Pharmacist Prescribing at Inpatient Discharge in Alberta

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ABSTRACT

Background: Pharmacists in the province of Alberta may apply for additional prescribing authorization (APA), which allows them to independently prescribe medications. Currently, no literature exists about pharmacist prescribing for inpatients at the time of discharge.

Objectives: The primary objective was to report the proportion of patients for whom inpatient pharmacists with APA prescribed at discharge across Alberta, Canada. Secondary objectives were to describe discharge interventions other than prescribing that were provided, enablers of and barriers to discharge prescribing, and differences in discharge prescribing by facility or population type, clinical area, and health care charting system.

Methods: A descriptive, cross-sectional web-based survey of inpatient pharmacists with APA across Alberta was conducted over a 6-week period in early 2022.

Results: A total of 104 respondents met the inclusion criteria. Under half (45/102, 44.1%) of the participants reported prescribing at discharge. Those that reported prescribing at discharge did so for only a median 14.5% of their patients. The most common enabler of discharge prescribing was a supportive care team, and the most common barrier was the presence of other prescribers. Pharmacists who did not report prescribing at discharge selected "discomfort with being responsible for the prescription" and "fear of professional liability" as barriers more often than those who did report discharge prescribing (51.0% [26/51] vs 33.3% [13/39] and 43.1% [22/51] vs 25.6% [10/39], respectively). The proportion of pharmacists who reported prescribing at discharge was greater with increasing population/facility size (30% [6/20] of pharmacists in settings that served small populations vs 50% [29/58] of those in settings that served large populations).

Conclusions: Inpatient pharmacists who use APA at discharge reported prescribing for only a minority of patients, and discharge prescribing practices varied widely across the province. Future areas of research include how pharmacists can overcome barriers to prescribing at discharge.

Keywords: discharge, inpatient pharmacy, prescribing, additional prescribing authorization

RÉSUMÉ

Contexte : Les pharmaciens de la province de l'Alberta peuvent demander une autorisation supplémentaire de prescrire des médicaments de manière indépendante. À l'heure actuelle, aucune documentation n'existe sur la prescription de médicaments destinés aux patients hospitalisés au moment de leur congé par les pharmaciens.

Objectifs : L'objectif principal visait à rendre compte de la proportion de patients à qui les pharmaciens en milieu hospitalier titulaires d'une autorisation supplémentaire de prescrire prescrivaient des médicaments au moment du congé en Alberta, au Canada. Les objectifs secondaires visaient quant à eux à décrire : les interventions au moment du congé, autres que la prescription; les obstacles et les facilitateurs de la prescription au moment du congé; et les différences en matière de prescription au moment du congé par type d'établissement ou de population, domaine clinique et système de dossiers de soins de santé.

Méthode : Une enquête en ligne descriptive et transversale a été menée auprès de pharmaciens en milieu hospitalier titulaires d'une autorisation supplémentaire de prescrire en Alberta, sur un intervalle de 6 semaines au début de 2022.

Résultats : Au total, 104 répondants satisfaisaient aux critères d'inclusion. Moins de la moitié (45/102, 44,1 %) des participants ont déclaré prescrire au moment du congé. Ceux-ci le faisaient pour seulement une médiane de 14,5 % de leurs patients. Le facteur le plus courant favorisant la prescription au moment du congé était une équipe de soins de soutien; l'obstacle le plus courant était la présence d'autres prescripteurs. Les pharmaciens ayant déclaré ne pas prescrire au moment du congé ont plus fréquemment indiqué comme obstacle le fait d'être « mal à l'aise à l'idée d'être responsable de la prescription » et la « crainte de la responsabilité professionnelle » que les pharmaciens ayant indiqué prescrire au moment du congé (51,0 % [26/51] contre 33,3 % [13/39] et 43,1 % [22/51] contre 25,6 % [10/39], respectivement). La proportion de pharmaciens ayant déclaré prescrire au moment du congé était plus élevée lorsque la taille de la population/de l'établissement était plus importante (30% [6/20] des pharmaciens dans des milieux desservant de petites populations contre 50 % [29/58] de ceux dans des milieux desservant de grandes populations).

Conclusions : Les pharmaciens en milieu hospitalier titulaires d'une autorisation supplémentaire de prescrire ont déclaré prescrire pour seulement une minorité de patients au moment du congé, et les pratiques en la matière variaient largement dans la province. Les futurs domaines de recherche comprennent la manière dont les pharmaciens peuvent surmonter les obstacles les empêchant de prescrire au moment du congé.

Mots-clés : congé, pharmacie en milieu hospitalier, prescription, autorisation supplémentaire de prescrire

INTRODUCTION

Since the inception of additional prescribing authorization (APA) for pharmacists in Alberta in 2007, pharmacists have shifted their practice to include prescribing for patients.[1,2] Existing literature demonstrates various benefits of pharmacist-managed drug therapy, including fewer medication errors,[3,4] as well as clinical benefits such as reduced cardiovascular risk and improved glycemic control.[5-7] Most available studies have involved pharmacists in community or outpatient settings,[5-11] with only selected articles exploring prescribing within inpatient settings.[1,12-14] Some pertinent studies have explored discharge interventions other than prescribing provided by pharmacists[15-17]; however, the literature regarding prescribing practices at discharge from an inpatient setting is limited.

Alberta is currently the only province in Canada where any pharmacist on the provincial college register may apply to receive authorization to prescribe Schedule 1 medications (except drugs defined in the *Controlled Drugs and Substances Act*).[18,19] Those who submit an application and who meet the minimum standard set by the Alberta College of Pharmacy are granted authorization to prescribe according to an assessment of the patient and creation of a monitoring and follow-up plan that is communicated to other relevant health care providers. As of December 31, 2020, a total of 3339 (56.7%) of the 5892 registered pharmacists regulated under the Alberta College of Pharmacy had been granted APA.[20]

Medication errors are more likely to occur at points of transition, particularly at discharge from acute care.[15] Although all clinical pharmacists within Alberta Health Services (AHS) and Covenant Health (the provincial Catholic hospital system) are expected to have APA, typically within a year after clinical deployment, the utilization of APA is not mandated, and pharmacists prescribe at their own discretion. As such, prescribing at the point of discharge is likely diverse and inconsistent, and, to our knowledge, this practice diversity has not yet been explored. The purposes of this study were to gain insight into current practices for pharmacist prescribing at inpatient discharge and to describe enablers, barriers, and other factors that may be associated with prescribing at discharge.

More specifically, the primary objective of this survey study was to report the proportion of patients for whom acute care inpatient APA pharmacists within AHS and Covenant Health prescribed at discharge within their most recent 2 weeks of clinical service before completing the survey. The secondary objectives were to describe nonprescribing discharge interventions provided by APA pharmacists; identify perceived enablers of and barriers to prescribing at discharge; explore differences between pharmacists who do and do not prescribe at discharge; and determine differences in discharge prescribing by facility type, population size, clinical practice area, and health record charting system used.

METHODS

Study Design and Ethics Approval

A descriptive study using an anonymous cross-sectional web-based survey was conducted during a 6-week period from January to February 2022. The study was approved by the University of Alberta health research ethics board (Pro00114597).

Participants and Survey

APA pharmacists, who were self-identified, were eligible to participate in this study if they were clinically deployed in an inpatient program (excluding critical care) within AHS and/or Covenant Health, were actively involved in the discharge process within their practice, and met these criteria for at least 2 weeks. The survey invitation was sent by email to an estimated 1200 pharmacists (intended to capture all AHS and Covenant pharmacists). Given the provincial proportion of 56.7% of pharmacists having APA at the end of 2020, we estimated that 680 of those invited would have APA. We further estimated that 80% of pharmacists with APA would meet the other eligibility criteria, which yielded a potential total of 544 eligible participants.

Using the existing literature and consultation with practising inpatient pharmacists, we developed a web-based questionnaire through the electronic surveying platform Qualtrics (Supplementary Material 1, available from https://www.cjhp-online.ca/index.php/cjhp/issue/view/216). We invited 3 pharmacists to trial and provide feedback on the survey before it was distributed by pharmacy administrators using a province-wide email distribution list. The survey remained open for 6 weeks, and potential participants received 2 reminders before the survey was closed. Consent to participate was implied by completion of the survey. Of note, not all participants provided responses to all questions; the only mandatory survey questions were those pertaining to the study's inclusion criteria.

Data Analysis

Descriptive statistics were used to report proportions, percentages, and medians and interquartile ranges derived from the survey responses. These values were calculated in Microsoft Excel (2016). Likert-type scale responses were assessed for patterns, and responses to free-text questions were analyzed for themes independently by 2 of the authors (R.A. and P.G.), who then compared and discussed discrepancies to achieve consensus.

RESULTS

The survey was sent via email to more than 1200 AHS and Covenant Health pharmacists. The number of pharmacists who are clinically deployed or who participate in the discharge process within these organizations could not be

specifically defined; as such, respondents were asked to self-assess their eligibility for the survey. A total of 121 pharmacists responded, for an approximate survey response rate of 22% (based on the estimated 544 eligible participants). Of these, 17 were excluded because they did not meet the inclusion criteria (Supplementary Figure 1, available from https://www.cjhp-online.ca/index.php/cjhp/issue/view/216). Of the included pharmacists, most were women (73.6%), most were from a large urban population centre (66.7%), and 42.5% indicated completion of education beyond the entry-level requirements to be a pharmacist (Table 1). The respondents represented diverse clinical backgrounds, and most had been practising with APA for at least 3 years.

Of the 102 respondents who answered questions about their prescribing activities at discharge, 45 (44.1%) reported using their APA to prescribe at discharge. These pharmacists reported prescribing for a median of 14.5% (interquartile range [IQR] 9.5%–50.0%) of their patients (Table 2). These respondents reported caring for a median of 20 (IQR 15.8–25.0) patients daily, whereas pharmacists who reported not prescribing at discharge cared for a median of 22.5 (IQR 18.0–28.3) patients daily. The 2 groups of pharmacists (those who did and did not prescribe at discharge) offered nonprescribing interventions to a median of 82.0% (IQR 35.0–100.0%) and 80.0% (IQR 35.0–93.0%) of their patients, respectively. The 3 most common nonprescribing interventions (based on 93 respondents) were coordinating with community pharmacy/other outpatient providers to ensure continuity of care (95.7%), coordination of outpatient coverage (84.9%), and comprehensive discharge counselling (83.9%) (Supplementary Table 1, available from https://www.cjhp-online.ca/index.php/cjhp/issue/view/216). The order of most commonly provided interventions was almost identical between the 2 groups, except that preparing discharge prescriptions to be signed by another prescriber was the second most frequently selected option among pharmacists who did not prescribe at discharge, but the sixth most frequently selected among those who did prescribe at discharge. Telephone follow-up with patients was selected by almost triple the number of pharmacists who prescribed at discharge relative to those who did not prescribe at discharge (11 vs 4).

The top 3 enabling factors reported by all respondents were a supportive care team (71.4% of respondents), competence in area of practice (54.9%), and desire to deliver more efficient care (51.6%) (Figure 1). Conversely, the top 3 barriers to prescribing at discharge were the presence of other prescribers on the team (74.4%), overwhelming patient workload (i.e., unable to allocate time for prescribing) (52.2%), and being unable to prescribe medications commonly used in participants' practice for legal or insurance reasons (50.0%) (Figure 1). "Motivation to practise to full scope" was a much more common enabler among those who prescribed than among those who did not prescribe (57.5% vs 25.5%), whereas larger proportions of pharmacists who did not prescribe at discharge selected "discomfort with being responsible for the prescription" and "fear of professional liability" relative to pharmacists who did prescribe at discharge (51.0% vs 33.3% and 43.1% vs 25.6%, respectively).

With regard to population size, pharmacists from centres with small populations (fewer than 30 000 people)

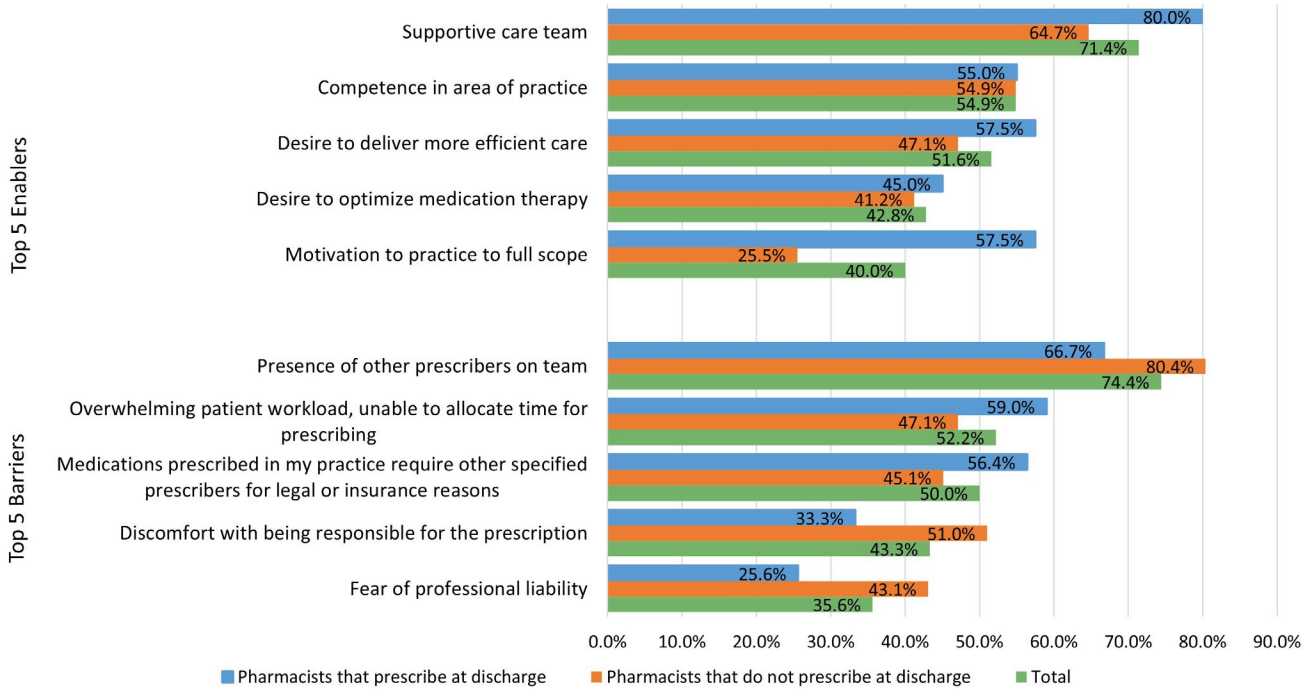

FIGURE 1. Top 5 enablers and barriers to prescribing at discharge (n = 91 respondents: 40 who reported discharge prescribing [one of whom did not indicate any barriers] and 51 who reported no discharge prescribing).

TABLE 1. Characteristics of Study Population

Characteristic	No. (%) of Respondents (n = 87)[a]
Gender	
Women	64 (73.6)
Men	22 (25.3)
Prefer not to say	1 (1.1)
Level of education[b]	
Bachelor of Science in pharmacy	73 (83.9)
Entry-level PharmD	7 (8.0)
Postgraduate PharmD	9 (10.3)
Master's degree	9 (10.3)
Accredited Canadian Pharmacy Residency	24 (27.6)
Current student in postgraduate program	1 (1.1)
Completion of one or more education programs beyond entry-level requirements	37 (42.5)
Primary clinical practice area	
Internal medicine	22 (25.3)
Family medicine	16 (18.4)
Surgery	8 (9.2)
Rural	7 (8.0)
Cardiology	7 (8.0)
Pediatric non-ICU	6 (6.9)
Nephrology	4 (4.6)
Palliative care	3 (3.4)
Infectious diseases	2 (2.3)
Other	12 (13.8)
Duration of experience as pharmacist in primary clinical area (years)	
< 3	17 (19.5)
3–6	22 (25.3)
> 6	48 (55.2)
Experience with APA (years)	
< 3	12 (13.8)
3–6	50 (57.5)
> 6	25 (28.7)
Population of centre where facility is located	
Small (< 30 000)	20 (23.0)
Medium (30 000–100 000)	9 (10.3)
Large urban (> 100 000)	58 (66.7)
Facility size (no. of beds)	
< 100	20 (23.0)
100–500	31 (35.6)
> 500	36 (41.4)

APA = additional prescribing authorization, ICU = intensive care unit, PharmD = Doctor of Pharmacy.

[a]Not all participants provided responses to all questions (the only mandatory questions in the survey were those pertaining to inclusion criteria for this study). Percentages for a given characteristic may not sum to exactly 100% because of rounding.

[b]Percentages sum to more than 100%, because respondents were allowed to select multiple responses.

prescribed at discharge for a median of 10.5% (IQR 0.3%–20.0%) of their patients, and those in centres with medium populations (30 000 to 100 000 people) prescribed at discharge for a median of 30.0% (IQR 17.5–45.0%) of their patients (Supplementary Table 2, available from https://www.cjhp-online.ca/index.php/cjhp/issue/view/216). For centres with large populations (more than 100 000 people), pharmacists prescribing at discharge could be stratified into 2 groups: those working in facilities with 100–500 beds prescribed at discharge for 10.0% (IQR 10.0%-41.5%) of patients, and those working in facilities with more than 500 beds prescribed for 22.0% (IQR 10.0%–57.5%) of patients. According to responses categorized by practice area, larger proportions of pharmacists reported prescribing at discharge in areas such as palliative care (100%), pediatric non–intensive care units (67%), and nephrology (50%); however, this does not mean that they prescribed for all patients under their care. In fact, there was high variability in the proportions of patients for whom they prescribed: 5.0% (IQR 3.8%–7.5%), 52.5% (IQR 10.0%–96.3%), and 52.0% (IQR 28.5%–76.0%), respectively (Table 3).

The majority of respondents (54/88, 61.4%) generated discharge prescriptions using a process not directly linked with the rest of the patient chart, whereas a smaller proportion (34/88, 38.6%) used electronic health systems with medication reconciliation functions linked with the patient chart (Supplementary Table 3, available from https://www.cjhp-online.ca/index.php/cjhp/issue/view/216). Themes identified from open-text responses about the impact of clinical charting systems on prescribing were no impact, impediment to prescribing (because systems were tedious or error-prone), or facilitation of prescribing (through ease of use and accessibility to health information). There was no apparent association between the type of system used and the theme of the response. Most respondents were either neutral or in disagreement with survey statements about the impact of the clinical system on prescribing, the provision of nonprescribing interventions, and collaboration with other providers at discharge (Supplementary Figure 2, available from https://www.cjhp-online.ca/index.php/cjhp/issue/view/216).

DISCUSSION

Although some prior studies have endeavoured to quantify pharmacists who prescribe in an inpatient setting within Alberta,[1,13] our study is the first that attempts to quantify prescribing at discharge and to describe potential barriers and enablers at this point of care. Our results show that fewer than half of surveyed pharmacists reported prescribing at discharge, and they did so for a median of only 14.5% of the patients under their care, with wide variability demonstrated by the IQR of 9.5% to 50.0%. "Fear of professional liability" and "discomfort with being responsible for the prescription" were barriers that had a stronger effect among pharmacists

TABLE 2. Discharge Activities of Inpatient APA Pharmacists

Pharmacist Group	Outcome; Median (IQR)		
	No. of Patients Cared for Daily	% of Patients for Whom Pharmacists Provided Nonprescribing Interventions	% of Patients for Whom Pharmacists Prescribed at Discharge
Reported prescribing at discharge (n = 45)	20.0 (15.8–25.0) (n = 44 respondents)	82.0 (35.0–100.0) (n = 39 respondents)	14.5 (9.5–50.0) (n = 38 respondents)
Reported not prescribing at discharge (n = 57)	22.5 (18.0–28.3) (n = 56 respondents)	80.0 (35.0–93.0) (n = 53 respondents)	NA

APA = additional prescribing authorization, IQR = interquartile range, NA = not applicable.

who did not prescribe at discharge. There was an apparent increase in the proportion of pharmacists prescribing at discharge with increases in population and facility size; however, the clinical area and clinical charting system did not appear to have a clear association with prescribing patterns.

In our study, pharmacists who prescribed at discharge did so for a minority of their patients, whereas in at least 1 study looking at overall inpatient prescribing, pharmacists used their APA to create orders for about half their patients.[1] It is difficult to directly compare our results with the existing literature because the studies differed in terms of research questions, inclusion criteria, and measurements of prescribing frequency. In our study, we found that between the 2 groups (i.e., pharmacists who did and did not prescribe at discharge) there were only small differences when it came to parameters such as patient caseload and the proportion of patients for whom they provided nonprescribing interventions. These findings suggest that other contextual factors in the pharmacist's practice setting may play a role in their willingness to prescribe at discharge, which brings to attention the prescribing differences related to size of the population or facility and the clinical practice area. For example, the increase in proportion of pharmacists prescribing at discharge with increased size of population or facility could be due to pharmacists in rural areas often being responsible for both dispensing and rounding. In urban areas, where staff levels are higher, there are designated pharmacists for the dispensary, which allows clinical pharmacists to allocate their full attention to direct patient care. This finding is comparable to a past survey, in which the frequency of prescribing was greater in tertiary care centres than in community hospitals.[1]

Of particular interest were the differences in enablers and barriers between the 2 groups; for example, "fear of professional liability" was selected much more commonly by pharmacists who did not prescribe at discharge (43.1% vs 25.6%, relative to pharmacists who prescribed at discharge). In contrast, only 9.9% (9/91) of all participants selected "understanding of professional liability" as an enabler to prescribing. Although the risk of liability is certainly a serious factor to consider when prescribing, a 2018 review of Canadian disciplinary reports for pharmacists showed that licence revocation was a rare result of unintentional, isolated clinical errors made by pharmacists.[21] We hypothesized that more recent graduates of pharmacy programs might have greater confidence in prescribing, given that this

TABLE 3. Prescribing by Clinical Area

Clinical Area	No. (%) of Pharmacists Prescribing at Discharge	% of Patients for Whom Pharmacists Prescribed at Discharge (Median and IQR)
Internal medicine (n = 22)	9 (41)	10.0 (8.5–30.0)
Family medicine (n = 16)	5 (31)	19.0 (3.4–20.0)
Surgery (n = 8)	2 (25)	52.5 (36.1–76.3)
Rural (n = 7)	1 (14)	0
Cardiology (n = 7)	2 (29)	10.0 (5.0–10.0)
Pediatric non-ICU (n = 6)	4 (67)	52.5 (10.0–96.3)
Nephrology (n = 4)	2 (50)	52.0 (28.5–76.0)
Palliative care (n = 3)	3 (100)	5.0 (3.8–7.5)
Other (n = 13)	9 (69)	41.5 (21.3–57.5)

ICU = intensive care unit, IQR = interquartile range.

activity has now been incorporated into practice labs and lectures within these programs; however, most respondents to our survey had been in practice for at least 3 years, and no participants selected "recent completion of schooling" as an enabler for prescribing. These findings suggest that despite the 15-year existence of APA and its incorporation into pharmacy education, many pharmacists are still hesitant to prescribe at discharge because of possible overestimation of the risk of disciplinary repercussions.

A greater proportion of pharmacists who reported not prescribing at discharge also selected "discomfort with being responsible for the prescription" relative to those who did report discharge prescribing. In past surveys examining overall pharmacist prescribing in the hospital setting (not only at discharge), respondents reported prescribing more frequently in scenarios where the medication had already been initiated by other prescribers, such as discontinuations, medication reconciliation, and dosage adjustment based on organ function.[1,13] As expected on the basis of this observation, Heck and others[1] showed an increase in prescribing by APA pharmacists after a team discussion, relative to situations in which pharmacists prescribed without a team discussion. Our finding of greater telephone follow-up by pharmacists who prescribed at discharge could not be confirmed in the previous literature, but it appears to corroborate an increased feeling of responsibility when prescribing. Given that a follow-up plan is a requirement for prescribing, this could represent yet another obligation that pharmacists who did not prescribe at discharge might wish to avoid. Overall, it appears that inpatient APA pharmacists may prefer to prescribe in collaborative settings where the responsibility for prescribing decisions can be shared, as reported in the existing literature.[1,13,22] It could be argued that discharge prescribing of medications that have been initiated by other inpatient prescribers is another example of prescribing with shared responsibility. Even so, pharmacists who do not prescribe at discharge are uncomfortable with taking on this responsibility, and thus it is understandable that the presence of other prescribers was the top barrier to discharge prescribing in our study. Nonetheless, it is important to recognize that prescribing at discharge is distinct from prescribing at other points along the inpatient timeline, and although we may speculate that inpatient pharmacists likely prescribe more at other points of care, we did not ask our participants about their frequency of prescribing or associated enablers/barriers for points of care other than discharge.

In terms of differences related to clinical practice areas, it was interesting that all of the palliative care pharmacists who responded to the survey (n = 3) reported prescribing at discharge but only for a median of 5.0% of their patients. All of these pharmacists indicated a supportive care team and significant prescribing experience (at least 5 years with APA) as their top 2 enablers, and each selected "medications prescribed in my practice require other specified prescribers for legal reasons" among their top 5 barriers. These findings may indicate that these individuals feel well supported and are willing to prescribe at discharge, but given the nature of their practice—where many patients rely on opioids for palliation—they are unable to prescribe, in accordance with the *Controlled Drugs and Substances Act*. Aside from this group of pharmacists, however, there appeared to be wide variability in prescribing at discharge in other practice areas (that is, much wider IQRs for the proportion of patients for whom pharmacists prescribed), and it was difficult to discern any patterns. For example, we expected surgical pharmacists to do more discharge prescribing, because they work in a unique field where other prescribers are not always available, and indeed this group reported prescribing for the highest proportion of patients (52.5%) relative to other areas. However, only 2 of the 8 surgical pharmacists reported prescribing at discharge. There did not appear to be an association between surgical pharmacists' experience with APA (i.e., time in years) and whether they engaged in discharge prescribing, and all surgical pharmacists worked in medium or large facilities in large urban centres. Overall, we received a diverse range of responses that resulted in wide variation in our results, whereas the few responses from palliative care pharmacists seemed relatively consistent.

This study had limitations that should be considered when interpreting its results. First, there is a possibility of response bias, whereby pharmacists with more experience using their APA or those who feel strongly about not prescribing at discharge might have been more likely to respond to the survey. To mitigate this risk, the inclusion criterion relating to APA experience was liberal (minimum of 2 weeks' experience), to encourage newer pharmacists to respond; in addition, those who did not prescribe at discharge were included in the survey to allow us to compare outcomes such as nonprescribing interventions and enablers of and barriers to prescribing between the 2 groups. Second, although an estimated response rate of 22% was calculated, the definitive response rate could not be determined. The email distribution list that we used contains all pharmacists employed by AHS and Covenant Health, regardless of whether or not they have APA, and we also did not take into account individuals employed by the University of Alberta who may have been eligible but were not included on this distribution list. Although we considered 104 participants to be a reasonable sample size, and it was comparable to those reported in past similar surveys, our results may not reflect current prescribing practices and perspectives across the province of Alberta. Furthermore, differences among clinical practice areas discussed in this study were based on very small sample sizes, and valid conclusions cannot be drawn from these results. The methods used to quantify prescribing in this study led to potential difficulties in interpretation of the data. Finally, there was a missed

opportunity to ask participants to report their prescribing frequency at points other than discharge; such data would have made comparisons with the existing literature easier.

CONCLUSION

Overall, 55.9% of survey respondents faced barriers that prevented them from prescribing at discharge, while 44.1% reported prescribing at discharge but only for a minority of patients. There was wide variation among respondents regarding the proportion of patients for whom they would prescribe at discharge and no clear association between prescribing and clinical practice area or charting system. Differences in the top enablers and barriers identified by the 2 groups revealed that those who do not prescribe at discharge may have a greater fear of professional liability and are uncomfortable with being responsible for prescriptions at this point of care. Future research could investigate how pharmacists can be empowered to overcome barriers that prevent them from practising to their full scope.

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Competing interests: For activities unrelated to the case reported here, Jennifer Shiu has served as Co-chair of the CSHP Pharmacy Practice Vision Committee (unpaid role); Tammy Bungard has received an unrestricted quality improvement grant from Pfizer, has served (on a voluntary basis) as cochair of the Patient & Family Committee of Thrombosis Canada, and has received Fragmin, Lovenox, and Innohep cards (allowing drugs to be supplied to patients unable to afford their medications); Theresa Charrois has received speaker's fees from CSHP and the Alberta Pharmacists Association; and Pawandeep Gill has served as chair of the CSHP Pharmacy Appreciation Month Committee, Alberta Branch (unpaid role). No other competing interests were declared.

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