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# Collaboration between family physicians and community pharmacists

*Opinions of graduates in family medicine*

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## Abstract

**Objective** To ascertain the opinions of graduating family physicians about collaboration between family physicians and community pharmacists.

**Design** Anonymous online survey.

**Setting** Two French-Canadian university family medicine residency programs.

**Participants** The 2010 and 2011 graduating family physicians (N=343) from the University of Montreal and Laval University in Quebec.

**Main outcome measures** Content of written prescriptions; frequency of and reasons for consultations with community pharmacists; and graduates' perceptions of sharing professional responsibilities with community pharmacists.

**Results** The response rate was 54.2%. Overall, graduates were open to collaborating actively with community pharmacists. For example, at least 60% of graduates reported that it was important to write on prescriptions about any changes to patients' medication and creatinine clearance. Most graduates responded positively to sharing responsibility for the adjustment of treatment of patients with certain chronic conditions (88.3% for anticoagulation, 64.7% for hypercholesterolemia, 61.2% for hypertension, and 60.6% for diabetes) and for the initiation of treatment of minor conditions according to a collective prescription (80.6% for traveler's diarrhea, 74.1% for juvenile acne, and 73.6% for allergic rhinitis). However, such interprofessional collaboration requires that each professional group continues to adapt to its roles and responsibilities.

**Conclusion** Family medicine graduates are open to actively collaborating with community pharmacists, but they have some reservations regarding sharing certain responsibilities. As collaborative practices are changing, graduates' opinions should be documented once they are actually practising.

### EDITOR'S KEY POINTS

- The need for better collaboration between family physicians and community pharmacists has been well documented. However, little is known about how recently trained family physicians perceive this collaboration.
- The goal of this study was to explore the perceptions of graduates in family medicine regarding collaboration between family physicians and community pharmacists. The study shows that graduates are open to collaborating actively with community pharmacists. These results are very positive, especially as collaborative practices are in their infancy.
- Collaboration between family physicians and community pharmacists needs to improve. Joint activities involving residents in family medicine and community pharmacists should be developed or consolidated to better determine the roles and responsibilities of each professional group.

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# Collaboration entre médecins de famille et pharmaciens de la communauté

## L'opinion des diplômés en médecine familiale

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### Résumé

**Objectif** Sonder l'opinion des diplômés en médecine familiale sur la collaboration entre médecins de famille et pharmaciens de la communauté.

**Type d'étude** Enquête anonyme en ligne.

**Contexte** Les programmes de résidence en médecine familiale de 2 universités francophones du Canada.

#### POINTS DE REPÈRE DU RÉDACTEUR

- La nécessité d'une meilleure collaboration entre médecins de famille et pharmaciens de la communauté est maintenant bien documentée. Toutefois, on sait peu de chose sur ce que les médecins de famille récemment diplômés pensent d'une telle collaboration.
- Cette étude avait pour but de vérifier ce que les nouveaux médecins de famille pensent de la collaboration entre médecins de famille et pharmaciens de la communauté. Les résultats indiquent que les diplômés sont ouverts à l'idée de collaborer activement avec les pharmaciens de la communauté. Il s'agit de résultats très encourageants puisque cette façon de faire en est à ses tout débuts.
- Il y a lieu d'améliorer la collaboration entre médecins de famille et pharmaciens du milieu naturel. Il faudrait mettre sur pied ou consolider des activités réunissant résidents en médecine familiale et pharmaciens de la communauté afin de mieux préciser les rôles et responsabilités de chacune de ces professions.

Cet article a fait l'objet d'une révision par des pairs.  
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**Participants** les finissants en médecine familiale de 2010 et 2011 (N=343) de l'Université de Montréal et de l'Université Laval à Québec.

**Principaux paramètres à l'étude** Le contenu des prescriptions écrites; la fréquence et les raisons des consultations avec les pharmaciens; et l'opinion des participants sur le partage des responsabilités professionnelles avec les pharmaciens de la communauté.

**Résultats** Le taux de réponse était de 54,2%. Dans l'ensemble, les participants étaient ouverts à l'idée de collaborer activement avec les pharmaciens. Ainsi, au moins 60% d'entre eux étaient d'avis qu'il était important de mentionner sur les prescriptions tout changement de la médication ou de la clairance de la créatinine des patients. La plupart des diplômés voyaient d'un bon œil le fait de partager la responsabilité lorsqu'on doit ajuster le traitement dans certaines affections chroniques (88,3% pour l'anticoagulation, 64,7% pour l'hypercholestérolémie, 61,2% pour l'hypertension et 60,6% pour le diabète) et pour instaurer le traitement d'une affection mineure en vertu d'une prescription collective (80,6% pour la diarrhée du voyageur, 74,1% pour l'acné juvénile et 73,6% pour la rhinite allergique). Toutefois, une telle collaboration interprofessionnelle exige que chacun des groupes professionnels s'adapte à ses rôles et responsabilités.

**Conclusion** Les diplômés en médecine familiale sont ouverts à collaborer activement avec les pharmaciens de la communauté, mais ils expriment quelques réserves pour ce qui est de partager certaines responsabilités. Puisque ce type de collaboration évolue, il sera bon de réévaluer l'opinion des diplômés une fois qu'ils seront effectivement en pratique.

Collaborative practice consists of “a partnership between a team of health providers and a client in a participatory, collaborative and coordinated approach to shared decision-making around health and social issues.”<sup>1</sup> For many health issues, this practice is considered to be a way of providing high-quality, effective, and efficient care that benefits patients, health professionals, and health care organizations.<sup>2</sup> The College of Family Physicians of Canada,<sup>3</sup> the Royal College of Physicians and Surgeons of Canada,<sup>4</sup> as well as the accreditation organizations of faculties of medicine<sup>5</sup> and pharmacy,<sup>6</sup> believe that interprofessional collaboration is an essential competency to develop. Indeed, several training initiatives and collaboration experiences between physicians and pharmacists are discussed in the literature.<sup>7-14</sup>

In Canada, more than 70% of pharmacists practise mainly in neighbourhood pharmacies; they are called *community pharmacists*.<sup>15</sup> In 2002, the Commission on the Future of Health Care in Canada<sup>16</sup> indicated that community pharmacists were being underused. With Bill 90,<sup>17</sup> Quebec legislators acknowledged pharmacists' place in initiating, adjusting, and managing drug therapies prescribed to patients using, for instance, collective prescriptions. The legislation provides opportunities to optimize patient follow-up through collaboration between physicians and pharmacists, especially for anticoagulation therapy, hypertension, diabetes, and dyslipidemia. Although some studies have documented the positive attitudes of health sciences faculty members toward interprofessional collaboration<sup>18</sup> and of practising physicians toward pharmacists,<sup>9,10,14</sup> to our knowledge, no study has looked at perceptions of future family physicians regarding collaborative practice between family physicians and community pharmacists. That is why we decided to formulate this research question: How do family medicine graduates perceive collaboration between family physicians and community pharmacists? More specifically, the goal of our study is to explore the opinions of graduates in family medicine about collaboration with community pharmacists with regard to 3 distinct themes: content of prescriptions (ie, what should be written on prescriptions); frequency of and reasons for residents' telephone consultations with community pharmacists; and how graduates envision physicians and pharmacists sharing professional responsibilities.

## METHODS

Data were obtained from the Médecins Prévention À Coeur (Doctors Taking Prevention to Heart) study,<sup>19</sup> an ongoing research project aimed at documenting the extent to which prevention and multidisciplinary collaboration were valued in medical training.

Our study was conducted using an online survey. Six questions (30 items) were designed to measure the perceptions of respondents regarding different aspects of collaboration with community pharmacists: content of the written prescription; frequency of and reasons for telephone consultations with community pharmacists; and sharing of professional responsibilities with regards to the prescriptions written for patients (eg, checking contraindications, explaining side effects), as well as adjusting and initiating treatment of patients with chronic illnesses. The questions were worded in terms of the main issues related to collaborative practices, specifically between physicians and pharmacists,<sup>20-23</sup> and the experiences of the research team members. All questions used in the survey were pretested with a sample of medical students to ensure ease of comprehension and clarity.

The survey was administered at the end of residency training in 2010 and 2011 to the entire population of graduating family physicians at 2 Canadian universities: University of Montreal and Laval University. This population is mostly female (73% in 2010; 70% in 2011) and French-Canadian. Most family medicine graduates had started or completed university degrees before undertaking medical studies (58.2%); the others (41.8%) were Collège d'enseignement général et professionnel (general and technical college) graduates. Graduates initially received a cover letter by e-mail that included instructions to access the survey website. E-mail addresses were obtained by the program directors. There were no exclusion criteria.

Use of an independent website to record the details of respondents completing the survey ensured anonymity. To encourage participation, respondents were entered into a draw with the possibility of winning a gift voucher. Three follow-up e-mail communications were sent after the questionnaire was initially mailed out. We analyzed the data using SPSS software. The study design was approved by the University of Montreal Research Ethics Committee.

## RESULTS

Of the 343 graduating family physicians contacted, 186 of them completed the survey, for a response rate of 54.2%. There were more respondents from Laval University (61.6%) than from University of Montreal (48.7%), and there were more female respondents than male (**Table 1**). The 2010 and 2011 surveys were merged, given that they yielded similar results. The responses of female and male participants were also similar. Concerning the questions on collaboration with pharmacists, the number of respondents varied from 170 to 172, depending on the questions (response rate of 50%).

**Table 1. Population size, number of respondents, and response rate for each cohort**

COHORT	POPULATION SIZE, N	RESPONDENTS, N	RESPONSE RATE, %
2010			
• Women	117	67	57.3
• Men	44	14	31.8
• Total	161	81	50.3
2011			
• Women	128	86	67.2
• Men	54	19	35.2
• Total	182	105	57.7
Total	343	186	54.2

### Responses

**Content of prescriptions.** At least 60% of respondents reported that most or almost all of their supervisors asked them to write the following information on prescriptions: physician’s name, changes made to a patient’s medication, and creatinine clearance (Table 2). Conversely, a minority of residents’ supervisors or almost none asked them to include therapeutic intent and children’s weight.

**Frequency of and reasons for telephone consultations with pharmacists.** Residents consulted with community pharmacists mostly to obtain complete lists of patients’ medications (Table 3). Moreover, 30% to 40% of respondents reported having contacted pharmacists at least 5 times for the following reasons: to ask for a pharmacotherapeutic opinion, to verify adherence to treatment, or to check for possible drug interactions.

### Responsibilities of physicians and community pharmacists

**Considering prescription information:** More than 60% of respondents attributed equal responsibility to

**Table 3. Respondents’ frequency of and reasons for telephone consultations with community pharmacists in the past 12 months: N = 172.**

REASON FOR CONSULTATION	RESPONDENTS’ REPORTED FREQUENCY OF TELEPHONE CONSULTATIONS WITH PHARMACISTS, %			
	> 5 TIMES	2 TO 5 TIMES	ONCE	NEVER
Obtain a complete list of medications a patient is taking	93.6	5.8	0.6	0.0
Ask for a pharmacotherapeutic opinion	40.1	41.3	12.2	6.4
Verify adherence to treatment	35.5	47.1	8.7	8.7
Check the possibility of drug interactions	30.2	47.1	15.1	7.6

physicians and community pharmacists for checking contraindications of prescribed drugs and for informing patients about the expected and the adverse effects of medications (Table 4). In all, 90.0% of respondents considered that it is mostly up to pharmacists to determine the optimal conditions for taking the medication.

**Managing patients with chronic illnesses:** With regard to management of patients with chronic illnesses (eg, hypertension, diabetes, chronic obstructive pulmonary disease), almost 80% of graduates said that both physicians and community pharmacists were responsible for assessing adherence to treatment and motivating patients to take their medications (Table 5). However, their opinions were less favourable toward pharmacists being responsible for ensuring that patients get the information they need to manage their disease. Furthermore, respondents indicated that it was mostly or only a physician’s responsibility to counsel patients on their lifestyle habits (65.3%), whereas managing

**Table 2. Percentage of respondents who reported how many of their supervisors expected various information to be written on prescriptions: N = 171.**

INFORMATION TO BE WRITTEN ON A PRESCRIPTION	RESPONDENTS WHO REPORTED HOW MANY OF THEIR SUPERVISORS EXPECTED THEM TO WRITE THE INFORMATION ON PRESCRIPTIONS, %*				
	ALMOST ALL SUPERVISORS	MOST SUPERVISORS	ABOUT HALF OF THE SUPERVISORS	A MINORITY OF SUPERVISORS	ALMOST NONE
Physician’s name, in block letters or stamped	43.9	26.9	15.2	8.7	5.3
Changes made to the drug prescribed (discontinue, increase or reduce dose)	38.0	22.2	4.6	16.4	18.7
Creatinine clearance (if patient suffers from renal impairment)	33.9	32.2	15.2	12.9	5.8
Child’s weight (if appropriate)	18.7	8.2	4.7	13.5	55.0
Therapeutic intent	4.7	4.1	7.1	22.4	61.5

\*Some percentages do not add to 100% owing to rounding.

**Table 4. Percentage of respondents who attribute prescription information responsibilities to physicians or community pharmacists:  $N = 170$ .**

RESPONSIBILITY	RESPONDENTS' ATTRIBUTION OF PRESCRIPTION RESPONSIBILITIES, %				
	ONLY PHYSICIANS	MOSTLY PHYSICIANS	BOTH PHYSICIANS AND PHARMACISTS	MOSTLY PHARMACISTS	ONLY PHARMACISTS
Check the contraindications to the prescribed drugs	0.6	8.2	71.7	17.1	2.4
Explain the expected effects of the medication to the patient	2.9	16.5	70.0	10.6	0.0
Inform a patient about adverse effects	0.0	2.4	60.6	35.2	1.8
Determine the optimal conditions (eg, time of day, with or without food) for taking the medication	0.0	0.6	9.4	62.9	27.1

**Table 5. Percentage of respondents who attribute various responsibilities regarding the management of patients with chronic illnesses to physicians or community pharmacists:  $N = 170$ .**

RESPONSIBILITY	RESPONDENTS' ATTRIBUTION OF ACTIVITIES REGARDING MANAGEMENT OF PATIENTS WITH CHRONIC ILLNESSES, %				
	ONLY PHYSICIANS	MOSTLY PHYSICIANS	BOTH PHYSICIANS AND PHARMACISTS	MOSTLY PHARMACISTS	ONLY PHARMACISTS
Assess adherence to treatment	0.0	13.5	78.8	7.7	0.0
Motivate patients so that they take their medication	0.0	17.8	77.5	4.7	0.0
Ensure that patients get the information they need to manage their disease	3.5	49.4	44.7	2.4	0.0
Counsel patients on their lifestyle habits	5.3	60.0	33.5	1.2	0.0
Manage drug interactions	0.0	2.4	48.7	47.1	1.8

drug interactions was mostly or only the pharmacist's responsibility (48.9%).

*Adjusting treatment of various chronic conditions:* More than 60% of respondents completely agreed or somewhat agreed that community pharmacists should be authorized to adjust treatment according to protocols based on therapeutic guidelines for patients who have various chronic medical conditions, particularly patients who require anticoagulant therapy (88.3%). However, about a third of respondents had less-favourable opinions about having pharmacists adjust treatment for chronic conditions such as asthma, diabetes, hypercholesterolemia, and hypertension. Opinions were more divided concerning pain relief (Table 6).

*Initiating treatment through a collective prescription:* More than 70% of graduates completely agreed or somewhat agreed that a community pharmacist should be authorized, through a collective prescription, to initiate treatment when a patient is seen for traveler's diarrhea (80.6%), juvenile acne (74.1%), or allergic rhinitis (73.6%) (Table 7). Although opinions were less favourable than for the other preceding conditions, most graduates still agreed that community pharmacists should be allowed to initiate treatment of hormonal contraception and uncomplicated cystitis. However, 3

out of 4 respondents completely disagreed or disagreed somewhat when asked if pharmacists should initiate treatment of pharyngitis.

## DISCUSSION

The goal of the survey was to explore the perceptions of graduates in family medicine regarding collaboration between family physicians and community pharmacists. Overall, our results indicate that graduates are open to collaborating actively with community pharmacists. These results are very positive, especially as collaborative practices are in their infancy. Such collaboration is of varying complexity; examples include writing important clinical data (eg, creatinine levels) on prescriptions in order to make it easier to adjust medications, and agreeing to share several professional responsibilities traditionally reserved for family physicians (eg, adjustment of anticoagulant therapy or initiation of treatment of traveler's diarrhea) that follow from collective prescriptions. This finding is encouraging because increasingly more training initiatives are being implemented in health sciences programs—including family medicine—to make future

**Table 6. Percentage of respondents who agreed that community pharmacists should adjust treatment, according to protocols based on therapeutic guidelines, for patients with various chronic conditions: N = 170.**

CHRONIC ILLNESS	RESPONDENTS, %*			
	COMPLETELY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	COMPLETELY DISAGREE
Anticoagulant therapy	52.4	35.9	6.5	5.3
Asthma	23.5	40.6	22.9	12.9
Diabetes	23.5	37.1	27.0	12.4
Hypercholesterolemia	24.7	40.0	24.1	11.2
Hypertension	24.1	37.1	27.6	11.2
Pain relief	15.9	34.7	35.3	14.1

\*Some percentages do not add to 100% owing to rounding.

**Table 7. Percentage of respondents who agreed that community pharmacists should initiate treatment, according to a collective prescription, for patients with various chronic conditions: N = 170.**

CHRONIC CONDITION	RESPONDENTS, %*			
	COMPLETELY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	COMPLETELY DISAGREE
Traveler's diarrhea	31.8	48.8	11.8	7.6
Juvenile acne (topical treatment)	29.4	44.7	16.5	9.4
Allergic rhinitis (treatment other than antihistamines)	27.1	46.5	16.5	10.0
Regular hormonal contraception	22.9	34.7	27.1	15.3
Uncomplicated cystitis	18.8	37.1	28.8	15.3
Pharyngitis	10.0	14.7	52.9	22.4

\*Some percentages do not add to 100% owing to rounding.

professionals aware of the importance of collaborative practice and of learning about it.

However, some studies show that although the perception of collaboration with community pharmacists is promising, such collaboration requires “arrangements” of roles and responsibilities between the 2 professions, and this poses a number of challenges.<sup>20-25</sup> For instance, our results show that supervisors do not seem to value including therapeutic intent on prescriptions (Table 2), even though this information is often useful or even necessary for pharmacists to intervene effectively.<sup>24</sup> Working collaboratively requires communicating to pharmacists the information they need to do their jobs appropriately.<sup>25</sup> How will future doctors develop this

habit if their preceptors do not value it? This aspect is important because learning from supervisors, whom students see as their role models, plays a determining role in developing residents’ professional skills.<sup>26</sup>

An analysis of the frequency of and the reasons for consulting community pharmacists revealed that graduates did so infrequently, and usually for “traditional” reasons (eg, obtaining the list of a patient’s medications); consulting pharmacists for their pharmacologic expertise, such as to ask for a professional opinion, was less common. Perhaps residents did not have to consult pharmacists more often because they had access to electronic tools that answered their questions on medications. Unfortunately, we did not have the number of times and frequency with which residents accessed electronic tools. Our results can also be explained by the fact that graduates had access to hospital pharmacists who were members of their team. Another explanation might be graduates’ lack of knowledge of pharmacists’ professional expertise in management of chronically ill patients: graduates are more likely to be aware of the drug management role of community pharmacists and less likely to see pharmacists’ contributions as complementing the physician’s role (eg, providing lifestyle habit counseling and pharmaceutical care to patients). However, regarding the question about who should ensure that a patient is given the information required to manage his or her disease (Table 5), the fact that around 50% of graduates consider this responsibility to be mostly the physician’s does not necessarily mean they are not aware of the pharmacist’s role: graduates might have interpreted “disease management” as medical management of a health problem. With regard to the question about pharmacists prescribing drugs for pain management according to protocols based on therapeutic guidelines, we do not know how respondents interpreted this question: prescribing anti-inflammatories is one thing; prescribing narcotics is another matter.

When analyzing results related to adjusting or initiating treatments as per a collective prescription, opinions were much more divided. Such a plurality of viewpoints illustrates that the roles and responsibilities inherent in collaborative practice require continual adjustments, which do not necessarily go smoothly. Beyond corporatist issues, it remains that sharing professional responsibilities largely rests on the nature of the clinical situation. For instance, it is easier to initiate treatment of a problem like traveler’s diarrhea or juvenile acne because neither necessarily requires clinical examination. However, medical or laboratory examination is needed for cystitis and pharyngitis. (Hormonal contraception is an exception, as in Quebec nurses can now prescribe it.) Therefore, the results are not surprising.

Furthermore, we can question whether the multiple opinions of graduates are also linked to an unfamiliarity

with the meaning of *collective prescription*. Overall, graduates' opinions about shared responsibility conform to those expressed by general practitioners and specialists in a recent survey on the responsibilities of pharmacists carried out by the Association Médicale du Québec.<sup>27</sup> Overall, respondents indicated that they somewhat agreed with the fact that community pharmacists adapt, extend, or initiate treatment based on preestablished conditions in order to contribute to solving certain simple health problems.

The field of interprofessional collaboration is shifting. In Quebec, the public stands taken recently by professional orders and legislative action undertaken by the provincial government (Bill 41) will result in changes in the roles of pharmacists and physicians and how these roles are shared in collaborative practice. In the near future, collaboration will not only be a question of perception but also of integration into the clinical practices of future physicians.

### Strengths and limitations

This survey was conducted in 2 of Quebec's family medicine training programs, and we consider the overall response rate of 54.2% to be good for this type of study. In addition, because of the precision of the questions graduates were asked, we believe we have accurately defined their opinions about collaboration with community pharmacists and attenuated a possible social desirability effect. However, we are cautious about generalizing results, as they are based on voluntary participation of graduates from Francophone settings only. Furthermore, compared with all family medicine graduates, female respondents in 2010 were underrepresented (72.7% vs 57.3%). Moreover, although we asked graduates about collaboration with community pharmacists, during training residents come into contact more frequently with pharmacists who work in hospitals; this could have had an influence on the results. Finally, the fact that there are faculties of pharmacy at the University of Montreal and Laval University might have also modified the results because these universities often share the same hospital clinical area for both graduates of pharmacy and of family medicine residency training.

### Study effect and future research

The study has enhanced our understanding of how future family physicians perceive collaboration with community pharmacists. The results encourage us to not only pursue interprofessional collaboration training initiatives that are currently included in predoctoral and postdoctoral medical education, but also to initiate discussions on how to improve collaboration between family physicians and community pharmacists. There is no doubt that joint activities involving residents in family

medicine and community pharmacists should be developed or consolidated to better determine the roles and responsibilities of each professional group; there should also be more consideration given to improving collaboration between these professional groups for the good of patients. Moreover, the following 2 areas of research seem promising: describing perceptions of teachers in family medicine regarding collaboration with community pharmacists; and documenting how graduates' perceptions evolve when they are involved in their own professional practices.

### Conclusion

Our results indicate that graduates in family medicine are open to collaborating actively with community pharmacists, for example, for prescriptions and for follow-up of some patients with certain types of chronic disease. Graduates' willingness to collaborate with pharmacists could contribute to community pharmacists having active roles in primary care and in health promotion programs.

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#### Contributors

All authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

#### Competing interests

None declared

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