Staff Pharmacists' Perspectives on Contemporary Pharmacy Practice Issues

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INTRODUCTION

Given the major changes that are occurring in pharmacy practice, such as the regulation of pharmacy technicians and the expansion of pharmacists' scope of practice, it is important to understand the perspective of front-line pharmacists concerning a number of practice issues. To the authors' knowledge, no recent surveys have captured the perspectives of this group of pharmacy practitioners regarding the major changes in practice that are now occurring in the pharmacy profession in Canada.

For almost 30 years, the Hospital Pharmacy in Canada Survey has collected information on hospital pharmacy practice in Canada (published reports available through www.lillyhospitalsurvey.ca/hpc2/content/Reports3.asp). This survey of pharmacy directors and managers is a comprehensive initiative designed to capture and analyze in-depth information on numerous pharmacy practice issues (e.g., clinical practice, drug distribution, technologies, human resources, safety practices). The value of the data generated by the survey of pharmacy directors is evidenced by high levels of participation in the survey, consistently in the range of 75% to 80%. One limitation of the Hospital Pharmacy in Canada Survey methodology used until recently was that it gathered data and opinions only from pharmacy managers and directors in Canadian hospitals; no input was obtained from front-line pharmacy staff. The Editorial Board of the Hospital Pharmacy in Canada Survey and Report felt that the value of the survey could be enhanced by creating a new survey that would capture the perspectives of front-line staff. Therefore, 2 new surveys were implemented in the 2011/2012 survey, one to be completed by hospital pharmacy technicians and one to be completed by front-line hospital pharmacists.

The primary objective of this article is to present the results of the survey of front-line pharmacists. The secondary objective is to compare the findings for staff pharmacists with those for pharmacy directors.

METHODS

Questionnaire Development

The supplemental survey used for this study was a descriptive, cross-sectional survey of front-line pharmacists focusing on current issues in pharmacy practice. Hospital pharmacy directors who attended an invitational conference organized by the Editorial Board of the Hospital Pharmacy in Canada Survey and Report were invited to identify important contemporary pharmacy practice issues that warranted the attention of the pharmacy profession in Canada. Two board members summarized the input provided and identified 30 key issues, which were subsequently categorized into 3 themes; advanced training and credentialling (9 items), structured practical experiential programs (SPEPs) for the training of pharmacy students (8 items), and other pharmacy practice issues (13 items). The 30 items were then used to build a survey tool to capture the perspectives of front-line pharmacists. For each item, a statement was developed, and respondents were invited to indicate their level of agreement using a 5-point Likert scale (strongly agree, agree, disagree, strongly disagree, not applicable). Respondents were also asked to provide demographic information, specifically province of practice, number of years in practice, and highest level of education or certification. No information was collected that could have been used to personally identify respondents.

An English version of the questionnaire was pretested with 4 front-line pharmacists to identify any needed clarifications and to estimate the time required to complete the survey. Minor changes were made following the pretest. The survey was then circulated to all Editorial Board members for further comments and approval. The questionnaire was translated into French and the translation reviewed by a French-speaking board member before final approval.

Survey Sample

A convenience sampling method was used. The Hospital Pharmacy in Canada Survey is distributed electronically to the directors of pharmacy in all Canadian hospitals with at least 50 acute care beds (n = 219 for the 2011/2012 survey). In an e-mail message inviting them to participate in the main survey, pharmacy directors were also asked to circulate an invitation to their front-line pharmacists, asking them to participate in the new supplemental survey of front-line pharmacists. The invitation included a hyperlink to the French- or English-language version of the survey. Instructions for potential respondents were attached to the e-mail. Potential respondents were informed that the responses provided would be anonymous and that the personal information collected was limited to province of practice, number of years in practice, and highest level of education. Respondents were told that it would take between 10 and 15 minutes to complete the questionnaire. Respondents were also informed that by completing and submitting their responses to the survey questions, they were giving consent for their responses to be combined with all other responses for the purpose of preparing a publication.

The project was carried out under the auspices of the Editorial Board of the Hospital Pharmacy in Canada Survey and Report, and the survey was not submitted to an institutional review board. Two reminders were sent to pharmacy directors asking them to complete the directors' survey and asking them to remind and encourage their staff pharmacists to complete the front-line pharmacists' survey.

Data Collection

A web-based version of both the English and French questionnaires was developed and tested for web functionality. The survey was accessible online using the web link for a 4-week period spanning July and August 2012. No password was required to access the survey.

Data Analysis

Responses were extracted from the web platform into a spreadsheet (Excel software, Microsoft, Seattle, Washington). Descriptive statistical methods were used to analyze the data.

RESULTS

Profile of Respondents

A total of 680 front-line pharmacists responded to the front-line survey. The total number of front-line pharmacists who received the invitation to participate from their pharmacy manager or director is unknown, so a response rate could not be calculated. However, the 680 respondents who responded to the survey represent about 12% of the total number of hospital pharmacists in Canada, according to the Canadian Pharmacists Association's estimate of 5600 hospital pharmacists in Canada at the time of the survey.[1] An examination of the data in Table 1 suggests that the proportion of respondents in each province, in each grouping of years of practice, and in each level of education is consistent with overall numbers of pharmacists and what is known about the hospital pharmacy workforce in Canada.[2]

Pharmacists' Practice Activities

Some questions were posed in the surveys for both front-line pharmacists and directors, to allow a comparison of the responses of these groups. Table 2 compares the responses of directors and front-line pharmacists to a question about the percentage of time that front-line pharmacists spend performing 5 different pharmacy activities: drug distribution, clinical activities, teaching, research, and administrative or non–patient care activities. Interestingly, front-line pharmacists and directors appeared to have somewhat different perceptions of the time spent performing certain activities. On average, the pharmacists estimated that they spent 17% of their time performing administrative and other non–patient care activities, whereas pharmacy directors estimated that pharmacists in their departments spent only 5% of their time performing those activities. Conversely, directors estimated that pharmacists spent 41% of their time performing drug distribution activities, whereas front-line pharmacists estimated that these activities took 29% of their time. For the other practice activities (clinical, teaching, and research) the estimates of pharmacists and directors were reasonably similar (Table 2).

Table 1. Demographic Characteristics of Respondents

Characteristic	No. (%) of Respondents
Province	
All	n = 680
British Columbia	112 (16)
Alberta	23 (3)
Saskatchewan	33 (5)
Manitoba	44 (6)
Ontario	194 (29)
Quebec	166 (24)
New Brunswick	52 (8)
New Scotia	45 (7)
Prince Edward Island	11 (2)
Time in practice as a pharmacist, years	n = 676
0–5	160 (24)
6–10	112 (17)
11–20	171 (25)
21–30	160 (24)
> 30	73 (11)
Highest level of educational training in the field of pharmacy	n = 677
BSc in pharmacy degree (or equivalent baccalaureate program)	268 (40)
Entry-level PharmD program	6 (1)
Hospital pharmacy residency program	175 (26)
Master's degree in hospital or clinical pharmacy	135 (20)
Postbaccalaureate PharmD program	63 (9)
Board certification by the US-based Board of Pharmacy Specialties	30 (4)

Table 2. Estimated Proportion of Pharmacist Time Spent Performing Various Activities

Activity	Estimated % of Time that Pharmacists Spend on Each Activity (Mean)	
	As Reported by Directors (*n* = 163)	As Reported by Front-Line Pharmacists (*n* = 680)
Drug distribution	41	29
Clinical	47	42
Teaching	6	8
Research	1	4
Administrative or other nonclinical	5	17

Pharmacy Practice Model

The survey presented definitions for 4 different pharmacy practice models (Table 3). Front-line pharmacists were asked which pharmacy practice model best described the one in which they were working, and which model they thought that their pharmacy department should strive to have in place 5 years in the future. Overall, a large percentage of respondents wanted their pharmacy to adopt a clinical practice–centred model (Table 4). Only 18% (119/680) of front-line pharmacists reported that they were currently practising in a clinical practice–centred model, but 62% (424/679) thought their organization should strive to have such a model in place by 5 years in the future. Although 60% (406/680) of respondents indicated that they were currently practising in a model that integrated drug distribution and clinical practice, only 28% (190/679) thought that their pharmacy should be striving to have such a model in place in 5 years. Only 1% (6/679) of front-line pharmacists thought that their pharmacy should be striving to have a drug distribution–centred model in place in 5 years. The percentage of respondents reporting that their pharmacy was currently operating under a drug distribution–centred model was higher among directors than among front-line pharmacists (20% [33/163] versus 9% [60/680]).

Adoption of Prescribing Rights

Respondents were asked about their plans to incorporate prescribing as a routine part of their pharmacy practice, with options of independent prescribing, dependent prescribing, or both. The survey stated the assumption that the appropriate regulatory framework would already be in place permitting them to prescribe. With respect to *independent prescribing*, 84% (570/676) of respondents reported that they would incorporate this type of prescribing into their practice for laboratory tests, 76% (512/676) to extend an existing prescription, 69% (466/676) to modify an existing prescription, and 31% (210/676) to prescribe new therapy. When asked about their willingness to incorporate *dependent prescribing* as a routine part of their practice, 51% (344/676) of respondents reported their intention to do so for prescribing laboratory tests, 51% (348/676) to extend an existing prescription, 62% (422/676) to modify an existing prescription, and 68% (459/676) for prescribing new therapy.

Table 3. Definitions of Pharmacy Practice Models in the 2011/2012 Hospital Pharmacy in Canada Survey

Model	Definition
Drug distribution–centred	Pharmacists largely function in a drug distribution role, with limited clinical services being provided. Clinical activities are largely limited to pharmacy interventions that occur as a result of drug order review in the central pharmacy.
Separate drug distribution and clinical practice	Pharmacists are divided into 2 groups. One group largely provides distributive services, while the second group largely functions in clinical roles. Those pharmacists who largely function in clinical roles have little or no distributive responsibilities, either in the central pharmacy or in satellite pharmacies.
Integrated clinical practice and drug distribution	Nearly all pharmacists have a balance of both distributive and clinical responsibilities. The model may include a balanced mix of both distributive and clinical responsibilities during each shift or a rotation through distributive and clinical shifts.
Clinical practice–centred	Nearly all pharmacists function largely in clinical roles, with less than 20% of their time spent in a distributive role. Pharmacy technicians and/or automation are largely responsible for distributive activities.

Table 4. Distribution of Pharmacist Practice under Each Pharmacy Practice Model

Model	Respondent Group; No. (%) of Respondents		
	Directors (*n* = 163)	Front-Line Pharmacists (*n* = 680)	Front-Line Pharmacist Preference for Practice in 5 years' time (*n* = 679)
Drug distribution–centred	33 (20)	60 (9)	6 (1)
Separate drug distribution and clinical practice	13 (8)	95 (14)	59 (9)
Integrated clinical practice and drug distribution	84 (51)	406 (60)	190 (28)
Clinical practice–centred	33 (20)	119 (18)	424 (62)

CSHP 2015 Initiative

When asked about their level of familiarity with the Canadian Society of Hospital Pharmacists' CSHP 2015 initiative, 35% (235/680) of respondents indicated that they were not at all familiar with the initiative, 43% (292/680) indicated that they were aware of the initiative but did not know much about it, 16% (110/680) reported that they were familiar with the initiative but had not been involved in implementing any of its goals, and only 6% (43/680) indicated that they were very familiar with it and had been involved in implementing one or more of its goals or objectives.

Advanced Education and Credentialling

Only 51% (346/679) of respondents agreed or strongly agreed with the statement that by 2015, all new hospital pharmacists should be required to have completed an accredited

Table 5. Views of Front-Line Pharmacists about Structured Practical Experiential Programs (SPEPs)

Statement	Response; No. (%) of Respondents				
	Strongly agree	Agree	Disagree disagree	Strongly	NA
The current model of providing SPEP to pharmacy students, as part of their undergraduate pharmacy program, is manageable (*n* = 667)	28 (4)	438 (66)	127 (19)	31 (5)	43 (6)
More pharmacy students, or longer periods of SPEP training, could be accommodated in our practice setting, using the existing experiential training model (*n* = 665)	9 (1)	122 (18)	353 (53)	139 (21)	42 (6)
In the current SPEP training model, pharmacy students are directly involved in delivering progressively more complex and more comprehensive care (*n* = 665)	36 (5)	405 (61)	159 (24)	18 (3)	47 (7)
In the current SPEP training model, pharmacy students are viewed as an asset because they are supporting the delivery of pharmacy services to our patients (*n* = 666)	25 (4)	309 (46)	264 (40)	33 (5)	35 (5)
By the end of their pharmacy program, I am comfortable that pharmacy graduates are capable of providing high-quality direct patient care (clinical) services (*n* = 664)	21 (3)	326 (49)	240 (36)	38 (6)	39 (6)
In the current training model for medical students, the medical students are directly involved in delivering progressively more complex and more comprehensive care (*n* = 662)	96 (15)	402 (61)	15 (2)	1 (<1)	148 (22)
In the current training model, medical students are viewed as an asset, because they are supporting the delivery of medical services to our patients (*n* = 661)	76 (11)	391 (59)	50 (8)	2 (<1)	142 (21)
By the end of their training program, I am comfortable that medical graduates are capable of providing high quality patient care (*n* = 663)	48 (7)	372 (56)	95 (14)	5 (1)	143 (22)
More pharmacy students, or longer periods of training, could be accommodated, but only if we change the existing model to one that is similar to the medical model (*n* = 661)	93 (14)	333 (50)	122 (18)	14 (2)	99 (15)

NA = not applicable.

hospital pharmacy residency program. However, 80% (544/678) agreed or strongly agreed that a hiring *preference* should be given to pharmacists who have completed an accredited residency program, and 66% (446/678) agreed or strongly agreed that a meaningful salary differential should be paid to individuals with a residency (or the MSc/residency in advanced pharmacotherapy that exists in Quebec). Eighty-seven percent (584/671) of respondents agreed or strongly agreed with the statement that Canada should develop a specialty accreditation program, similar to the Board of Pharmacy Specialties in the United States, and 83% (559/672) indicated that they would seriously consider pursuing specialty recognition if such programs were available in Canada. When asked whether scholarly activity should be recognized as part of the activities that pharmacists are expected to perform in their institutions, 74% (497/676) of respondents agreed or strongly agreed that it should be.

Structured Practical Experiential Programs

Although 70% (466/667) of respondents to this survey agreed or strongly agreed that the current model of SPEP training was manageable, 74% (492/665) disagreed or strongly disagreed with the statement that "more pharmacy students, or longer periods of SPEP training could be accommodated using the existing SPEP model" (Table 5). However, 64% (426/661) of respondents agreed or strongly agreed that more pharmacy students could be accommodated in their SPEP program if the training model were changed to one more like the medical SPEP model.

Roles and Responsibilities of Pharmacy Technicians

The results of this survey suggest that front-line pharmacists are supportive of the change toward regulation of pharmacy technicians (Table 6). Ninety-six percent (650/680) of front-line pharmacists who responded agreed or strongly agreed that pharmacy technicians should be responsible and accountable for all drug distribution activities that occur after a pharmacist has reviewed the prescription and authorized it to be filled.

Miscellaneous Pharmacy Practice Issues

Ninety-seven percent (653/676) of front-line pharmacists who responded to the survey agreed or strongly agreed that patients admitted to an acute care hospital have the right to receive high-quality drug therapy, regardless of the day or time (Table 7). Sixty-four percent (434/679) of respondents agreed or strongly agreed that many acute care hospitals have the volume and acuity of patients to justify having pharmacists available on-site for extended hours, but only 57% (384/676) were prepared to rotate through a reasonable and equitable schedule of evening, night, and weekend shifts to provide such extended hours of service. Ninety-nine percent (672/676) of respondents agreed or strongly agreed that pharmacy services should be evidence-based, and 95% (641/675) agreed or strongly agreed that evidence-based pharmacy practice expectations should be in place within their hospital. Ninety-three percent (628/678) of respondents agreed or strongly agreed that pharmacists should be expected to adhere to established practice expectations and should be required to document and justify deviances from those expectations. Eighty-nine percent (600/675) of respondents agreed or strongly agreed that pharmacists should be evaluated regularly to ensure that practice and documentation expectations are being met.

DISCUSSION

The 2011/2012 cycle was the first time that the Hospital Pharmacy in Canada Survey included a supplemental survey of front-line pharmacists as part of its biennial survey of hospital pharmacy practice in Canada.

Interestingly, front-line pharmacists provided somewhat different estimations of the time spent performing various pharmacy activities from those provided by pharmacy directors (Table 2). The terms used to describe practice activities were the same in both surveys, but no definitions were provided, which might have affected the responses provided by individuals in the 2 groups. However, the terms used are ones with which both pharmacists and pharmacy directors are very familiar, so it is unlikely that the lack of detailed definitions had a significant effect on the responses. Differences also existed between pharmacists and directors with respect to perceptions about the pharmacy practice model being used within their respective hospitals (Table 4). These examples highlight the importance of surveying both directors/managers and front-line pharmacists, to gain a better understanding of the viewpoint of both groups.

CSHP 2015 Initiative

Only 6% of front-line pharmacists who responded to the survey indicated that they were very familiar with the CSHP 2015 initiative and had been involved in implementing one or more of its goals or objectives. This result was surprising, given the effort and resources that the CSHP has invested into promoting this project. In addition to CSHP's efforts, the *Hospital Pharmacy in Canada Report* has included a chapter on progress with CSHP 2015 in each of its reports since 2007/2008. The disappointing level of awareness and involvement in CSHP 2015 suggests that many front-line pharmacists are not aware of the work being done on their behalf by their professional associations and that many pharmacists do not avail themselves of the pharmacy practice information that appears in the *Hospital Pharmacy in Canada Report*. Surveying front-line pharmacists on a regular basis may contribute to better awareness of key pharmacy practice issues.

Advanced Education and Credentialling

In keeping with a number of Canadian initiatives that are being undertaken provincially and nationally to increase the number of residency positions and to explore the need for

Table 6. Views of Front-Line Pharmacists about Roles and Accountabilities of Pharmacists and Technicians

Statement	Response; No. (%) of Respondents							
	Strongly agree		Agree		Disagree		Strongly disagree	
Once a pharmacist has reviewed and released a prescription, technicians should be responsible for drug distribution activities (*n* = 680)	348	(51)	295	(43)	34	(5)	3	(<1)
With regard to drug distribution activities, pharmacy technicians should be directly responsible and accountable for their actions, or their failure to act (*n* = 680)	364	(54)	286	(42)	28	(4)	2	(<1)
With regard to drug distribution activities, pharmacists should be directly responsible and accountable for their actions, or their failure to act (*n* = 677)	395	(58)	251	(37)	28	(4)	3	(<1)
With regard to direct patient care (clinical) activities, pharmacists should be responsible and accountable for their actions, or their failure to act (*n* = 679)	242	(36)	358	(53)	77	(11)	2	(<1)

Table 7. Views of Front-Line Pharmacists about Other Practice Issues

Statement	Response; No. (%) of Respondents							
	Strongly agree		Agree		Disagree		Strongly disagree	
Patients admitted to an acute care hospital have the right to receive high-quality drug therapy, regardless of the day or time (*n* = 676)	347	(51)	306	(45)	19	(3)	4	(1)
Many acute care hospitals have the volume and acuity of patients to justify having "clinical pharmacists" on-site for extended hours (*n* = 679)	98	(14)	336	(49)	221	(33)	24	(4)
I would be prepared to rotate through a reasonable and equitable schedule of evening, night, and weekend shifts (*n* = 676)	65	(10)	319	(47)	232	(34)	60	(9)
Patients should receive direct patient care (clinical) pharmacy services that are evidence-based and that have been shown to improve patient outcomes (*n* = 676)	379	(56)	293	(43)	4	(1)	0	(0)
Pharmacy practice expectations (an evidence-based prioritization) should be in place within my facility for patients with similar conditions or needs (*n* = 675)	242	(36)	399	(59)	34	(5)	0	(0)
Pharmacists should be expected to adhere to the established practice expectations and should be required to document and justify deviances (*n* = 678)	212	(31)	416	(61)	49	(7)	1	(<1)
Pharmacists should be evaluated on a regular basis to ensure that established practice and documentation expectations are being met (*n* = 675)	166	(25)	434	(64)	72	(11)	3	(<1)
Medication reconciliation should be a high priority for pharmacists to perform on admission, transfer of care, and discharge (*n* = 677)	193	(29)	384	(57)	88	(13)	12	(2)
Pharmacokinetic consultation services should be a high priority for pharmacists to perform for any patient receiving drugs that the lab can measure in serum (*n* = 678)	226	(33)	377	(56)	72	(11)	3	(<1)

specialty accreditation programs, respondents agreed that a hiring preference should be given to pharmacists who have completed an accredited residency program and felt that Canada should develop a specialty accreditation program.

Structured Practical Experiential Programs

The increases in enrolment that occurred in most faculties of pharmacy at the time of the pharmacist shortages in the 2000s, along with the increased experiential training requirements associated with introduction of entry-to-practice Doctor of Pharmacy (PharmD) programs, have created an increased demand for experiential placements in both hospital and community practice settings. The findings in the survey section on SPEP training and models should be recognized and addressed as faculties transition their undergraduate programs from bachelor-level (e.g., BSc) programs to PharmD programs. Hospital pharmacy departments should be seen as important stakeholders

that need to be actively consulted during the planning of new and expanded SPEP programs. Hospital pharmacy managers should familiarize themselves with new and innovative SPEP models that would facilitate the ability to offer more extensive SPEP training.[3]

Roles and Responsibilities of Pharmacy Technicians

Among the many changes that are occurring in pharmacy practice, the regulation of pharmacy technicians is perhaps the one that has been moving ahead most quickly in most provinces. With the exception of Quebec, all provincial governments have either introduced technician regulation or are planning to do so. Pharmacist respondents were very supportive of this change in regulation of pharmacy technicians.

Other Pharmacy Practice Issues

A majority (57%) of the front-line pharmacists who responded to the survey were prepared to rotate through a reasonable and equitable schedule of evening, night, and weekend shifts. However, data from the corresponding survey of pharmacy directors indicated that, on average, hospital pharmacies are open for only 78 of the 168 hours in each week.[2] In other words, on average, pharmacists are currently available on-site to assist with drug therapy issues only 46% of the time. Only 3 of the directors responding to the 2011/2012 survey reported that pharmacists were available on-site at their hospitals for 24 hours each day.[2] It may be time for hospital pharmacies to consider expanding their hours of operation. If the pharmacy profession believes that its drug therapy expertise is critical to the provision of high-quality drug therapy, why do the hours of operation of hospital pharmacies suggest that the on-site presence of pharmacists is not needed on evenings, weekends, and holidays?

A high proportion of respondents believed that pharmacy practice expectations should be in place and should be followed, unless there are documented reasons for deviation from the guidelines.

Limitations

This survey had a number of limitations. In contrast to the Hospital Pharmacy in Canada Survey, the supplemental survey of front-line pharmacists was designed to be completed by front-line respondents in a short period of time, without the need to gather data from department records. The results are qualitative in nature and are intended to provide insights into the perceptions and beliefs of front-line staff on a number of pharmacy practice issues. The design of this survey does not permit any predictive statistical analysis to be applied to the results.

A convenience sampling method was used. As previously mentioned, the proportion of respondents in each province, in each grouping of years of practice, and in each level of education was consistent with the overall population distribution of pharmacists in Canada and with what we know about the Canadian hospital pharmacy workforce.[2] However, the distribution of respondents to the front-line pharmacists' survey differed somewhat from the distribution of respondents in the directors' survey. Therefore, the current results cannot be extrapolated to all hospital pharmacists in Canada. Nonetheless, the survey results provide a base from which further work can be carried out. In surveys such as this one, there is the possibility of social desirability bias, whereby respondents may be tempted to answer questions in a manner that will be viewed favourably by others. Although the possibility of such bias cannot be excluded, the responses were anonymous and were submitted individually, so the possibility of substantial social desirability bias was minimized.

CONCLUSION

The Hospital Pharmacy in Canada Survey for 2011/2012 provides an interesting window on the perceptions of front-line pharmacists about a range of pharmacy practice activities. Future iterations of this survey should provide additional clarity and understanding of the beliefs and perceptions of this group of pharmacy practitioners.

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Competing interests: Kevin Hall served as a managing editor and Jean-François Bussières as an editor for the 2011/2012 Hospital Pharmacy in Canada Survey and Report. They each received an honorarium from Eli Lilly Canada for their work in designing the survey, interpreting the results, and writing the report. In addition, Eli Lilly Canada supports the survey through maintenance of the survey website. The managing editors and the Editorial Board for the Hospital Pharmacy in Canada Survey and Report have complete independence with respect to survey design, data analysis, and writing of the report. Kevin Hall has received honoraria from Pharmaceutical Partners of Canada on 2 occasions in the past 36 months for presentations given at the Banff Seminar of the Canadian Society of Hospital Pharmacists, one dealing with sterile compounding practices and the other dealing with the future vision for hospital pharmacy practice.

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