

Drug samples in family medicine teaching units: a cross-sectional descriptive study

Part 1: drug sample management policies and the relationship between the pharmaceutical industry and residents in Quebec

Caroline Rhéaume MD PhD CCFP Michel Labrecque MD PhD CCFP FCFP
Nadine Moisan MSc Jacky Rioux MA Émilie Tardieux MD
Fatoumata Binta Diallo PhD Marie-Thérèse Lussier MD MSc CCFP FCFP
Andréa Lessard MD MSc CCFP Roland Grad MD CM MSc CCFP FCFP Pierre Pluye MD PhD

Abstract

Objective To determine the existence and the level of health care professional (HCP) knowledge of local policies regarding drug sample use and the relationship between residents and the pharmaceutical industry in academic primary health care settings.

Design Descriptive cross-sectional survey. Health care providers were invited to complete a self-administered questionnaire on drug sample use between February and December 2013. Managers of drug samples were also asked to complete a specific questionnaire on drug sample management and policies and an inventory log sheet. Data about the existence of written policies were validated with health and social services centre (HSCC) directors or pharmacy departments and family medicine teaching unit (FMTU) directors between February and June 2014.

Setting All 42 FMTUs in Quebec.

Participants All HCPs in the FMTUs authorized to hand out drug samples (practising physicians, residents, pharmacists, and nurses). *Dispensers* were defined as those who reported using drug samples. *Managers* were defined as HCPs or staff members who managed drug samples.

Main outcome measures Existence of written policies on drug sample use in HSCCs and FMTUs; whether FMTUs applied the HSCC policies if they existed; whether dispensers were aware of the existence of the policies; and whether policies on the relationships between residents and pharmaceutical companies existed.

Results Among the 42 FMTUs, 33 (79%) kept drug samples. Of these, 30% (10 of 33) did not have policies about drug samples in the FMTU or in the HSCC. A total of 67% (579 of 859) of HCPs from these FMTUs reported using drug samples. Most dispensers did not know if a policy existed in their FMTU (n=297; 51%) or their HSCC (n=420; 73%). Eleven (26%) of the 42 FMTU directors reported having a policy regarding relationships between residents and the pharmaceutical industry. Most drug sample dispensers were not aware whether such a policy existed (n=310; 54%).

Conclusion Many FMTUs did not have policies regarding drug samples or relationships between residents and the pharmaceutical industry. Variation in use and management of drug samples and the lack of knowledge of HCPs about the existence of policies point to the need to implement uniform policies in all FMTUs in Quebec.

Editor's key points

- ▶ This cross-sectional survey found that, although most family medicine teaching units (FMTUs) in Quebec kept drug samples, almost one-third did not have any policy to regulate their use and management. Only one-quarter of the FMTU directors reported having a policy regarding the relationship between the pharmaceutical industry and residents.
- ▶ Despite the lack of written policies, only one-quarter of residents reported meeting with drug sales representatives, which could explain why dispensers felt less concerned and were less aware of policies on the topic.
- ▶ Most dispensers were favourable or very favourable to the hypothetical implementation of policies by the academic departments of family medicine regarding the use and management of drug samples and the relationship between pharmaceutical industry and residents.



Points de repère du rédacteur

► Cette étude a montré qu'au Québec, bien que la plupart des unités d'enseignement de médecine familiale (UEMF) gardent des échantillons de médicaments, au moins le tiers n'ont aucune politique pour contrôler l'usage et la gestion. Seulement le quart des directeurs d'UEMF ont déclaré qu'ils avaient une politique concernant les relations entre l'industrie pharmaceutique et les résidents.

► Malgré l'absence d'une politique écrite, seulement le quart des résidents ont dit rencontrer des représentants de l'industrie pharmaceutique, ce qui pourrait expliquer pourquoi les utilisateurs ne se sentaient pas concernés par ce sujet, en plus d'être moins conscients d'une éventuelle politique à ce sujet.

► La plupart des utilisateurs étaient favorables ou très favorables à la mise en place, par les départements universitaires de médecine familiale, de politiques concernant l'utilisation et la gestion des échantillons de médicaments ainsi que les relations entre l'industrie pharmaceutique et les résidents.

Les échantillons de médicaments dans les unités d'enseignement de médecine familiale: une étude descriptive transversale

Première partie: La politique concernant la gestion des échantillons de médicaments et la relation entre l'industrie pharmaceutique et les résidents au Québec

Caroline Rhéaume MD PhD CCFP Michel Labrecque MD PhD CCFP FCFP
Nadine Moisan MSc Jacky Rioux MA Émilie Tardieux MD
Fatoumata Binta Diallo PhD Marie-Thérèse Lussier MD MSc CCFP FCFP
Andréa Lessard MD MSc CCFP Roland Grad MD CM MSc CCFP FCFP Pierre Pluye MD PhD

Résumé

Objectif Déterminer si et à quel point les professionnels de la santé (PS) connaissent l'existence de politiques locales sur les échantillons de médicaments et sur les relations entre les résidents et l'industrie pharmaceutique dans les cliniques universitaires de soins primaires.

Type d'étude Une enquête descriptive transversale. On a invité des PS à répondre à un questionnaire auto-administré sur l'utilisation d'échantillons de médicaments entre février et décembre 2013. On a aussi demandé aux responsables des échantillons de répondre à un questionnaire au sujet de la gestion de ces échantillons, de l'existence d'une politique à ce sujet et de l'utilisation d'un registre. Les données relatives à l'existence d'une politique écrite ont été vérifiées auprès de directeurs des centres de santé et de services sociaux (CSSS) ou de directeurs de départements de pharmacie et d'unités d'enseignement de médecine familiale (UEMF) entre février et juin 2014.

Contexte Les 42 UEMF du Québec.

Participants Tous le PS des UEMF autorisés à manipuler des échantillons de médicaments (médecins praticiens, résidents, pharmaciens et infirmières). On a déterminé que les *utilisateurs* étaient les personnes qui disaient se servir d'échantillons. On a déterminé que les *gestionnaires* étaient les PS ou les membres du personnel qui géraient les échantillons.

Principaux paramètres à l'étude La présence, dans les CSSS et les UEMF, de politiques écrites sur l'utilisation des échantillons de médicaments; l'application, dans les UEMF, de ces politiques adoptées par les CSSS, le cas échéant; et l'existence de politiques relatives aux relations entre les résidents et les compagnies pharmaceutiques.

Résultats Sur les 42 UEMF, 33 (79%) gardaient des échantillons de médicaments. Parmi ces derniers, 10 (30%) n'avaient pas de politique au sujet des échantillons dans les UEMF ou les CSSS. Sur 859 PS de ces UEMF, 579 (67%) disaient utiliser des échantillons. La plupart des utilisateurs ne savaient pas s'il existait une telle politique dans leur UEMF (n = 297; 51%) ou dans leur CSSS (n = 420; 73%). Sur les 42 directeurs d'UEMF, 11 (26%) ont dit avoir une politique sur les relations entre les résidents et l'industrie pharmaceutique. La plupart des utilisateurs d'échantillons ne savaient pas si une telle politique existait (n = 310; 54%).

Conclusion Plusieurs des UEMF n'avaient pas de politique sur les échantillons de médicaments ni sur les relations entre les résidents et l'industrie pharmaceutique. Lemanque d'uniformité dans la façon d'utiliser et de gérer ces échantillons, de même que le manque de connaissance des PS sur l'existence de politiques font ressortir la nécessité de mettre en place des politiques uniformes dans toutes les UEMF du Québec.

The distribution of drug samples in Quebec primary health care settings, including family medicine teaching units (FMTUs), is authorized by Health Canada in accordance with the *Food and Drugs Act* regulations.¹ Pharmaceutical companies use samples as a promotional tool,² and their use raises concerns about their influence on prescribing behaviour,²⁻⁴ especially among physicians in training (residents).^{5,6} The inadequate management and use of samples might pose risks to patients, promote the use of drugs that are not first-line treatments,⁷ and increase treatment costs.⁸

Few official Canadian recommendations exist to regulate drug samples in primary health care settings and to guide interaction between the pharmaceutical industry and family medicine residents. As will be discussed in part 2 of this series of 3 articles (page e540),⁹ the Canada's Research-Based Pharmaceutical Companies *Code of Ethical Practices*¹ and the Canadian Medical Association *Guidelines for Physicians in Interactions with Industry*¹⁰ define obligations regarding drug sample management and use. Part 3 discusses availability and use of samples in Quebec (page e546).¹¹ The available guidelines are incomplete, lack precision, and offer no specific recommendations regarding encounters with pharmaceutical sales representatives. Even though some Canadian universities have policies of their own to regulate contact between residents and pharmaceutical companies, these policies also seem incomplete or are rarely applied.¹²⁻¹⁴ To compensate for the lack of solid guidelines, some FMTUs might have developed guidelines of their own and others might have simply prohibited the use of samples, as many experts recommend.¹⁵⁻¹⁹ However, little is known about such local initiatives.

This study was inspired by a smaller-scale study led by the practice-based research network (PBRN) of the University of Montreal in Quebec.²⁰ This article is the first in a 3-part series on the use and management of drug samples in all FMTUs in Quebec.

The objective of this first article is to report on the existence of written local policies regarding drug sample use and management and on interactions between the pharmaceutical industry and family medicine residents; and to report on the knowledge of health care professionals (HCPs) about the existence of these policies and their opinions about the hypothetical implementation of policies by their academic departments of family medicine.

— Methods —

In this section, we describe the general method common to this 3-part series and the specific method relevant to this first report.

General study design

We conducted a descriptive cross-sectional study in all 42 FMTUs that had existed for at least 1 year at the

time of the study and that were affiliated with the 4 Quebec PBRNs: Laval University (n=12 FMTUs), McGill University (n=6 FMTUs), the University of Montreal (n=16 FMTUs), and the University of Sherbrooke (n=8 FMTUs). Data collection was performed between February and December 2013.

The directors of all FMTUs were first surveyed to identify which FMTUs kept drug samples. In those keeping drug samples, we invited all HCPs authorized to hand out samples (practising physicians, residents, pharmacists, and nurses) to complete an anonymous self-administered questionnaire on the use and management of drug samples. The questionnaire was divided into 4 parts: drug sample management policies, distribution and use of drug samples, relationships with pharmaceutical representatives, and opinions about implementing formal drug sample management policies. Those who reported using drug samples were referred to as *dispensers*. Health care professionals who had been working in an FMTU for less than 1 month were excluded.

In addition, HCPs or staff members who were in charge of drug sample management in these FMTUs (referred to as *managers*) completed a self-administered manager questionnaire and an inventory log sheet to collect information about the drug sample storage procedures and the contents of the drug sample cabinet, including drug names, manufacturers, quantities, packaging, and expiration dates.

The 3 data collection instruments were originally developed by a team from the University of Montreal PBRN and pretested with physicians, residents, and clinic pharmacists in 1 FMTU. A few minor problems were detected during the validation and the instruments were subsequently revised.²⁰ The study was approved by all research ethics boards of the involved institutions.

Method specific to part 1

In this article, we report data collected in the dispensers' and managers' questionnaires. In the initial survey to identify FMTUs with drug samples, we asked about the existence of policies regarding the use and management of drug samples. To validate these results and to obtain the information from FMTUs not having samples, between February and June 2014, we surveyed by e-mail or telephone the pharmacy departments of all health and social services centres (HSSCs) to which the FMTUs belonged, or in the absence of a pharmacy department, the director of the Council of Physicians, Dentists, and Pharmacists. We asked a single question: "Does your HSSC have a written policy on drug sample management?" All written policies were requested. We also surveyed all FMTU directors. Using the same method, we asked them 2 questions on drug sample management policies: "Does your FMTU have a written policy on drug sample management?" and "Does your FMTU apply the HSSC written policy for managing drug samples?"

In addition, 5 more questions pertaining to policies governing contact between residents and the pharmaceutical industry in the FMTUs were asked and all written policies were requested.

Data analysis

Descriptive and bivariate statistical analyses were all performed using SPSS software, version 20. Data from both series of questionnaires were compared when relevant, and data from the supplementary questionnaires were considered the most reliable information. The χ^2 test and the Fisher exact test were used to assess differences between university PBRNs and categories of HCPs.

— Results —

Among the 42 FMTUs, 33 (79%) kept drug samples; all had common drug sample cabinets. A total of 859 HCPs from the 33 FMTUs responded to the questionnaire on use and management of drug samples. The response rate varied significantly by university ($P < .001$) (Table 1). In the 33 FMTUs that kept drug samples, 579 (67%) HCPs (53% practising physicians, 33% residents, 13% nurses, and 2% pharmacists) reported using drug samples. The proportion of these drug sample dispensers varied significantly by university ($P < .001$) (Table 1).

A total of 40 managers from the 33 FMTUs that kept drug samples completed the managers' questionnaire. All pharmacy departments or directors of HSSCs and all 42 FMTU directors answered their respective surveys.

Knowledge of drug sample management policy

Ten (30%) of the 33 FMTUs that kept drug samples did not have a written policy about drug sample use and management in the FMTU or in the HSSC. In those FMTUs that had policies, they were found only in the FMTU in 4 cases (12% of the FMTUs that kept samples), only in the HSSC in 11 cases (33%), and in both the FMTU and the HSSC in 8 cases (24%). Among the 9 FMTUs without drug samples, 3 (33%) had a policy in the FMTU ($n=1$), in the HSSC ($n=1$), or in both ($n=1$).

Both the length and content of the policies were very heterogeneous (data not shown).

Among dispensers of drug samples, most said they did not know if a policy existed in their FMTU (51%) or HSSC (73%) (Table 2). Residents were more likely than other dispensers to report not knowing whether a policy existed in their FMTU (72% vs 42%, $P < .001$) or HSSC (82% vs 69%, $P = .001$). Among the dispensers who responded yes or no related to the existence of a policy in their FMTU or HSSC, 65% and 92% correctly answered yes, and 69% and 53% correctly answered no, respectively.

Knowledge of policy regulating the relationship between residents and industry

Only 11 (26%) FMTU directors reported having a policy regarding relationships between the pharmaceutical industry and residents. Among dispensers, 54% said they did not know if a policy existed or not. This lack of awareness of whether a policy existed was higher in residents than in other dispensers (68% vs 47%; $P < .001$).

Existence of and drug sample dispensers' knowledge of a policy regarding relationships between the pharmaceutical industry and residents are detailed in Table 3. Of the 42 FMTUs, 23 (55%) allowed contact between residents and industry representatives. Of these, 4 did not have drug samples available. In the 19 FMTUs that had drug samples, only 44 (24%) residents reported having contact with industry representatives, mostly during sponsored continuing medical education activities. Eight (10%) of 78 residents from FMTUs prohibiting contact with industry representatives reported such contact. According to FMTU directors, 5% ($n=9$) and 19% ($n=35$) of residents could have received industry sponsorship and drug samples directly from representatives, respectively.

A total of 75% and 73% of all 859 participants (including nondispensers) had either a very favourable or a favourable opinion of the hypothetical implementation of policies regarding the use and management of drug samples, and the relationships between the pharmaceutical industry and residents, respectively (Table 4).

Table 1. Response rate to the questionnaire and proportion of HCPs using drug samples in the 33 FMTUs that had drug samples available, by university

UNIVERSITY	NO. OF QUESTIONNAIRES DISTRIBUTED	QUESTIONNAIRES COMPLETED, N (%) [*]	DRUG SAMPLE USERS, N (%) [†]
Laval University	430	368 (86)	217 (59)
McGill University	187	104 (56)	62 (60)
University of Montreal	407	294 (72)	224 (76)
University of Sherbrooke	170	93 (55)	76 (82)
Total	1194	859 (72)	579 (67)

FMTU—family medicine teaching unit, HCP—health care professional.

^{*} χ^2_3 89.36, $P < .001$.

[†] χ^2_3 33.80, $P < .001$.

Table 2. Existence of written policies on drug samples in the FMTUs and HSSCs in Quebec and drug sample users' knowledge of these policies, by university: *Correct answers are in bold. Not all percentages add to 100 owing to rounding and not all respondents answered all questions.*

UNIT	EXISTENCE OF A POLICY ACCORDING TO DISPENSERS							
	WRITTEN POLICY*		IN FMTU, N (%)			IN HSSC, N (%)		
	IN FMTU	IN HSSC	YES	NO	DO NOT KNOW	YES	NO	DO NOT KNOW
Laval University								
• FMTU-1	Yes	Yes	4 (21)	5 (26)	10 (53)	10 (53)	3 (16)	6 (32)
• FMTU-2	Yes	No	2 (17)	4 (33)	6 (50)	1 (8)	3 (23)	9 (69)
• FMTU-3	No	Yes	3 (19)	7 (44)	6 (38)	7 (44)	1 (6)	8 (50)
• FMTU-4	No	Yes	1 (4)	9 (36)	15 (60)	4 (16)	5 (20)	16 (64)
• FMTU-5	Yes	Yes	21 (64)	3 (9)	9 (27)	13 (39)	0 (0)	20 (61)
• FMTU-6	Yes	Yes	6 (27)	7 (32)	9 (41)	3 (14)	2 (9)	17 (77)
• FMTU-7	No	No	1 (5)	5 (26)	13 (68)	0 (0)	2 (11)	17 (89)
• FMTU-8	No	Yes	6 (38)	3 (19)	7 (44)	9 (56)	1 (6)	6 (38)
• FMTU-9	No	No	0 (0)	6 (50)	6 (50)	0 (0)	3 (25)	9 (75)
• FMTU-10	No	Yes	2 (6)	8 (26)	21 (68)	3 (10)	1 (3)	27 (87)
• FMTU-11	Yes	No	1 (50)	0 (0)	1 (50)	0 (0)	0 (0)	2 (100)
• FMTU-12	No	No	2 (22)	4 (44)	3 (33)	1 (11)	4 (44)	4 (44)
• Total	NA	NA	49 (23)	61 (28)	106 (49)	51 (24)	25 (12)	141 (65)
University of Montreal								
• FMTU-13 [†]	Yes	Yes	NA	NA	NA	NA	NA	NA
• FMTU-14 [†]	No	No	NA	NA	NA	NA	NA	NA
• FMTU-15	Yes	Yes	1 (10)	5 (50)	4 (40)	3 (30)	0 (0)	7 (70)
• FMTU-16	Yes	Yes	4 (67)	0 (0)	2 (33)	2 (33)	0 (0)	4 (67)
• FMTU-17	No	Yes	1 (7)	4 (29)	9 (64)	3 (21)	1 (7)	10 (71)
• FMTU-18	No	No	0 (0)	13 (46)	15 (54)	0 (0)	8 (29)	20 (71)
• FMTU-19	No	Yes	1 (14)	4 (57)	2 (29)	4 (57)	0 (0)	3 (43)
• FMTU-20	Yes	Yes	4 (13)	7 (23)	19 (64)	1 (3)	1 (3)	28 (93)
• FMTU-21	Yes	No	1 (5)	12 (60)	7 (35)	0 (0)	3 (15)	17 (85)
• FMTU-22	No	Yes	0 (0)	8 (38)	13 (62)	0 (0)	3 (14)	18 (86)
• FMTU-23	No	Yes	2 (10)	9 (43)	10 (48)	0 (0)	1 (5)	20 (95)
• FMTU-24 [†]	No	No	NA	NA	NA	NA	NA	NA
• FMTU-25	Yes	No	5 (21)	5 (21)	14 (58)	3 (13)	2 (8)	19 (79)
• FMTU-26	No	Yes	2 (10)	10 (50)	8 (40)	3 (15)	2 (10)	15 (75)
• FMTU-27	Yes	Yes	4 (17)	7 (30)	12 (52)	5 (22)	1 (4)	17 (74)
• FMTU-28 [†]	No	No	NA	NA	NA	NA	NA	NA
• Total	NA	NA	25 (11)	84 (38)	115 (51)	24 (11)	22 (10)	178 (80)

Table 2 continued on page e536

Table 2 continued from page e535

UNIT	EXISTENCE OF A POLICY ACCORDING TO DISPENSERS							
	WRITTEN POLICY*		IN FMTU, N (%)			IN HSSC, N (%)		
	IN FMTU	IN HSSC	YES	NO	DO NOT KNOW	YES	NO	DO NOT KNOW
• FMTU-30	Yes	Yes	2 (13)	5 (33)	8 (53)	0 (0)	3 (20)	12 (80)
• FMTU-31	No	No	0 (0)	13 (48)	14 (52)	0 (0)	4 (15)	22 (85)
• FMTU-32	No	No	0 (0)	4 (40)	6 (60)	0 (0)	3 (30)	7 (70)
• FMTU-33†	No	No	NA	NA	NA	NA	NA	NA
• FMTU-34	No	No	0 (0)	2 (100)	0 (0)	1 (50)	0 (0)	1 (50)
• Total	NA	NA	2 (3)	27 (44)	32 (52)	1 (2)	10 (17)	49 (82)
University of Sherbrooke								
• FMTU-35†	No	Yes	NA	NA	NA	NA	NA	NA
• FMTU-36	No	No	2 (12)	10 (59)	5 (29)	1 (6)	4 (24)	12 (71)
• FMTU-37	No	Yes	1 (6)	6 (33)	11 (61)	2 (11)	1 (6)	15 (83)
• FMTU-38†	No	No	NA	NA	NA	NA	NA	NA
• FMTU-39	No	Yes	5 (31)	1 (6)	10 (63)	6 (38)	1 (6)	9 (56)
• FMTU-40	No	NA†	1 (4)	6 (24)	18 (72)	0 (0)	5 (24)	16 (76)
• FMTU-41†	No	No	NA	NA	NA	NA	NA	NA
• FMTU-42†	No	Yes	NA	NA	NA	NA	NA	NA
• Total	NA	NA	9 (12)	23 (30)	44 (58)	9 (13)	11 (15)	52 (72)
Overall total	NA	NA	85 (15)	195 (34)	297 (51)	85 (15)	68 (12)	420 (73)

FMTU—family medicine teaching unit, HSSC—health and social services centre, NA—not applicable.

*Based on the survey of HSSCs, FMTU directors, and drug sample managers.

†Health care professionals in FMTUs with no drug samples available were not invited to complete the users' questionnaire.

‡There was no HSSC associated with this FMTU in New Brunswick, as HSSCs do not exist in this province.

Table 3. Existence and drug sample users' knowledge of policies regarding relationships between the pharmaceutical industry and residents in the FMTUs in Quebec, by university: *Correct answers concerning policies are in bold; residents reporting contact with pharmaceutical representatives in the FMTUs despite policies against it are in bold and italic; percentages do not equal 100 owing to rounding.*

UNIT	EXISTING POLICY ACCORDING TO FMTU DIRECTOR	EXISTING POLICY ACCORDING TO USERS,* N 579			CONTACT ALLOWED ACCORDING TO POLICY	INTERACTION WITH PHARMACEUTICAL REPRESENTATIVES ACCORDING TO RESIDENTS, N 182	
		YES, N (%)	NO, N (%)	DO NOT KNOW, N (%)		YES, N (%)	NO, N (%)
		Laval University					
• FMTU-1	No	0 (0)	10 (53)	9 (47)	Yes	3 (75)	1 (25)
• FMTU-2	No	2 (15)	6 (46)	5 (38)	Yes	1 (33)	2 (67)
• FMTU-3	No	4 (25)	4 (25)	8 (50)	No	0 (0)	1 (100)
• FMTU-4	No	2 (8)	6 (24)	17 (68)	No	1 (8)	11 (93)
• FMTU-5	No	2 (6)	9 (27)	22 (67)	Yes	0 (0)	9 (100)
• FMTU-6	No	1 (5)	12 (55)	9 (41)	Yes	1 (17)	5 (83)
• FMTU-7	No	3 (16)	7 (37)	9 (47)	Yes	0 (0)	3 (100)
• FMTU-8	No	3 (19)	3 (19)	10 (63)	Yes	0 (0)	2 (100)
• FMTU-9	No	0 (0)	3 (25)	9 (75)	Yes	0 (0)	5 (100)
• FMTU-10	No	4 (13)	6 (19)	21 (68)	Yes	3 (27)	8 (73)
• FMTU-12	No	2 (22)	3 (33)	4 (44)	Yes	NA†	NA†
• Total	NA	24 (11)	69 (32)	124 (57)	NA	9 (16)	47 (84)

Table 3 continued on page e537

Table 3 continued from page e536

UNIT	EXISTING POLICY ACCORDING TO FMTU DIRECTOR	EXISTING POLICY ACCORDING TO USERS,* N 579			CONTACT ALLOWED ACCORDING TO POLICY	INTERACTION WITH PHARMACEUTICAL REPRESENTATIVES ACCORDING TO RESIDENTS, N 182	
		YES, N (%)	NO, N (%)	DO NOT KNOW, N (%)		YES, N (%)	NO, N (%)
• FMTU-13 [†]	Yes	NA	NA	NA	Yes	NA	NA
• FMTU-14 [†]	No	NA	NA	NA	No	NA	NA
• FMTU-15	Yes	3 (30)	2 (20)	5 (50)	Yes	2 (67)	1 (33)
• FMTU-16	Yes	5 (83)	1 (17)	0 (0)	Yes	0 (0)	2 (100)
• FMTU-17	No	2 (14)	2 (14)	10 (71)	Yes	2 (33)	4 (67)
• FMTU-18	No	4 (14)	11 (39)	13 (46)	Yes	12 (92)	1 (8)
• FMTU-19	No	2 (29)	2 (29)	3 (43)	No	NA [‡]	NA [‡]
• FMTU-20	No	3 (10)	5 (17)	22 (73)	No	1 (9)	10 (91)
• FMTU-21	Yes	7 (35)	8 (40)	5 (25)	No	1 (14)	6 (86)
• FMTU-22	No	4 (19)	6 (29)	11 (52)	No	0 (0)	6 (100)
• FMTU-23	No	4 (19)	8 (38)	9 (43)	No	0 (0)	8 (100)
• FMTU-24 [†]	No	NA	NA	NA	Yes	NA	NA
• FMTU-25	Yes	15 (63)	1 (4)	8 (33)	No	1 (11)	8 (89)
• FMTU-26	No	4 (20)	7 (35)	9 (45)	No	NA [‡]	NA [‡]
• FMTU-27	Yes	10 (43)	2 (9)	11 (48)	Yes	8 (80)	2 (20)
• FMTU-28 [†]	No	NA	NA	NA	No	NA	NA
• Total	NA	63 (28)	55 (25)	106 (47)	NA	27 (36)	48 (64)
McGill University							
• FMTU-29	No	0 (0)	1 (14)	6 (86)	No	0 (0)	4 (100)
• FMTU-30	No	3 (20)	4 (27)	8 (53)	No	1 (9)	10 (91)
• FMTU-31	No	0 (0)	11 (38)	18 (62)	Yes	0 (0)	9 (100)
• FMTU-32	No	3 (30)	1 (10)	6 (60)	Yes	0 (0)	1 (100)
• FMTU-33 [†]	Yes	NA	NA	NA	No	NA	NA
• FMTU-34	Yes	1 (50)	0 (0)	1 (50)	No	0 (0)	2 (100)
• Total	NA	7 (11)	17 (27)	39 (62)	NA	1 (4)	26 (96)
University of Sherbrooke							
• FMTU-35 [†]	No	NA	NA	NA	No	NA	NA
• FMTU-36	No	3 (18)	6 (35)	8 (47)	No	3 (75)	1 (25)
• FMTU-37	No	8 (47)	3 (18)	6 (35)	Yes	3 (75)	1 (25)
• FMTU-38 [†]	No	NA	NA	NA	No	NA	NA
• FMTU-39	No	4 (25)	2 (13)	10 (62)	No	0 (0)	3 (100)
• FMTU-40	Yes	2 (8)	6 (24)	17 (68)	Yes	1 (8)	12 (92)
• FMTU-41 [†]	No	NA	NA	NA	Yes	NA	NA
• FMTU-42 [†]	Yes	NA	NA	NA	Yes	NA	NA
• Total	NA	17 (23)	17 (23)	41 (55)	NA	7 (29)	17 (71)
Overall total	NA	111 (19)	158 (27)	310 (54)	NA	44 (24)	138 (76)

FMTU—family medicine teaching unit, HCP—health care professional, NA—not applicable.

*Includes responses from all dispensers (residents and teachers).

†No residents answered this question.

‡The HCPs were not invited to answer the questionnaire as there were no samples available in their FMTUs.

Table 4. Opinion of HCPs about hypothetical implementation of policies by family medicine departments regarding the use and management of drug samples, and the relationships between the pharmaceutical industry and residents: *N* 859.

OPINION	HYPOTHETICAL IMPLEMENTATION OF A POLICY BY THE FAMILY MEDICINE DEPARTMENTS REGARDING ...	
	USE AND MANAGEMENT OF DRUG SAMPLES, N (%)	RELATIONSHIP BETWEEN PHARMACEUTICAL INDUSTRY AND RESIDENTS, N (%)
Very favourable	287 (34)	292 (36)
Favourable	347 (41)	303 (37)
Neither favourable nor unfavourable	158 (19)	161 (20)
Unfavourable	51 (6)	47 (6)
Very unfavourable	9 (1)	19 (2)
Total	852* (100)	822 [†] (100)

HCP—health care professional.

*7 participants did not answer the question.

[†]37 participants did not answer the question.

— Discussion —

As far as we know, this is the first report regarding the existence of policies on drug sample management and use, and on the relationship between the pharmaceutical industry and family medicine residents in academic primary care settings in Quebec. Our results show that although most FMTUs kept drug samples, almost one-third did not have any policy to regulate their use and management. Only one-quarter of the FMTU directors reported having a policy regarding the relationship between the pharmaceutical industry and residents. Even if few residents reported contact with drug sales representatives, the fact that some FMTU directors asserted that residents could receive sponsorships and drug samples directly from industry representatives is of concern.

As previously mentioned, few official Canadian recommendations exist to regulate drug samples in primary health care settings. This could explain in part the heterogeneity we found in the existence of local policies to regulate drug samples in FMTUs, the knowledge dispensers had of these policies (which was especially lacking among residents), and the application of policies in the FMTUs. In fact, in the absence of strong and clear recommendations, managers and dispensers could underestimate the potential effects of mismanagement and misuse of drug samples.

The integration of a pharmacist in each FMTU interdisciplinary team is a project currently promoted by the Quebec Ministry of Health and Social Services; the presence of a pharmacist on site might improve the existence and application of policies on the management and use of drug samples in FMTUs. The results from the IMPACT (Integrating Family Medicine and Pharmacy to Advance Primary Care Therapeutics) program²¹ in Ontario suggest that a pharmacist working in a clinic might act as a liaison between industry representatives and clinic physicians to facilitate information transfer between parties. Such an initiative could

provide a framework for pharmaceutical industry contact within our family practice teaching environment. At the time of the study, only 9 FMTUs (21%) had a pharmacist within their team, in contrast to 97 (43%) of 224 family medicine residency programs in the United States surveyed in 2014.²²

Despite many publications on the ethical aspects of the relationships among practising physicians,²³ residents,²⁴ and industry representatives, we found only a minority of FMTUs had a policy regarding the relationship between the industry and residents. Education about pharmaceutical marketing practices and more restrictive policies governing interactions between medical schools and industry raised medical students' skepticism about the appropriateness of such marketing practices and disapproval of drug sales representatives in the learning environment.²⁴ Despite the lack of written policies, only one-quarter of residents reported meeting with drug sales representatives, which could explain why dispensers felt less concerned and were less aware of policies on the topic.

Most dispensers were favourable or very favourable to the hypothetical implementation of policies by the academic departments of family medicine regarding the use and management of drug samples and the relationship between the pharmaceutical industry and residents. We did not ask dispensers about what they would consider acceptable policies. However, considering all the concerns already mentioned with drug sample use and management, that 21% of the FMTUs do not use samples, and that in FMTUs having samples 33% of HCPs authorized to hand out samples reported not using them, decision makers responsible for writing such policies could simply consider prohibiting both the use of drug samples and contact with pharmaceutical industry representatives in FMTUs, as many experts recommend.¹⁵⁻¹⁹ A survey conducted in 2013 showed that 78% of 208 family medicine residency programs in the United States did not allow drug sample use and 62% of 245 programs reported not having any interaction with pharmaceutical companies.²⁵

Limitations

Our results cannot be generalized to all community-based ambulatory primary care clinics in Quebec. Family medicine teaching units are considered exemplary clinic models for the training of future family physicians. We might extrapolate that the existence, application, and knowledge of policies in non-academic primary care clinics is no better. As we did not find similar studies in the literature, it is also impossible to compare our results with other Canadian provinces and other countries.

We used self-administered questionnaires, and a social desirability bias might have affected our results. However, the anonymity of the data collection process probably limited this bias. Finally, misinterpretation of some questions by respondents might have led to an information bias. However, pretesting of the questionnaires and their revision by all members of the research team contributed to the clarity of the initial questionnaires, which was confirmed by the concordant responses to the supplementary questionnaire.

Conclusion

Local policies regarding the regulation of drug samples and relationships between the pharmaceutical industry and residents were often lacking and heterogeneous in the FMTUs in Quebec. Health care professionals' knowledge about these policies was minimal and their application was suboptimal. The potential negative effects of our findings on patients' health indicate the need to implement clear and uniform policies in all FMTUs in Quebec. 🌿

Dr Rhéaume is a clinical researcher in the Centre de recherche de l'Institut universitaire de cardiologie et de pneumologie de Québec and in the Department of Family Medicine and Emergency Medicine at Laval University in Quebec. **Dr Labrecque** is Professor Emeritus in the Department of Family Medicine and Emergency Medicine at Laval University. **Mrs Moisan** is a pharmacist, a clinical teacher, and Professor in the Department of Family Medicine and Emergency Medicine at Laval University. **Mr Rioux** and **Dr Tardieux** were research assistants in the Department of Family Medicine and Emergency Medicine at Laval University at the time of the study. **Dr Diallo** is a research coordinator in the Équipe de recherche en soins de première ligne du Centre intégré de santé et de services sociaux de Laval and at the Cité de la Santé Family Medicine Teaching Unit. **Dr Lussier** is Full Professor in the Department of Family Medicine and Emergency Medicine at the University of Montreal in Quebec, a member of the Équipe de recherche en soins de première ligne du Centre intégré de santé et de services sociaux de Laval, Director of the University of Montreal Primary Care Research Network, Regional Network Director for the Canadian Primary Care Sentinel Surveillance Network in Quebec, and a teacher and practising physician at the Cité de la Santé Family Medicine Teaching Unit. **Dr Lessard** is a clinical scientist in the Department of Family Medicine and Emergency Medicine at the University of Sherbrooke in Quebec and at the Centre intégré universitaire de santé et de services sociaux du Saguenay-Lac-Saint-Jean in Quebec. **Dr Grad** is a family physician in the Herzl Family Practice Centre in Montreal and Associate Professor in the Department of Family Medicine at McGill University. **Dr Pluye** is Associate Professor in the Department of Family Medicine at McGill University.

Acknowledgment

This study received funding from the University of Montreal Primary Care Research Network, Réseau-1 Québec, and the College of Family Physicians of Canada (Janus Research Grants). It was also supported by the grant awarded to **Dr Lessard** by the University of Sherbrooke. We thank all family medicine teaching units within the Quebec practice-based research networks for their participation and support. **Dr Rhéaume** is a clinical researcher who received a salary award from Lettre d'entente no. 250 from the Fonds de recherche du Québec – Santé and the Fédération des médecins omnipraticiens du Québec. **Dr Pluye** holds a salary award from the Fonds de recherche du Québec – Santé.

Contributors

Drs Rhéaume and **Labrecque** conceptualized and designed the study, provided input for statistical analyses with the help of **Dr Tardieux** and **Mr Rioux**, wrote the first draft of the manuscript, provided critical review and revision of the manuscript, and wrote the final manuscript. **Dr Lussier** was the principal investigator of the larger study on which this paper reports. **Dr Lussier**, **Dr Diallo**, **Mrs Moisan**, **Dr Grad**, and **Dr Pluye**

provided critical review and revision of the manuscript, and made substantial contributions to the conception and design of the work, analysis, interpretation of data, and revising the work critically. **Dr Tardieux** and **Mr Rioux** contributed to analysis and interpretation of data and to revising the work critically. All authors approved the final manuscript as submitted and agreed to act as guarantors of the work.

Competing interests

None declared

Correspondence

Dr Fatoumata Bint Diallo; e-mail fabinta2@gmail.com

References

- Canada's Research-Based Pharmaceutical Companies. *Code of ethical practices*. Ottawa, ON: Canada's Research-Based Pharmaceutical Companies; 2012. Available from: https://www.cag-acg.org/images/about/2012_rxd_code_of_ethical_practices.pdf. Accessed 2018 Oct 17.
- Watts SA, Replogle WH, Noble SL, Beebe DK. Drug sample availability and prescribing behavior. *J Am Board Fam Pract* 2002;15(6):509.
- Chew LD, O'Young TS, Hazlet TK, Bradley KA, Maynard C, Lessler DS. A physician survey of the effect of drug sample availability on physicians' behavior. *J Gen Intern Med* 2000;15(7):478-83.
- Boltri JM, Gordon ER, Vogel RL. Effect of antihypertensive samples on physician prescribing patterns. *Fam Med* 2002;34(10):729-31.
- Adair RF, Holmgren LR. Do drug samples influence resident prescribing behavior? A randomized trial. *Am J Med* 2005;118(8):881-4.
- Zipkin DA, Steinman MA. Interactions between pharmaceutical representatives and doctors in training. A thematic review. *J Gen Intern Med* 2005;20(8):777-86.
- Mintzes B, Lexchin J, Wilkes MS, Beaulieu MD, Reynolds E, Sutherland J, et al. Pharmaceutical sales representatives and patient safety. *J Gen Intern Med* 2013;28(11):1395.
- Hartung DM, Evans D, Haxby DG, Kraemer DF, Andeen G, Fagnan LJ. Effect of drug sample removal on prescribing in a family practice clinic. *Ann Fam Med* 2010;8(5):402-9.
- Lessard A, Lussier MT, Diallo FB, Rhéaume C, Labrecque M, Grad R, et al. Drug samples in family medicine teaching units: a cross-sectional descriptive study. Part 2: portrait of drug sample management in Quebec. *Can Fam Physician* 2018;64:e540-5.
- Canadian Medical Association. *Guidelines for physicians in interactions with industry*. Ottawa, ON: Canadian Medical Association; 2007.
- Lussier MT, Diallo FB, Pluye P, Grad R, Lessard A, Rhéaume C, et al. Drug samples in family medicine teaching units: a cross-sectional descriptive study. Part 3: availability and use of drug samples in Quebec. *Can Fam Physician* 2018;64:e546-52.
- Shnier A, Lexchin J, Mintzes B, Jutel A, Holloway K. Too few, too weak: conflict of interest policies at Canadian medical schools. *PLoS One* 2013;8(7):e68633.
- Persaud N. Questionable content of an industry-supported medical school lecture series: a case study. *J Med Ethics* 2014;40(6):414-8. Epub 2013 Jun 11.
- Glauser W. Pharma influence widespread at medical schools: study. *CMAJ* 2013;185(13):1121-2. Epub 2013 Aug 12.
- Chimonas S, Kassirer JP. No more free drug samples? *PLoS Med* 2009;6(5):e1000074. Epub 2009 May 12.
- Brennan TA, Rothman DJ, Blank L, Blumenthal D, Chimonas SC, Cohen JJ, et al. Health industry practices that create conflicts of interest: a policy proposal for academic medical centers. *JAMA* 2006;295(4):429-33.
- Hager M, Russell S, Fletcher SW, editors. *Continuing education in the health professions: improving healthcare through lifelong learning. Proceedings of a conference sponsored by the Josiah Macy, Jr. Foundation; 2007 Nov 28 - Dec 1; Bermuda*. New York, NY: Josiah Macy Jr Foundation; 2008. Available from: http://macyfoundation.org/docs/macy_pubs/pub_ContentEd_inHealthProf.pdf. Accessed 2018 Oct 17.
- Institute of Medicine. *Conflict of interest in medical research, education, and practice*. Washington, DC: National Academies Press; 2009. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK22942>. Accessed 2018 Oct 17.
- Association of American Medical Colleges. *Report of the AAMC Task Force on Industry Funding of Medical Education to the AAMC Executive Council*. Washington, DC: Association of American Medical Colleges; 2008. Available from: www.ohsu.edu/xd/about/services/integrity/coi_gifts/upload/AAMCindustryfunding.pdf. Accessed 2018 Oct 17.
- Lussier MT, Vanier MC, Authier M, Diallo FB, Gagnon J. Drug sample management in University of Montreal family medicine teaching units. *Can Fam Physician* 2015;61:e417-24. Available from: www.cfp.ca/content/cfp/61/9/e417.full.pdf. Accessed 2018 Oct 11.
- Pottie K, Haydt S, Farrell B, Kennie N, Sellors C, Martin C, et al. Pharmacist's identity development within multidisciplinary primary health care teams in Ontario; qualitative results from the IMPACT project. *Res Social Adm Pharm* 2009;5(4):319-26. Epub 2009 Apr 25.
- Jarrett JB, Lounsbury JL, D'Amico F, Dickerson LM, Franko J, Nagle J, et al. Clinical pharmacists as educators in family medicine residency programs: a CERA study of program directors. *Fam Med* 2016;48(3):180-6.
- De Ferrari A, Gentile C, Davalos L, Huayanay L, Malaga G. Attitudes and relationship between physicians and the pharmaceutical industry in a public general hospital in Lima, Peru. *PLoS One* 2014;9(6):e100114.
- Pokorny AM, Gittins CB. Dangerous liaisons: doctors-in-training and the pharmaceutical industry. *Intern Med J* 2015;45(10):1085-8.
- Brown SR, Evans DV, Fugh-Berman A. Pharmaceutical industry interactions in family medicine residencies decreased between 2008 and 2013: a CERA study. *Fam Med* 2015;47(4):279-82.

This article has been peer reviewed.

Cet article a fait l'objet d'une révision par des pairs.

Can Fam Physician 2018;64:e531-9