners can contribute positively to the health care team. Despite these generally positive perceptions of the benefits of precepting there are also significant challenges.

Pharmacists consistently reported that precepting can be burdensome and may lead to longer workdays. They also feel that precepting can interfere with the pharmacists’ ability to provide patient care and this was cited as a major concern if more Entry-to-Practice students were placed at institutional sites. Pharmacists were clear that if forced to choose, patient care would take precedence over teaching. This conflict between patient care responsibilities and clinical teaching is illustrated by the fact that “existing workload, unpaid work, and lack of time to teach” was the number one challenge reported by pharmacists across Health Authorities. This struggle appears to have increased in recent years. Budgetary restraint and an effective ban on clinical overtime for many Health Authority pharmacists in BC means pharmacists often work longer hours unpaid to support the teaching role. Preceptor burnout was described by several pharmacists during the site visits.

Staffing shortages and vacancies are also major barriers to providing quality placements for learners. When staffing levels are inadequate there may be little if any time to spend with learners. This issue currently prevents many smaller sites in the province from offering student placements. These sites simply cannot predict whether they will have adequate staffing to support a learner placement.

Another major issue identified by pharmacists is inadequate learner preparation. Several of the themes pertain directly to inadequate learner preparation and this concern was identified consistently across Health Authorities. This issue seems to apply specifically to the current Entry-to-Practice students.

Pharmacists indicated that E2P students do not arrive on rotation practice-ready. Examples of feedback include “student was afraid to talk to patients,” “unable to process the fact that their recommendation was not accepted by the doctor,” “unable to complete a medication history,” and “lack of documentation skills.” In addition to a general lack of practice-readiness, it is clear that E2P students are not prepared for hospital practice. Pharmacists identified a lack of institutional/acute care content taught at the Faculty. The lack of an early institutional practice experiential placement was also cited as a major reason why E2P students struggle during their institutional placement. Inadequate preparation of E2P students seems to be a common thread through much of the pharmacist feedback and relates directly or indirectly to many of the other challenges articulated by pharmacists.

When asked about non-traditional learner-preceptor models such as pairs or tiers, pharmacists seemed generally open to them. However they expressed concern that such models might translate into longer workdays or increased overall workload. In addition lack of physical space in pharmacy departments and on patient care units was seen as a major barrier limiting both a general increase in learner numbers, but also specifically in relation to multiple learner models. Lack of adequate computer access for learners was also a concern.

Another broad area of feedback related to the E2P program and the Office of Experiential Education. Pharmacists feel that the undergraduate pharmacy program emphasizes preparation for community practice and that there is a deficit of formal preparation for hospital practice. A frequently mentioned concern throughout the feedback (learners and pharmacists) related to expectations. There seems to be a mismatch in expectations and lack of clarity around what students are able to do. E2P students were often described as being overly task focused rather than patient care focused. In addition, the patient care process that students are taught at the Faculty does not appear to translate well into practice. The student evaluation process was frequently described by pharmacists as overly complex and time consuming, especially since it is paper based. Pharmacists also felt that it was difficult to access timely assistance from OEE when a struggling learner is encountered.
Another common theme was a desire for increased flexibility in the program to stream students with an interest in hospital practice into hospital placements while those with an interest in community practice would complete their rotation elsewhere (i.e. not to be required to complete an institutional rotation). Feedback also revealed that some E2P placements currently occur in high acuity settings, specialty areas such as oncology or psychiatry, or in settings where it is essential to have highly independent learners. Preceptors indicated that it is very difficult for E2P students to actively participate in these settings due to a lack of basic skills.

In regards to existing preceptor development resources, pharmacists indicated that current programs offered by the Faculty, such as annual preceptor workshops, are of a high quality but access to them is a problem particularly for those who reside outside of the Lower Mainland. Even within the Lower Mainland pharmacists reported that they have difficulty attending workshops for a variety of reasons. There also seems to be a lack of readily accessible online materials for preceptor development. Other resources such as UBC Library access, while highly valued by pharmacists, is plagued by bureaucratic issues, which impairs access for eligible pharmacist preceptors. This particular access issue is a source of ongoing frustration for many preceptors.

Responses varied when pharmacists were asked about whether they need incentives for precepting or not. A commonly expressed sentiment was that preceptors enjoy teaching learners, but increasing job demands and lack of time to teach result in increased stress. Many pharmacists indicated that recognition was more important than rewards. However there were others that felt incentives were important. Pharmacists were in agreement that the existing honoraria system in BC does not provide an incentive for individual preceptors. Some Health Authorities earmark these funds for educational purposes, but in many cases it seems to be very difficult for pharmacists to access them. This combined with recently increased restrictions on travel and educational funding seems to be a major source of frustration among pharmacists.

Ambulatory care pharmacists identified lack of physical space and limited time in the clinic workflow for teaching as major barriers to hosting learners. It was felt that these issues would make multi-learner placements extremely difficult in this setting. They also felt that learners need to be mature and capable of assessing and responding appropriately to emergent issues in real time. The overwhelming sentiment from the ambulatory care pharmacists was that E2P students are not currently capable of doing this. Some felt that a motivated E2P student in a rotation longer than three weeks could succeed but it could be a challenge for them.

There was relatively limited feedback from residential care pharmacists despite efforts to recruit participants from multiple sites. The feedback from two residential care pharmacists suggests that residential care could be a viable setting for E2P student rotations. However, they felt that many pharmacists in residential care are not comfortable precepting. They also indicated that clinical pharmacy services are relatively limited in many residential care settings (less pharmacists per patient and only periodic pharmacist coverage). One of the pharmacists mentioned that they thought students might find the they thought the students might not find the setting challenging enough. However, both felt that there was potential for learners to contribute substantially to patient care by participating in medication reviews.

**Learner Feedback**

Learners concurred with pharmacists that the current E2P program emphasizes community practice and that there is a lack of exposure to hospital practice. Indeed, undergraduate students reported being anxious prior to their hospital placements and, when they arrived on the rotation, spent much of their time learning to adapt to the practice environment.

Learners provided a number of insights into their perceptions of preceptors. Learners acknowledged that precepting is added work for preceptors. They expressed a desire for preceptors to be afforded more time “just to teach.” They also identified a general lack of recognition and support for preceptors. Learners supported the idea of increased access to preceptor development opportunities and for enhanced Faculty support.

Learners viewed models that incorporate peer, tiered or group learning very positively. Several E2P students who were placed at a site on their own expressed disappointment at not having a peer for support. Postgraduate Doctor of Pharmacy students and Pharmacy Residents seem to value the opportunity to precept junior learners, but a few indicated that it would be important to ensure such responsibilities did not inhibit them from achieving their own educational goals. Learners also cautioned that it is important to ensure students are appropriately matched to avoid personality conflicts.

Some learners commented that their institutional placement did not align well with their future career goals. For example, Pharmacy Residents who completed their 4th year student placement in a long-term care facility mentioned that a placement in acute care would have better prepared them for residency. They indicated that increased flexibility in the placement process is needed in order to enhance learner interest in the rotation.

There were many comments relating to the Office of Experiential Education and rotation scheduling. Consistent with preceptor feedback, learners described a mismatch in expectations between preceptors, learners, and the Office of Experiential Education. In particular E2P students struggled when there were contradictions between the Office’s requirements and the preceptor’s expectations. E2P students also felt that the Office of Experiential Education needs to be more approachable.

**Health Authority Pharmacy Leader Feedback**

Health Authority pharmacy leaders mainly echoed the preceptor perspectives regarding the potential value of learners to the practice site and the lack of adequate learner preparation for the rotation. Leaders however seemed to place greater emphasis on the limited funds and resources, inadequate staffing levels, and lack of physical space to host rotations. Also, Health Authority leaders identified expanding existing Pharmacy Residency programs as a high priority, indicating that this goal could potentially conflict with the Faculty’s desire to increase placement numbers for other types of learners. When asked to identify areas for which Faculty support is needed most, preceptor development and on the ground support in the form of a Faculty co-preceptor or support
Specifically, the following skills were identified as currently lacking:

**Stakeholder Solutions**

After describing their perceptions of the challenges associated with Health Authority based experiential education, the stakeholders were asked to identify solutions. These solutions can be divided into the following several broad categories: Faculty-Health Authority relationship, learner preparation, Faculty support for preceptors and learners, preceptor development and incentives, learner-preceptor models, program design and placement process, and expectations and Office of Experiential Education.

**Faculty-Health Authority Relationship**

While not the top theme listed by pharmacists, there was a consistent desire for a more substantial relationship with the Faculty. This desire was consistent across all Health Authorities and was also articulated clearly by Health Authority pharmacy leaders. Improved communication between the Faculty and the Health Authority was identified as a need.

The concept of partnership underlies many of the solutions proposed by the stakeholders. On the ground support, preceptor development, mismatched expectations, and proposed changes in the program design and placement process will all require cooperation, enhanced communication and a closer relationship between the Faculty and Health Authorities.

**Learner Preparation**

Feedback from all stakeholders emphasized the need to bolster institutional practice skills for E2P students so that they can better participate in their 4th year institutional placement.

Specifically, the following skills were identified as currently lacking:

- Fluency in accessing information from the patient health care record (chart)
- A systematic head to toe approach to patient assessment
- Ability to interpret laboratory values
- Familiarity with common medical acronyms
- Proficiency in chart documentation (SOAP notes), paper chart documentation and e-chart documentation
- An understanding of hospital computer systems
- Basic practice ready skills such as:
  - Ability to interview patients.
  - Ability to report a patient to the preceptor in a succinct and systematic manner.
  - Familiarity with antibiotics and their spectra of activity.
  - Understanding of renal dosing of medications.

**Pharmacists and Health Authority leaders proposed a number of possible duties of a Faculty support person such as:**

- Medication reconciliation.
- Intravenous to oral step-down.
- Practical pharmacokinetic skills.
- Ability to dose warfarin.

The stakeholders identified three important strategies to addressing inadequate E2P student preparation. These included the addition of institutional/acute care content throughout the curriculum, implementation of an early institutional experiential rotation in the program, and the development of an enhanced orientation in association with the 4th year institutional placement.

Pharmacists emphasized the need for student learning to be more practical and hands on in the undergraduate program. They also felt that it is important for current hospital practitioners to teach on campus to ensure practical and up to date content is delivered. Learners suggested that the existing practice lab course structure would be a suitable venue to include hospital practice based sessions.

Pharmacists and learners consistently stated that adding an early institutional rotation into the program (after 2nd year) would be the most effective way to improve student preparation. Preceptors were strongly supportive of this suggestion despite the fact that it was recognized that increasing institutional placements (even relatively short two-week rotations) could exacerbate existing rotation shortages in the institutional setting.

Students and preceptors both emphasized the need to provide practical skills orientation immediately prior to the placement. It was felt that including on campus orientation followed by on site orientation prior to the students being assigned to their primary rotation preceptor would be the ideal approach.

**Direct Faculty Support for Preceptors and Learners**

Pharmacists and Health Authority leaders were clear that the best way to address workload and the issue of insufficient time to teach would be to provide human resource support. The project lead proposed the idea of a Faculty funded person who would support preceptors and learners in the hospital setting (an Experiential Education Facilitator or eEF). The idea was very well received, however it soon became evident that the role of this support person would vary widely depending on the needs of the individual site. Larger teaching sites were less interested in assistance with teaching activities than with receiving staffing support to reduce non-teaching workloads such as dispensary responsibilities or to reduce the size of the preceptor’s clinical assignment. Smaller sites and rural/ community hospital sites identified a need for staffing support for unplanned preceptor absences but also valued the idea of teaching support, guidance and preceptor skill development. Support for logistic and administrative aspects of learner placements was also identified as a need.

Pharmacists and Health Authority leaders proposed a number of possible duties of a Faculty support person such as:

- Providing backfill and reduce clinical or dispensary workload.
Assisting preceptors with evaluation and paperwork.

» Reducing administrative burden by obtaining student identification badges, arranging computer access, arranging a time and place to meet the preceptor, and describe directions and parking arrangements for the learner.

» Providing initial on site exposure and orientation.

» Guiding the learner’s first patient reports.

» Serving as a preceptor coach could help pharmacists to be more confident in their teaching.

» Providing localized preceptor development sessions at each site.

Models
Pharmacists were fairly supportive of the idea of using novel models as an approach to address rotation capacity concerns. The pharmacist survey indicated that the majority of pharmacists would be willing to employ pairs of learners by default but this would be contingent upon receiving additional support. It should be noted that pairs, tiers and other multi-learner models are probably not suitable for some practice settings such as ambulatory care. There are also some sites where physical space is so limited that hosting more than one learner may not be possible.

A number of sites described the fact that they already frequently take learners in pairs. Some pharmacists who work at sites located in smaller communities indicated that pairs of learners could increase the comfort and security of learners while in the community and on rotation.

The tiered model was also seen as a reasonable approach. The idea of having Pharmacy Practice Residents serve as preceptors for E2P students as part of a teaching rotation was mentioned numerous times. This model is used by both Interior Health and Northern Health and the feedback from learners and preceptors is generally positive.

Another model that was viewed favorably is the faculty-facilitated multi-learner placement. The model was felt to be an ideal approach for the proposed new early pharmacy rotation and for orientation of groups of students.

While not exactly a model per se, there were many mentions of having students provide “labour” or assist with patient care and non-patient care activities in the department. The pharmacist survey indicated that despite this desire pharmacists were not confident that E2P students could function with sufficient independence to actually “extend” pharmacy services. While providing direct patient care unsupervised was a concern, pharmacists were supportive of E2P students participating in specific targeted activities such as medication history taking (best possible medication histories) and discharge counseling.

While preceptors were not averse to the adoption of new learner-preceptor models, it is clear that their widespread adoption will not occur without the Faculty intervening to promote and support the process. Ensuring that additional learners do not impair the preceptor’s ability to provide patient care is critical.

Program Design and Placement Process
Matching and Streaming
Stakeholders frequently mentioned a desire for increased choice or flexibility where E2P students are placed. Some of this feedback appears to be rooted in concerns that some E2P students express a lack of interest in their institutional placement. When faced with capacity issues some pharmacists proposed only offering rotations to students who are interested in acute care. This argument was countered strongly by other pharmacists who felt that omitting the institutional placement would be “a disservice to the students and the profession” regardless of where the student intends to practice.

However, there was a feeling that placements could be better aligned towards learner career focus or interest. For example, pharmacists who work in specialty areas such as oncology, ambulatory care and psychiatry indicated that it would be desirable to identify students who might wish to pursue careers in these areas. It was felt that motivated students would have a much better chance at having a successful rotation and the experience for preceptors would also be enhanced.

Pharmacist feedback on optimal rotation length was mixed. Feedback from the site visits suggested support for longer rotations (6-8 weeks instead of 4). However, on the preceptor survey only 25% agreed that “longer rotations (i.e. 6 or 8 weeks long) would better enable me to precept a pharmacy learner.” It is possible that the respondents interpreted the question as longer rotations directly benefiting the preceptor rather than an optimal rotation length from the learner perspective. E2P students were very supportive of longer rotations and felt they would increase their familiarity and comfort with the practice site. Postgraduate Doctor of Pharmacy students tended to favour four-week rotations.

Another area of controversy pertained to aligning learner schedules. Many pharmacists felt that it is important for rotation blocks to have consistent start and end dates across all three programs. It was felt that this would allow more tiered learning to occur since learners would be on site for the same duration and at the same time. On the other hand, some preceptors indicated that staggered rotation start times are preferable to allow learners to have some independent time and other time overlapping with other learners.

Expectations and the Office of Experiential Education
Pharmacists and Learners felt that addressing the mismatch in expectations around institutional placements would be a very important step in moving forward. Pharmacists felt that expectations of students need to be clearly and transparently delineated and made widely accessible to preceptors and learners. They felt that year-by-year expectations of learner capabilities and program requirements based on type of learner and degree program, as well as type of rotation, would be very helpful. It also seems to be necessary to outline the broad goal of the E2P 4th year institutional placement. Many preceptors indicated that they viewed the rotation as being about patient care rather than simply “exposure” to the institutional environment, whereas others felt providing an “exposure” was the only feasible approach given the lack of E2P student practice readiness.

In terms of evaluation, multiple pharmacists identified a need to develop evaluation forms that are simplified and focused on clinical practice. It was also felt that adopting an online evaluation
system would greatly reduce the burden currently associated with completing the evaluations. It was suggested that a single online evaluation platform for the E2P program, Doctor of Pharmacy program and all Pharmacy Practice Residency programs would be ideal.

Preceptor Development and Incentives
Pharmacists emphasized an urgent need for enhanced preceptor development opportunities. This was viewed as being critical for new preceptors, but also important for all preceptors. They indicated a need for more online materials and face-to-face preceptor workshops. It was also clear that face-to-face workshops need to be more accessible, ideally held on the preceptor’s worksite and customized to site preceptors’ needs. These workshops could be coordinated or facilitated by an Experiential Education Facilitator. A touring workshop was another suggested approach. Pharmacists seemed to value approaches that involve mentoring or learning “tips and tricks” from experienced preceptors.

Another common sentiment was that preceptor development initiatives should be conducted “by preceptors for preceptors.” The idea of a province wide preceptor network for sharing experiences and for accessing colleagues with specialist knowledge was well received. In addition, the development of a repository of teaching materials for general or specialty rotations was viewed positively. Such materials could be very useful for new preceptors.

Pharmacists asked a number of times about whether precepting time could count for automatic credit toward continuing education. Unfortunately the Canadian Council on Continuing Education in Pharmacy (CCCEP) will not approve automatic credits for precepting.

AGILE Project Recommendations

Several broad domains of Project Recommendations were identified during AGILE. These domains represent a combination of stakeholder feedback and best practices derived from the literature and from experience elsewhere in Canada and the United States. They are: Partnership, Learner Preparation, Direct Faculty Support for Preceptors and Learners, Novel Learner-Preceptor Models, Participatory Learning, Program Design and Placement Process, and Expectations and the Office of Experiential Education. Other key areas of recommendation include: Preceptor Development, Preceptor Awards and Rewards, and Resource Support for Sites.

Partnership
An important strategy described in the literature relates to forming formal partnerships between universities and institutional sites (1,8,9). The partnership allows the university to have assurances of rotation supply and availability while the institutional sites benefit from logistic and direct support for learners on rotation and for preceptor development. Some perceived ingredients to successful partnerships were the presence of college faculty at practice sites, integration of students and residents into the site, and alignment of student roles with pharmacy department initiatives (10). In addition, it is important to ensure that competing responsibilities and clinical workload of preceptors is considered in this equation. Adequate investment in experiential education is also important (11).

In BC, the Office of Experiential Education currently relies on an offer/request system to obtain placements for E2P students. A great deal of time and effort goes into securing and confirming student placements. In many cases placements are not secured until very late in the process. Occasionally a preceptor or a site cancels a rotation which creates significant challenges for OEE. From the Health Authority perspective, E2P students are viewed by many as the lowest priority learner in the system. Pharmacy Practice Residents are funded by the Health Authority and directly supply the labour pool upon graduation. There are relatively few Doctor of Pharmacy students and they tend to be beneficial to the site from a workload perspective. Probably the greatest challenge is that E2P students are almost universally perceived to be a net burden to preceptors.

There is a need for the Faculty and Health Authorities to work cooperatively to address these shared challenges. OEE needs increased assurance year to year of a steady supply of placements, but needs to also recognize the significant operational challenges Health Authority sites face and that provision of health services is their first priority. Preceptors need an involved partner in the endeavor of experiential education at the site. Learners need to arrive with the skills necessary to function with some independence and provide some value back to the department/patient care to off-set additional time preceptors may need to spend with them. In some cases it may be more logical for a Faculty facilitator/preceptor to provide much of the supervision (as would be the case with an early pharmacy practice experience). In order to leverage peer learning and create opportunities for tiered learning, the different experiential programs need to work together and coordinate rotations when possible. With more learners in the system the need to work cooperatively becomes greater.
There are other important challenges where combined effort between the Faculty and Health Authorities could be beneficial. The lack of adequate physical space for teaching at many institutional sites will only be addressed if pharmacy stakeholders are at the table for discussions regarding dedicated or shared teaching space in newly constructed buildings. The Faculty could help sites work with other health discipline schools to lobby for shared teaching space. Also, some Health Authorities report that their usual staffing levels are not sufficient to support an academic teaching mandate. Shared advocacy around this issue will be important.

A formal partnership as outlined in the literature has the potential to provide a framework for this partnership.

**AGILE RECOMMENDATIONS: PARTNERSHIP**

- The Faculty and Health Authorities should establish formal and mutually beneficial partnerships.
  - Faculty provides support and investment and recognizes the service priority of Health Authority pharmacy departments.
  - Health Authorities work with the Faculty to provide a consistent supply of rotations and adopt new approaches (e.g. models) to expand capacity.
  - The Faculty and Health Authority Pharmacy departments will work together to address shared challenges such as limited teaching space at the practice sites and identify the minimum staffing levels needed to support an academic mandate at sites across the province.
  - This partnership will be promoted widely within and outside of the Faculty and partner organizations.

**Learner Preparation**

In order to create an experience that is mutually beneficial to preceptors and students, E2P students need to arrive with a ready to practice skill set (12). They need to be able to contribute to patient care and other departmental initiatives, be able to interact with the interdisciplinary team, and document their recommendations in the health care record.

AGILE recommends that the Faculty review all course content to identify opportunities for inclusion of institutional/acute care content. Incorporation of institutional content not only serves to prepare learners for the types of cases they will see in hospitals, but provides additional depth to the content and enhanced understanding of the spectrum of disease presentation across acuity levels.

AGILE also recommends the addition of an early institutional experiential rotation. An early institutional rotation is already a component of many pharmacy programs elsewhere. In fact, the UBC program is one of the few in Canada that lacks an institutional rotation early in the program. Alberta recently introduced a two-week institutional rotation after the 2nd year. Feedback has been positive both in terms of student preparation for later institutional rotations and in terms of interest in summer hospital pharmacy employment positions.

An obvious concern with adding an early institutional practice experience is that it would stress already limited capacity for providing institutional placements. One way to mitigate the impact of these additional rotations would be to use a faculty facilitated multi-learner model (see novel/preceptor learner models). In this model the Faculty provides a clinical instructor to supervise a group of 6-8 students. Because the focus for this rotation is orientation to hospital systems and basic clinical skills such as taking a medication history, allergy assessments and documentation, a high ratio model would be reasonable. The facilitator could deploy pairs of students to a variety of patient care units in a single institution. Individual pharmacists could interact with the students to help identify suitable cases and receive any information or recommendations generated by the students. However, day-to-day supervision, discussion and evaluation would be the role of the facilitator.

In order to improve student preparation in the short term and in the longer term, the Faculty should develop an enhanced orientation in association with 4th year institutional placements conducted both at the Faculty and at the institutional site. Currently, students at the Faculty receive an on campus class/orientation that sometimes occurs a full year prior to when the students actually go on their rotation. It is also clear that the existing orientation does not provide enough exposure to practical content and that students do not seem to be able to retain this information. On site orientation could be accomplished in a group setting using a faculty facilitated multi-learner model (similar to the early rotation) and does not necessarily have to occur at the same site as the scheduled placement (although that would be ideal). An online transition module such as the one currently under development at the Faculty would also be useful to supplement the enhanced orientation.

Students who successfully complete the orientation should receive a hospital skills certification from the Faculty. Such a certification would provide preceptors with confidence that the E2P student could work independently within a specific scope of activities.

**AGILE RECOMMENDATIONS: LEARNER PREPARATION**

- Increase the practice readiness of Entry-to-Practice (E2P) students and their exposure to institutional practice by:
  - Embedding acute care and institutional practice content throughout the curriculum, including in practice labs, simulations, case studies, and core course content.
  - Institutional practitioners should be brought in to advise on content and to teach the material. Hospital information systems should be used in the practice labs at the Faculty.
  - Adding an early pharmacy practice experience (two weeks) in the hospital setting after the second year of the E2P program, where the focus is on understanding pharmacy operations, the health care team, and participating in basic clinical activities.
such as allergy assessments, medication histories, and patient counseling. These additional hospital rotations could be run using a facilitated multi-learner or to limit the impact on existing preceptors.

- Implement an enhanced orientation just prior to the 4th year institutional advanced pharmacy practice experience. This should include a combined Faculty on site orientation. The on site portion could be facilitated by an Experiential Education Facilitator or a pharmacy technician. An online transition module could serve to supplement this enhanced orientation.
- A hospital skills certification upon student’s successful completion of the orientation.

**Direct Faculty Support for Preceptors and Learners**

A sustained increase in the number of learners in the system will only be possible if two issues are addressed. Entry-to-Practice students must arrive practice ready and be able to function with some independence. If they are able to tangibly participate in patient care they could be viewed as an asset to the site rather than a burden. In addition, direct on the ground support for preceptors is needed. This could take the form of either a teaching support person, the proposed Experiential Education Facilitator or in the form of staffing support to free up pharmacists from existing duties to dedicate time to teaching (referred to here as “protected teaching time”). While these approaches would be costly they are the solutions identified by preceptors as the most likely to be effective and they truly recognize the value of the teaching role. The concept of a dedicated educational support person is not new and this approach has been successfully employed in occupational therapy and nursing (1,9). A variety of important roles were identified for the Experiential Education Facilitator:

- Serve as a direct faculty liaison.
- Organize or facilitate activities of learners on site.
- Connect directly with local preceptors to assist with issues.
- Facilitate communication between learners and preceptors in tiers, pairs, and other group models.
- Provide orientation, assist with evaluation, provide additional support for struggling learners, and create a safe environment for learners to acclimatize to the practice setting.
- Facilitate group orientations at site(s).
- Provide didactic teaching/discussions for several learners.
- Providing localized preceptor education.
- Connect pharmacy learners with interprofessional learning opportunities.
- Work with all pharmacy learners, including Pharmacy Practice Residents and Doctor of Pharmacy students.

Pharmacists made it clear that the EEF must have a working knowledge of the site or Health Authority and ideally be recruited from the ranks of local preceptors. Some pharmacists also mentioned that they did not want teaching to be “taken away” from them, rather that they be afforded more dedicated time to teaching. Thus some flexibility is needed in the role of the EEF and approaches that free up existing pharmacists need to be considered. The Health Authority sites should also attempt to support the teaching role whenever possible. Currently, many sites free up staff from dispensary coverage while precepting. A collaborative approach where the Health Authorities and the Faculty both support protected teaching time at a target of 30-50% of the pharmacist’s time should be the goal. That being said, resources and staffing shortages at many Health Authority sites makes it unrealistic to expect them to substantially and continuously relieve pharmacists of existing operational duties.

Currently, Health Authority clinical and educational coordinators and preceptors spend significant time and effort to secure the required computer access and identification badges. They are also involved in other logistic activities for learner rotations. In order to increase efficiency and decrease the burden associated with organizing site placements, the Faculty should hire administrative support personnel to make arrangements. The administrative personnel could also ensure rotation materials required by learners and preceptors are available when they are needed, coordinate videoconferencing for groups of learners, and assist preceptors in accessing the evaluation system as well as other UBC electronic resources.

**AGILE RECOMMENDATIONS: DIRECT FACULTY SUPPORT FOR PRECEPTORS**

- The Faculty should provide robust, on the ground support for preceptors and learners at the placement site. This should include a combination of the following:
  - Experiential Education Facilitator(s).
  - Allocation of protected teaching time for preceptors.
  - Administrative support.
- The support strategy should be customized to the Health Authority and to the site to account for the unique needs and challenges of each.

**Learner-Preceptor Models**

Although some preceptors routinely use other models, the traditional 1:1 (learner to preceptor) model is dominant in BC. There is no evidence to suggest that the 1:1 model is superior to other models. In fact, there is literature and local experience which suggest advantages to non-1:1 models (13,14,15). These models have the potential to increase rotation capacity and peer-assisted learning.

**Master-apprentice model (1:1)**

This is the dominant model used in pharmacy experiential education. It provides the maximum one-on-one time of any model, but tends to be time consuming for the preceptor and can sometimes foster learner dependence on the preceptor. It also lacks the benefit of peer-assisted learning.
associated with multi-learner models.

**Pairs of learners (2:1; 3:1) (multi-learner placement model)**

This model involves pairs or trios of learners at the same level of training. It has been studied extensively in the occupational therapy literature. The 2:1 and greater models tend to be viewed positively by learners, promote peer-assisted learning, and decrease reliance on the preceptor (13). Multi-learner models require more planning than single learner placements, and more physical space is needed to house the learners. Personality conflicts between learners or differences in learner ability can also pose challenges.

**Tiers**

Tiered learning refers to a multi-learner model where at least one of the learners is at a higher level of training than the others. The senior learner provides some or all of the primary precepting duties for the junior learner(s). Peer and near-peer learning are benefits of the tiered model. In addition, the senior learner has the opportunity to enhance his or her precepting skills. Disadvantages of tiered learning are similar to those described for pairs. Moreover, the senior learner must be confident and capable of being a primary preceptor.

**Facilitated Multi-learner Model or Faculty Supervised Practicum (6:1-10:1)**

This model is used frequently by Nursing to provide group training to 6-10 junior nursing students. It is not usually employed for advanced learner placements and is typically reserved for teaching learners basic clinical skills. This model is sometimes referred to as the “mother goose” model in the literature. It is useful for providing learners with an exposure to the clinical setting without impacting the workload of clinicians in the area. Physical space and lack of direct connection to the care team are disadvantages of this model (14).

**Shared-Precepting Model (2+:2+)**

This model is also used in Nursing. Collaborative education units are an example of this type of model. Multiple learners work with multiple preceptors depending on their respective patient assignments. This model exposes learners to different perspectives and creates less reliance on one particular preceptor. However, it is sometimes a challenge for learners to work with multiple preceptors and the evaluation process is complex (13,14).

**Virtually-facilitated or role-emerging placements (1:“0”)**

In this model the learner placement occurs at a site where there is no preceptor available from the learner’s discipline (13). Instead, a preceptor from another discipline is assigned as the day-to-day contact at the site. A preceptor from the learner’s discipline meets with the learner at regular intervals in person or using telephone/web video conferencing. This model is used in occupational therapy and in pharmacy in BC for long-term care placements. Advantages are that sites can provide placements for learners even if the discipline does not have a presence at the site. Disadvantages are that the preceptor from the other discipline may not fully appreciate the scope of practice or learning needs of the student. In addition, independent and self-directed learners are necessary for this type of rotation.

**Virtual tiers and peer networks**

In this model learners may in fact be assigned 1:1 to a preceptor at the rotation site, but are connected via technology to a group of learners at other sites. In this way peer-assisted learning, group discussions and even partial supervision of the learner can occur without the learners needing to be at the same site. This model could offer the advantages of multi-learner placements in settings where it would not be possible to host multiple learners.

Preceptor feedback in BC suggested that pairs and tiers could be viable approaches to address capacity challenges in many settings. A majority of pharmacists would be willing to take pairs of learners by default but this will be contingent upon receiving additional support from the Faculty. The Faculty Supervised Practicum model is a promising approach that could be used for the introductory institutional pharmacy experience (after 2nd year) recommended by AGILE. It could also be used to facilitate the on site orientation of E2P students prior to their 4th year institutional placement. A shared precepting model could allow a pair or a group of preceptors who work in related areas at a site to co-precept two or more students. Advantages to this approach include sharing didactic discussions between preceptors, combining other activities for the group, and providing continuous supervision while one of the preceptors is away. A virtually facilitated role emerging placement model could open up new rotations at smaller or remote sites in BC that have limited clinical pharmacy services. A physician or nurse could serve as the site contact/preceptor while a virtual facilitation could be provided by a pharmacist at a larger site or even at the Faculty through the use of web based video chat/conferencing.

It became very apparent during the AGILE site visits that not every Health Authority site in this province is the same. Staffing levels, preceptor experience, physical space and clinical program design can vary significantly from site to site. For this reason it is important that each site work with the Faculty to explore which models would work best. While AGILE provides some guiding principles, the approach must be flexible.

### AGILE RECOMMENDATIONS: LEARNER-PRECEPTOR MODELS

- The Faculty and Health Authorities promote and support the adoption of non-1:1 models as follows:
  - **Pairs of learners.**
    - This model should be the default model for E2P students.
    - The placement process needs to be flexible, particularly at smaller sites and in ambulatory care settings where pairs may present a challenge.
  - **Tiers.**
    - Due to space limitations, tiers should include a maximum of two to three learners, including one senior learner who assumes some of the precepting...
responsibilities under the guidance of an attending pharmacist.

- Examples of tiers: Pharmacy Resident + 2 E2P students, Pharmacy Resident + PharmD student, PharmD student + 2 E2P students.

- All BC Pharmacy Residency programs should include a requirement for a teaching rotation in the second half of the resident’s year. During this rotation, the resident would precept a pair of E2P students under the guidance of an attending pharmacist.

- PharmD students should also have the opportunity to participate in tiers (as an elective or mandatory requirement of their program).

  • Faculty Supervised Practicum (Facilitated Multi-learner Model).

    - A group of E2P students (4-6) with a designated Faculty preceptor or Experiential Education Facilitator available on site for group and individual student meetings. A co-preceptor from the local site helps connect the students with the health care team and ensures that local procedures are followed.

    - This model is suitable for lower acuity settings such as residential care.

    - This model is also suitable for introductory experiences (two-week placements) or group orientation of several learners to a site.

  » Other models could also be used in certain settings and preceptors are encouraged to adopt approaches which are best suited for their practice setting and site.

### Participatory Learning

Learners (particularly E2P students) need to be active participants in the efforts of the Health Authority Pharmacy department during their placement. E2P students should participate in mutually beneficial departmental activities (12,16). The activities should be practical, appropriate for the learner’s skill level, occur in real time, and be beneficial to the patient, the department and the learner’s education. Activities should augment existing departmental activities rather than create a new service. Activities do not have to be confined to the learner’s assigned unit or involve comprehensive patient care (17).

Possible examples include: medication use management, antimicrobial stewardship audits, staff education, IV to oral step-down, medication reconciliation, discharge counseling, and other CSHP 2015 objectives.

### AGILE RECOMMENDATIONS: PARTICIPATORY LEARNING

» A defined portion of an E2P student’s time on rotation (recommend 30%) should be allocated to completing mutually beneficial departmental activities.

### Program Design and Placement Process

Currently in BC, institutional rotations for E2P students are offered in a limited number of blocks in the fall and spring. With the need for increased rotation capacity and limited physical space, a logical approach is to create more placement blocks to spread placements out over the calendar year. It will be easier to place a few learners in multiple blocks at many sites than it will be to place them all in just a few blocks. Another benefit of this approach is to provide an opportunity for learners to be present nearly year round. If sites integrate learners into their departmental activities year round, placements would be advantageous. Indeed, the literature supports such an approach. The redesign of an experiential program for occupational therapy in Australia increased site acceptance by increasing placements throughout the calendar year and adopting a service role for the learners while on site (1). In the United States, positive relationships between sites and academic institutions were described more frequently when learners were at the site consistently rather than sporadically (10). In Canada, the University of Toronto Faculty of Pharmacy plans to schedule placements 50 weeks per year, in part to allow for the possibility of near continuous learner placements at sites that wish to develop a student service role.

Experience in the United States suggests that learner comfort at a site is enhanced when placements are longer than four weeks in duration (e.g. 6-8 weeks) or when the learner completes multiple rotations at a single site. The latter approach is referred to as a longitudinal placement design. A longitudinal placement design is obviously not an option for the E2P students since they currently complete only one institutional placement in their 4th year. Interestingly, the learners in BC who currently complete more than one institutional rotation (Pharmacy Residents and Doctor of Pharmacy students) were not in favor of multiple rotations at one site. They felt that this would limit their choices of elective rotations and that they appreciated the broader perspective afforded by having rotations at different sites. As discussed under the stakeholder feedback results, there was mixed feedback from pharmacists about increasing the length of rotations. There was concern that a shortage of institutional rotations would be exacerbated by increasing the duration as well.

The University of Toronto has explicitly built an overlap into its E2P PharmD rotation block schedule to allow outgoing students at a site to provide orientation to incoming students (assuming that students would arrive on site block after block). This approach has some potential advantages, however a major issue identified at BC institutional sites is a critical lack of physical space. At this time AGILE has no specific recommendations on whether rotation blocks should be aligned across programs or whether overlapping block should be employed. Further discussion on this may be warranted as the AGILE recommendations are implemented.

In the face of capacity challenges there is a need to ensure that learners are matched to placements where they can contribute and learn to the fullest. Some placements may be too challenging for E2P students especially if the goal is participation rather than observation. A better match has the potential to positively impact both the learner and the preceptor. AGILE proposes matching learners to rotations based on several factors. E2P students whose career focus is community practice could complete institutional placements in residential care settings.
Patients in residential care are appropriate for novice learners given their relatively low acuity. In addition, many community pharmacies provide drug review/clinical services to long-term care facilities. Exposure to residential care would provide the student with an introduction to this patient population. Moreover, increasing student placements in residential care is attractive because the students could contribute tangibly to the care of these patients.

Ideally, E2P students should be placed in general practice settings (such as general medicine, general surgery or subspecialty medicine) rather than high acuity or highly specialized areas. AGILE recommends that the Faculty and Health Authorities should increase rotations for E2P students mostly in lower acuity or general clinical areas. It is unlikely that all E2P student rotations could be accommodated in general settings, however shifting these learners away from higher acuity and specialized rotations could increase either mandatory or elective slots for Residents and PharmD students. For example, oncology rotations are often in demand as elective rotations for Pharmacy Residents and Doctor of Pharmacy students but there are relatively few of these available. If more oncology rotations were available to Pharmacy Residents and Doctor of Pharmacy students, additional rotations in less specialized areas might be available for E2P students. An application process could be considered so that E2P students with an interest in a specialized area could be offered rotations in that area.

From a geographic perspective, E2P students tend to prefer rotations in the Lower Mainland. With the increased need for experiential placements, increased learner exposure to rural or other non-Vancouver sites should be encouraged and supported. The Faculty should expand existing programs and financial assistance for learners who are scheduled for rotations outside of their home community and work with Health Authorities to increase placements at sites across BC.

### AGILE RECOMMENDATIONS: PROGRAM DESIGN AND PLACEMENT PROCESS

- Schedule placement blocks that cover most of the calendar year (48-50 weeks).
- Increase rotation length to 6-8 weeks in the future after further discussion with the Health Authorities about the feasibility of expanding both number and length of rotations.
- Implement system wide, centralized coordination of learner placements and matching of learners to rotations that are most appropriate for their level of skill development.
- Match learners to placements based on other factors such as career focus and interest in specialty practice areas.
- Encourage placements at rural and other non-Vancouver sites by supporting learners who are scheduled at these sites.

### Expectations and the Office of Experiential Education

Lack of clarity around expectations is a major source of frustration for preceptors and learners alike. There needs to be open discussion and agreement between all parties about the expectations of each. It is also clear from the stakeholder feedback that the Office of Experiential Education needs to adopt an enhanced customer focus by providing easily accessible information about all aspects of the experiential program including detailed information on expectations.

Also, coordinating placements and matching learners as described above will be a complex task. AGILE recommends that a dedicated Institutional Placement Coordinator be hired by the Office of Experiential Education to plan and coordinate institutional placements across the province. The OEE Institutional Placement Coordinator would work with each Health Authority’s Residency or Education Coordinator to align E2P student, Resident and Doctor of Pharmacy placements. A centralized database of available rotations across the province would greatly assist in coordinating learner placements and allow the type of matching described above. The rotation database should contain information about the types of rotation, patient acuity, average numbers of patients and available preceptors (including their experience precepting different levels of learners). Such a database could be populated using electronically self-reported responses from preceptors and sites.

### AGILE RECOMMENDATIONS: EXPECTATIONS AND EXPERIENTIAL EDUCATION

- Clarify expectations of participants in experiential education.
  - Convene a summit of stakeholders to define appropriate expectations of learners, preceptors, sites, and the Office of Experiential Education.
  - Explicitly state the expectations and make them easily accessible by all parties involved in experiential education via the OEE website. The website should include:
    - Simplified basic fact sheets to highlight “need to know” information for preceptors (one pagers rather than manuals).
    - E2P program syllabus including a course list and description of course content.
    - A year-by-year guide with benchmarks of expectations around learners’ competence/knowledge including those of E2P students, Doctor of Pharmacy students, as well as Pharmacy Residents.
    - Assistance hotline and online referral form to access faculty assistance for struggling learners within 24 hours.
    - Availability of student and preceptor biographic information prior to the rotation.
    - A clear outline of preceptor expectations, including expectations around evaluation process and how to interact with the Faculty.
    - A campus wide login should not be a requirement for accessing this material unless efforts are made to ensure every preceptor in BC receives a campus wide login.
  - It is also very important to articulate the broad goal of the institutional rotation for E2P students as a practice experience rather than simply an exposure to institutional practice.
AGILE RECOMMENDATIONS: OFFICE OF EXPERIENTIAL EDUCATION

» The Office of Experiential Education should adopt an enhanced customer focus.
  • Regular, timely, and respectful feedback on preceptor performance is needed.
  • There must be frequent two-way communication between the Faculty and preceptors, including Faculty outreach and site visits.
  • OEE must be easily approachable and responsive to students’ concerns.
  • Zero-tolerance policy for lack of student professionalism/motivation.
  • Professional expectations need to be clearly outlined prior to rotation and these expectations must be clear to students and preceptors.
  • If learner scores below a threshold in professionalism categories on their evaluation, it constitutes an automatic failure.

» The Faculty should invest additional resources in the Office of Experiential Education so that it can successfully accomplish its mandate in the coming years. The following additional resources are recommended:
  • A dedicated institutional placement coordinator is needed to:
    - Centrally coordinate placements across the province for the E2P program, and work with Pharmacy Practice Residency programs, and Doctor of Pharmacy program coordinators to:
      - Establish and maintain an experiential rotation database.
      - Match learners to rotations of appropriate complexity.
      - Match learners with preceptors who possess the appropriate skills/experience to precept them.
      - Schedule multiple learner placements.
      - Ensure rotation inventory is effectively utilized.
      - Facilitate frequent, bidirectional communication between the Faculty and site-based preceptors.
      - Link closely with on site faculty support/Experiential Education Facilitators.
  • A dedicated information technology support person is needed to:
    - Maintain comprehensive web-based preceptor and learner portals that include links to all policies, procedures, and resources related to the experiential program.
    - Maintain online preceptor development program, E2P transition modules, discussion forums and online evaluation system.
  • The OEE website should be developed into a comprehensive resource for pharmacy experiential education and provide:
    • Easy accessibility and navigation.
    • Program information and resources.
    • Preceptor development materials.
    • Preceptor network and discussion forum.
    • Online evaluation system.
    • Student forums.
    • Mechanisms for connecting preceptors and learners with faculty members.

AGILE RECOMMENDATIONS: PRECEPTOR DEVELOPMENT

» Develop a comprehensive Faculty supported preceptor professional development program that includes:
  • Online preceptor skills courses.
    - Mandatory introductory course that explains program process and basic pedagogical skills.
    - Additional optional courses for preceptors.
    - These courses should be free and easily accessible by preceptors.
    - Continuing education credit should be earned for completing these courses.
    - Suggest linking with efforts occurring nationally.
  • Online therapeutic knowledge courses.

Preceptor Development

Currently in British Columbia, formalized preceptor development is mostly limited to workshops offered annually by the Faculty of Pharmaceutical Sciences or to self-directed learning by individual pharmacists. Preceptor workshops are usually held in the Lower Mainland. Many pharmacists indicated that these events were of a high quality, but they felt that access was a problem. As experiential programs expand in the province, it is critical to ensure that pharmacists are equipped with the knowledge and skills to precept. New preceptors will need to be recruited and consistent expectations of their role and capabilities will be necessary. It is important for the Faculty to invest in a comprehensive preceptor development plan.

Institutional pharmacists in BC identified several strategies they felt would improve access to preceptor development and enhance relevance. These included online courses, face-to-face workshops, and the creation of a preceptor network. Pharmacists also favored the idea of a rotation toolkit. The toolkit would be an online repository of teaching materials such as template schedules, general materials, pre-readings and guidelines.
- Create modular therapeutics learning material to help upgrade their skills as clinical pharmacists.
- These courses should be free and easily accessible by preceptors.
- Continuing education credit should be earned for completing them.
- Suggest linking with an already established program in Interior Health.
  • Tailored local or on site precepting skills sessions.
  » Create and coordinate a Preceptor Network.
  » Develop an online repository of teaching materials for preceptors (rotation toolkit).

Preceptor Awards and Rewards

The literature/experience elsewhere supports the notion that different people value different incentives, awards and rewards (18). For many the reduction in concomitant workload or the support of an Experiential Facilitator would provide a reward in itself. Others may value a specific incentive. It is suggested that programs provide a variety of incentives, awards and rewards for preceptors.

**AGILE RECOMMENDATIONS: PRECEPTOR AWARDS AND REWARDS**

» Develop an awards program (e.g. “Site of the Year”, “Experiential Faculty of the Year”, “Distinguished Preceptor Service Award”).

» List all of the clinical faculty members on the Faculty website.

» Provide letters of recognition to sites and preceptors acknowledging their contributions.

» Replace the current honorarium system with a points system for preceptors.
  • Points can be redeemed for purchases at the UBC bookstore, mobile platform app stores, other apps such as “Papers”, and for professional/education related items.

» Provide funding for educational conferences, course registration, or travel based on a grant system, influenced by precepting contributions in previous years.

» Eliminate the barriers preceptors currently encounter to accessing UBC library resources.

Selected Resource Support for Sites

Lack of physical space and computer access were described by many sites as barriers to increasing the number of learner placements. A number of sites indicated that laptops provided by the Faculty would help address the issues around computer access for learners. There may be other equipment and resource needs associated with an increase in the number of pharmacy learners.

**AGILE RECOMMENDATION: SELECTED RESOURCE SUPPORT FOR SITES**

» The Faculty should provide grants for equipment purchase on a case-by-case basis (e.g. site-based laptop computers for students to facilitate access to hospital and pharmacy systems in settings where computer access or terminals are limited).
Strategies for the Future

A number of other initiatives will need to be considered to either support the AGILE recommendations or to address future challenges related to institutional pharmacy experiential education in BC. These include:

Preceptor Education and Support in Advance of System Changes
It will be critical to support preceptors in transitioning to non-1:1 models. Higher ratio models require more planning, are associated with additional administrative tasks, and the learner evaluation process is more complex than with the traditional 1:1 model. Administrative support and on the ground Faculty support is needed to make these models less burdensome for preceptors, particularly as preceptors adapt to them. Preceptor education is necessary and will need to occur before the change happens to prepare and guide them on how to work with learners with varying capabilities, how to manage day-to-day activities, and how to access Faculty support. In addition, it will be necessary to educate and convince preceptors that learners do not need to be directly supervised 100% of the time. A skills certification for E2P students may increase preceptors’ confidence in E2P student capabilities.

Pilot Non-traditional Learner-Preceptor Models
Prior to broadly implementing new learner-preceptor models across BC, it will be important to determine which models work best and in what settings. AGILE recommends starting these pilots within the next calendar year (2014). It will also be valuable to pilot the Experiential Education Facilitator role to determine key responsibilities and how they best interface with preceptors and learners.

Unified Online Evaluation Platform
Paper evaluations are time consuming for preceptors to complete and for experiential staff to process. Paper based systems do not lend themselves well to analysis or trend spotting. Preceptors have difficulty moving between different evaluation systems for different learners. The increased complexity of expanded experiential programs, multi-learner rotations, and the addition of new sites and preceptors will necessitate the adoption of an online evaluation system that is consistent for all programs (E2P, Residency, Doctor of Pharmacy), simple and relevant to the practice setting, and allow for multiple preceptors’ input (needed for tiered/peer learning).

Rotation Inventory Database
The Office of Experiential Education should maintain a comprehensive and regularly updated database of rotations in the province. It should contain detailed information about each rotation to allow matching of learners to rotations based on the level of acuity, specialized knowledge required, preceptor experience level, and appropriateness for multi-learner placements. A web based system would allow preceptors to enter the required rotation information themselves and update it yearly or when necessary.

Preceptor Recruitment Strategy
There is a limited pool of available preceptors at many Health Authority sites. Preceptor burnout is a major concern especially as the number of learners and the required amount of experiential time increase in the coming years. Better prepared learners and additional preceptor supports will reduce the burden associated with precepting, but it will also be critical to recruit new preceptors. Recruiting preceptors at sites that currently do not offer rotations will be important in order to build the capacity of BC’s pharmacy experiential programs. It is important to engrain the idea that everyone is a preceptor in the culture of institutional pharmacy in BC and build preceptor development into the training of Pharmacy Residents and the E2P program. Pharmacy Practice Residents should graduate ready to precept. Another strategy would be to create a new preceptor program that includes:

» Basic online course to be completed by all pharmacists.
» Shadowing an experienced preceptor for two days.
» Pairing with a senior preceptor mentor or Experiential Facilitator for first rotation.
» All newly hired clinical pharmacists should be enrolled in the new preceptor program as part of their staff orientation.

Strategies for Site Staffing Shortages
A strategy is needed to address unexpected preceptor absences and account for overtime related to teaching when the pharmacy department is short-staffed. At sites where staffing vacancies are a common issue, backup approaches need to be developed so that sites can still host learners. These approaches may include:

» Placing only more independent/advanced learners at the site.
» Adopting indirect technologically assisted supervision models using a Faculty preceptor or Experiential Education Facilitator.

Stakeholders should discuss additional strategies to identify possible solutions for this challenging (and common) problem.

Experiential Program Quality Control
Over the next 10 years, the need for more placements and the complexity of those placements (multi-learner models) will increase. Learners at various levels will take more active roles in providing peer or near-peer teaching and supervision. It will be important to develop a strategy to ensure that rotation, preceptor, and site quality is maintained throughout this process especially as new sites and preceptors are recruited. The Office of Experiential Education should begin working on this strategy as soon as possible.

Mobile Device Strategy
Independent learners need to connect with preceptors and with other members of the health care team easily and electronically. Learners are already using their mobile devices to communicate
with preceptors and team members during their rotations. The Faculty needs to support learners to appropriately use mobile devices to facilitate communication by:

- Providing education and creating policies to guide appropriate use and ensure confidentiality when using mobile technology.
- Allowing students to take advantage of group rates for mobile service plans.
- Partially funding or providing stipends for device purchase.
- Ensuring that the wishes of site preceptors not be contacted on their own personal devices be respected.

References

7. Pope C and Mays N. Qualitative Research: Reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research. BMJ 1995; 311:42.


18. Cox, C. Texas Tech University Health Science Center School of Pharmacy. Personal communication. 2012.

### Appendix A: Preceptor Feedback

#### Table 1: Themes - Health Authority Pharmacist Feedback

<table>
<thead>
<tr>
<th>Item</th>
<th>Theme</th>
<th>LMPS</th>
<th>BCCA</th>
<th>NHA</th>
<th>VIHA</th>
<th>IHA</th>
<th>Total Mentions (all HA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Perceptions about students and teaching</td>
<td>Teaching is an important component of a pharmacist’s duties</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students can positively contribute to the health care team</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students mean longer days for preceptors/are a burden for preceptors</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patient care is number one priority, training comes second</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students are already being paired at our site</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students from other provinces are better prepared for hospital settings</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students need to understand the importance of clinical skills for the profession</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students are well prepared/motivated</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students are not emotionally ready to receive feedback from preceptors</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hospital rotations are essential to students</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medical students appear more confident than pharmacy students</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Would not recommend UBC pharmacy program</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students are supported by the whole team during rotation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Time invested in learners must make sense</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
### Challenges (current program)

<table>
<thead>
<tr>
<th>Issue Description</th>
<th>Vote on a scale of 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation is very time consuming, complex and not applicable in the clinical context</td>
<td>10</td>
</tr>
<tr>
<td>Undergraduate program mostly endorses community practice</td>
<td>6</td>
</tr>
<tr>
<td>Students do not know what pharmacists do within the hospital context</td>
<td>6</td>
</tr>
<tr>
<td>Limited exposure to specialization areas (e.g., psychiatry therapeutics and pediatrics)</td>
<td>2</td>
</tr>
<tr>
<td>Current teaching quotas, are not well received</td>
<td>2</td>
</tr>
<tr>
<td>No communication with the faculty; students are preceptors' main resource to find out information about/from the faculty</td>
<td>1</td>
</tr>
<tr>
<td>Sections of the curriculum not taught either in the classroom or in rotations, leading to students' lack of preparation</td>
<td>1</td>
</tr>
<tr>
<td>Program restricts students early in their career</td>
<td>1</td>
</tr>
</tbody>
</table>

### Recommendations (current program/ general)

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Vote on a scale of 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>More rotations earlier in the program to increase exposure; students need to have prior exposure with direct patient care</td>
<td>27</td>
</tr>
<tr>
<td>Greater support and a more substantial relationship with the Faculty is needed</td>
<td>13</td>
</tr>
<tr>
<td>Earlier instruction on how to access/read a chart/hospital computer systems (e.g., hospital acronyms/head-to-toe assessment (i.e., year 1&amp;2)</td>
<td>16</td>
</tr>
<tr>
<td>Greater emphasis on clinical training (hospital-based) in the undergraduate curriculum</td>
<td>10</td>
</tr>
<tr>
<td>Evaluation forms should be simplified and focused on clinical practice</td>
<td>11</td>
</tr>
<tr>
<td>Students must be able to work independently</td>
<td>9</td>
</tr>
<tr>
<td>Experiential office should emulate online (multi-access) residency evaluations, which are easier to deal with than current paper evaluations</td>
<td>8</td>
</tr>
<tr>
<td>Implement a mandatory hospital preparatory course, taught by hospital practitioner, to teach charts and hospital procedures before rotations</td>
<td>7</td>
</tr>
</tbody>
</table>
Standardized information systems across health authorities in BC would be an asset

Implement a Pharmacist Clinic/Hotline for students to practice with real patients for little cost (like dentistry does)

Eliminate useless paperwork

Students should be able to critically interpret the literature

All health faculties (medicine, nursing, pharmacy) should establish open communication about upcoming changes

Preceptors should have the opportunity to give the faculty direct feedback

Students should have note writing skills

Interviewing for residency must not focus on marks, but on the whole set of skills; more preceptors need to be involved in the process

Curriculum should focus more on hard skills (i.e., problem solving, critical thinking) than on soft skills

The Faculty of Pharmaceutical Sciences should sign a contract with the Faculty of Medicine to share designated student space

Students need to learn from their mistakes

Curriculum must teach students to deal with physicians/different opinions

Multi-placements could mean longer days for preceptors

Uncertainty about residents being able to teach/evaluate undergraduate students without supervision

Maximum student capacity already in place, no room to take more

A change is needed to accept that pharmacists will get students; it has to be part of the expectation

How to assess students’ skills when supervised by other students

Larger numbers of students could mean lower quality in education/preparation

Finding patients for two rather than one student could be a challenge

Multi-placements would not mean double teaching work, but doubled evaluation time

Some areas (e.g., internal medicine) are better alternatives for multi-placements than others

Multi-placement models are effective for teaching technical skills, rather than cognitive/critical skills

Tiered model of learning (i.e., teams with a resident, a PharmD and an E2P student on rotation together)

Experiential education facilitator could run didactic sessions/group discussions for students at different levels according to students’ degree program

“Mother goose model” for teaching basic skills/orientation to hospital work

Multi-placements (pairs etc) are a suitable model

Different models from other hospitals/programs/disciplines/provinces/countries (e.g., one year in a single hospital; rotations on second year; months at one institution) can inform local reforms

Students working in groups can support each other

Split rotation between multiple preceptors/team teach (i.e., like nurses do)

PharmD students must be able to teach residents and E2P students

Future E2P PharmD students should be ready to practice in hospitals at any point in their program

Two students is optimal for multi-placements

Students should have the ability to teach each other

PharmD students must enter the program knowing that they are expected to teach in rotations

Preceptors should receive detailed information about the new E2P PharmD program (timing, courses, rotations, etc.)
Staggering learners as learning model, well received particularly in small sites  2  2
Experienced preceptors to teach higher level skills one on one, lower level skills could be acquired in labs/groups  1  1
All sites must take more students, not just Vancouver  1  1
“Mother goose model”, not well received for small urban sites  1  1

<table>
<thead>
<tr>
<th>Challenges (teaching/rotations)</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing workload, lots of unpaid work and lack of time to teach</td>
<td>30 2 6 3 5 46</td>
</tr>
<tr>
<td>Understaffing issues interfere with precepting tasks; this is more challenging in smaller/rural sites where there is limited opportunity for backfilling</td>
<td>22 2 5 3 8 40</td>
</tr>
<tr>
<td>Students are not well prepared/motivated to work in hospitals</td>
<td>19 7 4 30</td>
</tr>
<tr>
<td>Lack of space for teaching (e.g., where to have private discussions with learners) / counter space for students interferes with health care workers’ duties</td>
<td>18 1 5 4 28</td>
</tr>
<tr>
<td>Students do not have basic ready-to-practice clinical skills (e.g., read charts, renal dosing, antibiotics, ability to interpret labs and culture data, warfarin dosing, medication reconciliation, patient interviews/reports)</td>
<td>16 3 2 21</td>
</tr>
<tr>
<td>Contradictions between Experiential Office requirements and students / preceptors’ actual needs/ expectations; unclear Experiential Office’s expectations</td>
<td>10 3 4 1 18</td>
</tr>
<tr>
<td>Differences in skill levels and readiness can affect how rotation progresses/discussions; some students are more demanding than others</td>
<td>14 1 15</td>
</tr>
<tr>
<td>Undergraduate students are more focused on completing tasks than patient care; checklists/paper work is inflexible and limits students’ rotation experiences</td>
<td>14 1 15</td>
</tr>
<tr>
<td>Lack of suitable practice site; operational issues</td>
<td>7 1 5 13</td>
</tr>
<tr>
<td>Lack of flexibility in placement process; no match with students’ personal interests</td>
<td>6 1 7</td>
</tr>
</tbody>
</table>

| Preceptors should have enough experience in hospital pharmacy before taking on learners; limited confidence / skills is a barrier to teaching | 2 3 2 7 |
| Specialized areas lead to developing specific skills, not to being functional pharmacists        | 2 2 1 5 |
| Same preceptors taking over learners term after term leads to burnout                           | 2 1 2 5 |
| Teaching the process of patient care / thought process is very time consuming                   | 2 2 4 |
| Rotation timing in calendar year; winter is the busiest time and with most sick calls           | 4 4 |
| Lack of support to manage difficult / out of the norm students                                   | 3 1 4 |
| Students miss out if rotations take place in smaller / specialized sites; lack of suitable / variable patients | 3 1 4 |
| Preceptors are not currently able to contact students during rotations                           | 2 2 4 |
| Faculty passes students that preceptors fail; this is disappointing for preceptors               | 3 3 |
| Ambulatory clinics are not suitable places for multi-placement models                            | 3 3 |
| In smaller sites, staff with no preceptor experience                                             | 1 2 3 |
| Students doing work could create problems with labour union                                      | 2 2 |
| Students are afraid of failing the whole rotation; this limits their learning experience         | 2 2 |
| Students are not prepared to work in teams                                                      | 1 1 2 |
| Suboptimal preceptor utilization (i.e., rotations offered but not taken)                         | 1 1 |

<table>
<thead>
<tr>
<th>Recommendations (teaching/rotations)</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students must receive orientation to site procedures / workings / resources</td>
<td>22 3 6 31</td>
</tr>
<tr>
<td>Students should provide “labour” for some things thus relieving workload from preceptors</td>
<td>14 5 3 22</td>
</tr>
<tr>
<td>Expectations of a student’s roles / performance should be clearly stated by Experiential Office contingent upon rotation type / site / degree program</td>
<td>15 1 5 1 22</td>
</tr>
</tbody>
</table>
“Stream” students, so only those interested in clinical work come to hospitals 17 2 1 1 21

Students should have basic ready-to-practice clinical skills (e.g., read charts, renal dosing, antibiotics, ability to interpret labs and culture data, warfarin dosing, medication reconciliation, patient interviews/reports) 13 3 1 3 20

Longer rotations needed; optimal between 4 and 8 weeks for interested students 15 1 2 2 20

Match students based on prior clinical exposure/specialization/motivation 11 1 2 14

Placements and number of students should be centrally dictated, but preceptors should be able to give feedback and have their voice heard 5 2 2 3 12

Pair residents with students, so residents teach basic clinical skills/substitutes if preceptor is absent 8 1 2 1 12

Learners’ schedules (doctor of pharmacy, residents, undergraduate students) need to be centrally coordinated and scheduled one year ahead of time, so preceptors can plan/hire backfills to assist with clinical/dispensary work 7 1 1 2 1 12

Expectations of a preceptor’s roles during rotation should be clearly stated by Experiential Office 9 2 1 11

Custom preparation is required depending on rotation (e.g., psychiatry, oncology, pediatrics, nephrology) 6 1 2 1 9

Rotations should not be about “exposure” but about patient care experience 3 2 2 2 9

Students should be given the chance to contribute, not just complete tasks 4 1 1 1 7

Rotation length and specialization should be tailored to students’ interests 6 1 1 7

Students should rotate through CTU/medicine first before going into specialized areas 4 1 1 6

Motivate students to look for placements in rural sites (e.g., with student housing sponsored by the faculty) 5 1 1 6

Challenges (current resources/support/training)

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of computers/terminals/Wi-Fi to access hospital/patient information</td>
<td>12</td>
</tr>
<tr>
<td>(even when students bring their own computers)</td>
<td></td>
</tr>
<tr>
<td>Preceptor workshop accessibility is an issue, particularly in small sites and rural areas</td>
<td>5</td>
</tr>
<tr>
<td>Largest amount of resources are centralized in the major urban areas and near the faculty (not distributed equally)</td>
<td>7</td>
</tr>
<tr>
<td>Honoraria do not go to preceptors or site</td>
<td>5</td>
</tr>
<tr>
<td>Funding/money distribution issues (e.g., money that used to be for conference and supplies is now going to staffing OR funds going to the department, not to preceptors)</td>
<td>5</td>
</tr>
<tr>
<td>Difficult to access conference/workshop funding</td>
<td>6</td>
</tr>
</tbody>
</table>

Rotations should be about hospital pharmacy exposure for undergraduate students (i.e., working in different areas) 2 4 6

Rotations should increase student involvement/responsibilities across time 2 1 3

Preceptors should be able to freely assign tasks to students and move away from checklists 2 1 3

Rotations must be shorter 3

Best rotations are out of urban areas and in smaller sites 2

Students need to feel more confident while in rotation 1 1 2

Sites need a constant flow of students so they can get some tasks done 1 1 2

Mix more dispensary work with rotations 2

Access to course materials so there is a realistic expectation of learners’ knowledge 1

Implement skill/experience assessments prior to rotations, and share with preceptors 1

Implement debriefing sessions for preceptors at the end of a rotation to exchange experiences 1

Need for quality control in teaching in larger sites 1

Lack of computers/terminals/Wi-Fi to access hospital/patient information (even when students bring their own computers) 12 4 16

Preceptor workshop accessibility is an issue, particularly in small sites and rural areas 5 2 7

Largest amount of resources are centralized in the major urban areas and near the faculty (not distributed equally) 7

Honoraria do not go to preceptors or site 5 2 7

Funding/money distribution issues (e.g., money that used to be for conference and supplies is now going to staffing OR funds going to the department, not to preceptors) 5 2 7

Difficult to access conference/workshop funding 6
Difficult to find time to attend conferences/workshop 4 2 6
Current preceptor workshops are not useful since these are mostly geared towards community pharmacy 5 1 6
Only one pharmacist onsite, no backup 3 1 2 6
It is challenging to recruit new preceptors 5 5
Honouraria is not representative of the time commitment involved in precepting 2 1 3
Limited support from the Faculty 1 1 2
Funding for professional development somewhat available 1 1 2
Limited health authority support 1 1 2

Recommendations (current resources/support/training)

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential education facilitator to reduce workload, assist preceptors with evaluation/paperwork/backfill/prep work/order verification/administrative burden</td>
<td>41 2 5 3 8 59</td>
</tr>
<tr>
<td>Preceptors should earn conference/continuing education time and money for teaching</td>
<td>18 3 1 2 24</td>
</tr>
<tr>
<td>Faculty sponsored online preceptor resources/workshops/training/support</td>
<td>14 3 1 5 23</td>
</tr>
<tr>
<td>Initial on-site exposure/first patient reports can be guided by an Experiential education facilitator support person or technician</td>
<td>14 2 3 2 21</td>
</tr>
<tr>
<td>Offer preceptor continuing education onsite (i.e., other than in big urban centres)</td>
<td>12 4 1 17</td>
</tr>
<tr>
<td>Dispensary/clinical coverage while precepting to free time for teaching and not work longer days</td>
<td>14 1 2 17</td>
</tr>
<tr>
<td>An online/physical repository of template schedules/toolkits/general materials/guidelines</td>
<td>10 2 2 1 15</td>
</tr>
<tr>
<td>Experiential education facilitator could run didactic sessions/group discussions for students at different levels according to students' degree program</td>
<td>12 2 14</td>
</tr>
<tr>
<td>Preceptors should be trained on how to teach/provide feedback (“great clinicians don’t necessarily know how to teach”)</td>
<td>12 1 1 14</td>
</tr>
</tbody>
</table>

Preceptors need to be recognized and appreciated, rather than being paid more 11 1 12
Incentivise preceptors to take more students 11
Faculty to provide laptops/iPads/communication devices for students on rotation 7 3 1 11
ID badges/computer access/parking being taken care by a non-pharmacist ahead of time 5 2 3 10
Academy of preceptors, well-received 6 3 1 10
Hospitals need more computer terminals/workstations/Wi-Fi to accommodate more students 6 1 2 9
Create a benchmark(outline for the basic clinical skills/tasks for students at any point of the rotation |
Dedicated pharmacy teaching space, such as Medicine has, and counter space for students 6 1 7
Support staff should be familiar with the site and current state of practice 2 3 1 1 7
Students need to come prepared with their own needed resources (e.g., laptops, pagers) 5 1 6
Preceptor coach could help pharmacists to be more confident in their teaching 2 3 6
Experiential education facilitator must work in collaboration with preceptor at all times 3 2 6
Increased honouraria for precepting 5 1 6
Students and preceptors in remote sites could videoconference 3 2 6
PharmD students should be able to take on preceptor’s work 3 1 5
Novice preceptors could shadow experienced preceptors to learn tips and tricks 3 1 5
Honoraria should go back to the site/department that provides preceptorships 1 1 3
Implement cross appointments so staff gets paid by Faculty for all precepting related work that is currently done without pay 2 1 3
More than one pharmacist at a site, so if preceptor is absent there is still support for students 2 2
Preceptors should contribute to the repository of materials to keep it up to date and meaningful 1
## Table 2: Top 20 Challenges (All Health Authorities)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Total Mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing workload, lots of unpaid work and lack of time to teach</td>
<td>46</td>
</tr>
<tr>
<td>Understaffing issues interfere with precepting tasks; this is more challenging in smaller/rural sites where there is limited opportunity for backfilling</td>
<td>40</td>
</tr>
<tr>
<td>Students are not well prepared/motivated to work in hospitals</td>
<td>40</td>
</tr>
<tr>
<td>Lack of space for teaching (e.g., where to have private discussions with learners)/counter space for students; limited space for students interferes with health care workers’ duties</td>
<td>30</td>
</tr>
<tr>
<td>Students do not have basic ready-to-practice clinical skills (e.g., read charts, renal dosing, antibiotics, ability to interpret labs and culture data, warfarin dosing, medication reconciliation, patient interviews/reports)</td>
<td>28</td>
</tr>
<tr>
<td>Contradictions between Experiential Office requirements and students’/preceptors’ actual needs/expectations; unclear Experiential Office’s expectations</td>
<td>21</td>
</tr>
<tr>
<td>Lack of computers/terminals/Wi-Fi to access hospital/patient information (even when students bring their own computers)</td>
<td>18</td>
</tr>
<tr>
<td>Differences in skill levels and readiness can affect how rotation progresses/discussions; some students are more demanding than others</td>
<td>16</td>
</tr>
<tr>
<td>Evaluation is very time consuming, complex and not applicable in the clinical context</td>
<td>15</td>
</tr>
<tr>
<td>Undergraduate program mostly endorses community practice</td>
<td>15</td>
</tr>
<tr>
<td>Lack of suitable practice site; operational issues</td>
<td>13</td>
</tr>
<tr>
<td>Students do not know what pharmacists do within the hospital context</td>
<td>13</td>
</tr>
<tr>
<td>Multi-placements could mean longer days for preceptors</td>
<td>12</td>
</tr>
<tr>
<td>Lack of flexibility in placement process; no match with students’ personal interests</td>
<td>8</td>
</tr>
<tr>
<td>Uncertainty about residents being able to teach/evaluate undergraduate students without supervision</td>
<td>7</td>
</tr>
<tr>
<td>Preceptors should have enough experience in hospital pharmacy before taking on learners; limited confidence/skills is a barrier to teaching</td>
<td>7</td>
</tr>
<tr>
<td>Preceptor workshop accessibility is an issue, particularly in small sites and rural areas</td>
<td>7</td>
</tr>
<tr>
<td>Largest amount of resources are centralized in the major urban areas and near the faculty (not distributed equally)</td>
<td>7</td>
</tr>
<tr>
<td>Honoraria do not go to preceptors or site</td>
<td>7</td>
</tr>
</tbody>
</table>

## Challenges Mentioned by at least 4 of 5 Health Authority Pharmacy Departments

<table>
<thead>
<tr>
<th>Theme</th>
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<tbody>
<tr>
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<td>Undergraduate program mostly endorses community practice</td>
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</tr>
</tbody>
</table>
### Top 20 Preceptor Recommendations (All Health Authorities)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Total Mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential education facilitator to reduce workload, assist preceptors with evaluation/paperwork/backfill/prep work/order verification/administrative burden</td>
<td>59</td>
</tr>
<tr>
<td>More rotations earlier in the program to increase exposure; students need to have prior exposure with direct patient care</td>
<td>39</td>
</tr>
<tr>
<td>Students must receive orientation to site procedures/workings/resources</td>
<td>31</td>
</tr>
<tr>
<td>Greater support and a more substantial relationship with the Faculty is needed</td>
<td>25</td>
</tr>
<tr>
<td>Earlier instruction on how to access/read a chart/hospital computer systems (e.g. hospital acronyms/head-to-toe assessment (i.e., year 1&amp;2)</td>
<td>25</td>
</tr>
<tr>
<td>Preceptors should earn conference/continuing education time and money for teaching</td>
<td>24</td>
</tr>
<tr>
<td>Faculty sponsored online preceptor resources/workshops/training/support</td>
<td>23</td>
</tr>
<tr>
<td>Expectations of a student’s roles/performance should be clearly stated by Experiential Office contingent upon rotation type/site/degree program</td>
<td>22</td>
</tr>
<tr>
<td>Students should provide ‘labour’ for some things thus relieving workload from preceptors</td>
<td>22</td>
</tr>
<tr>
<td>Initial on site exposure/first patient reports can be guided by an Experiential education facilitator support person or technician</td>
<td>21</td>
</tr>
<tr>
<td>“Stream” students, so only those interested in clinical work come to hospitals</td>
<td>21</td>
</tr>
<tr>
<td>Longer rotations needed; optimal between 4 and 8 weeks for interested students</td>
<td>20</td>
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<tr>
<td>Students should have basic ready-to-practice clinical skills (e.g., read charts, renal dosing, antibiotics, ability to interpret labs and culture data, warfarin dosing, medication reconciliation, patient interviews/reports)</td>
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<tr>
<td>Tiered model of learning (i.e., teams with a resident, a PharmD and an Undergraduate student on rotation together)</td>
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<td>Offer preceptor continuing education onsite (i.e., other than in big urban centres)</td>
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<td>Dispensary/clinical coverage while precepting to free time for teaching and not work longer days</td>
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<td>Greater emphasis on clinical training (hospital-based) in the undergraduate curriculum</td>
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<tr>
<td>Evaluation forms should be simplified and focused on clinical practice</td>
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</tr>
<tr>
<td>An online/physical repository of template schedules/toolkits/general materials/guidelines</td>
<td>15</td>
</tr>
<tr>
<td>“Mother goose model” for teaching basic skills/orientation to hospital work</td>
<td>14</td>
</tr>
</tbody>
</table>

### Recommendations Mentioned by All 5 Health Authority Pharmacy Departments

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Experiential education facilitator to reduce workload, assist preceptors with evaluation/paperwork/backfill/prep work/order verification/administrative burden</td>
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</tr>
<tr>
<td>Greater support and a more substantial relationship with the Faculty is needed</td>
<td>25</td>
</tr>
<tr>
<td>Learners’ schedules (doctor of pharmacy, residents, undergraduate students) need to be centrally coordinated and scheduled one year ahead of time, so preceptors can plan/hire backfills to assist with clinical/dispensary work</td>
<td>12</td>
</tr>
</tbody>
</table>

### Recommendations Mentioned by 4 of 5 Health Authority Pharmacy Departments

<table>
<thead>
<tr>
<th>Theme</th>
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<tr>
<td>More rotations earlier in the program to increase exposure; students need to have prior exposure with direct patient care</td>
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<tr>
<td>Faculty sponsored online preceptor resources/workshops/training/support</td>
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<td>Initial on site exposure/first patient reports can be guided by an Experiential education facilitator support person or technician</td>
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<tr>
<td>An online/physical repository of template schedules/toolkits/general materials/guidelines</td>
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</tr>
<tr>
<td>Pair residents with students, so resident teaches basic clinical skills/substitutes if preceptor is absent</td>
<td>12</td>
</tr>
<tr>
<td>Placements and number of students should be centrally dictated, but preceptors should be able to give feedback and have their voice heard</td>
<td>12</td>
</tr>
<tr>
<td>Rotations should not be about “exposure” but about patient care experience</td>
<td>9</td>
</tr>
<tr>
<td>Students need to be better prepared for clinical work</td>
<td>9</td>
</tr>
<tr>
<td>Students should be given the chance to contribute, not just complete tasks</td>
<td>7</td>
</tr>
<tr>
<td>Support staff should be familiar with the site and current state of practice</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 3: Categorized Preceptor Recommendations

<table>
<thead>
<tr>
<th>Student Preparation/Knowledge/Skills and Attitude</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital rotation</strong></td>
<td></td>
</tr>
<tr>
<td>• More rotations earlier in the program to increase exposure; students need to have prior exposure with direct patient care (39)</td>
<td></td>
</tr>
<tr>
<td>• Greater emphasis on clinical training (hospital-based) in the undergraduate curriculum (16)</td>
<td></td>
</tr>
<tr>
<td>• Custom preparation is required depending on rotation (e.g., psychiatry, oncology, pediatrics, nephrology) (9)</td>
<td></td>
</tr>
<tr>
<td>• Implement directed studies/PBL in hospital practice (3)</td>
<td></td>
</tr>
<tr>
<td>• Future E2P PharmD students should be ready to practice in hospitals at any point in their program (3)</td>
<td></td>
</tr>
<tr>
<td><strong>Site Orientation</strong></td>
<td></td>
</tr>
<tr>
<td>• Students must receive orientation to site procedures/workings/resources (31)</td>
<td></td>
</tr>
<tr>
<td>• Implement a mandatory hospital preparatory course, taught by hospital practitioner, to teach charts and hospital procedures before rotations (10)</td>
<td></td>
</tr>
<tr>
<td>• Implement skill/experience assessments prior to rotations, and share with preceptors (1)</td>
<td></td>
</tr>
<tr>
<td><strong>Curriculum</strong></td>
<td></td>
</tr>
<tr>
<td>• Earlier instruction on how to access/read a chart/hospital computer systems (e.g., hospital acronyms/head-to-toe assessment (i.e., year 1&amp;2) (25)</td>
<td></td>
</tr>
<tr>
<td>• Entry to practice learning needs to be more practical and realistic (i.e., hands-on exposure deficit needs to be addressed) (10)</td>
<td></td>
</tr>
<tr>
<td>• Provide more hospital based electives in upper years (3)</td>
<td></td>
</tr>
<tr>
<td>• Curriculum should focus more on hard skills (i.e., problem solving, critical thinking) than on soft skills (1)</td>
<td></td>
</tr>
<tr>
<td><strong>Specific Student Skills Desired</strong></td>
<td></td>
</tr>
<tr>
<td>• Students should have basic ready-to-practice clinical skills (e.g., read charts, renal dosing, antibiotics, ability to interpret labs and culture data, warfarin dosing, medication reconciliation, patient interviews/reports) (20)</td>
<td></td>
</tr>
<tr>
<td>• Students must be able to work independently (13)</td>
<td></td>
</tr>
<tr>
<td>• Students need to be better prepared for clinical work (9)</td>
<td></td>
</tr>
<tr>
<td>• Must be confident in interacting with patients (6)</td>
<td></td>
</tr>
<tr>
<td>• Students must come with a “can-do” attitude, be willing to help (6)</td>
<td></td>
</tr>
<tr>
<td>• Students need training in conflict resolution/dealing with different people/non-violent crisis intervention (4)</td>
<td></td>
</tr>
<tr>
<td>• Students should have the ability to teach each other (3)</td>
<td></td>
</tr>
<tr>
<td>• Students should be able to critically interpret the literature (2)</td>
<td></td>
</tr>
<tr>
<td>• Students should have note writing skills (1)</td>
<td></td>
</tr>
<tr>
<td>• Students need to feel more confident while in rotation (2)</td>
<td></td>
</tr>
<tr>
<td>• Curriculum must teach students to deal with physicians/different opinions (1)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Design and Placement Process</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Streaming or Matching</strong></td>
<td></td>
</tr>
</tbody>
</table>

| Rotation Duration                             |  |
| • “Stream” students, so only those interested in clinical work come to hospitals (21) |  |
| • Match students based on prior clinical exposure/specialization/motivation (14) |  |
| • Rotation length and specialization should be tailored to students’ interests (7) |  |
| • Students must have the option to choose their desired placements (7) |  |
| • Implement student application to rotations in specialized areas (e.g., oncology), so only those interested and experienced are considered (4) |  |

| Rotation Sequencing                           |  |
| • Longer rotations needed; optimal between 4 and 8 weeks for interested students (20) |  |
| • Rotations must be shorter (3)               |  |

| Coordination and Administration                |  |
| • Students should rotate through CTU/medicine first before going into specialized areas (6) |  |

| Other                                          |  |
| • Motivate students to look for placements in rural sites (e.g., with student housing sponsored by the faculty) (6) |  |
| • Students and preceptors in remote sites could videoconference (6) |  |
| • Best rotations are out of urban areas and in smaller sites (3) |  |
| • Sites need a constant flow of students so they can get some tasks done (2) |  |
| • Mix more dispensary work with rotations (2) |  |
| • Experienced preceptors to teach higher level skills one on one, lower level skills could be acquired in labs/groups (1) |  |
| • All sites must take more students, not just Vancouver (1) |  |
| • Need for quality control in teaching in larger sites (1) |  |

<table>
<thead>
<tr>
<th>Models</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extension and Participation in Patient Care</strong></td>
<td></td>
</tr>
<tr>
<td>• Students should provide “labour” for some things thus relieving workload from preceptors (22)</td>
<td></td>
</tr>
<tr>
<td>• PharmD students should be able to take on preceptor’s work (5)</td>
<td></td>
</tr>
</tbody>
</table>
Multi-placements

- “Mother goose model” for teaching basic skills/orientation to hospital work (14)
- Multi-placements (pairs etc.) are a suitable model (10)
- Students working in groups can support each other (8)
- Two students is optimal for multi-placements (3)
- “Mother goose model”, not well received for small urban sites (1)

Tiers

- Tiered model of learning (i.e., teams with a resident, a PharmD and an Undergraduate student on rotation together) (18)
- Pair residents with students, so resident teaches basic clinical skills/substitutes if preceptor is absent (12)
- PharmD students must be able to teach residents and E2P students (6)
- Teaching rotations to be incorporated in the curriculum of advanced learners (i.e., residents) (4)

Other

- Different models from other hospitals/programs/disciplines/provinces/countries (e.g., one year in a single hospital; rotations on second year; months at one institution) can inform local reforms (8)
- Split rotation between multiple preceptors/team teach (i.e., like nurses do) (6)
- Staggering learners as learning model, well received particularly in small sites

Preceptor Workload and Teaching Support

On the ground support

- Experiential education facilitator to reduce workload, assist preceptors with evaluation/paperwork/backfill/prep work/order verification/administrative burden (59)
- Dispensary/clinical coverage while precepting to free time for teaching and not work longer days (17)
- ID badges/computer access/parking being taken care by a non-pharmacist ahead of time (10)

Role of EEF

- Initial on-site exposure/first patient reports can be guided by an experiential education facilitator, support person or tech (21)
- Experiential education facilitator could run didactic sessions/group discussions for students at different levels according to students’ degree program (14)
- Experiential education facilitator must work in collaboration with preceptor at all times (6)

Other

- An online/physical repository of template schedules/toolkits/general materials/guidelines (15)

Expectations and Experiential Office Procedures

Expectations

- Expectations of a student’s roles/performance should be clearly stated by Experiential Office contingent upon rotation type/site/degree program (22)
- Expectations of a preceptor’s roles during rotation should be clearly stated by Experiential Office (11)
- Rotations should not be about “exposure” but about patient care experience (9)
- Create a benchmark/outline for the basic clinical skills/tasks for students at any point of the rotation (8)
- Students should be given the chance to contribute, not just complete tasks (7)
- Rotations should be about hospital pharmacy exposure for undergraduate students (i.e., working in different areas) (6)
- Preceptors should know something about the students before they come in (e.g., interests, prior experience, requirements, fears) (4)
- PharmD students must enter the program knowing that they are expected to teach in rotations (3)
- Rotations should increase student involvement/responsibilities across time (3)
- Preceptors should be able to freely assign tasks to students and move away from checklists (3)
- Access to course materials so there is a realistic expectation of learners’ knowledge (1)

Process and Evaluation

- Evaluation forms should be simplified and focused on clinical practice (15)
- Experiential office should emulate online (multi-access) residency evaluations, which are easier to deal with than current paper evaluations (10)
- Evaluation needs to be competency based, not qualitative (4)
- Eliminate useless paperwork (2)
- Students need to learn from their mistakes (1)

Faculty-Preceptor Relationship

- Greater support and a more substantial relationship with the Faculty is needed (25)
- Need to have faculty with clinical experience involved in training of learners on and off campus; preceptors should teach at the faculty (7)
- Support staff should be familiar with the site and current state of practice (7)
- Preceptors should receive student and faculty feedback regularly and timely (6)
- Preceptors should receive detailed information about the new E2P PharmD program (timing, courses, rotations, etc.) (3)
- Implement cross appointments so staff gets paid by Faculty for all precepting related work that is currently done without pay (3)
- Preceptors should have the opportunity to give the faculty direct feedback (1)
Incentives, Rewards, and Education for Preceptors

- Preceptors should earn conference/continuing education time and money for teaching (24)
- Faculty sponsored online preceptor resources/workshops/training/support (23)
- Offer preceptor continuing education onsite (i.e., other than in big urban centres) (17)
- Preceptors should be trained on how to teach/provide feedback (“great clinicians don’t necessarily know how to teach”) (14)
- Preceptors need to be recognized and appreciated, rather than being paid more (12)
- Incentivise preceptors to take more students (11)
- Academy of preceptors, well-received (10)
- Increased honoraria for precepting (6)
- Preceptor coach could help pharmacists to be more confident in their teaching (6)
- Novice preceptors could shadow experienced preceptors to learn tips and tricks (5)
- Honoraria should go back to the site/department that provides preceptorships (3)
- Implement debriefing sessions for preceptors at the end of a rotation to exchange experiences (1)

Health Authority, Site, Resource or Preceptor Issues

- Faculty need to provide laptops/iPads/communication devices for students on rotation (11)
- Hospitals need more computer terminals/workstations/Wi-Fi to accommodate more students (9)
- Dedicated pharmacy teaching space, such as Medicine has, and counter space for students (7)
- Students need to come prepared with their own needed resources (e.g., laptops, pagers) (6)
- Standardized information systems across health authorities in BC would be an asset (2)
- More than one pharmacist at a site, so if preceptor is absent there is still support for students (2)
- Interviewing for residency must not focus on marks, but on the whole set of skills; more preceptors need to be involved in the process (1)
- Preceptors should contribute to the repository of materials to keep it up to date and meaningful (1)

Relationship with Other Faculties

- All health faculties (medicine, nursing, pharmacy) should establish open communication about upcoming changes (2)
- The Faculty of Pharmaceutical Sciences should sign a contract with the Faculty of Medicine to share designated student space (1)

Table 4: Ambulatory Care Pharmacist Focus Group and Interviews (n=8)

<table>
<thead>
<tr>
<th>Item</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Impressions</strong></td>
<td>• E2P students can have a positive experience in ambulatory settings. (1)</td>
</tr>
<tr>
<td></td>
<td>• E2P students provide an opportunity for pharmacists in this setting to precept. (1)</td>
</tr>
<tr>
<td></td>
<td>• Smaller/slower paced clinic are more conducive to learning. (1)</td>
</tr>
<tr>
<td></td>
<td>• Prior experience in community and with interviewing patients really helps. (1)</td>
</tr>
<tr>
<td></td>
<td>• Patients need to be “protected” from unprofessional learners (vulnerable patient population). (1)</td>
</tr>
<tr>
<td></td>
<td>• Learners can focus on telephone interviews and follow up to allow more detailed responses. (1)</td>
</tr>
<tr>
<td></td>
<td>• Approach to identifying DRPs in inpatient setting does not translate well to outpatient setting. (1)</td>
</tr>
<tr>
<td><strong>Perceived Barriers</strong></td>
<td>• Physical space is a particular issue in ambulatory care (7)</td>
</tr>
<tr>
<td></td>
<td>• Learners need to be independent, self-directed/mature and professional. This is not always the case, especially with E2P students. (5)</td>
</tr>
<tr>
<td></td>
<td>• Limited time with patient makes teaching/learning in this environment a challenge. (4)</td>
</tr>
<tr>
<td></td>
<td>• Learners not always comfortable with specialized patient populations- mental health, palliative, or HIV patients (3)</td>
</tr>
<tr>
<td></td>
<td>• Learners not familiar with methods of using multiple information systems to access patient data. (3)</td>
</tr>
<tr>
<td></td>
<td>• Existing workload is an issue, especially when the department/clinic is short-staffed (2)</td>
</tr>
<tr>
<td></td>
<td>• Students are not confident or competent in charting. (2)</td>
</tr>
<tr>
<td></td>
<td>• 3-week rotations are too short. (1)</td>
</tr>
<tr>
<td></td>
<td>• Some clinics are only open on certain days of the week- can affect workflow for learners. (1)</td>
</tr>
<tr>
<td></td>
<td>• Administrative/evaluative paperwork for learners is excessive. (1)</td>
</tr>
<tr>
<td></td>
<td>• Patients come back every three months so often students don’t get to see what happened with their recommendations. (1)</td>
</tr>
<tr>
<td><strong>Perceived Solutions</strong></td>
<td>• Provide rotations only for learners with a specific interest in the ambulatory clinic’s focus area or only to more senior learners (6)</td>
</tr>
<tr>
<td></td>
<td>• More pre-rotation preparation around model activities and patient interaction, increased overall practice readiness. (4)</td>
</tr>
<tr>
<td></td>
<td>• Increased experience with charting and documentation (SOAP notes) in undergraduate program would be helpful. (2)</td>
</tr>
<tr>
<td></td>
<td>• Longer rotations 6-8 weeks would help students adapt and become more functional. (2)</td>
</tr>
<tr>
<td></td>
<td>• Support person could be helpful, but would be difficult to fit into clinic workflow. Emphasis on computer orientation. (2)</td>
</tr>
<tr>
<td></td>
<td>• Have students involved in doing Best Possible Medication Histories- would help the clinic pharmacists. (1)</td>
</tr>
<tr>
<td></td>
<td>• Earlier institutional exposure. (1)</td>
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<td>• Students need professionalism training and to learn how to work in a multi-disciplinary team. (1)</td>
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<td>• Online and in-person preceptor development- particularly linking with other preceptors would be helpful. (1)</td>
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<td></td>
<td>• UBC funds to purchase specialized resources like herbal reference. (1)</td>
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</tbody>
</table>
The AGILE Project Final Report, December 2013

Table 5: Residential Care Pharmacist Interviews (n=2)

<table>
<thead>
<tr>
<th>Item</th>
<th>Theme</th>
</tr>
</thead>
</table>
| General Impressions| • Need to be able to trust the student since they are representing you in the practice site. (1)  
• Not much patient turnover in residential care, not exciting enough for students. (1)  
• Rotation could be interesting/rewarding for students if they have the right attitude. (1) |
| Perceived Barriers | • Lack of clinical time to teach, only 1-2 days per week to provide clinical services in this area. (2)  
• Students are a burden/extra work. (1)  
• Undergraduate students are not prepared for institutional setting. (1)  
• Working at residential sites sometimes involves travel between affiliated sites.  
• Transportation can be an issue for students. (1)  
• New pharmacists lack of comfort or confidence with precepting. (1)  
• Lack of access to UBC library is an issue for preceptors particularly those away from large sites/centres with libraries. (1)  
• Difficult for preceptors in remote areas to access preceptor workshops. (1)  
• OEE manual contains too much material and not very user friendly for preceptors. (1) |
| Perceived Solutions| • Would be helpful if teaching activities could count towards CE credits for the college. (2)  
• Match students to rotation placements based on interest. (2)  
• Students could do med-reviews and identify DRPs for our patients and participate in care conferences. (2)  
• Increased access to preceptor workshops- timing on weekends or evenings, location including local workshops or videoconferenced workshops. (2)  
• Need to market the importance of precepting to pharmacists. (1)  
• Students could help discontinue medications that patients no longer need. (1)  
• Preparing student for institutional practice while on campus would be very helpful. (1)  
• Streamline OEE preceptor manual, ensure content is accessible, brief and easy to understand. (1) |

Table 6: AGILE Health Authority Pharmacist Survey

<table>
<thead>
<tr>
<th>Characteristics of survey respondents</th>
<th>Survey Response: N = 233; 23% response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td>» 26% male, 72% female, 2% preferred not to answer</td>
</tr>
</tbody>
</table>
| Education:                            | » 94% completed a BSc Pharm  
» 52% completed a Pharmacy Practice Residency  
» 15% completed a post-graduate PharmD |
| Primary site:                         | » 36% at a tertiary care institution  
» 25% at a regional hospital  
» 18% at a community hospital  
» 12% at an ambulatory clinic  
» 2% were based in community |
| Health Authority:                     | » 47% Lower Mainland Pharmacy Services  
» 18% Interior Health Authority  
» 15% Vancouver Island Health Authority  
» 12% BC Cancer Agency  
» 8% Northern Health Authority |
| Roles:                                | » 79% have clinical duties  
» 59% have dispensary duties  
» 20% have managerial duties |
| Models participated in as learners:   | » 82% of respondents participated in a one-to-one model when they were a student  
» 56% had participated in multi-learner placements  
» 22% had participated in a tiered model |
| Preceptors:                           | » 84% of respondents had previously precepted a pharmacy learner  
» 88% of preceptors had precepted undergraduate students; primary learner precepted by 54%  
» 67% had precepted a resident; primary learner precepted by 43%  
» 20% had precepted a PharmD student; primary learner precepted by 2%  
» 6% had precepted non-traditional PharmD students  
» 4% had precepted international graduates |

Models used by preceptors:
» 90% of preceptors routinely employ a one-to-one model  
» 26% routinely employ multi-learner placements  
» 10% routinely employ a tiered model

Motivators for precepting
» Intrinsic motivators were listed more frequently than extrinsic ones among preceptors’ top six choices, and were also ranked more highly (i.e. a greater proportion of the intrinsic motivators were ranked #1-3).  
» Extrinsic motivators that benefited the preceptors’ institutions were ranked more often than extrinsic motivators that directly benefited the preceptors themselves.  
» The top three most frequently chosen options were all intrinsic motivators:  
  · 198/219 (90%) - Precepting increases my knowledge  
  · 196/219 (89%) - Precepting makes me a better practitioner  
  · 193/219 (88%) - Precepting is my professional responsibility (Most frequently ranked #1)  
» Extrinsic motivators that directly benefited the preceptor were ranked less often:  
  · 10/219 (5%) - Preceptors receive awards and/or recognition  
  · 8/219 (4%) - Preceptors receive remuneration and/or incentives |

The top three extrinsic motivators that benefited the preceptors’ institution:  
» 142/219 (65%) - Increased education opportunities for staff members within my institution  
» 128/219 (58%) - Precepting helps with recruitment  
» 111/219 (51%) - Precepting improves the quality of patient care at my institution

Barriers to precepting
» The top five factors that pharmacists agreed were a barrier to precepting all pertained to excessive workload (either pre-existing or added by precepting a learner):
The top five factors that pharmacists disagreed were a barrier to precepting pertained to a personal dislike or feelings of inadequacy towards being a preceptor:
- 234/253 (92%) - My belief that precepting is not my professional responsibility (7/253 (3%) agree)
- 183/253 (72%) - The fact that I do not enjoy precepting (26/253 (10%) agree)
- 156/251 (62%) - The patient population that I care for (27/251 (11%) agree)
- 137/253 (54%) - Lack of knowledge as a preceptor (61/253 (24%) agree)
- 136/253 (53%) - Lack of confidence as a preceptor (69/253 (27%) agree)

Preceptors were more ambivalent about some other barriers that could be removed relatively easily:
- 56% agree, 30% disagree this is a barrier - Lack of available computer access for the learner
- 41% agree, 39% disagree - Lack of training as a preceptor
- 35% agree, 27% disagree - Insufficient support from UBC FoPs
- 31% agree, 37% disagree - Lack of preceptor continuing education opportunities

**Solutions to the barriers**

The top five solutions that pharmacists agreed would aid them to precept pertained to helping them with their day-to-day tasks (including those associated with precepting), and providing increased access to precepting and clinical resources:
- 194/231 (84%) - Having staffing support available to cover unexpected absences
- 184/231 (79%) - Increased availability of physical workspace
- 175/231 (75%) - Access to a repository of precepting materials
- 174/231 (76%) - Access to other pharmacists with specialized knowledge
- 172/231 (74%) - An available staff member to support struggling learners

**Top three incentives that pharmacists agree would make them more likely to precept:**
- 179/230 (78%) - Access to continuing education courses through UBC
- 179/230 (77%) - Access to UBC’s online library resources
- 164/230 (72%) - The opportunity to engage in learning (unrelated to precepting) through UBC

Preceptors’ feelings regarding some key solutions:
- 62% agree, 12% disagree that entrance into an “academy of preceptors” would make them more likely to precept.
- 59% agree, 15% disagree that a learning facilitator or coordinator to orient learners to their site would better enable them to precept. However, the wording of this question may have been too specific (i.e. we only really asked if the role of orienting students would be helpful); preceptors agreed that other solutions that could be implemented through the aid of an experiential education facilitator would help them precept:
  - 74% agree - A staff member to help struggling students
  - 74% agree - On-site preceptor development workshops
  - 73% agree - Being relieved of administrative work associated with precepting
  - 69% agree - Having a preceptor coach or mentor
  - We did not query preceptors about early hospital exposure in the survey, and preceptors’ views on alternative learning models are discussed below.

“High yield solutions”: Solutions requiring little time or resources to implement that could greatly increase pharmacists’ willingness or ability to precept:
- 75% agree, 10% disagree - Access to a repository of precepting materials
- 72% agree, 5% disagree - Clearer expectations surrounding the responsibilities and roles of learners and preceptors during rotation would better enable pharmacists to precept
- 63% agree, 15% disagree - Increased availability of online preceptor skill modules would better enable pharmacists to precept. Designing an online interface for preceptors to use may not be
- 70% agree, 46% disagree - Longer rotations (i.e. 6 or 8 weeks long)
- 21% agree, 46% disagree - Having learners placed at my site year-round

**Preceptors’ perspectives on non-traditional approaches to precepting**

Multi-learner precepting:
- 60% of preceptors have never used this model before (implying that they have only used one-to-one)
- 50% would be willing to use this model
- The most emphasized concern with this model was that there would not be enough workspace for multiple learners - 56% of respondents selected this response

Pairs as the default:
- 24% would currently be willing to receive pairs of learners as the default, and 53% would be willing if they received adequate support (a total of 77% would be willing)
- The 23% that were unwilling cited concerns such as:
  - Increased workload associated with an additional learner
  - Unconfident in their own skills - “if I can’t guide 1, I certainly can’t guide 2”
  - Insufficient time to precept two learners

Tiered learning:
- 75% of preceptors have never used this model
- 46% would be willing to precept using this model
- Again, the most cited concern was insufficient workspace - 46% of respondents
- Additional comments provided by respondents were mixed - some stated that the focus of rotations should be solely on learning, whereas others stated that a teaching role would enhance the senior learner’s experience

**Learners as extenders of service:**
- 70% of preceptors have never used this approach
- 34% would be willing to precept using this approach (least favoured non-traditional approach)
- The most cited concerns were that respondents thought they did not have the skills to participate in this approach (29%), and that learners did not have the skills to participate in this approach (26%)

**Differences in barriers and solutions between pharmacists with and without residency training**

- 60% of non-residency trained pharmacists agreed that lack of training as a preceptor was a barrier to precepting, compared to only 30% of residency trained pharmacists
- 35% of non-residency trained pharmacists agreed that lack of knowledge was a barrier, compared to only 18% of residency trained pharmacists
- 41% of non-residency trained pharmacists agreed that lack of confidence was a barrier, compared to only 20% of residency trained pharmacists
- 82% of non-residency trained pharmacists favoured access to a repository of precepting materials, compared to 73% of residency trained pharmacists
- 85% of non-residency trained pharmacists favoured increased availability of on-site preceptor workshops, compared to 72% of residency trained pharmacists
Appendix B: Learner Feedback

Learner Perspectives

<table>
<thead>
<tr>
<th>Item</th>
<th>Theme</th>
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</table>
| Perceptions of the current undergraduate program | • Program caters towards community pharmacy, rather than clinical pharmacy; limited avenues to explore career paths other than community pharmacy (6)  
• Students do not get enough insight into day to day responsibilities in hospitals, what hospital pharmacists really do (4)  
• Program does not prepare students enough to go to hospital sites and work with a team of specialists (4)  
• Program does not prepare students to become preceptors (3)  
• Prioritization is so important in clinical work and not taught in courses (3) |
| Recommendations for curriculum change/program improvement | • Instruction on hospital language (e.g. interpreting MARs, abbreviations, lab values, charts) is needed earlier in the program (before 3rd year) (13)  
• Earlier and expanded exposure to hospital pharmacy (e.g. rotations starting second year) (7)  
• More connections between preceptors/sites and Faculty are strongly needed (5)  
• Add stream choice in 3rd year, so rotations can be designed accordingly (e.g. hospital vs. community; long term care vs. hospitals) (6)  
• A support person or course coordinator to is needed to centralize questions/issues/administrative tasks (3)  
• Enhance integration of learning technologies in lectures and labs (e.g. blogs to work on cases collectively; blurb about rotation experience) (2)  
• More in-depth instruction is required to learn about the range of conditions present in hospitals (2)  
• Program should put more emphasis on clinical skills (e.g., interpreting labs) (2) |
| Perceptions about current hospital rotations | • Anxiety amongst undergraduate students about not knowing enough and feeling unprepared for rotations (10)  
• Learners value the exposure and experience with real life situations (8)  
• Longer rotations are needed (9)  
• Time on site is mainly spent getting to know the mechanics of hospitals (7)  
• Learners value learning to think like a clinical pharmacist (4)  
• Expectations and requirements are not clearly outlined (2)  
• Learners value the opportunity to gain practical hands on experience (2)  
• PharmD students consider rotations are successful when students have the autonomy to act independently as an advanced practitioner (5)  
• For PharmD students learning independently with a medical team rather than with a preceptor is a positive learning experience (4) |

Recommendations

| Recommendations about current hospital rotations | • Information/orientation sessions for undergraduate students prior to rotations would be an asset (6)  
• PharmD students should be expected to give back to any placement and help with preceptor’s workload (5)  
• Extend each rotation to two months for undergraduate students interested in clinical work (4)  
• PharmD students feel four weeks is a reasonable/optimal rotation length (4)  
• Residents should gradually take some of the preceptor’s workload, particularly towards the end of a rotation (3) |
| Perceptions about preceptors | • Precepting involves increased workload for the preceptor (17)  
• Preceptors need to be able to allocate more time to “just” precepting (9)  
• Residents as preceptors, a well-received idea by undergraduate students and residents (8) (opposite opinion 3)  
• There is an overall lack of recognition/support for preceptors’ job (7)  
• Preceptors should be compensated/incentivized (e.g., with government money) (5)  
• PharmD students as preceptors, a well-received idea by learners (5) (opposite opinion 2)  
• PharmD students: Preceptors do not necessarily provide clear, timely and constructive feedback (6)  
• PharmD students: Preceptors do not always allow students to experiment and experience different methods independently (4) |
| Recommendations about preceptors | • Preceptors should receive detailed expectations guidelines, from the university, prior to the rotation (per student level) (9)  
• Continuing professional development opportunities should be constantly available for preceptors (8)  
• Preceptors should receive extra staffing support to help cover work while precepting (7)  
• Preceptors should be compensated/incentivized (e.g., with government money, tuition money) (5)  
• More support for preceptors needed (e.g., back-fill provided by the university, extra staffing support, technology, resources) (5)  
• PharmD students: Preceptors should be available if students need help, and gradually step back and give them the opportunity to do their work (7)  
• PharmD students: Preceptors should provide clear, timely and constructive feedback (7) |
Perceptions about “peer learning” or “tiered learning”

- Peer learning viewed positively by students (15)
- Working with peers is helpful/invaluable (i.e. promotes sharing of ideas) (11)
- Learners of all levels are already being paired/grouped with other learners (7)
- Peer learning would lighten workload on preceptors (5)
- Tiered learning as a model is well-received (5)
- PharmD students and residents complement each other’s learning (5)
- Working with peers with different skills/strengths can be a meaningful learning experience (4)
- Tiered system could increase efficiency (e.g., first go to residents, then to the experienced preceptors) (3)
- Concerns about working with students with different skill levels (e.g., discussions could be brought down) (3)
- Providing a fair assessment for individual efforts will be a challenge (3)
- Individual learning is still important to prepare for the workplace (3)

Recommendations about “peer learning”

- Pairs would need to be matched carefully (i.e. interests, styles) (4)
- The current assessment forms would need to be changed (2)
- PharmD students should act as preceptors for lower level students (2)
- Preceptors will need to be trained on how to handle groups of students (2)
- Implement tiered rotations in rural settings; students could get expenses paid and work in pairs (2)

Perceptions about Experiential Office

- Enhanced support for students needed (5)
- Flexibility to update procedures/forms needed (5)
- Needs to be more approachable (4)
- Should support preceptors more (3)
- Prompt response to students’ questions/concerns needed (3)
- Expectations and requirements are not clearly outlined (3)

Appendix C: Health Authority Leader Feedback

Health Authority Leader Interviews (n=3)

<table>
<thead>
<tr>
<th>Item</th>
<th>Theme</th>
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</thead>
<tbody>
<tr>
<td><strong>General perceptions</strong></td>
<td>Students can have a positive impact on care and provide labor onsite (2)</td>
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<tr>
<td></td>
<td>Rotations are different depending on targeted care vs total care (1)</td>
</tr>
<tr>
<td></td>
<td>Students bring fresh perspective and keenness (1)</td>
</tr>
<tr>
<td><strong>General recommendations</strong></td>
<td>Students need deeper exposure to clinical pharmacy (2)</td>
</tr>
<tr>
<td></td>
<td>Local strategies should be developed to adjust to upcoming program changes (1)</td>
</tr>
<tr>
<td><strong>Challenges (resources)</strong></td>
<td>Lack of space in the pharmacy and on the unit (teaching space, space for students, space in wards) (3)</td>
</tr>
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<td></td>
<td>Lack of sufficient funds (3)</td>
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<td></td>
<td>Understaffing issues (3)</td>
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<tr>
<td></td>
<td>Lack of computer/internet access (1)</td>
</tr>
<tr>
<td><strong>Recommendations (resources)</strong></td>
<td>Expansion of residency program is a priority (2)</td>
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<td>UBC could provide laptops to access hospital wireless system, and students do not need to use the limited space (1)</td>
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<td></td>
<td>UBC to support students’ communication needs with updated technologies (e.g., smartphones vs pagers) (1)</td>
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<td></td>
<td>Wireless in all BC health institutions (1)</td>
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<td></td>
<td>Funding to support training expansion (1)</td>
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<td></td>
<td>Experiential Education Facilitator to backfill while preceptors teach (1)</td>
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<td></td>
<td>Experiential Education Facilitator to develop and deliver hospital preparatory courses (1)</td>
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<td>There is a need for workload support, rather than coordination support (1)</td>
</tr>
<tr>
<td><strong>Challenges (rotations/teaching)</strong></td>
<td>Challenging to have tiered models due to lack of components and staff (2)</td>
</tr>
<tr>
<td></td>
<td>Pharmacists do not feel ready/comfortable with their teaching skills (2)</td>
</tr>
<tr>
<td></td>
<td>Evaluations are too time consuming (1)</td>
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<td></td>
<td>Lack of communication tools/devices for students (1)</td>
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<td>Students do not come in the numbers needed onsite</td>
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<td></td>
<td>Preceptors have knowledge and expertise, but need help with workload (1)</td>
</tr>
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<td></td>
<td>Recruitment is a big challenge (1)</td>
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<tr>
<td></td>
<td>Teams tend to get too big and become an issue (1)</td>
</tr>
<tr>
<td><strong>Recommendations (rotations/teaching)</strong></td>
<td>Students need to be better prepared (2)</td>
</tr>
<tr>
<td></td>
<td>Students should be streamed by interest/experience (1)</td>
</tr>
<tr>
<td></td>
<td>Multi-placements, well received model (1)</td>
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<td></td>
<td>Longer rotations are needed (1)</td>
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<td>Multiple rotations at one site would be beneficial (1)</td>
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<td>Important to build site and regional associations (1)</td>
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<td>Positive to have PharmD students and residents around all the time; they do tangible work (1)</td>
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<tr>
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<td>Students should be left to work independently (1)</td>
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</table>
Health Authority Leader and Coordinator Survey
N=23. Open field survey. The results are summarized and categorized qualitatively.*

**What do you see as the biggest challenges in relation to the increased UBC Pharmacy class size?**
- Maintaining adequate staffing levels to provide a high quality rotation (12)
- Limitations in physical space and computer access (7)
- Pre-existing workload, or that added by precepting a learner (5)
- A support person is needed (2)

**What do you think are the most important issues that need to be addressed by the AGILE project?**
- More support in the form of resources and Faculty co-preceptors is required so that quality rotations can be provided and so that precepting can be an enjoyable experience (5)
- Assistance and support is needed from the Faculty to provide preceptor development for new and non-residency trained pharmacists and for ongoing preceptor development (5)
- There is a need for centralized and on-site support people to assist with precepting, coordinating rotations and administrative tasks (3)
- E2P students need to arrive better prepared for rotation and bring their own resources with them (3)
- Improve communication between Health Authorities and Faculty and form formal linkages (3)

**What does your site/department need from the UBC Faculty of Pharmacy to ensure the success of experiential education moving forward?**
- Preceptor development opportunities, similar to those described above (7)
- An on-site Faculty support person similar to what is done in nursing, who can deal with administrative burden, precepting of multiple students and provide a formal link to the Faculty (7)
- E2P students must be better prepared and have a positive attitude (4)
- Reduce the administrative burden of precepting by decreasing documentation requirements and by providing prepared schedules and learning topics (4)

**Are you supportive of the development of experiential education at smaller and more rural sites? Why or why not?**
- Yes, although the development of these programs would need to be accompanied by increased support for rural and smaller sites (23)
- This would provide positive recruitment opportunities for these sites (5)
- These sites provide enhanced learning opportunities; learners can have a greater impact and it is easier to develop relationships with the team (3)

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*Some survey questions were omitted from this report because they did not pertain directly to AGILE.

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**What support would be needed to develop experiential education at smaller and more rural sites?**
- Clearer expectations are needed surrounding the goals of a rotation for sites that may not be familiar with OEE rotations (4)
- Provision of a Faculty support person, supplementary instructor, practice support person (3)
- Faculty assistance with student housing while on rotations in remote locations (3)
- Send students to remote rotation sites in pairs to increase comfort and safety (1)
- Provide rotation materials/toolkit to assist smaller sites with planning/delivering rotation (1)