

An Assessment of Safety Culture in Saskatchewan Community Pharmacies

Prepared by

Jim Kong, RPh, BSc, PharmD, Program Development Manager, ISMP Canada

Edmond Chiu, RPh, BSc, PharmD, Medication Safety Specialist, ISMP Canada

Certina Ho, RPh, BScPhm, MSt, MEd, PhD, Project Lead, ISMP Canada

April 2019

Table of Contents

Introduction	3
Methods.....	3
Results.....	3
Discussion.....	9
Teamwork	9
Safety Culture.....	9
Job Satisfaction and Stress Recognition.....	10
Perception of Management.....	10
Working Conditions	10
Limitations	11
Conclusion.....	11
References	11

Introduction

Community pharmacy practice is a dynamic, ever-changing healthcare setting that has seen front-line pharmacy professionals slowly shift from a dispensing-centric work model to a more patient care-oriented work model. Medication safety has now become a key aspect of modern healthcare and more specifically, modern community pharmacy practice with the introduction of mandatory medication incident reporting programs across Canada by pharmacy regulatory authorities. Within community pharmacies, a strong safety culture can help drive more robust medication safety initiatives to provide increased patient safety and higher quality patient care.

The Safety Attitudes Questionnaire (SAQ) is a validated instrument that explores the safety culture maturity within work environments, particularly in healthcare.^{1,2,3} The questions are divided into 6 domains that influence safety culture: Teamwork, Safety Culture, Job Satisfaction, Stress Recognition, Perception of Management and Working Conditions.^{1,2,3}

Methods

The 40-item SAQ was administered for a 4-week period between November 5, 2018 and December 3, 2018 to a total of 1262 registered pharmacy professionals (1182 pharmacists and 80 pharmacy technicians) in Saskatchewan to assess their current attitudes and perceptions on safety culture, as well as the overall safety culture climate. Pharmacy managers/owners, staff pharmacists, and pharmacy technicians, were all engaged in the hopes of obtaining a comprehensive and complete assessment of safety culture from all levels of staffing in the pharmacy. Scores were obtained for each question utilizing a 5-point Likert Scale (1 = strongly disagree to 5 = strongly agree). Respondents could also submit additional free-form comments/feedback to summarize their views and opinions related to the question items presented in the SAQ.

Results

A total of 230 responses (18.2% response rate) were gathered from 210 pharmacists (17.8% response rate) and 20 pharmacy technicians (25% response rate). Demographic information of respondents is shown in [Table 1](#).

Table 1. Demographic Information (N is the total number and % is the percentage)

Characteristics	Number of Respondents N (%) (n = 230)
Position	
Pharmacist (manager/owner)	74 (32.17%)
Pharmacist (staff)	136 (59.13%)
Pharmacy Technician	20 (8.7%)
Total number of years working in community pharmacy	
0-5 years	68 (29.57%)
6-10 years	42 (18.26%)
11-20 years	59 (25.65%)
20+ years	61 (26.52%)
Type of Pharmacy *	
Corporate	105 (45.65%)
Banner	55 (23.91%)
Independently owned	70 (30.43%)
Approximate Number of Prescriptions Dispensed Weekly	
700 or fewer (per week)	48 (20.87%)
701 to 1500 (per week)	96 (41.74%)
1501 to 3000 (per week)	63 (27.39%)
3001 to 6000 (per week)	18 (7.83%)
6001 to 12000 (per week)	5 (2.17%)
12001 or more (per week)	0 (0.00%)

* Corporate pharmacies are typically directed by a corporate office, with respect to its professional programs, marketing, and ordering, etc. Banner pharmacies are independently owned pharmacies that are affiliated with a central office. They pay fees for the banner's benefit in centralized buying, marketing, and professional programs. Independent pharmacies are not affiliated with any corporately run chains or banners. The owner of an independent pharmacy has complete control over the business in ordering and marketing strategies, etc.

The results of the SAQ with respect to each of the six domains (Teamwork, Safety Culture, Job Satisfaction, Stress Recognition, Perception of Management and Working Conditions) are presented in [Table 2](#) and [Table 3](#) below.

Table 2. Safety Culture Domain Mean Scores with Respect to Respondent’s Total Number of Years of Work Experience in Community Pharmacy Practice

Safety culture domains	0-5 years	6-10 years	11-20 years	20+ years	Weighted Average
Teamwork	4.06	4.28	4.37	4.34	4.26
My input is well received in this pharmacy.	4.10	4.50	4.39	4.41	4.34
In this pharmacy, it is difficult to speak up if I perceive a problem with patient care.†	3.53	4.10	4.16	3.98	3.92
Disagreements in this pharmacy are resolved appropriately (i.e., not who is right but what is best for the patient).	4.14	4.27	4.38	4.40	4.29
I have the support I need from others in this pharmacy to care for patients.	4.12	4.36	4.45	4.35	4.31
It is easy for personnel here to ask questions when there is something that they do not understand.	4.33	4.31	4.50	4.44	4.40
The people in this pharmacy work together as a well-coordinated team.	4.11	4.26	4.34	4.44	4.28
Safety Culture	4.17	4.30	4.40	4.41	4.32
I would feel safe being treated here as a patient.	4.59	4.70	4.74	4.73	4.71
Medication errors are handled appropriately in this pharmacy.	4.50	4.55	4.63	4.77	4.61
I know the proper channels to direct questions regarding patient safety in this pharmacy.	4.53	4.55	4.61	4.71	4.60
I receive appropriate feedback about my performance.	3.70	3.95	3.89	3.81	3.82
In this pharmacy, it is difficult to discuss errors.†	3.83	3.73	4.30	4.20	4.02
I am encouraged by others in this pharmacy, to report any patient safety concerns I may have.	4.14	4.38	4.41	4.28	4.29
The culture in this pharmacy makes it easy to learn from the errors of others.	3.90	4.23	4.20	4.35	4.16
Job Satisfaction	3.97	3.92	4.08	3.95	3.98
I like my job.	4.02	4.05	4.11	4.04	4.05

Safety culture domains	0-5 years	6-10 years	11-20 years	20+ years	Weighted Average
Working here is like being part of a large family.	3.87	3.78	3.95	3.78	3.85
This pharmacy is a good place to work.	4.11	4.05	4.18	4.13	4.12
I am proud to work in this pharmacy.	4.13	4.15	4.38	4.16	4.21
Morale in this pharmacy is high.	3.70	3.58	3.79	3.65	3.67
Stress Recognition	4.18	4.12	4.23	4.24	4.20
When my workload becomes excessive, my performance is impaired.	4.05	4.03	4.15	4.30	4.13
I am less effective at work when fatigued.	4.17	4.21	4.32	4.20	4.23
I am more likely to make errors in tense or hostile situations.	4.31	4.18	4.27	4.20	4.25
Fatigue impairs my performance in trying situations.	4.19	4.05	4.19	4.24	4.18
Perception of Management	3.96	3.87	4.06	3.95	3.97
Management in this pharmacy supports my daily efforts.	3.89	4.03	4.15	4.07	4.03
Pharmacy management doesn't knowingly compromise patient safety.	4.58	4.21	4.54	4.22	4.40
I get adequate, timely information about events that might affect my work, from pharmacy management.	3.68	3.87	3.96	3.79	3.82
The staffing levels in this pharmacy are sufficient to handle the number of patients.	3.68	3.35	3.59	3.73	3.61
Working Conditions	3.80	3.81	3.61	3.78	3.75
This pharmacy does a good job of training new personnel.	3.45	3.36	3.30	3.54	3.42
All the necessary information for therapeutic decisions is routinely available to me.	4.27	4.51	4.37	4.26	4.34
Trainees in this pharmacy are adequately supervised.	3.82	3.84	3.56	3.88	3.78
Problem personnel are dealt with constructively by our pharmacy management.	3.65	3.51	3.20	3.44	3.45

† All negatively worded items were reverse scored (1 represented strongly agree whereas 5 represented strongly disagree)

Table 3. Safety Culture Domain Mean Scores with Respect to the Respondent's Pharmacy Workplace Type

Safety culture domains	Banner	Corporate	Independently Owned	Weighted Average
Teamwork	4.25	4.12	4.53	4.26
My input is well received in this pharmacy.	4.33	4.19	4.60	4.34
In this pharmacy, it is difficult to speak up if I perceive a problem with patient care.†	3.98	3.78	4.33	3.92
Disagreements in this pharmacy are resolved appropriately (i.e., not who is right but what is best for the patient).	4.26	4.15	4.55	4.29
I have the support I need from others in this pharmacy to care for patients.	4.41	4.09	4.60	4.31
It is easy for personnel here to ask questions when there is something that they do not understand.	4.44	4.26	4.59	4.40
The people in this pharmacy work together as a well-coordinated team.	4.09	4.24	4.52	4.28
Safety Culture	4.24	4.23	4.48	4.32
I would feel safe being treated here as a patient.	4.69	4.64	4.86	4.71
Medication errors are handled appropriately in this pharmacy.	4.60	4.56	4.71	4.61
I know the proper channels to direct questions regarding patient safety in this pharmacy.	4.48	4.59	4.73	4.60
I receive appropriate feedback about my performance.	3.44	3.87	4.09	3.82
In this pharmacy, it is difficult to discuss errors.†	4.02	3.80	4.00	4.02
I am encouraged by others in this pharmacy, to report any patient safety concerns I may have.	4.20	4.20	4.52	4.29
The culture in this pharmacy makes it easy to learn from the errors of others.	4.25	3.92	4.47	4.16
Job Satisfaction	3.94	3.68	4.50	3.98

Safety culture domains	Banner	Corporate	Independently Owned	Weighted Average
I like my job.	4.04	3.79	4.48	4.05
Working here is like being part of a large family.	3.82	3.58	4.30	3.85
This pharmacy is a good place to work.	4.14	3.76	4.69	4.12
I am proud to work in this pharmacy.	4.22	3.87	4.74	4.21
Morale in this pharmacy is high.	3.47	3.40	4.26	3.67
Stress Recognition	4.23	4.35	3.84	4.20
When my workload becomes excessive, my performance is impaired.	4.24	4.30	3.72	4.13
I am less effective at work when fatigued.	4.28	4.33	4.00	4.23
I am more likely to make errors in tense or hostile situations.	4.22	4.46	3.92	4.25
Fatigue impairs my performance in trying situations.	4.16	4.38	3.81	4.18
Perception of Management	3.88	3.75	4.39	3.97
Management in this pharmacy supports my daily efforts.	4.06	3.73	4.48	4.03
Pharmacy management doesn't knowingly compromise patient safety.	4.55	4.29	4.49	4.40
I get adequate, timely information about events that might affect my work, from pharmacy management.	3.60	3.62	4.35	3.82
The staffing levels in this pharmacy are sufficient to handle the number of patients.	3.37	3.34	4.25	3.61
Working Conditions	3.82	3.51	4.11	3.75
This pharmacy does a good job of training new personnel.	3.44	3.14	3.89	3.42
All the necessary information for therapeutic decisions is routinely available to me.	4.39	4.18	4.57	4.34
Trainees in this pharmacy are adequately supervised.	3.78	3.56	4.14	3.78

Safety culture domains	Banner	Corporate	Independently Owned	Weighted Average
Problem personnel are dealt with constructively by our pharmacy management.	3.65	3.15	3.85	3.45

†All negatively worded items were reverse scored (1 represented strongly agree whereas 5 represented strongly disagree)

Discussion

The SAQ was designed to assess the current state of safety culture within community pharmacy practice from the perspective of the pharmacy team. We stratified the six domains of safety culture in the SAQ by: 1) years of work experience of respondent and 2) type of pharmacy operated in/by respondent. Additional stratification by weekly prescription volume was also attempted but was ultimately omitted from this analysis as the proportion of pharmacies that fill 3001 prescriptions or more weekly (10%) represented such a small proportion of responses that mean scores would not have been representative of this group. Similarly, we did not present the stratification by pharmacy managers/owners, staff pharmacists and pharmacy technicians due to the uneven distribution of responses amongst these 3 groups of respondents.

Teamwork

Teamwork was overall scored high amongst most respondents, irrespective of pharmacy type or years of work experience. Independently-owned pharmacy respondents scored higher in every question item regarding Teamwork compared to their counterparts at banner and corporate pharmacies. In terms of work experience, it seems respondents with 0-5 years of community pharmacy work experience, i.e. new or recent graduates, scored relatively lower on average in Teamwork compared to those with more than 5 years of work experience. It seems that this cohort does not feel their input is well-received and it is challenging to speak up if they perceive a potential problem with patient care. The reasoning behind this can be complex and may allude to a disparity between the idealistic, academically-oriented model of patient care taught in school versus the real, day-to-day operations of community practice.⁴ As competition in the pharmacy job market steadily increases, a 2014 survey of postgraduation employment experiences of new pharmacists in Ontario found that a significant portion of new graduates took on “survival jobs” – temporary or short-term contract work among multiple employers.⁴ This type of employment does not encourage long-term pharmacist-patient relationships and may also produce a mindset within new or recent graduates as being interchangeable with one another.⁴ If new or recent graduates from Saskatchewan have a similar experience, it may provide opportunities for further investigation into their perceptions on Teamwork and how well they integrate into community pharmacy practice.

Safety Culture

The domain of Safety Culture assesses how pharmacy teams manage medication errors and whether pharmacy teams supports a “blame and shame” safety culture or an openness to discuss and facilitate system-based solutions. Based on the SAQ responses, this was the highest scoring domain amongst all respondents, irrespective of years of work experience or type of pharmacy. Collectively, respondents feel strongly that medication errors are handled appropriately when they occur and they themselves would feel safe as a patient at their

respective pharmacy. This implies that pharmacy staff generally feel confident in the standards and processes that are in place to maintain patient safety. Nonetheless, the question item “*In this pharmacy, it is difficult to discuss errors*” had a relatively lower weighted average score for respondents with 10 or less years of work experience. This indicates that the progressive shift in safety culture from blame-focused to system-oriented is still on-going and potentially requires more engagement from new practitioners.

Job Satisfaction and Stress Recognition

Job Satisfaction scored slightly lower compared to other domains, irrespective of years of work experience or type of pharmacy. Although respondents generally agree that they like their job and their respective pharmacy is a good place to work, pharmacy morale was a dividing issue amongst respondents. Upon further sub-group analyses, independently-owned pharmacy respondents scored higher in job satisfaction compared to banner and corporate pharmacy counterparts, with pharmacy morale also perceived to be higher in independently-owned pharmacies versus banner and corporate pharmacies. As well, the SAQ results demonstrated that all pharmacy professionals are very much aware of the implications of high work loads and limited resources and are very adept at recognizing different forms of stress and the risk it presents on patient safety. In general, all respondents across both stratifications recognize their work performance becomes impaired when they are fatigued or when workload is excessive, leading to the likelihood of more errors, especially in tense or hostile situations.

Perception of Management

This domain assesses how respondents feel about the way patient safety is maintained by management. Collectively, the results of the SAQ demonstrates that all respondents, regardless of pharmacy type or years of work experience, agree that pharmacy management supports their daily efforts and does not knowingly compromise patient safety. Sub-group analyses show that when asked if staffing levels were sufficient enough to accommodate the number of patients, both banner and corporate pharmacy respondents scored lower compared to their independently-owned pharmacy counterparts. When stratified by years of work experience, all categories of respondents also scored relatively lower in terms of how well they perceived their pharmacy was staffed. As one respondent wrote: “*[There is] greater pressure on pharmacists in [the] past year from management to do more with less pharmacists hours.*” It seems that insufficient staffing levels is a concerning safety issue for pharmacy professionals, particularly at corporate and banner pharmacy locations.

Working Conditions

This domain assesses how respondents feel regarding the integration of new staff and the availability of resources that support pharmacy clinical decision-making. This was the lowest scoring domain amongst respondents with a weighted average score of 3.75. On the one hand, while most respondents feel strongly that there are enough information resources available to them to support clinical decision-making, the integration and supervision of new staff seems to be an issue, especially for corporate pharmacy respondents. When stratified by years of working experience, a similar trend exists, and it seems that both recent graduates and experienced professionals perceive that there is much to be desired in the training, supervision, and support of new staff. Once again, this alludes back to the pharmacy staffing concerns identified in the Perception of Management domain and likely warrants further investigation.

Limitations

As the SAQ was designed for a team-based environment, community pharmacies that are operated by one sole individual pharmacy professional may not find their safety culture perspectives well-represented by the items. As well, a limitation of the survey method for research is the bias for individuals with pre-conceived safety culture concerns to respond to the SAQ. As such, the themes identified through this survey may not resonate with the entire cohort of Saskatchewan community pharmacy professionals. Finally, pharmacy technicians only represented 9% of all responses and may have had their views under-represented by the SAQ.

Conclusion

Based on the responses gathered by the first administration of the SAQ in Saskatchewan, pharmacy professionals generally have a positive view of the current safety culture. Domains such as Teamwork and Safety Culture were strongly scored by pharmacy professionals and there is a general consensus that medication errors are handled appropriately when they occur by a well-coordinated pharmacy team. Some challenges identified by the SAQ are perception of pharmacy morale, which tends to differ amongst respondents from different types of pharmacies. As well, although respondents trust management and believe that patient safety is never knowingly or purposely compromised, there is a need for management to address staffing levels in the pharmacy team to match the number of patients in order to maintain patient safety, as well as continued efforts to train and supervise new pharmacy personnel. Finally, new or recent pharmacy graduates also feel their input could be better received, especially in terms of patient care, and may perhaps benefit from a comprehensive pharmacy orientation/team-building program. As medication use continues to rise across Canada, creating and maintaining a robust safety culture establishes a strong precedent for current and future generations of pharmacy professionals to maintain and uphold patient safety.

References

1. Sexton JB, et al. The Safety Attitudes Questionnaire: psychometric properties, benchmarking data, and emerging research. *BMC Health Services Research* 2006;6:44. DOI: 10.1186/1472-6963-6-44.
2. Norden-Hagg A, et al. Assessing safety culture in pharmacies: the psychometric validation of the Safety Attitudes Questionnaire (SAQ) in a national sample of community pharmacies in Sweden. *BMC Clinical Pharmacology* 2010;10:8. DOI: 10.1186/1472-6904-10-8.
3. Norden-Hagg A, Kalvemarm-Sporrong S, Lindblad AK. Exploring the relationship between safety culture and reported dispensing errors in a large sample of Swedish community pharmacies. *BMC Pharmacology and Toxicology*. 2012;13:4. DOI: 10.1186/2050-6511-13-4.
4. Gregory P and Austin Z. Postgraduation employment experiences of new pharmacist in Ontario in 2012-2013. *CPJ/RPC*. 2014;147(5):290-299. DOI: 10.1177/1715163514543766.