

INNOVATIONS IN PHARMACY PRACTICE: PHARMACY EDUCATION

Assessment of Preceptor Development Strategies across Canadian Pharmacy Residency Programs

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INTRODUCTION

Pharmacy preceptors serve as instructors, coaches, and role models for pharmacy students and residents. The skills needed to become an effective preceptor are not innate; as such, preceptors require support to foster this aspect of their professional development.¹ The Canadian Pharmacy Residency Board (CPRB) places responsibility on program directors and coordinators to ensure that all preceptors receive orientation to preceptorship duties, as well as ongoing training and development in this area.² In addition, the CPRB requires that preceptors receive feedback on their performance through evaluation by residents.² Any other form of feedback is left to the discretion of individual programs. As such, there is likely variability in how preceptors are oriented, trained, and evaluated across the country.

The education and development of preceptors can be offered in various formats, including live educational events (e.g., presentations^{1,3} or journal clubs^{1,4}), print^{1,5} or digital^{1,6} education, virtual networking,⁷ and one-on-one assessment and feedback.^{1,8} Vos and Trewet¹ performed a before-and-after assessment of a multimodal preceptor development program, which included live, online, and written educational materials, as well as assessment of and feedback to individual preceptors. Students were asked to provide a global assessment of their preceptors, as well as evaluation of the feedback and evaluation they received from the preceptors, orientation, organization of the rotation, and the overall experience. Following implementation of the preceptor development program, these authors found statistically significant increases in student satisfaction with the feedback received from preceptors at midpoint and final evaluations and in the percentage of preceptors with an overall rating of “good”. Conversely, there was a statistically significant decrease in the percentage of preceptors rated as “fair” or “poor”. Preceptors used a 5-point Likert scale to provide their overall assessment of the education modules; the mean scores ranged from 3.7 to 4.3 for the various modules.

The definition of preceptor competencies may allow for a more consistent educational standard for residency programs through the provision of a clear framework for the training and evaluation of preceptors. The CPRB’s 2010 accreditation standards for pharmacy residency programs² include competency-based standards for pharmacy residents; however, other than requiring preceptors to “have the knowledge, skills and practice experience to act as a role model and to assist in the development of the resident’s skills”, the CPRB accreditation standards do not define specific competencies for preceptors. The National Association of Pharmacy Regulatory Authorities’ “Professional Competencies for Canadian Pharmacists at Entry to Practice” includes the statement that “pharmacists communicate with and provide education to groups and individuals in order to promote and support optimal patient care and well-being.”⁹ However, as implied by its wording, this required educational competency primarily applies to the use of education to optimize the health and well-being of patients,⁹ not to the professional development of pharmacy students or residents. In contrast to the CPRB’s more general preceptor requirements, the American Society of Health-System Pharmacists (ASHP) has defined clear and specific competencies for preceptors of post-graduate year 1 pharmacy residency programs.¹⁰ The ASHP’s competencies require pharmacists to demonstrate their ability to use the 4 clinical teaching roles (i.e., instructing, modelling, coaching, and facilitating) and to assess residents’ performance. As well, each pharmacy preceptor must have an established and currently active practice in the area of the preceptorship and must be recognized as a pharmacist practitioner in that area. Finally, pharmacy preceptors are required to demonstrate professionalism and a commitment to the advancement of the profession of pharmacy.¹⁰ In addition to the competencies and expectations set by pharmacy organizations, certain desirable characteristics of preceptors appear consistently in the literature, including demonstration of interest and enthusiasm for teaching and support and respect for learners.^{1,11,12} All of these competencies

and characteristics should promote a standard of quality experiences for the learner.

Although defining competencies might provide a framework of expectations, an outcome-based preceptor certification would ensure that the competencies are achieved. Neither the CPRB nor the ASHP requires certification of preceptors, but several US state boards have independently instituted such a requirement.^{3,11} Certification requirements vary by board and include criteria such as minimum number of years as a practising pharmacist, successful completion of a certification examination, and minimum number of hours of preceptor training per year.¹³⁻¹⁵ However, the effectiveness of certification programs is unknown.

At present, there is a paucity of published data describing the requirements, orientation, training, and evaluation of those serving as preceptors for Canadian pharmacy residencies. This variability in program requirements of and support for preceptors has the potential to affect the delivery of education across Canadian programs. The purpose of this study was to describe current practices in preceptor development, certification, and competencies in CPRB-accredited or accreditation-pending residency programs, to create a benchmark against which programs can compare themselves.

The primary objective of the study was to characterize preceptor development strategies used within Canadian pharmacy residency programs. The secondary objectives were to determine the number of programs that require formal certification of preceptors, to describe the required preceptor competencies, and to describe methods of assessing preceptor performance.

METHODS

This study used prospective survey methodology. The study population consisted of residency coordinators of CPRB-accredited or accreditation-pending Canadian pharmacy residency programs. Potential participants were identified through the website of the Canadian Society of Hospital Pharmacy, which provides contact information for all residency programs and is updated yearly by the CPRB.¹⁶ The total projected sample size was 35.

The survey was drafted by the investigators, who had expertise in pharmacist education and development, as well as in survey methodology. A literature search of pharmacy preceptor development methods, competencies, and certification was performed, and the information gathered from this search was used to draft the survey questions and response options. The survey was created with FluidSurveys online survey software (<http://fluidsurveys.com/>). Before the survey was made available to participants, it was pilot-tested (for content, readability, clarity, and ease of use) by 2 pharmacists who had previously practised as residency coordinators. The first page of the survey was a consent form. The survey consisted of 13 questions covering the areas of program characteristics (province, organization type [multicentre or single centre], CPRB accreditation status,

program type, number of preceptors, number of residents), development strategies for new and existing preceptors, presence and description of defined preceptor competencies, methods of assessing preceptor performance, and presence of and requirements for preceptor certification (see Appendix 1, available at www.cjhp-online.ca/index.php/cjhp/issue/view/114/showToc). Response options were based on the literature review, and respondents were allowed to select all answers that were applicable to their respective sites. An option of “other”, with a free-text box, was available to capture additional responses. A free-text box was also provided for specification of the number of residents in each program, and an option of ranges was given for the number of preceptors (fewer than 10, 10–20, more than 20). The response options for program type—general practice, general practice with a specialty focus, or specialty—aligned with the descriptors used in the list of residency programs as presented by the CPRB.¹⁶ The survey did not provide definitions for program type or organization type. Respondents had the option to leave a question blank if they did not want to answer it; none of the questions were mandatory. The study was approved by the Regina Qu’Appelle Health Region Research Ethics Board (approval no. REB-14-116).

The principal investigator (J.B.) sent an e-mail message to all prospective participants, describing the study and inviting participation. The message included a link to the survey, which was open from September 25 to October 25, 2014, inclusive. Halfway through the data collection period, a reminder of the invitation to participate and another link to the survey were sent by e-mail to all prospective participants.

Data Analysis

Data from the FluidSurveys online survey were evaluated using Microsoft Excel for Mac 2011. Results are described in terms of frequency distributions, given the categorical nature of the data. When respondents presented the number of residents per year as a range (e.g., 3–4 residents per year), the upper limit of the range was used for data analysis. The data for resident number were significantly skewed, so this variable is reported as a median with interquartile range. When the response option of “other” was selected, the response was categorized as “other”, and free-text comments were summarized.

RESULTS

Fourteen (40%) of the 35 invited participants responded to the survey, representing mainly general practice residency programs in multicentre organizations across the country (Table 1). All of the respondents answered questions about development strategies for new and existing preceptors. The majority of programs reported providing education or orientation for new preceptors, most commonly in the form of a live educational event or education module (Table 2). Development methods for existing preceptors varied, but included primarily live educational seminars, online preceptor education, and one-on-one assessment

Table 1. Demographic Characteristics of Survey Participants

Characteristic	No. (%) of Respondents (n = 14)*	No. (%) of Programs by Province
Province		
Alberta	3 (21)	3/4 (75)
British Columbia	2 (14)	2/5 (40)
Manitoba	1 (7)	1/1 (100)
New Brunswick	1 (7)	1/2 (50)
Nova Scotia	0 (0)	0/2 (0)
Ontario	5 (36)	5/17 (29)
Quebec	1 (7)	1/2 (50)
Saskatchewan	1 (7)	1/2 (50)
Type of organization hosting residency		NA
Multi-centre	10 (71)	
Single-centre	4 (29)	
Accreditation status		NA
Accredited	13 (93)	
Accreditation pending	1 (7)	
Program type		NA
General practice	11 (79)	
General with specialty focus	2 (14)	
Specialty	1 (7)	
No. of preceptors		NA
< 10	2 (14)	
10–20	5 (36)	
> 20	7 (50)	
Total no. of residency positions	95	NA
No. of residents per program		NA
Median (IQR)	3.5 (2–5.5)	
Range	1–35	

IQR = interquartile range, NA = not applicable.

and feedback by the residency coordinator or preceptor coach (Table 2).

All respondents answered the question about assessment of preceptor performance. As required by the CPRB, preceptor evaluation was completed by pharmacy residents in all of the programs. Eleven programs (79%) reported use of preceptor self-evaluation, and 6 programs (43%) reported preceptor evaluation by a residency coordinator, director, or manager. Thirteen programs commented on assessment of preceptor needs, and 5 (38%) of these programs indicated that a preceptor needs assessment was completed.

All 14 respondents answered the question on preceptor certification. Only 2 programs (14%) required their preceptors to be certified. One of the programs provided information on certification requirements, which consisted of “completion of our [internal] course”.

Twelve respondents answered the questions about preceptor competencies, of which 4 identified defined competencies. Defined competencies for these programs were provision of pharmaceutical care (4 programs), feedback and evaluation skills (3 programs), communication skills (2 programs), interest and enthusiasm for teaching (2 programs), support and respect for the learner (2 programs), and leadership or management skills (1 program). One program noted an additional competency (expertise in the area) under the “other” option.

DISCUSSION

This study sought to describe current preceptor development strategies, competencies, performance assessment, and certification requirements used within Canadian pharmacy residency programs. According to data from the CPRB website,¹⁶ most Canadian pharmacy residencies are of the “general practice” or “general practice with a specialty focus” type (94% of programs), operating from multiple sites within an organization (74% of programs).¹⁶ Similarly, residency programs participating in this study were mainly of the “general practice” or “general practice with a specialty focus” type (93%), delivered in multisite organizations (71%). There was representation from 7 of the 8 provinces with CPRB-accredited programs, and both small and large programs responded to the survey. At the time of the study, Canadian programs were offering a total of 170 residency positions, with each program supporting a median of 2 residents (range 1–35),¹⁶ whereas the study cohort represented 95 residency positions, and respondents reported a median of 3.5 residents (range 1–35). The study population was well aligned with the Canadian residency program landscape, and the results of the study are therefore likely generalizable to most Canadian programs.

In this study, the most commonly identified development strategies for new preceptors were live preceptor orientation and online education modules. Respondents also reported using a preceptor orientation manual, reading lists, and university- or

Table 2. Development Strategies for New and Existing Preceptors

Strategy	No. (%) of Respondents (n = 14)	
For new preceptors		
Live preceptor orientation (e.g., group orientation, one-on-one orientation with residency coordinator)	12	(86)
Online preceptor course or education module	12	(86)
Preceptor orientation manual	6	(43)
Other*	4	(29)
For existing preceptors		
Live educational seminars with internal speakers	8	(57)
Live educational seminars with external consultants	5	(36)
Preceptor journal club	1	(7)
Online preceptor education (excluding education provided by Canadian Pharmacy Residency Board)	10	(71)
One-on-one preceptor assessment and feedback provided by residency coordinator or preceptor coach	11	(79)
Other†	4	(29)

*University-facilitated preceptor training, available resource list, health region-facilitated training.
 †Group preceptor meetings with residency coordinator, resident assessment and feedback, available resource list.

health region-facilitated training, as part of new preceptor orientation. These results display the diversity with which preceptor development is delivered, with a strong trend toward live orientation and online modules. This is similar to several programs in the United States, where common modalities for preceptor development are the use of live educational events, such as educational seminars, preceptor journal clubs, and online educational modules.^{1,4}

Participants in this study reported using the following development strategies for existing preceptors: one-on-one preceptor development, online preceptor education, and internal, live education seminars. Woloschuk and Raymond⁸ described the use of preceptor coaches to provide feedback and support to existing preceptors in the Winnipeg Regional Health Authority (WRHA). Direct feedback from a coach was indicated to be the most valuable aspect of the WRHA program,⁸ and more than two-thirds of respondents to the current survey reported using this approach.

As required by the CPRB,² all of the programs used formal evaluation of preceptors by residents as a method of assessing preceptor performance. The majority of programs reported preceptor self-evaluation, and just under half reported evaluation by a superior. According to Ricchetti and Jun,⁴ all 3 of these modalities are valuable in assessing preceptor development and the progression of preceptors to success.

Most of the residency programs reported that formal certification of preceptors was not required, which is consistent with CPRB standards,² as well as with ASHP standards in the United States.³ In contrast, certain state boards, including those of Washington¹⁴ and Texas,¹⁵ have implemented preceptor certification programs. Certification may be of benefit to a residency program because it provides a defined framework of evaluation that requires preceptors to demonstrate competencies. In addition, it may be structured to regulate continuing education, which supports continual self-improvement. It may help to

set a benchmark and assist residency program directors to manage preceptor development programs.

Four of the programs reported defined competencies for preceptors: provision of pharmaceutical care, feedback and evaluation skills, communication skills, interest and enthusiasm for teaching, support and respect for learners, leadership skills, and expertise in the area. These competencies are congruent with the CPRB requirements for preceptors,² several of the competencies of the ASHP,¹⁰ and desirable preceptor qualities as characterized in the literature.^{1,11,12,17} Desirable qualities noted in the literature include practising as a role model practitioner, having an interest in teaching, demonstrating the ability to set clear expectations, providing clear feedback, and encouraging critical thinking.^{1,11,12,17} Other characteristics, such as demonstrating support for learners, explaining one's own thought process, being accessible to the learner, treating the learner as a colleague, and providing an appropriate amount of autonomy in relation to the learner's experience and competence, are also perceived as beneficial.^{11,12,17} Although Canadian residency programs are not required to define preceptor competencies, each program director is charged with the responsibility of ensuring that preceptors are qualified pharmacists and that they receive continuing preceptorship development.² These tasks may be better facilitated if tangible, measurable, defined competencies are in place, which would be consistent with competency-based residency standards.

Implications

This study provides insight into current preceptor development strategies used in Canadian pharmacy residency programs. This information may help residency coordinators and directors to identify new methods of preceptor development that could be used to support preceptor training and education in their own programs. In addition, it identifies areas for potential growth in

preceptor development, including nationally standardized online learning modules, preceptor coaches to provide direct and immediate feedback, definition of preceptor competencies, and implementation of a national preceptor certification program. Publication of the 2010 CPRB accreditation standards² was a significant step in the advancement of Canadian pharmacy residency programs, because it moved programs away from curriculum-based requirements toward competency-based requirements.¹⁸ A future opportunity exists for the development of a national preceptor development program, which may include consensus and adoption of competency-based preceptor standards.

Limitations

This study provides an overview of the Canadian landscape of preceptor development within pharmacy residency programs; however, it had several limitations. The use of survey methodology restricted the information that could be gathered. Use of an interview or focus group methodology might have allowed greater understanding of practices across different programs. Participation in the survey was voluntary, and it is possible that responses came from those programs that were most interested in this topic. This factor, along with circulation of the survey during a busy time of year for residency coordinators (residency application season) and provision of the survey in English only, may have contributed to the low response rate and resulted in potential bias. There was no way to guarantee that survey responses came from the intended participants, as web-based surveys can be forwarded to or answered by unintended audiences. Not all survey respondents answered every question, which may affect the interpretation of under-answered questions. It is possible that respondents representing larger and multicentre programs were not aware of all practices at every site; as such, they may have under- or over-represented some of the practices used within their programs. Finally, this study represents Canadian pharmacy residency programs and may not be representative of programs outside of Canada.

CONCLUSION

Pharmacy residency programs across Canada are diverse with respect to their preceptor training and education programs. This study characterized various preceptor development practices and highlighted the absence of standardized preceptor competencies or preceptor certification in Canadian programs. The results may be used to benchmark an individual program against others in the country and may help programs to identify new initiatives to tailor preceptor development to the needs of both the programs and their preceptors.

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