

# Interprofessional primary care in academic family medicine clinics

## Implications for education and training

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### Abstract

**Objective** To explore the status and processes of interprofessional work environments and the implications for interprofessional education in a sample of family medicine teaching clinics.

**Design** Focus group interviews using a purposive sampling procedure.

**Setting** Four academic family medicine clinics in Alberta.

**Participants** Seven family physicians, 9 registered nurses, 5 licensed practical nurses, 2 residents, 1 psychologist, 1 informatics specialist, 1 pharmacist, 1 dietitian, 1 nurse practitioner, 1 receptionist, and 1 respiratory therapist.

**Methods** Assessment of clinic status and performance in relation to established principles of interprofessional work and education was explored using semistructured focus group interviews.

**Main findings** Our data supported the D'Amour and Oandasan model of successful interprofessional collaborative practice in terms of the model's main "factors" (ie, shared goals and vision, sense of belonging, governance, and the structuring of clinical care) and their constituent "elements." It is reasonable to conclude that the extent to which these factors and elements are both present and positively oriented in academic clinic settings is an important contributory factor to the establishment of interprofessional collaborative practice in primary care. Using this model, 2 of the 4 clinics were rated as expressing substantial progress in relation to interprofessional work, while the other 2 clinics were rated as less successful on that dimension. None of the clinics was identified as having a clear and explicit focus on providing interprofessional education.

**Conclusion** The key factor in relation to the implementation of interprofessional work in primary care appears to be the existence of clear and explicit leadership in that direction. Substantial scope exists for improvement in the organization, conduct, and promotion of interprofessional education for Canadian primary care.

### EDITOR'S KEY POINTS

- The goal of this study was to examine academic family medicine clinics in Alberta that have implemented interprofessional practices to varying degrees in order to understand the components implicated in the performance of interprofessional collaborative care.
- The presence or absence of leadership that is focused on interprofessional collaborative clinical work appears to be fundamental to the development and sustainability of interprofessional practices and the interprofessional education associated with them.
- Generating clinic organizational leadership to create conditions to foster interprofessional development requires change in academic curricula and in the stances of professional bodies accrediting them. This study shows that changes are taking place, but it also reveals that there is still much to be done.

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# Soins primaires interprofessionnels dans des cliniques universitaires de médecine familiale

## Répercussions sur la formation et l'apprentissage

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### Résumé

**Objectif** Étudier l'état et le fonctionnement des milieux de travail interprofessionnels ainsi que leurs répercussions sur la formation interprofessionnelle dans un échantillon de cliniques d'enseignement de médecine familiale.

**Type d'étude** Entrevues avec des groupes de discussion à partir d'un échantillonnage raisonné.

**Contexte** Quatre cliniques de médecine familiale universitaires en Alberta.

**Participants** Sept médecins de famille, 9 infirmières diplômées, 5 infirmières auxiliaires, 2 résidents, 1 psychologue, 1 informaticien, 1 pharmacien, 1 diététiste, 1 infirmière praticienne, 1 réceptionniste et 1 inhalothérapeute.

**Méthodes** On a réalisé des entrevues semi-structurées avec des groupes de discussion pour évaluer l'état et le fonctionnement des cliniques par rapport aux principes reconnus du travail et de la formation interprofessionnels.

**Principales observations** Nos données sont conformes au modèle de D'Amour et Oandasan pour une pratique interprofessionnelle en collaboration en ce qui concerne les principaux facteurs (c.-à-d. partage des visions et des buts, sentiment d'appartenance, gouvernance et organisation des soins cliniques) et les éléments constitutifs d'un tel modèle. On peut raisonnablement conclure que le degré auquel ces facteurs et ces éléments sont présents et positivement orientés dans un milieu clinique universitaire est un important facteur favorisant l'établissement d'une pratique interprofessionnelle en collaboration dans un contexte de soins primaires. En utilisant ce modèle, on a jugé que 2 des 4 cliniques avaient fait des progrès substantiels pour ce qui est du travail interprofessionnel tandis que les 2 autres avaient moins bien réussi sur ce point. Aucune des cliniques n'a démontré une intention claire et explicite de fournir une formation interprofessionnelle.

**Conclusion** Le facteur clé en rapport avec l'instauration d'un travail interprofessionnel dans les soins primaires semble être la présence d'un leadership clair et explicite dans cette direction. Il reste beaucoup à faire pour améliorer l'organisation, la mise en place et la promotion de la formation interprofessionnelle dans les soins primaires au Canada.

#### POINTS DE REPÈRE DU RÉDACTEUR

- Cette étude avait pour but d'examiner certaines cliniques de médecine familiale universitaires de l'Alberta qui ont instauré, à des degrés divers, des modes de pratique interprofessionnels, afin de comprendre les facteurs qui jouent un rôle dans la réussite de ce type de pratique en collaboration.
- La présence d'un leadership axé sur le travail clinique interprofessionnel en collaboration paraît essentielle au développement et au maintien d'une pratique interprofessionnelle ainsi qu'à la formation interprofessionnelle connexe.
- Pour susciter un leadership dans l'organisation clinique afin de créer des conditions favorisant le développement interprofessionnel, il faut des changements dans les curriculums académiques et dans les vues des organismes professionnels qui les accèdent. Cette étude montre que certains changements ont déjà eu lieu, mais qu'il reste encore beaucoup à faire.

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Support for interprofessional, team-based primary health care among governments, the public, and health management organizations is creating momentum for academic institutions to determine how best to teach interprofessional collaborative practice.<sup>1,2</sup> Although there continues to be interest in the practice of interprofessional care and its implementation in primary care restructuring (eg, family health groups in Ontario, primary care networks in Alberta), as well as a considerable amount of research examining interprofessional practice in various hospital-based settings<sup>3-7</sup> and in case-specific community programs such as palliative<sup>8</sup> or long-term care,<sup>9</sup> there is still relatively little research that focuses specifically on the actual conduct of interprofessionalism in general, community-based, primary health care clinical settings. One exception is from a study in New Zealand,<sup>10</sup> which used a similar method to the one used here and reported substantial barriers to the implementation of interprofessional primary care in practice, relating particularly to funding, health system, and individual organizational factors. Still, not much research has focused on the circumstances of interprofessional primary care in Canada.

The primary goal of interprofessional education is to help students become collaborative practitioners in an effective fashion.<sup>11-14</sup> The clinical environment is considered to be critical for learning how to achieve this.<sup>1,15-17</sup>

This paper examines academic family medicine clinics in Alberta that have implemented interprofessional work settings to varying degrees. We aimed to better understand the components implicated in the performance of interprofessional collaborative primary care, using the factor structures suggested by D'Amour and Oandasan (ie, shared goals and vision, sense of belonging, governance, and the structuring of clinical care).<sup>18</sup> In addition, we sought to consider the practical implications of these findings for interprofessional education in similar primary care clinical settings.

## METHODS

We developed this as an iterative, mixed-methods study in which we explored aspects of interprofessional primary care in Canada primarily through a qualitative method and used statistical analysis to inform the judgments that we made about the qualitative data. In order to understand the experiences of those who work in the clinical field of interprofessional primary care, we conducted semistructured focus group interviews with physicians and other primary health care providers in 4 academic family medicine clinics. The interviews sought to understand the phenomenology<sup>19</sup> of an interprofessional primary care work environment using an analytic, inductive<sup>20</sup>

research paradigm. The latter approaches issues of validation and trustworthiness through the demand that interpretations hold true for entire sets or subsets of participants. The identification of disconfirming cases causes the interpretation, or the index set to which it is being applied, to be modified until the condition of uniformity is met. Clinics were identified purposively on the basis of previous reports of their differing levels of interprofessional sophistication. This allowed us to compare and contrast between “interprofessionally developed” and “undeveloped” environments, which were broadly comparable in terms of their size, scope, and function. We included 3 urban clinics and 1 rural one. Patient visits ranged between 14 500 and 19 000 annually. The number of physicians practising in each clinic varied between 8 and 12 with an average of 9. All the clinics employed registered nurses and licensed practical nurses (LPNs), and 1 clinic also had a nurse practitioner. Other professional staff such as dietitians, social workers, pharmacists, respiratory therapists, chronic disease management nurses, and mental health coordinators were provided by the health region or by the local primary care network. The physicians in 2 clinics were funded by alternate relationship plans (ARPs), and the physicians in the other 2 clinics worked in fee-for-service practices at the time of the interviews but were in the process of ARP development. The type of learners taught in the clinics were predominately medical students and residents, and their number ranged from 14 in the rural clinic to 30 in one of the urban ones.

Ethical approval was received from the University of Calgary Conjoint Health Research Ethics Board. Written consent to participate in the study was obtained from each participant. The total sample consisted of 7 family physicians, 9 registered nurses, 5 LPNs, 2 residents, 1 psychologist, 1 informatics specialist, 1 pharmacist, 1 dietitian, 1 nurse practitioner, 1 receptionist, and 1 respiratory therapist.

Participants were asked to describe the collaborative organizational, structural, and process-related initiatives in their clinics, the drivers and barriers related to those initiatives, and how successful they had been. The interviews were conducted in a conversational style, ensuring that all intended items were considered while still allowing the discussion to include areas deemed relevant by participants themselves.

The conceptual model proposed by D'Amour and Oandasan<sup>18</sup> that described the various factors and elements underlying and influencing interprofessional practice work was used to guide the questions and our interpretation of the data. Although other models for conceptualizing interprofessional practice settings exist, we believe that this one provided an appropriate conceptual approach to our research because it

was developed from the outset with a strong focus on the primary health care sector, was developed by researchers with primary care clinical experience, displayed a high standard of scholarship in its development, and was influential in the Health Canada initiative *Enhancing Interdisciplinary Collaboration in Primary Health Care*.<sup>21</sup> The model separately addresses the factors and elements influencing interprofessional education and collaborative practice. Our research focused on the collaborative practice aspect of the model, which identified 2 “interactional factors” (ie, shared goals and vision, a sense of belonging) and 2 “organizational factors” (ie, governance, structuring of clinical care).

The interviews were audiorecorded and transcribed verbatim, and the resulting text was checked against the recorded material and corrected where necessary. Data analysis was completed in 2 phases. Initially, responses to questions about the 4 factors and their constituent elements were identified following the independent consideration of the texts by 2 of the investigators (K.A. and N.D.) using a process of data reduction, data display, and interpretation.<sup>22</sup> The emergent descriptions of the performance of the clinics in relation to these factors and elements were then used by the authors to independently rate each clinic, using a 5-point, Likert-type scale (1=low performance and 5=high performance). In order to explore the strength of agreement between the 2 investigators, a weighted  $\kappa$  statistic was calculated.

Following this, the investigators discussed the emergent accounts of the performance of interprofessionalism in the 4 clinics in order to produce an interpretation for which the presence or absence of disconfirming cases was accounted for and with which all authors agreed.

## FINDINGS

Our data supported D’Amour and Oandasan’s factor structure and its constituent elements, and identified no additional examples of the latter (**Table 1**).

The  $\kappa$  value (0.67) was high enough to be generally considered to indicate fairly good interrater reliability, suggesting that the components and the data relating to them were being interpreted with reasonable consistency and thus have measurable value in terms of estimating the interprofessional characteristics of the 4 clinics. Our assessments confirm that 2 clinics (A and B) in general performed well in terms of interprofessional care, while the other 2 (C and D) in general did not. In exploring our narrative data to understand the substance of these findings in more depth, we report participant statements from at least one clinic to illustrate each factor structure.

### Factor 1: shared goals and vision

**Shared patient-oriented goals and vision.** The D’Amour and Oandasan model suggests that effective interprofessional practice requires shared patient-oriented goals. A respondent from clinic B said the following:

Yeah so sharing the care I see exactly what’s described; that there’s no barriers; the staff or the physicians aren’t putting up a barrier for the health care providers to do their work in and the focus really is the patient and the needs of the patients are met. And that’s done regardless if it takes you an extra 15 minutes or you have to go and talk to somebody else or ask for help; that seems to be done quite frequently within the clinic. (Dietitian 1)

In contrast, a respondent from clinic D implied a clear lack of a similar common vision or goal:

We have a number of shared care interdisciplinary teams in the clinic, but they’re all funded separately. I mean they’re funded differently, created differently. The terms of reference or whatever you want to talk about the way they work is different in each case. (Physician 4)

**Communication.** All sites identified communication as being critical to effective interdisciplinary environments. What differentiated between the settings that were identified as functioning at a high level of interprofessionalism and those functioning at a lower level was that the participants from the former stated that they had paid attention to issues and had solved problems that arose. Respondents in clinic B were aware of the need to ensure they had a good communication system. They standardized data entry for their electronic medical record (EMR) and developed a very robust task section, which had become the primary communication tool. All team members documented directly into the EMR.

The consistency with the charting is very strong here .... Communication, making sure that everything is very well documented. So if you are jumping in and maybe didn’t see a patient the last time, it is very clear what the plan is and what the process is. (Resident 1)

In comparison, groups from clinics C and D reported a mixed communication system, with 2 independent data systems that were not integrated. One team member from clinic C stated the following:

I think that some of the confusion sometimes is that we have a mixed system. So some stuff comes in through the EMR; we talk about some things; and some things

come through on paper. And so often when I'm doing things I'm actually doing things twice because I've done

them once on paper and then I've done them once on the EMR because I haven't noticed that. (Nurse 2)

**Table 1. Factors and elements influencing successful interprofessional collaborative practice in 4 family medicine academic teaching clinics\*:** Clinics were rated on a scale ranging from low performance (1) to high performance (5);  $\kappa=0.67$  for interrater reliability.

FACTORS AND ELEMENTS	RATER	CLINIC A	CLINIC B	CLINIC C	CLINIC D
<b>Factor 1: shared goals and vision</b>					
Shared patient-oriented goals and vision	1st rater	4	5	1	1
	2nd rater	4	5	2	2
	Average	4	5	1.5	1.5
Communication	1st rater	4	5	2	2
	2nd rater	4	5	3	2
	Average	4	5	2.5	2
Shared decision making	1st rater	4	4	1	1
	2nd rater	5	4	3	3
	Average	4.5	4	2	2
<b>Factor 2: sense of belonging</b>					
Trust and a trusting relationship	1st rater	5	5	2	1
	2nd rater	5	5	3	3
	Average	5	5	2.5	2
Willingness to collaborate	1st rater	5	5	2	1
	2nd rater	5	5	4	3
	Average	5	5	3	2
Understanding roles and responsibilities	1st rater	5	5	2	2
	2nd rater	5	4	3	2
	Average	5	4.5	2.5	2
<b>Factor 3: governance</b>					
Location	1st rater	4	4	3	3
	2nd rater	4	4	2	4
	Average	4	4	2.5	3.5
Leadership	1st rater	5	5	1	1
	2nd rater	5	5	3	2
	Average	5	5	2	1.5
Team meetings	1st rater	2	3	1	1
	2nd rater	5	5	2	2
	Average	3.5	4	1.5	1.5
Training and education for teamwork	1st rater	2	2	1	1
	2nd rater	5	3	2	2
	Average	3.5	2.5	1.5	1.5
<b>Factor 4: structuring clinical care</b>					
Collegial development of protocols, practice manuals, and procedures	1st rater	5	5	1	1
	2nd rater	5	5	3	2
	Average	5	5	2	1.5

\*Agreement weights were calculated as  $1 - \frac{|i-j|}{k-1}$ , where i and j index the weight matrix and k represents the number of possible ratings (in this case 5).

**Shared decision making.** Shared decision making was acknowledged as a problem in clinics C and D.

There probably is room for us to do a little more in how we actually see our patients collaboratively; between the physicians we do it in terms of need rather than in terms of how we make our regular practice. And part of that is what we think our patients want and part of it is what we think we want. (Clinic C, Physician 3)

Respondents from clinics A and B, on the other hand, described many instances of shared decision making. In clinic A, a nurse practitioner substituted for physicians for walk-in patients and advised the clinic's registered nurses. The latter undertook assessment and triage on behalf of physicians and routinely dealt with laboratory requisitions and results, undertaking procedures as indicated.

## Factor 2: sense of belonging

**Trust and a trusting relationship.** Respondents in all clinics expressed trust for one another within their respective teams. What appeared distinctive, however, was the sense of durability in those relationships among the more interprofessionally advanced clinics. Respondents from clinics C and D described a slow process of establishing trusting professional relationships: "It's going to take 3 years for integration to occur." (Pharmacist 1)

Respondents from clinics A and B reported more fundamental experiences of trust in interprofessional settings because the principles and practices of teamwork appeared to be endemic to their organizations. It was clear that teamwork was expected to be the organizational norm.

I think there is a high level of respect for the different roles that people have. So I think there's that high regard that no one of us can do all the work ourselves and if we don't rely on each other we're lost. (Clinic B, Physician 2)

**Willingness to collaborate.** Respondents in clinics A and B reported substantial levels of motivation for collaboration between members of their respective teams. Clinic A described mutual working on a project to improve cross-coverage between nurses working in different units or assigned to different physicians. A respondent from clinic B described how roles and tasks were approached in a flexible way: "[The dietitian] can be tasked by anybody in this room, or I can, and vice versa." (Dietitian 1)

In contrast, respondents from clinics C and D, while motivated to collaborate, often appeared to succumb to

organizational and structural barriers, which became substantial impediments. For example, there were reports that staff met only occasionally and that, as a result, understanding the roles and tasks of colleagues was difficult. In clinic D, some staff were employed by different organizations and within different funding streams, creating inevitable siloing effects.

**Understanding roles and responsibilities.** Even the clinics that had high scores for interprofessional care described difficulties in developing mutual understanding of roles, particularly in the early stages of implementation. In clinic A, resolving the confusion about various roles appears to have derived from several interventions, such as involving all clinic staff in an initiative to reduce waiting times for appointments and introduce common access to the EMR.

You know we really had to work at what's the role and how are we going to manage having various people do various tasks. So it took a while really for us to kind of sort that thing through. So I think that we're part of defining the tasks of each team as best we can so that they work at the top of their scope of practice and principle being having the right person doing the right thing on time. (Physician 1)

In contrast, respondents in clinic D observed that "roles are always developing within professions," but infrequent contacts between staff members inhibited understanding, and a perceived lack of orientation for new staff exacerbated the problem. Respondents in clinic D acknowledged that they had a problem and needed to "learn what each other does."

## Factor 3: governance

**Location.** The most frequently mentioned aspect of space was co-location. All 4 clinics identified this as important for building relationships, understanding, and trust.

I think being physically present is a huge part of it. Reminds you that those resources are available, plus I think you gain some of our relationship with the patient through being in the same location. Nothing replaces face to face, does it? (Clinic C, Nurse 3)

**Leadership.** When respondents were asked whether they believed present leadership promoted interprofessional practice, there was a clear difference between the clinics that rated highly on interprofessionalism and those that did not. Clinic A was strongly influenced by one of its senior physicians who had a passionate belief in the effectiveness of an interprofessional team working in the primary care setting. For respondents in

clinic B, such “proximate” leadership was less noticeable at the time of interviews because of similarly strong leadership some 20 years previously. By the time of the interviews, most clinic staff members, irrespective of profession, appeared supportive of interprofessional teamwork.

There are times when people have not fit in as a team and you get the courage to confront because it’s just not a personal vendetta, it’s about what you know the place could be and how somebody is just dragging everyone down. (Physician 2)

In clinics C and D, there was no evidence of leadership with a clear focus on interprofessional primary care development.

**Team meetings.** Respondents in clinic A regarded the frequency of meetings as being more important than regularity, suggesting that informality was an important characteristic, and they often used “huddles” to achieve them. Furthermore they made the point that too many meetings were not advantageous. One physician commented, “I’d say that I’m chatting with a nurse I bet you 4 to 6 times a day anyway about a patient and its usually around a patient, so I think that’s the way we do it, not formally.”

Respondents in clinic D also described a similar process of holding small team meetings or huddles whenever required, which were designed to generate a rapid solution to an identified problem.

**Training and education about teamwork.** In general, none of the 4 clinics reported conducting explicit education or training to facilitate interprofessional teamwork in learners. Respondents in clinic A reported that while they hosted medical students in clerkship and family medicine residents, few arrived prepared for teamwork and few achieved any clear exposure to teaching the philosophy and methods of an interprofessional approach while they were in the clinic. Indeed, residents tended to be “resistant” to the concept, preferring to focus on clinical skills.

My first observation is that most residents come here with very little if any exposure to team-based care or understanding of what multidimensional team-based care provides. So I think that there is a lack of any kind of prior awareness within their education. (Physician 1)

In clinic B, there were no training activities undertaken in relation to interprofessional teamwork beyond “normal” clinical interactions. Nurses in clinic C also explained that family medicine residency programs are

so short in duration they leave little scope for new or innovative content, even on a trial basis. The response in clinic D was similar.

#### Factor 4: structuring of clinical care

**Collegial development of protocols, practice manuals, and procedures.** Invoking a participatory approach to the development of policies and procedures is a key aspect of organizational team building: acceptance and support of policies is more likely if those expected to adhere to them believe they have been developed through meaningful consultation rather than by executive fiat. There was evidence from clinics A and B that staff participation in this activity was fundamental. For example, respondents in clinic A described how “all staff” had been involved in the establishment of policy and practice for reducing wait times for appointments, and there was evidence that the overall goal of enabling people to maximize their scope of practice was being achieved. A nurse practitioner commented that “[Registered nurses] are involved in program management and protocol development, not just task-oriented roles.”

Respondents in clinics C and D identified that they had developed “team protocols and policies,” but it was not clear who had been involved. Those in clinic C appeared least influenced by a participatory approach, citing the intrusion of different programs and a lack of integrated planning and action. An LPN from clinic C admitted, “I don’t know what my role is.”

## DISCUSSION

This study was limited in scale and scope. We collected data in only 4 teaching practices and in a single province. Our resources allowed us to focus only on accounts of the conduct of interprofessional, collaborative clinical work and organizational structure and process, as well as to construct the implications for education and training, and prevented us from empirical observation. Our data derive from focus group discussions of unproven internal or external validity. These limitations inevitably mean that both our findings and our interpretations should be received cautiously. Nonetheless the rigorous investigation of the motivations for, and conduct of, interprofessional primary care clinical practice are still in their infancy in Canada, and carefully acquired data such as those reported here might make a useful contribution to future primary care development.

In general, the evidence from our interviews supports the D’Amour and Oandasan<sup>18</sup> model of effective interprofessional collaborative practice. Our data supported the main “factors” implied by the model and provided evidence relating to their identified elements. We believe

that on the basis of our evidence, it is reasonable to conclude that the extent to which these factors and elements are both present and positively oriented in academic clinic settings is an important contributory factor to the establishment of interprofessional collaborative practice in primary care.

An important part of the movement across Canada's health care system to be more patient focused is to ensure that interprofessional teams work effectively. To ensure future collaborations in the health care workplace are effective, opportunities for students to engage with students from other professions are required. We believe that interprofessional education and collaborative practice are interdependent,<sup>18</sup> and that teaching interprofessional education without a practice environment upon which to apply the theory on a regular basis will be ineffective in the long term. Faculty and staff in family medicine academic teaching clinics need to practise interprofessionalism in order for this approach to care to be optimized. Even our sample clinics that best modeled to learners interprofessional collaborative practice did so very informally.

Above all, what appeared to differentiate the 2 clinics that were functioning at a high level of interprofessional collaborative practice (clinics A and B) from the 2 clinics that were functioning at a lower level (clinics C and D) is simply that clinics A and B had at different times in their histories been led by people who had made an explicit point of implementing interprofessional collaborative care, while clinics C and D had not.

On the basis of this evidence, the issue of leadership and decision making at the level of individual clinical organizations is fundamental to the implementation of interprofessional collaborative care, and thus also to relevant and effective interprofessional education. This aspect is often overlooked in the literature describing the implementation of interprofessional health care. Most studies consider the qualities and principles of interprofessional work itself, and give less consideration to issues of implementation. The study by Pullon et al<sup>10</sup> for example, does not mention it at all. Weller et al,<sup>7</sup> in contrast, identify the importance of leadership in the development of interprofessional care but then have no discussion about it. We have found no study that clearly examines the role and effect of clinic organizational leadership and managerial decision making on the implementation and development of interprofessional practice. This, we suggest, might be an underestimated barrier to the implementation of such practices. While it is true that clinics A and B were funded under ARPs at the time of the interviews and clinics C and D were not, it is our view that this was not directly related to their respective interprofessional performance. In the subsequent period, clinics C and D continued to perform sub-optimally in terms of interprofessionalism despite being

in an ARP by then. Recent improvements are probably attributable to their appointment of a medical director rather than the change in funding structure per se. The effect of funding structure on the development of interprofessional clinical care requires further research.

## Conclusion

The presence or absence of leadership focused on interprofessional collaborative clinical work appears to be fundamental to the development and sustainability both of interprofessional practices themselves and of the interprofessional education associated with them. This interpretation requires confirmation through further research.

The implication of this finding, however, might be challenging. Interprofessional development requires the substantial realignment of family medicine and family physicians within collaborative, team-based clinical organizations. Generating clinic organizational leadership to create conditions to foster this development requires change in academic curricula (undergraduate and postgraduate) and in the stances of professional bodies accrediting them. While the evidence from our study indicates that substantial change has (and is) taking place, it also reveals that much remains to be done. For example, in the United Kingdom, many university departments of general practice have reconfigured themselves as "departments of general practice and primary care" and embraced interprofessionalism as a core value for teaching and research. In pursuit of academic and scientific leadership for primary care development in Canada, departments of family medicine at universities in this country should consider doing the same. 🌱

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### Contributors

All the 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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