

Assessment of Canadian Hospital Pharmacists' Job Satisfaction and Impact of Clinical Pharmacy Key Performance Indicators

Mia Losier, Douglas Doucette, Olavo Fernandes, Sarah Mulrooney, Kent Toombs, and Heather Naylor

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ABSTRACT

Background: The clinical pharmacy key performance indicators (cpKPIs) are quantifiable measures of quality to advance clinical pharmacy practice and improve patient care. Although when delivered in combination they have been linked to important patient outcomes, no data are available relating to their impact on hospital pharmacists' job satisfaction.

Objectives: To determine the level of job satisfaction among Canadian hospital pharmacists and whether participation in cpKPI activities contributes to hospital pharmacists' job satisfaction.

Methods: A mixed-methods study was conducted. An electronic survey, consisting of 36 questions, was developed using a validated pharmacist job satisfaction tool and was then distributed nationally to hospital pharmacists between January 30 and March 14, 2019. Focus groups were conducted with pharmacists at Horizon Health Network in New Brunswick to further explore activities that contribute to their job satisfaction.

Results: Overall, 284 pharmacists from 9 provinces completed the electronic survey. The mean job satisfaction score among hospital pharmacists was 3.93 (standard deviation 0.85) out of 5. Job satisfaction scores increased with increases in self-identified time spent performing cpKPI activities ($r = 0.148, p = 0.014$). Pharmacist satisfaction increased with time spent performing medication reconciliation on admission ($\beta = 0.140, p = 0.032$) and decreased with time spent identifying and resolving drug therapy problems ($\beta = -0.153, p = 0.030$). Three focus groups, comprising a total of 13 pharmacists, were conducted; during these sessions, some cpKPIs were highlighted favourably, although pharmacists described some ambivalence toward patient education. The importance of having an impact and receiving appreciation was highlighted.

Conclusions: Canadian hospital pharmacists are generally satisfied with their jobs, and participation in cpKPI activities was found to be positively associated with hospital pharmacists' job satisfaction.

Keywords: clinical pharmacy key performance indicators, job satisfaction, medication reconciliation, patient education, drug therapy problems

RÉSUMÉ

Contexte : Les indicateurs clés de performance de la pharmacie clinique (ICPpc) sont des mesures quantifiables de la qualité qui permettent de faire avancer la pratique en pharmacie et d'améliorer les soins du patient. Bien qu'ils aient été associés à des résultats importants pour les patients lorsqu'ils sont utilisés conjointement, aucune donnée concernant leur impact sur la satisfaction professionnelle des pharmaciens d'hôpitaux n'est disponible.

Objectifs : Déterminer le degré de satisfaction professionnelle des pharmaciens d'hôpitaux canadiens et noter si la participation aux activités liées aux ICPpc y contribue.

Méthodes : Une étude à méthodologie mixte a été menée. À l'aide d'un outil validé mesurant la satisfaction professionnelle du pharmacien, les investigateurs ont préparé une enquête électronique comprenant 36 questions, qui a été distribuée à l'échelle nationale aux pharmaciens d'hôpitaux entre le 30 janvier et le 14 mars 2019. Des groupes de travail comprenant des pharmaciens au Réseau de santé Horizon au Nouveau-Brunswick ont exploré plus en profondeur les activités qui contribuaient à leur satisfaction professionnelle.

Résultats : Globalement, 284 pharmaciens de neuf provinces ont répondu à l'enquête électronique. Le score moyen de satisfaction des pharmaciens d'hôpitaux était de 3,93 (écart type 0,85) sur 5. Les scores relatifs à la satisfaction professionnelle augmentaient lorsque le temps passé à faire des activités liées aux ICPpc augmentait ($r = 0,148, p = 0,014$). La satisfaction du pharmacien augmentait quand il passait du temps à faire le bilan comparatif des médicaments au moment de l'admission ($\beta = 0,140, p = 0,032$) et diminuait quand il devait déterminer et résoudre des problèmes de pharmacothérapie ($\beta = -0,153, p = 0,030$). Trois groupes de discussion comprenant 13 pharmaciens au total se sont penchés sur la question. Pendant leurs séances, ils ont mis en valeur certains ICPpc, bien que les pharmaciens aient décrit des ambivalences concernant les instructions données au patient. Ils ont aussi souligné l'importance d'avoir un effet positif et d'être apprécié.

Conclusions : Les pharmaciens d'hôpitaux canadiens sont généralement satisfaits de leur travail et la participation à des activités liées aux ICPpc est associée à leur satisfaction professionnelle.

Mots-clés : indicateurs de performance clés de la pharmacie hospitalière, satisfaction professionnelle, bilan comparatif des médicaments, éducation des patients, problèmes de pharmacothérapie

INTRODUCTION

Low job satisfaction among employees has been associated with lower overall life satisfaction, lower mental well-being, and poorer physical health.^{1,2} In addition, job satisfaction of health care workers has been linked to their patients' satisfaction with care provided.³ Poor job satisfaction has also been linked with employee absenteeism⁴ and, among pharmacists, intentions to quit the profession.⁵ Factors associated with increased job satisfaction of hospital pharmacists, as reported in the literature, include perceived importance of their job to patients, perceived skill utilization, personal allocation of time, increased time spent interacting with patients, female sex, and older age.⁵⁻⁹ The extent of involvement in clinical activities—such as drug therapy monitoring, consulting with prescribers, and participation in medical team rounds—has also been positively linked to hospital pharmacists' job satisfaction in several studies in both the United States and Asia.^{8,10-12} Job satisfaction is considered an important contributing factor to employee engagement.¹³

Key performance indicators are used in various industries as quantifiable measures of success.^{14,15} The clinical pharmacy key performance indicators (cpKPIs) were developed in 2013 by a Canadian working group,¹⁵ with the intent of having clinical pharmacists focus their patient care efforts on processes of care that have been demonstrated to affect important patient outcomes, such as hospital readmissions.¹⁶ The 8 cpKPI activities are performing medication reconciliation on admission (including best possible medication history), participating in interprofessional patient care rounds, delivering pharmaceutical care, identifying and resolving drug therapy problems (DTPs), providing patient medication education during the hospital stay, providing patient medication education at discharge, performing medication reconciliation at discharge, and delivering all activities as a bundle of proactive direct patient care.¹⁵ The cpKPIs have been endorsed by the Canadian Society of Hospital Pharmacists (CSHP),¹⁷ and the extent of their implementation into practice has been studied.^{18,19}

Despite the link of cpKPIs with relevant patient outcomes,¹⁵ it remains to be determined how they are related to pharmacists' job satisfaction. The current study aimed to examine the level of job satisfaction among Canadian hospital pharmacists, to determine whether increased time spent performing cpKPI activities positively or negatively contributes to Canadian hospital pharmacists' job satisfaction, and to gather Canadian hospital pharmacists' perspectives on activities that contribute to their job satisfaction and whether this includes the cpKPI activities. Secondary objectives of this study were to determine whether Canadian hospital pharmacists' job satisfaction and cpKPI participation are further linked with gender, age, highest academic degree held, or number of hospital beds.

METHODS

An English-language survey, consisting of 36 questions, was developed using Opinio survey software (ObjectPlanet Inc) and distributed to licensed Canadian hospital pharmacists between January 30 and March 14, 2019. A survey invitation with link to the online survey was sent by email by the principal investigator (M.L.) to all pharmacists within Horizon Health Network, which is the largest of 2 health authorities in New Brunswick and the second-largest in Atlantic Canada. The survey invitation was also distributed through CSHP (specifically through the organization's provincial branches, e-newsletter, and Pharmacy Specialty Networks). Members of the CSHP cpKPI Collaborative were invited to distribute the email invitation to pharmacists within their respective health care institutions, in order to reach non-CSHP members. Survey questions covering demographic characteristics were used to ensure that potential participants met the inclusion criteria.

Job satisfaction was measured using a validated pharmacist job satisfaction tool originally developed by Barnett and Kimberlin.²⁰ This general pharmacist job satisfaction tool consists of 4 facet-free statements, 2 with positive wording and 2 with negative wording, with responses on a 5-point Likert scale.²⁰ Facet-free items measure an individual's global satisfaction with his or her job without referring to any particular aspect of the work; responses to this type of question may be used to draw conclusions about overall job satisfaction.²⁰ For questions relating to cpKPIs, the definition of each cpKPI was provided within the survey, using descriptions from the CSHP's cpKPI *Knowledge Mobilization Guide*.¹⁷ For each cpKPI, participants were asked to report the proportion of patients under their care for whom they provided care related to the cpKPI, as well as the percentage of time spent performing that care in a typical week. Questions were adapted in part from a CSHP member survey conducted in fall 2017,¹⁸ to allow comparisons with this survey.

Focus groups were conducted with licensed pharmacists at 3 sites within Horizon Health Network. All staff pharmacists were eligible to participate. Practice leader pharmacists, pharmacy managers, and pharmacy supervisors were excluded from participation to avoid perceived differences in authority and status. An email invitation was sent to eligible pharmacists at each site. Given the potentially sensitive topic of discussion (i.e., job satisfaction), the focus groups were conducted at a location outside the pharmacy department, to improve the likelihood that participants would contribute freely. The sessions were approximately 60 minutes in length and were facilitated by the principal investigator, who at the time of data collection was a pharmacy resident. The research objectives were reviewed with the participants at the start of each focus group. Field notes were completed by the principal investigator after each focus group to record any additional

thoughts regarding the session. Given the confidential nature of this research, focus group transcripts were not returned to participants for review.

Several measures were taken to maintain the trustworthiness of the research findings. To test the focus group guide, a pilot focus group was completed with a group of ineligible pharmacists (i.e., pharmacists in leadership roles). An employee of Horizon Health Network's Research Services Department was in attendance for both the pilot focus group and the first focus group, to provide further feedback and insight. The principal investigator had established relationships with some of the participants at the site where they were completing their residency; therefore, it was important to discuss observations with a neutral party (the Research Services employee) for the focus group conducted at that site.

This study was conducted in accordance with ethical standards and received approval from Horizon Health Network's Research Ethics Board (2018-2695). Survey participants were asked to confirm their consent before survey initiation. Focus group participants provided written informed consent to participate.

Data Analysis

Descriptive statistics were used to summarize all study variables. Job satisfaction was calculated as the average of the 4 items after reverse scoring of the negatively worded items, with any score above 3 indicating satisfaction. A bivariate correlation analysis was conducted to measure the association between total time spent performing cpKPI activities and pharmacists' job satisfaction. Lastly, linear hierarchical regression analysis was used to determine which cpKPI activities best predicted job satisfaction. Variance associated with demographic (i.e., gender, age, education) and site (i.e., number of hospital beds as a proxy for hospital size) characteristics was controlled in step 1 of the regression analysis, and time spent performing each of the 7 cpKPI activities was then entered in step 2. The proactive direct patient care bundle was not included in the regression analysis because, by definition, it encompasses all other cpKPIs. The required sample size for the study was estimated to be 104 using the medium Cohen f^2 effect size of 0.15, α of 0.05, power of 80%, 7 tested predictors, and 11 total predictors.

Qualitative data were explored by means of thematic analysis. All focus groups were recorded and transcribed verbatim by the principal investigator. Transcripts were then analyzed independently by 3 members of the research team (M.L., S.M., H.N.) through application of a systematic analytic process of coding for theme development, with the help of Microsoft Word 2011 (Microsoft Corporation) and NVivo 12 for Windows (QSR International). Relationships between codes were identified, which led to generation of common themes illustrating the participants' experiences. Field notes were also analyzed as supporting data for the transcriptions.

RESULTS

Quantitative Results

In total, 284 pharmacists from across Canada completed the survey. Most respondents were female (76.4%, 217/284), and the mean age was 40 years (standard deviation [SD] 10.4 years). Respondents consisted mainly of staff pharmacists (i.e., pharmacists not in a leadership role) (74.6%, 212/284). Approximately half (52.5%, 149/284) of the respondents had completed either an Accredited Canadian Pharmacy Residency (ACPR) or a postgraduate PharmD, in addition to their entry-to-practice degree. The demographic characteristics of participants are fully reported in Table 1.

TABLE 1. Characteristics of Survey Participants

Characteristic	No. (%) of Participants ^a (<i>n</i> = 284)
Age (years) (mean ± SD)	40.0 ± 10.4
Gender	
Female	217 (76.4)
Male	65 (22.9)
Other	2 (0.7)
Highest level of education achieved	
Bachelor of Science in Pharmacy or entry-level PharmD	135 (47.5)
Accredited Canadian Pharmacy Residency program or postgraduate PharmD	149 (52.5)
Time in practice (years) (mean ± SD)	15.2 ± 10.9
Size of institution (no. of beds) (mean ± SD)	345 ± 238
Hospital type (<i>n</i> = 282)	
Teaching	192 (68.1)
Nonteaching	77 (27.3)
Pediatric	13 (4.6)
Province of pharmacy licensure	
Alberta	27 (9.5)
British Columbia	27 (9.5)
Manitoba	20 (7.0)
New Brunswick	35 (12.3)
Newfoundland and Labrador	15 (5.3)
Nova Scotia	44 (15.5)
Ontario	102 (35.9)
Prince Edward Island	4 (1.4)
Saskatchewan	10 (3.5)
Primary role	
Pharmacy resident	7 (2.5)
Staff pharmacist	212 (74.6)
Practice leader/coordinator	38 (13.4)
Pharmacy supervisor/coordinator	8 (2.8)
Pharmacy manager	19 (6.7)

SD = standard deviation.

^aExcept where indicated otherwise.

Mean job satisfaction was 3.93 (SD 0.85) out of 5, which indicates that pharmacists were generally satisfied in their jobs.

Correlation analysis revealed a significant relationship between pharmacists' job satisfaction and total self-reported time spent performing cpKPI activities, with job satisfaction increasing as the time spent performing these activities increased ($r = 0.148, p = 0.014$). Two of the cpKPIs were found to have statistically significant relationships with job satisfaction in the regression analysis, which controlled for various demographic and site characteristics. Pharmacists' job satisfaction increased with time spent performing medication reconciliation on admission ($\beta = 0.140, p = 0.032$) (Table 2). However, pharmacists' job satisfaction decreased as the time spent identifying and resolving DTPs increased ($\beta = -0.153, p = 0.030$) (Table 2). On average, respondents reported spending the largest proportion of their time identifying and resolving DTPs (Table 3). The average percentage of time spent performing each of the cpKPI activities and the percentage of patients under the pharmacists' care who received each type of care are reported in Table 3.

Male gender ($\beta = 0.150, p = 0.014$) and larger hospital size ($\beta = 0.151, p = 0.019$) were significant predictors of job satisfaction. No significant relationships were found between hospital pharmacists' job satisfaction and completion of a higher academic degree or age.

Qualitative Results

Three focus groups were conducted between January and March 2019. A total of 13 pharmacists participated, giving

a response rate of 22% (13/59). Each focus group contained between 3 and 6 participants. Seven major themes were identified from the data: enjoyment of cpKPI activities, having an impact, supportive interprofessional team, ambivalence, sources of job dissatisfaction, pharmacists as medication experts, and community versus hospital pharmacy practice.

Enjoyment of cpKPI Activities

Pharmacists in all of the focus group discussions mentioned several cpKPI activities in a favourable manner, including medication reconciliation, participation in interprofessional patient care rounds, and development of pharmaceutical care plans. One pharmacist described interprofessional patient care rounds favourably by stating they enjoyed "influencing patient care from the start so at the bedside ... being part of the medical team" (Participant A5). Another highlighted some benefits of medication reconciliation, saying that this activity "gives you that doorway to introduce yourself and to review their [i.e., the patient's] medications and explain what your role is and then that way, even if you're not going to be actively following the patient the whole time, they also know that there is a pharmacist available and it can open that opportunity for them to also reach out or to ask or seek the pharmacist if required" (Participant B2).

Having an Impact

Participants highlighted the importance of feeling like they are having an impact through their work: "I really like it when I feel like I've actually done something that is helpful" (Participant C3).

TABLE 2. Regression Analysis Predicting Job Satisfaction from Demographic Characteristics, Hospital Size (as Number of Beds), and Time Spent Performing Clinical Pharmacy Key Performance Indicator Activities

Model	Variable	Standardized β Coefficient	p Value
Step 1: $n = 262$ $R = 0.226$ $R^2 = 0.051$ Adjusted $R^2 = 0.036$ $F(4,257) = 3.5, p = 0.009$	Gender (female = 1, male = 2)	0.134	0.030
	Age	0.021	0.74
	Education	0.014	0.83
	No. of hospital beds	0.183	0.004
Step 2: $n = 262$ $R = 0.351$ $R^2 = 0.123$ Adjusted $R^2 = 0.085$ $F(11,250) = 3.2, p < 0.001$	Gender (female = 1, male = 2)	0.150	0.014
	Age	0.043	0.48
	Education	-0.011	0.87
	No. of hospital beds	0.151	0.019
	Medication reconciliation on admission	0.140	0.032
	Participation in interprofessional patient care rounds	0.124	0.08
	Completion of pharmaceutical care plan	0.078	0.29
	Identification and resolution of drug therapy problems	-0.153	0.030
	Patient education during hospital stay	0.111	0.17
	Patient education at discharge	-0.011	0.90
Medication reconciliation at discharge	0.044	0.56	

TABLE 3. Breakdown of Responses Relating to Clinical Pharmacy Key Performance Indicators (cpKPIs)

cpKPI Activity	Mean Time Spent (%)	Proportion of Patients Receiving cpKPI Care; % of Respondents ^a				
		None	1%–25%	26%–50%	51%–75%	76%–100%
Medication reconciliation on admission	17.5	19.1	23.0	11.7	9.9	36.4
Participation in interprofessional patient care rounds	18.6	20.5	17.3	12.7	11.3	38.2
Completion of pharmaceutical care plan	25.5	13.8	25.4	15.5	16.6	28.6
Identification and resolution of drug therapy problems	32.0	3.5	13.1	19.1	23.0	41.3
Patient education during hospital stay	10.1	13.5	58.0	14.9	8.2	5.3
Patient education at discharge	7.1	28.6	50.2	9.5	5.3	6.4
Medication reconciliation at discharge	7.2	35.0	31.1	8.1	12.7	13.1
Patient care bundle	NA	34.2	24.9	12.1	11.4	17.4

NA = not applicable.

^aData are shown as percentage of all respondents who reported provision of care related to each cpKPI to various proportions of patients under their responsibility. As such, under this spanner heading, the 5 values in each row sum to 100%.

Supportive Interprofessional Team

Participants described the importance of being supported within their work environment. In particular, they highlighted the importance of being part of an interprofessional team and having their input valued within this team: “It’s always a good feeling when one of your recommendations is accepted” (Participant B2). Receiving appreciation for their work both from patients and from other colleagues was also highlighted: “And I think there’s a real appreciation here for pharmacy too from other disciplines ... and that helps with the satisfaction” (Participant A4).

Participants also described patient interactions favourably: “The patient relationships that you form ... you get to know the patients really well and they ask about your family and you know their family and those kind of things and just the relationship you make with them” (Participant A4).

Participants stressed the importance of a supportive pharmacy team, which included pharmacy colleagues with whom to collaborate in different specialty areas, as well as supportive management. The expanded scope of pharmacy technicians was also discussed favourably, as it allowed pharmacists to further focus their patient care efforts.

Ambivalence

Participants shared contradictory opinions toward both patient education and documentation activities. Some pharmacists described enjoying patient education for reasons that included increasing patient understanding: “I think counseling on discharge is a big one for us because often there’s a lot of medications involved and a lot of changes and if you’re able to provide clarity for them then, it’s not confusing when they’re going home” (Participant A5). Pharmacists also valued the appreciation they received from patients when

providing education: “I think patients ... especially if there are multiple changes ... they appreciate the overview because so much happens in hospital” (Participant B2).

However, other participants described education less favourably, for example, because they were unsure of the impact that the education was having: “You get that glazed look where you don’t know if what you’re trying to share is having any impact” (Participant C2). One pharmacist admitted feeling guilty about saying that patient education was not the favourite part of their job: “I know the education part should be what I should be saying [for most enjoyed patient care activity] but it’s not that I don’t enjoy it, it’s just maybe not my top thing” (Participant C1).

Contradictory opinions also existed about documentation. Participants described a large time commitment required for proper documentation; however, some pharmacists did highlight the usefulness of good documentation.

Sources of Job Dissatisfaction

Participants described several work activities that they did not enjoy doing or felt were not a good use of their time or skill set, including dealing with medication coverage issues. Such issues often had associated paperwork. Pharmacists also described dispensary and order entry tasks less favourably. Other negative job factors described in the focus groups included duplication of work (e.g., redoing work that has been done improperly), technical and clerical tasks (e.g., triaging phone calls), and lack of time in the workplace to complete all the desired patient care activities.

Pharmacists as Medication Experts

The concept of pharmacists as medication experts was well described within the focus groups. Participants described the medication expertise of pharmacists and their

ability to answer drug information questions as strengths of hospital pharmacists.

Community versus Hospital Pharmacy Practice

A common theme arising within focus group discussions was the perception that hospital pharmacy practice had many benefits over community pharmacy practice. Pharmacists described feeling fortunate for their careers in the hospital, which allowed them to practise to their full scope: “I will say making the transition for me from community to hospital has made a difference in my job satisfaction and like the fulfilment that I get from work. Not to say that I didn’t enjoy community because there’s pros and cons of course to every avenue. I just feel like I’m able to use my skill set and my training more effectively in the hospital setting than I felt like I was in [the] community” (Participant B2).

DISCUSSION

Pharmacists in this study reported higher job satisfaction (3.93 out of 5) than hospital pharmacists in previously published international studies, in which job satisfaction scores, calculated with the same validated job satisfaction tool, ranged from 2.9 to 3.62 (specifically, 2.9 in a Japanese study published in 1998; 3.0 in a Hong Kong study published in 2011; 3.43 in a US study published in 1996; and 3.62 in an Australian study published in 2011).^{8,10,11,21} In our study, job satisfaction increased with more self-reported time spent performing cpKPI activities, which aligns with previous literature showing similar associations between time spent performing clinical pharmacy activities and job satisfaction.^{8,12} Of note, the previous job satisfaction studies were published between 1996 and 2011. The role of the hospital pharmacist has progressed significantly since the first of these studies was published, with advanced pharmacy practice roles leading to more time spent on clinical activities and less time performing traditional drug distribution activities.²² We hypothesize that this shift may explain the increased job satisfaction rate reported by Canadian hospital pharmacists in our study.

Job satisfaction was found to increase with increasing time spent performing medication reconciliation on admission. In the focus group discussions, participants described this activity favourably, as it was the doorway to establishing a relationship with the patient. Previous literature has also shown an association between patient interaction activities and increased pharmacist job satisfaction,⁵ which offers a potential explanation for the association that we found between time spent performing medication reconciliation and job satisfaction.

The finding of decreased job satisfaction with increased time spent identifying and resolving DTPs was surprising.

Pharmacists who spend more time identifying and resolving DTPs may spend less time interacting with patients, which might account for this negative correlation with job satisfaction. A possible explanation for decreased patient contact could be that these responses reflect pharmacists who work primarily in the dispensary setting, where a negative association with job satisfaction has been previously reported in the literature,²¹ or in non-direct patient care, where patient interaction would be more limited. Given that pharmacists reported spending the largest proportion of their time identifying and resolving DTPs, the negative association found in this study certainly warrants further investigation, and there may be some benefit to exploring further advances in automation to reduce time spent on this activity.

The ambivalence toward patient education described during the focus group discussions was also surprising. Despite providing an opportunity for patient interaction, patient education was not found to have a significant relationship with job satisfaction in the regression analysis. Previous literature has also presented conflicting findings regarding pharmacist involvement in patient education and its relation with job satisfaction.^{10,11} Implementation of patient education remains low, with few respondents reporting the provision of education for 76%–100% of their patients, both during the hospital stay (5.3%) and at discharge (6.4%), a finding echoed in previous cpKPI implementation surveys.^{18,19} Although ambivalence in focus groups may not necessarily be associated with job dissatisfaction, patient education represents 2 of the 8 cpKPIs, and this ambivalence coupled with low implementation cannot be overlooked. Facilitators of cpKPI implementation that have been reported in the literature include learning about the cpKPI initiative and seeing the benefit of the cpKPIs.²³ Although it is well documented that patients benefit from education provided by a pharmacist,¹⁶ pharmacists in the focus group discussions identified uncertainties about the true impact of their educational efforts. Given that perceived job importance to patients is an important contributor to job satisfaction,⁵ further education for pharmacists describing the benefits of patient education may therefore aid with both implementation and pharmacist job satisfaction in the provision of patient education.

The strengths of this study included it being the first to explore job satisfaction among Canadian hospital pharmacists and the first to explore the impact of participation in cpKPI activities on hospital pharmacists’ job satisfaction. A validated pharmacist job satisfaction tool was used, which allowed for comparisons with previously published studies. The survey was distributed nationally, and responses were collected from across the country. The distribution of responses by province was similar to that seen in the 2017 CSHP member survey and included a higher proportion of staff pharmacists than did the 2017 survey,¹⁸ suggesting

that our study encompassed a representative sample of front-line hospital pharmacists. Finally, this study's mixed methodology allowed for a more complete picture of hospital pharmacists' job satisfaction in relation to participation in cpKPI activities.

The limitations of this survey included the risk of response-related bias. Given the potential overlap between the primary research institution and the various CSHP distribution channels, as well as the unknown number of non-CSHP members reached, a denominator could not be determined and a response rate was therefore not calculated. However, using the total number of hospital pharmacists in Canada when this survey was distributed, the response rate might have been as low as 5% (284/6297).²⁴ As well, although an effort was made to reach pharmacists not belonging to CSHP, it is likely that most respondents were CSHP members (because the CSHP was one of the primary distribution channels), and levels of job satisfaction among members may not be representative of job satisfaction among nonmembers. The specifics of participants' job descriptions (percentage of dispensary versus clinical time) were also not explored. Survey and focus group responses may also have been limited because the survey tool and discussion guide were available only in English, and hospital pharmacists whose preferred language is not English may have been excluded. In addition, focus group responses may not have fully captured the perspectives of hospital pharmacists at smaller sites, given that the focus groups were completed at the 3 largest sites within Horizon Health Network (which were the most convenient sites for participant recruitment).

CONCLUSION

This study provides valuable insight into hospital pharmacists' job satisfaction, showing that Canadian hospital pharmacists were generally satisfied with their jobs. Job satisfaction was found to increase with total time spent performing cpKPI activities. A statistically significant increase in job satisfaction was seen with increasing time spent performing medication reconciliation on admission. However, satisfaction decreased with increasing time spent identifying and resolving DTPs. This information may be useful for hospital pharmacy management in the further implementation of cpKPI initiatives, as well as with recruitment and retention strategies. Areas for future research include further investigation of the negative association found between the identification and resolution of DTPs and hospital pharmacists' job satisfaction. As well, further study is warranted to explore the potential ambivalence of pharmacists toward patient education.

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Mia Losier, BSc(Pharm), ACPR, is with Pharmacy Services, Horizon Health Network, Saint John, New Brunswick, and Dalhousie University, Halifax, Nova Scotia.

Douglas Doucette, BSc(Pharm), PharmD, FCSHP, is with Pharmacy Services, Horizon Health Network, Moncton, New Brunswick.

Olavo Fernandes, BSc(Pharm), ACPR, PharmD, FCSHP, is with the Pharmacy Department, University Health Network, and the University of Toronto, Toronto, Ontario.

Sarah Mulrooney, BSc(Pharm), ACPR, is with Pharmacy Services, Horizon Health Network, Saint John, New Brunswick.

Kent Toombs, BSc(Pharm), ACPR, is with the Pharmacy Department, Nova Scotia Health Authority, Truro, Nova Scotia.

Heather Naylor, BSc(Pharm), ACPR, CHC, is with Pharmacy Services, Horizon Health Network, Saint John, New Brunswick.

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Address correspondence to:

Mia Losier
Horizon Health Network
Saint John Regional Hospital, Pharmacy Services
400 University Avenue
Saint John NB E2L 4L2

email: mialosier@dal.ca

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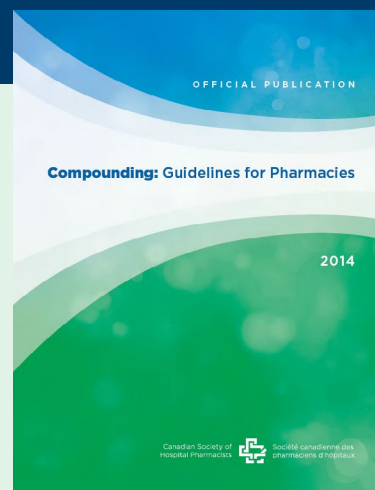
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