Attitudes and Perceptions of the Benefits and Barriers to Precepting Pharmacy Practice Residents in a Large and Diverse Health Authority

STUDY PROTOCOL

Principal Investigator

Dr. Nicole Bruchet, B.Sc., B.Sc.(Pharm), ACPR, PharmD
Coordinator, Residency and Education,
Clinical Pharmacy Specialist-Medicine, Kelowna General Hospital,
Clinical Instructor, Faculty of Pharmaceutical Sciences, University of British Columbia

Co-Investigators

Jessica Granberg, B.S.P.
Pharmacy Practice Resident, Interior Health Pharmacy Practice Residency Program

Dr. Dawn Dalen, B.S.P., ACPR, PharmD
Clinical Practice Leader, KGH Pharmacy (Acute & Residential),
Clinical Pharmacy Specialist -Emergency Medicine, Kelowna General Hospital,
Clinical Assistant Professor, Faculty of Pharmaceutical Sciences, University of British Columbia

Dr. Richard Slavik, B.Sc.(Pharm), ACPR, PharmD, FCSHP
Regional Manager, Pharmacy Professional Practice,
Pharmacotherapeutic Specialist-Critical Care, Kelowna General Hospital
Clinical Professor, Faculty of Pharmaceutical Sciences, University of British Columbia

Dr. Erica Wang, B.Sc.(Pharm), ACPR, PharmD
Clinical Pharmacy Specialist- Cardiology, Kelowna General Hospital

Key words: pharmacy practice resident, experiential learner, pharmacy, precepting, benefits, barriers, preceptor, resident, novel
Abstract

Background: The need for pharmacy experiential learning rotation sites and pharmacist preceptors continues to grow. In part, this growth is due to increasing pharmacy undergraduate student enrolment, expanding pharmacy practice residency positions and changing models of experiential learning. Within Interior Health, the perceived benefits and barriers of precepting pharmacy practice residents amongst staff pharmacists and pharmacy managers are currently not known. In addition, pharmacists’ attitudes towards novel methods are currently not known.

Objectives: The objectives of this study are: (1) to characterize the perceived benefits and barriers to precepting pharmacy practice residents amongst staff pharmacists, (2) to characterize the perceived benefits and barriers to precepting pharmacy practice residents amongst pharmacy managers, (3) to compare the perceived benefits and barriers to precepting pharmacy practice residents between staff pharmacists and pharmacy managers, (4) to compare the perceived benefits and barriers to precepting pharmacy practice residents between current residency preceptors and those who are not current residency preceptors, and (5) to characterize the attitudes towards novel precepting models amongst staff pharmacists and pharmacy managers.

Methods: This will be a prospective, observational study that will be conducted through the use of an electronic survey.

Outcomes: The primary outcome is the percentage of staff pharmacists who responded agree or strongly agree to each survey statement regarding the benefits and barriers to precepting pharmacy practice residents. The secondary outcomes are (1) the percentage of pharmacy managers who responded agree or strongly agree to each survey statement, (2) the percentage of staff pharmacists who respond agree or strongly agree to each survey statement as compared to the percentage of pharmacy managers who respond agree or strongly agree to each survey statement, (3) the percentage
of current residency preceptors who respond agree or strongly agree to each survey statement as compared to the percentage of those respondents who are not current residency preceptors who respond agree or strongly agree to each survey statement and (4) the percentage of respondents who agree with each of the survey statements regarding novel precepting models.

**Significance:** To our knowledge, this the first study to specifically assess the benefits and barriers to precepting pharmacy practice residents in a Canadian health authority.
**Background**

Experiential learning is a core component of pharmacy undergraduate education, pharmacy practice residency training, and Doctor of Pharmacy programs in Canada (1,2). Experiential learning typically consists of one or more learners completing a rotation of fixed duration in a specific practice area, while being taught, supervised and coached by a pharmacist preceptor (1,2). Pharmacy undergraduate students are required to complete a minimum of 640 hours of practice experience in both community and hospital-based practices, with a small proportion of these hours taking place in the hospital setting (1). Pharmacy practice residents are licensed pharmacists who are completing a one-year post-baccalaureate residency, during which they further develop the knowledge and skills necessary to work in clinical pharmacy practice. The pharmacy practice residency consists primarily of hospital-based experiential learning rotations. Similarly, Doctor of Pharmacy (PharmD) students also complete approximately one year of experiential learning rotations, with the vast majority taking place in the hospital setting. Given the significant amount of time that pharmacy undergraduate students, pharmacy practice residents, and PharmD students spend completing experiential learning rotations, rotation sites need to be developed and maintained and pharmacist preceptors need to be identified, trained and supported to ensure appropriate learning environments for these learners, as well as to ensure the sustainability of these experiential rotations.

The need for pharmacy experiential learning rotation sites and pharmacist preceptors continues to grow. In part, this growth is due to increasing pharmacy undergraduate student enrolment, expanding pharmacy practice residency positions and changing models of experiential learning. Pharmacy undergraduate programs across Canada face increased pressure to expand enrolment in response to the aging patient population, an ongoing shortage of pharmacists, the expanding role of the pharmacy profession within the health care environment and national initiatives aimed at improving the
provision of patient-centered care (3,4,5). For example, the Faculty of Pharmaceutical Sciences at the University of British Columbia (UBC) increased pharmacy undergraduate student enrolment from 154 to 224 students in 2011 (5). All of these students will complete experiential learning rotations. Furthermore, the number of pharmacy practice residency positions in Canada continues to increase (6). In British Columbia (BC), the expansion of the existing programs and the creation of a new residency program has resulted in eight additional residency positions for the 2012 to 2013 residency year, further increasing the demand for experiential learning rotations (7).

The challenges facing the pharmacy profession in recruiting enough pharmacist preceptors and developing rotation sites to meet these increasing demands are not unique to the pharmacy profession, with similar challenges being experienced by other health care professionals, including those in medicine, nursing, dietetics, and physical therapy (8,9,10,11,12). One such initiative aimed at addressing the needs for preceptor development and training is the BC Preceptor Development Program, founded in 2008. This provincial initiative identified the needs of preceptors across all health disciplines and proceeded to enhance preceptor education and skill development through learning forums to increase capacity province-wide (13). However, a deficit of pharmacy preceptors persists, suggesting the need to adopt new models of experiential learning. Examples of these new models of experiential learning include having multiple learners of one type on a rotation at the same time or developing a tiered approach to precepting, whereby a PharmD student, pharmacy practice resident and pharmacy undergraduate student would be on rotation at the same time, supervised by an attending pharmacist preceptor (14). Other novel models reported in the literature include: developing technology to teach repetitive functions to allow for increased use of preceptor time and resources, virtual precepting using an ear-piece and remote video-monitoring to allow distant precepting, and allowing residency or doctor of pharmacy learners to practice independently on the ward during
advanced rotations, requiring less supervision and an increased ability to support more learners at one time (14,15,16,17).

Given the increased demand for rotation sites and pharmacist preceptors, it is important to understand the perceived benefits and barriers to being a preceptor, as this could aid in rotation development and could also help to ensure that resources are allocated appropriately for preceptor training, development and support. The perceived benefits and barriers to precepting amongst allied health care professionals such as those in nursing, medicine, physiotherapy and dietetics are well documented in the literature (8,9,10,11,12). This is in contrast to the pharmacy profession, where there appears to be minimal evaluation of pharmacy preceptors’ views in the literature. Common themes surrounding the reported benefits of precepting by all health professionals include personal benefits and departmental benefits; as well as, recurring themes regarding personal and departmental barriers to precepting. These are contrasted in Table 1, Appendix 1.

The literature clearly demonstrates that precepting can be associated with many perceived benefits to the preceptor, but the need for pharmacy preceptors remains an issue due to changes to the profession’s dynamics and the expansion of pharmacy programs across Canada. Given the minimal published literature of perceived benefits and barriers to precepting by pharmacist preceptors, further evaluation is needed to understand what pharmacists perceive as the benefits and barriers to precepting experiential learners. From this, the perceived barriers to precepting could be addressed and the benefits to precepting emphasized to increase the capacity of pharmacist preceptors and meet the needs of experiential learners. Furthermore, the attitudes of pharmacist preceptors towards novel precepting models is currently not known and would be key in pursuing strategies to increase the capacity of learners on rotation and meet the demand for increased experiential learning sites.
Study Rationale

Interior Health is a large and diverse health authority, where pharmacists work in a variety of different practice areas using a variety of different practice models. Pharmacists in Interior Health precept all levels of pharmacy learners from pharmacy undergraduate students, to pharmacy practice residents, to doctor of pharmacy students. During the 2012 to 2013 academic year, Interior Health will provide twelve pharmacy undergraduate rotations, fifty-two pharmacy practice residency rotations, and eight PharmD rotations. The implementation of the Interior Health Pharmacy Practice Residency Program in June 2011 and its subsequent expansion in June 2012 has led to a substantial increase in precepting opportunities for pharmacists within Interior Health. Currently, the vast majority of residency rotations take place at Kelowna General Hospital (KGH), with only seven rotations occurring at sites outside of KGH. In order to meet the needs of the pharmacy practice residency program, new preceptors need to be identified and trained, new rotations need to be created, and novel precepting methods need to be explored.

Within Interior Health, the perceived benefits and barriers to precepting pharmacy practice residents that exist amongst pharmacist preceptors is currently unknown. The differences in perceptions between staff pharmacists and pharmacy managers towards precepting pharmacy practice residents and the differences in perceptions amongst current residency preceptors and those who are not current residency preceptors is also unknown. In addition, it is not known what pharmacist preceptors’ attitudes and perceptions are towards novel precepting methods, including precepting multiple learners of one type on a rotation at one time and tiered precepting.

Therefore, the purpose of this study is to characterize the attitudes and perceptions of the benefits and barriers to precepting pharmacy practice residents that exist amongst pharmacists within Interior Health. This study will form a foundation, from which strategies can be developed to ensure that we support our pharmacists in precepting pharmacy practice residents and would help to ensure
that, as a department and pharmacy practice residency program, we are well positioned to play an important role in the evolving experiential learning climate.

**Significance**

To our knowledge, this is the first study to specifically assess the benefits and barriers to precepting pharmacy practice residents in a Canadian health authority. The findings from this study will help to increase capacity for pharmacy practice residency rotations within Interior Health. Additionally, the findings from this study could also be utilized by other health authorities and universities facing similar challenges in securing pharmacy preceptors and experiential learning rotation sites, by understanding the perceived benefits and barriers of pharmacy preceptors in a Canadian setting.

**Definitions**

For the purpose of this study, the following definitions will apply:

1. **Pharmacy practice resident**: A licensed pharmacist completing a 52-week post-baccalaureate residency with a Canadian Pharmacy Practice Residency Program
2. **Staff pharmacist**: A licensed pharmacist employed by a hospital pharmacy department within Interior Health
3. **Pharmacy manager**: A manager of a department of pharmacy within Interior Health
4. **Preceptor**: A pharmacist who acts as a coach and teacher to pharmacy undergraduate students, pharmacy practice residents, and/or PharmD students in an experiential learning environment
5. **Current residency preceptor**: A pharmacist preceptor who is precepting a pharmacy practice resident during the current residency year, defined as June 2012 to June 2013
Objectives

Primary Objective

- To characterize the perceived benefits and barriers to precepting pharmacy practice residents amongst staff pharmacists

Secondary Objectives

- To characterize the perceived benefits and barriers to precepting pharmacy practice residents amongst pharmacy managers
- To compare the perceived benefits and barriers to precepting pharmacy practice residents between staff pharmacists and pharmacy managers
- To compare the perceived benefits and barriers to precepting pharmacy practice residents between current residency preceptors and those who are not current residency preceptors
- To characterize the attitudes towards novel precepting models amongst staff pharmacists and pharmacy managers

Methods

Study Design

This will be a prospective, observational study and will be conducted through the use of an electronic survey.

Study Setting

This study will take place between December 2012 and January 2013 in the Interior Health pharmacy department. Interior Health is a large health authority and it serves a diverse patient population in large urban centres and small rural communities within the Southern Interior of BC. Interior Health includes
tertiary care hospitals, regional hospitals and community hospitals. Pharmacists within these hospitals work in diverse practice environments and have a variety of different educational backgrounds.

**Study Population**

This study will include pharmacists in Interior Health who meet any of the following inclusion criteria:

- Staff pharmacist employed by Interior Health
- Pharmacy manager employed by Interior Health

The following individuals will be excluded from the study if they meet any of the following exclusion criteria:

- Pharmacy staff member who is not a staff pharmacist or pharmacy manager
- Current pharmacy practice resident
- Pharmacist who declines to participate

**Outcome Measures**

**Primary Outcome:**

- The percentage of staff pharmacist respondents who respond agree or strongly agree to each survey statement regarding the benefits and barriers to precepting pharmacy practice residents

**Secondary Outcomes:**

- The percentage of pharmacy manager respondents who respond agree or strongly agree to each survey statement regarding the benefits and barriers to precepting pharmacy practice residents
- The percentage of staff pharmacist respondents who respond agree or strongly agree to each survey statement as compared to the percentage of pharmacy manager respondents
who respond agree or strongly agree to each survey statement regarding the benefits and barriers to precepting pharmacy practice residents

- The percentage of current residency preceptor respondents who respond agree or strongly agree to each survey statement as compared to the percentage of those respondents who are not current residency preceptors who respond agree or strongly agree to each survey statement regarding the benefits and barriers to precepting pharmacy practice residents

- The percentage of respondents who agree with each of the survey statements regarding novel precepting models

**Study Procedures**

*Phase I: Survey Development*

A comprehensive literature search will be performed to develop a catalogue of documented benefits and barriers to precepting experiential learners and novel precepting methods from within the pharmacy profession, as well as allied health professions. Sources to be searched include: PubMed, Medline, IPA, AJPE, EBSCO databases and Ovid SP, as well as references cited within the articles found. The search terms will include: precepting, pharmacy, experiential learning, barriers, benefits, clinical teaching, preceptorship, internship and residency. From this literature search, an electronic survey tool will be developed using Enterprise Feedback Management (EFM). EFM is a Canadian-hosted electronic survey tool, which is accessible through the University of British Columbia. EFM complies with the BC Freedom of Information and Protection of Privacy Act (FOIPPA) by storing and backing-up all data in the survey tool in Canada through a server located on Vancouver Island, BC (38).

After the survey is created, it will be reviewed by all investigators involved in this study to assess question clarity and ambiguity and to ensure that the content and length are appropriate. The survey will then be piloted amongst two independent Interior Health staff pharmacists in order to obtain feedback regarding question clarity and survey length. Based on this feedback, the survey content will
be revised to ensure maximum clarity. These two Interior Health staff pharmacists will not participate in
the study.

Survey Content

The survey is attached in Appendix 2. The survey will include questions to collect baseline information on survey respondents, as well as statements regarding the perceived personal and departmental benefits to precepting pharmacy practice residents and statements regarding the perceived barriers to precepting pharmacy practice residents. For each statement, the survey respondents will indicate their level of agreement, using a five-point Likert scale, which contains the following categories: strongly disagree, disagree, neutral, agree and strongly agree. The survey will also include questions to assess the respondents’ attitudes towards two novel precepting models: tiered precepting and precepting multiple learners of one type on rotation at the same time. The survey will use skip-logic, whereby depending on whether the respondent indicates that he or she is a staff pharmacist or pharmacy manager and a current residency preceptor or not a current residency preceptor, the respondent will only answer particular questions relevant to that characteristic. The following baseline information will be collected from each survey respondent. These are described in more detail in Appendix 2:

- Age, within a pre-determined range
- Gender
- Pharmacy education characteristics
- Pharmacy practice setting characteristics
- Precepting experience characteristics

Phase II: Survey Implementation
The electronic survey will be sent to all Interior Health staff pharmacists and pharmacy managers via e-mail. Interior Health staff pharmacists and pharmacy managers will be identified for inclusion in the survey email using the Interior Health Microsoft Outlook staff address book function. The survey will be sent as an e-mail link to the online survey to staff pharmacists and pharmacy managers in Interior Health in December 2012. The respondents will be given six weeks to complete the survey. A follow-up e-mail reminding pharmacists of the survey deadline, will be sent at two weeks and four weeks post-implementation.

Data Analysis
A survey response rate of greater than 70% will be considered optimal (39). Data obtained from the electronic survey will be entered into a Microsoft Excel spreadsheet for analysis. The baseline characteristics of the survey respondents will be analyzed using descriptive statistics, to quantify the percent, mean and standard deviation for each baseline characteristic. The percentage of survey respondents who respond agree or strongly agree to each survey statement, as well as those who respond disagree or strongly disagree to each survey statement will be calculated. The percentage of staff pharmacist who respond agree or strongly agree to each survey statement will be compared to the percentage of pharmacy managers who respond agree or strongly agree to each survey statement descriptively. The percentage of current resident preceptors who respond agree or strongly agree to each survey statement will be compared to the percentage of those respondents who are not current residency preceptors who respond agree or strongly agree to each survey statement, descriptively.

Ethical Considerations
Ethics approval will be submitted to both the UBC Behavioural Research Ethics Board (BREB) and Interior Health Research Ethics Board (REB) for a harmonized review prior to survey implementation.
Risks and Discomforts

This study is considered to have minimal risk to its participants. It is not anticipated to cause any risk or discomfort to its participants. Staff pharmacists and pharmacy managers will be notified in the consent form, attached as cover letter to the survey that participation or non-participation cannot be identified and will not affect their employment in any form and, as such, implied consent is granted upon completion and submission of the electronic survey. In addition, the electronic survey will be developed using a Canadian-hosted survey tool, Enterprise Feedback Management (EFM). EFM complies with the BC Freedom of Information and Protection of Privacy Act (FOIPPA) by storing and backing-up all data in the survey tool in Canada through a server located on Vancouver Island, BC. The data analysis spreadsheet and all other electronic study files will be stored in a password-protected folder on a private Interior Health network drive. All paper files pertaining to the study will be stored in a locked filing cabinet within the locked pharmacy department at Kelowna General Hospital.

Informed Consent

The electronic survey will be a voluntary, anonymous, and confidential data collection tool. Staff pharmacists and pharmacy managers choosing to participate in the survey will be able to withdraw voluntarily from completing the survey at any time prior to submitting the survey through the EFM tool. Staff pharmacists and pharmacy managers will be clearly notified prior to commencing the survey that participation or non-participation cannot be identified and will not affect their employment in any form and, as such, implied consent is granted upon completion and submission of the electronic survey.
**Budget**

No funding is required for this study. The EFM survey tool software is free to UBC Faculty investigators; hence, there are no anticipated costs associated with this project.
References


38. EFM Survey Tool: http://it.ubc.ca/service_catalogue/social-media-collaboration/survey-tool

Appendix 1: Tables

Table 1: Summary of Benefits and Barriers to Precepting from the Literature

<table>
<thead>
<tr>
<th>Personal Benefits*</th>
<th>Departmental Benefits**</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Two-way learning</td>
<td>• As remaining consistent with the department’s mission</td>
</tr>
<tr>
<td>• Personal growth and reflection</td>
<td>• Receiving increased funding</td>
</tr>
<tr>
<td>• Remaining up-to-date</td>
<td>• Potential recruitment strategy</td>
</tr>
<tr>
<td>• Teaching future generations</td>
<td>• Expanding clinical services</td>
</tr>
<tr>
<td>• Increased job satisfaction</td>
<td>• Extending patient care</td>
</tr>
<tr>
<td>• Decreased workload</td>
<td>• Improving pharmaceutical care</td>
</tr>
<tr>
<td>• Pure enjoyment of teaching</td>
<td></td>
</tr>
<tr>
<td>• Giving back to the profession while passing on knowledge</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personal Barriers§</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lack of confidence in precepting and handling conflict</td>
</tr>
<tr>
<td>• Increased burden with respect to preparation and paperwork</td>
</tr>
<tr>
<td>• Lack of recognition</td>
</tr>
<tr>
<td>• Previous negative experiences with learners</td>
</tr>
<tr>
<td>• Lack of time to provide quality precepting</td>
</tr>
<tr>
<td>• Decreased productivity</td>
</tr>
<tr>
<td>• Insufficient support from administrators and managers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Departmental Barriers†</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Space barriers</td>
</tr>
<tr>
<td>• Technical and patient population restraints</td>
</tr>
<tr>
<td>• Cost of training preceptors and back-filling workload</td>
</tr>
<tr>
<td>• Increased demand on established sites to increase precepting due to lack of alternative precepting sites</td>
</tr>
</tbody>
</table>

*References: 18,19,20,2123,24,25,26,27,28,29,30,31, **references: 18,20,25,28, §references: 18,19,20,22,23,26,27,29,30,31,32,33,34,35,36,37, †references: 18,19,23,26,31,32,33,35.
Appendix 2: Study Survey