Running Header: ENHANCED SKILL FAMILY PHYSICIANS

The impacts of the Certificates of Added Competence credentialing program: A qualitative case study of enhanced skill Family Medicine practice across Canada

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Abstract

Background: In 2015, the College of Family Physicians of Canada expanded their Certificates of Added Competence (CAC) program to include enhanced skill certification in Care of Elderly (COE), Family Practice Anesthesia (FPA), Palliative Care (PC), and Sports and Exercise Medicine (SEM). This study explores the impact of these four CACs on the provision of comprehensive care in Canada, examining how CAC holders impact the organization and delivery of care provided by family physicians.

Methods: We conducted qualitative case studies of 6 family medicine practices across Canada, sampled to represent geographical, population, and practice arrangement diversity. Data consisted of qualitative interviews (n=48) and review of relevant documentation (e.g. job descriptions, news coverage, clinic policies). A descriptive content analysis was performed, within and across cases.

Results: There is considerable variation in the way that CACs are operationalized by individuals, related to the specific domain of care, community, relationships between practitioners, motivations of the practitioner, and needs of the patient population. Factors associated with collaborative care models, practice requirements, remuneration structure, community culture, and individual aspirations interact to reinforce or undermine the effectiveness of enhanced skill practices.

Interpretation: The practice arrangement a CAC holder works in is a key determinant to whether or not they contribute to the provision of comprehensive care. CAC holders have a positive impact when they work in collaborative models that align with the needs of communities and support local generalist family physicians. CAC holders are particularly effective when part of planned care delivery at practice and community levels.

Introduction

The College of Family Physicians of Canada (CFPC; the "College") is the legal certifying body for the practice of family medicine in Canada, establishing standards for postgraduate training and continuous professional development that will enhance the contributions of family physicians to the health of all people in Canada. With this goal in mind, the CFPC identifies their efforts as promoting a vision for a primary healthcare system that is "*accessible, high-quality, comprehensive, and continuous*".[1] Enacting this vision requires family physicians to work collaboratively to provide community-adaptive comprehensive care for the full breadth of personal primary health concerns present in their community.[2]

The long-established tradition of family physicians working in collaborative arrangements enables each group to extend the comprehensiveness of the care they can provide within a community.[3] These relationships are effective because of the breadth of skills required in comprehensive family practice, and the heterogeneity of individual scopes of practice. This heterogeneity includes individual practitioners who concentrate their clinical activities in areas of particular need or interest, acquiring extra clinical expertise in a defined domain of care through additional training or practice experience. These enhanced skills practitioners often provide services, such as in-office surgical procedures, which fall outside of the traditional basket of family physician services. Their areas of enhanced skill may also reflect specialized advances in aspects of care that are considered to be fundamental components of family medicine practice, such as addictions medicine or mental health. Working collaboratively with the comprehensive and generalist physicians who provide full-scope care from cradle to grave in a variety of clinical settings, enhanced skill family physicians can extend the available scope of Family Medicine services available to patients in a community. This reduces the need to transition patients to specialist care, maintaining the centrality of the patient's relationship with their family physician. [4,5]

The Certificate of Added Competence (CAC), offered by the CFPC, is one credential which designates a family physician as having additional expertise. In 2015, the CFPC built upon their existing certificate in Emergency Medicine and introduced CACs in four new domains of care: Care of the Elderly (COE), Family Practice Anesthesia (FPA), Palliative Care (PC), and Sport and Exercise Medicine (SEM). As of October 2020, a total of 1772 CACs had been awarded in these four domains: 409 in COE, 600 in PC, 413 in FPA and 350 in SEM. The objective of this program was to promote the development of enhanced skills that would be used to meet the specific healthcare needs of communities across Canada.[2] However, to date there has been no evaluation of whether and how the CAC program has contributed to this objective. Here, we present a qualitative case study of six family physician groups across Canada designed to identify the impact of the CAC program and the factors which encourage family physicians who hold the newer CACs (PC, COE, SEM, FPA) to establish community-adaptive practices that support comprehensive primary care.

Methods

Study Design

We conducted a series of 6 instrumental case studies,[6] defining "*case*" as a practice or a collective of family physicians working with a defined group of patients in an inter-connected community.

We began with four exploratory case studies to accommodate early uncertainty of the outcomes and features of interest. We constructed a set of exploratory propositions and a conceptual framework based

on a review of the literature and consultation with the CFPC stakeholders. To identify particular practices that would allow for the collection of rich data based on their exhibition of a range of relevant features, we examined maps of the practice locations of CAC holders across Canada and connected with family physicians knowledgeable about the community of practice in particular geographic regions. Once particular practices were identified, we invited these practices to participate as "cases" for the initial phase of the study. The invitation was issued by the CFPC on behalf of the research team.

As the project progressed, our exploratory focus shifted to a combined exploratory-explanatory focus.[7] An explanatory case study is one driven by an existing theory with the intent of confirming, refining, and adapting that theory to a different context.[7] In this study, the existing theory was the emerging theory developed through our initial four exploratory case studies. Two additional cases permitted the refinement of our propositions and framework until we could articulate the impacts that the CAC program is having on family practice across Canada, and the factors that are relevant in promoting enhanced skill practices that support or impede community-adaptive, comprehensive care (Figure 1).

[Insert Figure 1]

To select cases and familiarize ourselves with their practice context, we met with regional representatives and reviewed websites, job advertisements, and media coverage. The four exploratory cases were chosen for maximum variation across several relevant factors: geography, population density, language, patient population, and practice model. We were intentional in identifying cases that were located in regions characterized by a variety of CAC types as well as high CAC density relative to the population.

Data Collection and Analysis

Once cases were selected, we invited by email individuals from each case to participate in semi-structured interviews. Eligible participants were any professional whose work was related to the identified case, including holders of the CACs of interest (PC, COE, SEM, FPA), other enhanced skill family physicians (ES), generalist family physicians (GEN), resident trainees, specialist physicians, and administrative staff (Table 2). All interviews were conducted by IA, a MA-trained female qualitative researcher employed as a research assistant. Most interviews took place in the participant's workplace, some occurred by phone, as the participant preferred. Interview lasted approximately 1 hour and the participant and researcher were the only individuals present; each participant was only interviewed once. No participants withdrew from the study. The interview guides were designed by the researchers with input from the CFPC. They were piloted with a test case and refined as data collection progressed. Participants were aware that the interviewer was conducting research funded by the CFPC concerning the CAC program. All interviews were audio-recorded and transcribed verbatim. The interviewer took field notes at the end of each interview, and at additional points during her visit to each site. Transcripts were not returned to participant for comment. Once all data were in textual form, analysis began first within-case and then proceeded to comparisons across cases. Following Yin,[7] we used a descriptive approach to qualitative analysis, engaging in a staged process of coding. LG led the coding, with assistance from IA and MV. Initial coding condensed and summarized the content, allowing for subsequent iterations of analysis to develop categories and sub-categories. As our analytic understanding of each case developed, we would return to earlier cases to re-code for ideas of analytic interest. Analysis began in an inductive mode; and we expected that

findings from each case would inform our approach to coding for subsequent cases. Data were managed via NVivo software (Version 12).

After the first four exploratory cases were analysed and a theory was developed, we identified two exploratory-explanatory cases. These cases were identified for their characteristics which afforded us the opportunity to test the generalizability of propositions developed through the initial four exploratory cases. We used an unconstrained deductive approach to analyze the two exploratory-explanatory cases, looking for data which resonated with the theory, but also remaining alert for ideas which challenged, contradicted, or refuted its propositions. This approach served to integrate feedback from additional data into the evolving analysis, in place of returning findings to participants for comment.

[Insert Table 2]

As our analysis progressed from exploratory to exploratory-explanatory, and prior to the completion of the exploratory-explanatory portions, we presented our findings to the CFPC stakeholders, seeking their input to refine the propositions that were being developed.

Ethics Approval: This study was reviewed and approved by the Hamilton Integrated Research Ethics Board (HREB #5151). All participants provided informed consent prior to joining the study.

Results

The characteristics of the six practice groups sampled as cases are described in Table 1, with characteristics of participants summarized in Table 2.

[Insert Table 1 about here]

[Insert Table 2 about here]

In our analysis, we identified that the CAC program has mixed impacts on the provision of primary care; the factors which influence these impacts are related to the model of care, external factors, and the community culture. These impacts are both positive and negative. By positive, we mean supportive of a community-adaptive, comprehensive Family Medicine.[1,2] By negative, we mean obstructive of this type of practice.

Impacts of the CAC Program

Across our six cases, we documented ways in which enhanced skill practitioners with a grounding in the needs of the local community work in collaboration with other health care providers to yield benefit. Benefits included providing services to patients within their regional community, reducing the need to travel for care; serving as a community resource by providing adaptability and flexibility to address specific needs; encouraging continuity of care by building capacity and supporting the maintenance of relationships between patients and their primary physician. The CAC program also enhanced the well-being of enhanced skill providers who were able to establish practices characterized by higher acuity, and better remuneration and work hours. This in turn had the potential of reducing the complexity of the

caseload of comprehensive family physicians who were able to pass more complex patients to the enhanced skill provider.

> *"What I would say is that's kind of taken a rather large load away. … I get them* [CAC PCs] *involved at some point, because again, I know a fair amount about it, but it rolls off of them much easier than for me."* Case 4 Participant 4 (Generalist Family Physician)

The CAC program is not always beneficial. When CAC-holders do not maintain their own comprehensive family practice, they may not contribute to the provision of comprehensive care in the community. Some CAC holders construct their enhanced skill practice in a way that reflects their own clinical interests rather than the needs of the patients in a community. For example, in Cases 1, 5 and 6 we heard about SEM holders who have chosen to only see athletes, creating gaps in both generalist care and care for patients who have musculoskeletal issues but are not athletes. Finally, administrative barriers can prevent enhanced skill physicians from working collaboratively with other family physicians, potentially necessitating multiple transfers of care and involving many providers. This was present in case 5, where palliative patients needed to change care providers multiple times to access palliative care in the hospital and the community.

Factors of Influence

We identified three interactive factors that influence how CAC practice supports or obstructs a community-adaptive form of comprehensive family medicine: the collaborative relationships between practitioners, forces external to the community, and the internal community culture.

1. Collaborative Relationships between Practitioners

Our analysis identified four organizational models that illustrate the way in which enhanced skill family physicians make use of their specialized domains of care and work collaboratively with other practitioners: an enhanced scope of services model, a shared-care model, a family physician-aligned transfer of care model, and a specialist-aligned transfer of care model (Table 3).

[Insert Table 3 here]

Some collaborative models are strongly associated with particular CACs. For example, many PC certificate holders work in shared-care models, while FPA physicians most typically work in a specialist-aligned transfer of care model in a hospital-based operating room setting. However, each of the four certificates provides enough flexibility that their holders may construct an effective practice in any of these models. For instance, many PC holders also work alongside oncologists in specialist-aligned transfer of care models, and the FPA holder may use their CAC within a generalist family practice to treat chronic pain in an enhanced scope of services model

Distinct benefits were derived from the choice of certain models of care within particular communities. One SEM family physician described how working in a specialist-aligned transfer of care model shortened the waiting time for patients referred to see an orthopedic surgeon, allowed the surgeon to work at the top of their own scope of practice, and enriched the care the SEM holder provided as part of their own practice:

> *"If I see a patient that I think becomes surgical, I will fast-track them to* [the orthopedic surgeon]. *Meaning, it doesn't take them nine months to see him, it takes them maybe a month to see him, because I have seen them, I have triaged the patients, and now I know, okay, now it's time for an assessment in surgery, so they get fast-tracked."* Case 4 Participant 3 CAC (SEM)

2. External Forces

Across the six cases, we identified external factors of influence that extended across 4 categories: community need, access to resources, remuneration agreements, and formal privileging and practice requirements.

Community Need

In order for enhanced skill practices to be effective, they must be operationalized within a community in a way that ensures patient needs related to both generalist primary care and enhanced skills are met. Case 2 and Case 4 are rural and remote communities that recognized a community need for generalist physicians, as well as several areas of enhanced skills practice. They formulated community policies to meet these needs, offering only part-time positions in areas of enhanced skill (e.g. FPA) with the expectation the physician would have a comprehensive family practice also, as a way of attracting providers while endeavouring to ensure that patients in the community had their generalist care needs met.

Access to Resources

The organization and effectiveness of practices that contain enhanced skills practitioners is influenced by the local availability of resources such as secondary or tertiary care services. In rural areas, for example, enhanced skill providers were actively used as a resource to extend the local scope of available services:

> "[*CACs] provide another layer of expertise where they could handle something or diagnose something in that area of expertise, and then the patient doesn't have to go to* [the urban centre] *or go to a specialist so the care can happen quicker and within the same community*." Case 2 Participant 9 (Generalist Family Physician)

In urban and suburban communities, the access to enhanced skill care was mediated by the level of awareness and connection to other service providers. For example, Case 6 was located in an urban context with family physicians who practiced mostly independently but were loosely connected through an optional shared call group. Due to the high availability of RCPSC specialists in this urban centre and the low connectivity between family physicians, patients with needs that could have been addressed by a family physician with enhanced skills (e.g. geriatric or obstetrical care needs) were typically referred to specialist physicians.

Remuneration Arrangement

The arrangement and effectiveness of enhanced skill practices is influenced by the remuneration structure. This is particularly meaningful when financial arrangements facilitate more time with patients. One COE-holder describes the necessity of a salaried model to enhanced skill practice:

> *"I couldn't do what I do fee-for-service. For one thing, the geriatricians have actual billing codes for what we do, family practice does not have billing codes for what I do. Because, we do comprehensive geriatric assessments, they take an hour to an hour and a half … So, you couldn't possibly bill family practice codes and do geriatric care."* Case 3, Participant 2 CAC(COE)

Remuneration models also affected the way family physicians were able to collaborate with each other. In each jurisdiction, participants discussed the way local remuneration idiosyncrasies influenced care:

> *"You cannot do shared care and have both doctors paid at the same time in the model that we're in. … So, if a family doctor wants to do shared care, obviously they're going to bill for it, that's kind of the point and the incentive, so we kind of work for free in those cases. And, I do it, to build capacity, but I'm not getting remunerated for it."* Case 6 Participant 2 CAC (PC)

Formal Privileging and Practice Requirements

Across the cases, we observed policies that required family physicians to maintain generalist practice and policies that required family physicians to provide in-patient hospital care. For example, Case 4 family physicians were obligated to participate in generalist care or a shared in-patient call schedule in order to maintain hospital privileges related to their enhanced skills work. Choosing not to participate would mean exclusion from financial incentives provided by the regional medical association.

3. Community Culture

Practice norms

In each community we visited, there was a sense of "the way things are done" in that area. These practice norms had an undeniable influence on the way new practices were organized and received in the community. Sometimes, this created barriers for new CAC holders who wished to set up practices that were atypical for that area:

> "*I tried to start a primary care sports medicine clinic, based out of a physiotherapy clinic, last fall. … because there has never been a sports doc here before, the community doesn't have the culture of that, so what I ended up doing was a lot of doubling up on what the family docs were already doing or on what the Emerg was doing.*" Case 4 Participant 3 CAC (SEM)

Practice norms also included either the expectation or requirement of a credential to substantiate enhanced skills expertise, or the use of reputation for assessment of colleagues' expertise:

> *"I've been able to put (PC) behind my CCFP, that's it really. I mean, there's no change in* [pause] *I don't think any of my colleagues even really noticed for the longest time. But they know me by*

> *the fact that I have extra training and I've been able to help them out of difficult situations. That's how you make the impact."* Case 2 Participant 8 CAC (PC)

Individual values and attitudes

Each health care community is composed of the individuals who work within it. We noted that individual practitioner values about personal-professional balance and health care delivery served as major contributors to the way in which practice decisions about enhanced skill work were made:

> "*I enjoy doing the work that I do at the care home. I don't know if I would need or, honestly, want the extra one* [certification] *because I think if I did do the Care of the Elderly, then there would probably be a reasonable expectation that I was going to provide extra services to the region and I don't know if I have time in my practice or my life to do that.*" Case 2 Participant 4 (Generalist Family Physician)

For some generalist family physicians, there was a high value placed on self-sufficiency and on providing timely care. These physicians were willing to provide the care themselves if timely care could not be easily accessed. As one family physician put it:

> *"It's not to say that I wouldn't value having more people in those* [CAC] *roles because if that improved my access, I would use some of them more. But I trained through a time and worked in a time where that accessibility wasn't always there. And so, I've learned how to not need them until I really need them."* Case 3 Participant 7 (Generalist Family Physician)

Interpretation

Individual family physicians and communities of family physicians across Canada organize their practices, their relationships to other practitioners, and their commitments to the communities they serve in a wide variety of ways. This variability means that the experiences of each CAC holder are unique, and that CAC practices can have a range of impacts on communities. The impacts and influential factors presented here reflect our best efforts to capture the elements that have some transcendent influence on how family physicians with CACs in the PC, COE, SEM, and FPA domains contribute to the delivery of comprehensive, community-adaptive care in Canada.[1,2] Given the particularities of practice in any one community, family physicians are afforded different levels of opportunity to arrange their practices in ways that are mutually beneficial to both their professional aspirations and comprehensive care within that community. Although these models and factors are delineated above, they should be understood as inherently interactive; co-varying as a function of one another.

In any community, there is an opportunity for CAC holders to employ a collaborative model of care that leverages the intersection between the external forces that act upon a community and the culture of that community to provide high quality primary care. When this occurs, the CAC program confers many benefits. It elevates the clinical skill base of a community of physicians, helps keep patients within their communities, reduces the need for specialist care that may only be available at a distance, improves continuity between patients and their family physicians, provides flexibility in the resource that family medicine practices can offer patients, and improves the well-being of members of the care team.

The CAC program is not universally beneficial though; particularly when CAC holders organize their practice without adequate consideration for community needs. CAC holders who establish focused practices but do not maintain their generalist skills serve to decrease the number of family physicians willing and able to provide comprehensive care to patients. This is particularly problematic when the composition of the community shifts and its healthcare needs change. Strong connections between the CAC holders and other practitioners in each community are also essential to addressing gaps in care. These connections offset referrals that require patients to travel outside of the community. They also provide the healthcare community with additional adaptability, permitting coordinated approaches to addressing a variety of specific needs. In this regard, we encourage CAC holders to work within collaborative models of care that align with community need and maintain an emphasis on person-centered, community-adaptive family medicine. Indeed, CAC holders may be most effective in communities with adequate availability of comprehensive care physicians and a robust provision of primary care services. Further research that evaluates how the distribution and mix of CAC physicians align with community needs, the factors that promote new graduates with CACs to seek out practices that serve populations with those needs, and the economic impact of the program will offer essential insight into the processes that ensure the effective application of the Certificate of Added Competence and other enhanced skill credentials.

It is important to acknowledge that the degree to which any one CAC holder is able to organize their practice with respect to community need is influenced by the specific system constraints, especially local policies that define remuneration models and privileging requirements. Effective shared care models, for example, are often challenged when the relevant funding model does not account for the way an enhanced skill family physician may participate in the care of a patient, either collaboratively or as a coach for the primary family physician. Further to this, healthcare systems should also consider the way their remuneration and privileging processes promote or detract from comprehensive care. Higher remuneration and salaried fee structures may be necessary for effective enhanced skills practice, but may incentivize that type of focused practice at the expense of generalist care. Ultimately, financial and work structure incentives should encourage the type of care that is appropriate for the community.

Limitations

There is considerable variation in the way that communities of family physicians across Canada organize their practices, their relationships to other practitioners, and their commitments to the communities they serve. This variation extends to the ways that the CACs are understood and operationalized by individuals. As such, we acknowledge that there is no single, all-encompassing way to describe a CAC holder. Rather these descriptions are intended to offer a broad and transferable perspective. Those without familiarity of our research design may point to our sample size as a limit to our generalizability. In this regard, it important to highlight that power in multiple case study design is enhanced by developing propositions within in a case and then testing them across cases. This lends itself to determining data sufficiency within a case rather than saturation across the entire data set. The number of cases included in this study provides considerable enhancement of our confidence in the power of the findings.

Conclusion

Our research highlights that there are some practice arrangements which facilitate comprehensive care through CAC holders and some practice arrangements which discourage it. In particular, CAC holders tend to have a positive impact on the delivery of comprehensive care when they work in collaborative models

that align with the needs of communities and support local generalist family physicians. CAC holders are particularly effective when they are part of planned care delivery at the practice and community levels.

Data Sharing Statement: These data are not available for use by other researchers.

Contributions: LG and MV designed and supervised all aspects of the project. IA conducted the interviews and was responsible for data collection and management. LG, IA, and MV led data analysis and interpretation. LG led the writing of the manuscript. All authors (LG, IA, AB, AF, JG, MH, MM, HS, XCT, MV) participated in data analysis and interpretation and contributed to the critical revision of the paper, approved the final manuscript for publication, and have agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Table 1: Overview of case features

Case	Region	No. of Physicians	Geography	Community or Academic	Tertiary-Level Hospital
1	Eastern	36	Urban	Academic	x
2	Central	51	Rural	Academic	x
3	Atlantic	9	Urban	Academic	
4	Northern	20	Remote	Academic	
5	Western	35	Rural	Academic	
6	Eastern	100	Suburban	Community	x

Table 2: Overview of participants, by number and type, within each case

Case	Total Participants	CAC Holders						ES	GEN	Resident Trainee	RCPSC Specialist	Administrative Staff
		PC	COE	FPA	SEM	EM	AM					
1	6	1	1	0	1	0	0	2	0	1	0	0
2	15	1	0	3	0	0	1	5	2	1	0	2
3	8	1	2	0	0	0	0	0	3	2	0	0
4	5	1	0	1	1	0	0	1	1	0	0	0
5	8	0	1	0	0	1	0	3	1	1	1	0
6	6	1	1	0	1	0	0	1	1	1	0	0
Total	**48**	**5**	**5**	**4**	**3**	**1**	**1**	**12**	**8**	**6**	**1**	**2**

Table 3: Descriptions of CAC organizational models of care

Organizational Model	Description
Enhanced scope of services	The family physician provides an extended set of services to their own patients without referral or consultation.
Shared-care	The family physician works *with* the referring family physician but does not *take-over* the role of primary family physician.
Family physician-aligned transfer of care	The family physician works *for* the referring family physician. The patient is referred to the enhanced skill family physician, who takes over the care of the patient for the specific referred issue and performs the services. In some cases, the patient will returns to the referring family physician; in others, the enhanced skill family physician will take over care of the patient.
Specialist-aligned transfer of care	This model is similar to the family physician-aligned transfer of care model; insofar that it involves the enhanced skill family physician working *for* the referring family physician. What distinguishes this model is that the transfer of care is from a family physician to a specialist service, and the enhanced skill family physician sees the patient because of formal relationship within the particular specialist context.

Figure 1: Research Design and Analytic Framework