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LE COLLÈGE DES  
MÉDECINS DE FAMILLE  
DU CANADA

Comparing Intentions  
Related to Family Medicine  
Comprehensiveness  
With Actual Practice:  
An Outcomes of Training  
Project evidence summary

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## Background

In 2010 the College of Family Physicians of Canada (CFPC) introduced the Triple C Competency-Based Curriculum (Triple C). The goal of Triple C is to ensure graduates are ready to begin practising comprehensive family medicine in any community in Canada.<sup>1</sup> To evaluate the effectiveness of Triple C, the CFPC implemented a program evaluation plan<sup>2</sup> that included the Family Medicine Longitudinal Survey (FMLS), which collects information on the practice intentions of family medicine graduates at the end of residency and their actual decisions on the scope of comprehensive family medicine they chose to include in their first three years in practice.

There is a paucity of literature on how the practice intentions and actual practice patterns of family physicians compare. A study from the United States compared the intended scope of practice for initial board certifiers with the American Board of Family Medicine against the actual scope of practice that recertifying family physicians reported in 2014.<sup>3</sup> Another study compared the percentage of family medicine residents intending to perform obstetric deliveries and the percentage of practising family physicians performing deliveries and found there was a persistent gap between intention and actual choice.<sup>4</sup>

The CFPC has been interested in exploring the applicability of the theory of planned behaviour to this gap.<sup>5</sup> The theory of planned behaviour postulates that one's intention to perform a particular behaviour is predicted by their attitudes toward the behaviour, subjective norms, and perceived behavioural control. In this model intention is considered the most proximal determinant of a person's actual performance of that behaviour. As the accrediting body for family medicine training, the CFPC is keenly interested in understanding how education influences a learner's behaviour, particularly in relation to scope-of-practice decisions. By determining how to maximize the opportunities residency education can have to support scope-of-practice decisions and understanding factors that can influence graduates' decision making, the CFPC can help shape curriculum and assessment decisions that could influence the training outcome desired: graduates being

ready to begin and adapt to practising comprehensive family medicine in any community in Canada.

## Objective

This review compares the practice intentions of family medicine graduates at exit from residency with their actual practice choices three years into practice in relation to specific domains of comprehensive care defined in the survey. For the purposes of the survey, comprehensive care was defined as "the type of care family physicians provide (either on their own or with a team) to a defined population of patients across the life cycle in multiple clinical settings, addressing a spectrum of clinical issues" (e.g., in office-based, hospital, and in-home settings and addressing everything from preventive to acute to chronic disease to palliative care).<sup>6</sup>

## Methods

We collected and analyzed data using the FMLS, which is administered to family medicine residents across the 17 university-based family medicine residency programs in Canada and to early-career family physicians three years into practice. The FMLS is administered to family medicine residents at entry to residency (T1), exit from residency (T2), and three years into practice (T3). The FMLS captures information from family medicine residents and early-career family physicians about their learning experiences during family medicine training, their perceived preparedness for independent practice, and their practice intentions and choices.

For this study we reviewed the aggregate T2 survey data from family medicine residents who exited residency in 2015 (from 15 programs) and 2016 (from 16 programs) and compared the results with the T3 data of family physician participants who were three years into practice in fall 2018 and 2019 (from 15 and 17 programs, respectively).

Participants were given the information about the purpose of the survey, procedures, and benefits and risks to voluntary participation. Those who consented

to participate agreed to have de-identified data entered in a secure national database held by the CFPC. Residents were provided with written confirmation of the confidentiality of responses. The study was approved by the human research ethics board at each of the 17 participating institutions.

We examined longitudinal data for the T2 and T3 cohorts at the aggregate level to compare the cohorts independently. Our analysis focused on responses to questions specifically about residents' practice intentions and the range of comprehensive care domains, practice settings, and populations that were part of early-career family physicians' practices. The T2 survey assessed the intentions of family medicine graduates by asking: "In your future practice as a family physician, how likely are you to provide care in each of the following domains, practice settings, and specific populations in the first three years?" Responses are based on a five-point Likert scale: highly likely, somewhat likely, neutral, somewhat unlikely, or highly unlikely. The T3 survey measures actual practice activity by asking early-career family physicians: "Which of the following domains of care (comprehensive care) do you consider to be part of your family medicine practice?" Physicians select all those that apply to their practices.

## Findings

The T3 data are dichotomous, as physicians either provided care in a domain related to comprehensive care or they did not. As a result, the T2 data were dichotomized to permit comparisons between T2 and T3 and to conduct chi-square tests. Responses to questions about practice intentions were dichotomized by grouping somewhat likely and highly likely responses and grouping somewhat unlikely and highly unlikely responses. Neutral responses were excluded from the analysis. We summarized the demographic and personal characteristics of respondents and the numbers and percentages of respondents selecting somewhat likely or highly likely and those selecting somewhat unlikely or highly unlikely for all survey questions capturing practice intentions, and we compared them with the numbers and percentages of respondents who indicated they

provided care in certain domains and settings and to specific populations.

Nonparametric tests were used to analyze non-normally distributed variables. The chi-square test of independence was applied to determine whether the practice intentions of family medicine residents were independent from the actual inclusion of comprehensive care domains, settings, and populations. The level of significance was initially set at 0.05; a Bonferroni correction was then applied to reduce the risk of type I error. To account for differences in response rates, the data were weighted by residency program. All statistical analyses were completed using the statistical software package SPSS version 27.

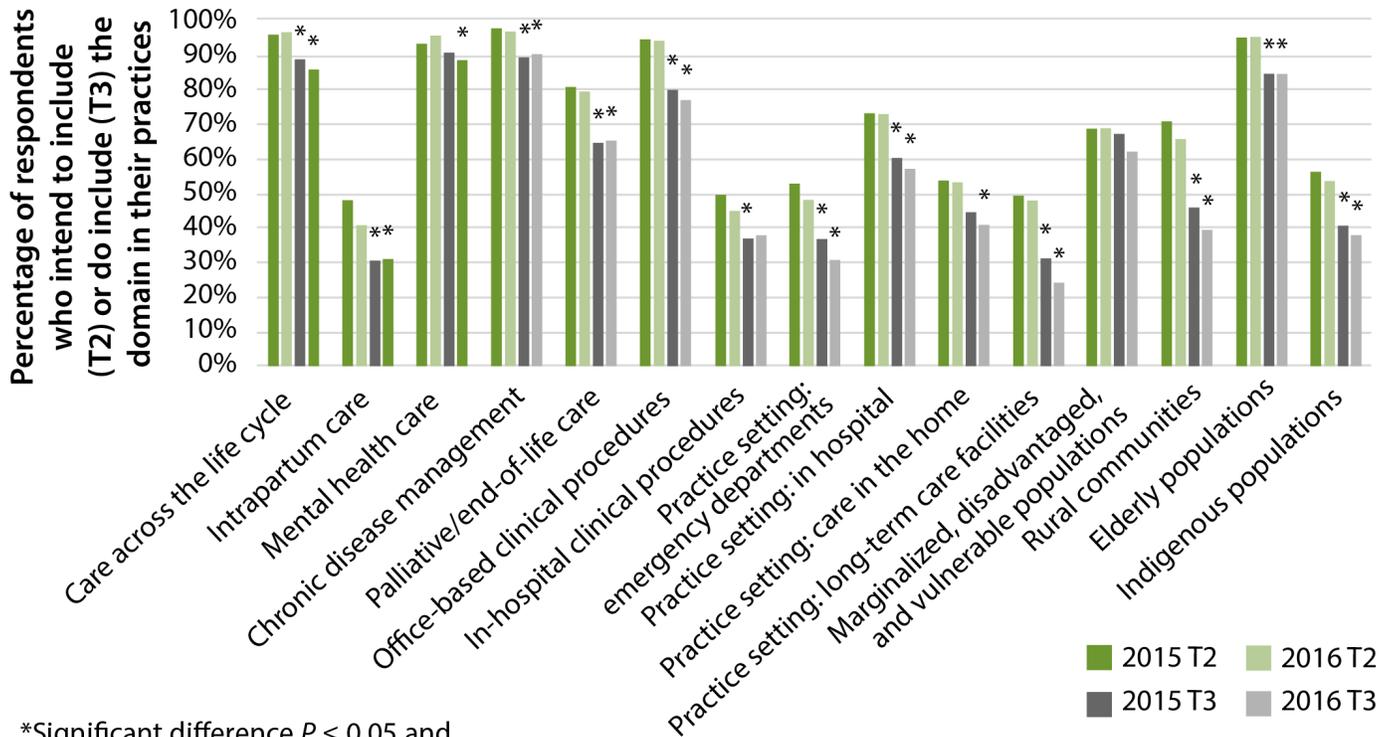
In the 2015 and 2016 cohorts, 632 of 1,164 family medicine residents (response rate 54.3 per cent) and 785 of 1,306 family medicine residents (response rate 60.1 per cent) responded to the T2 surveys, respectively. Fifteen family medicine programs participated in 2015 and 16 programs participated in 2016. Fifteen programs participated in 2018 and 17 programs participated in 2019.

### **Intentions related to comprehensive care versus actual practices**

**Figure 1** presents the percentages of family medicine graduates who reported they were somewhat likely or highly likely to include each domain (intention) in their future family medicine practices and the percentages of early-career family physicians who reported actually including the domains in their practices three years later. For each domain along the x-axis there are four bars showing, from left, the responses from T2 in 2015, T2 in 2016, T3 in 2018, and T3 in 2019. Comparisons were made between the T2 2015 and the T3 2018 responses and between the T2 2016 and the T3 2019 responses. Any significant differences between T2 and T3 responses for these years are indicated with asterisks above the T3 bars in the graph.

The results show that the proportions of family medicine residents reporting practice intentions and actual practices for most domains appeared to be somewhat similar in both T2 years (whether the T2 cohorts differed statistically was not analyzed). Key highlights included:

**Figure 1. Percentage of survey respondents who reported an intention to include or actual inclusion of family medicine domains in their practices**



\*Significant difference  $P \leq 0.05$  and adjusted using Bonferroni correction

### Domains of comprehensive family medicine from the FMLS

- More than 80 per cent of graduates reported they were somewhat or highly likely to provide care in most of the domains included in the survey
- More than 70 per cent of graduates were somewhat or highly likely to work in the hospital setting and to provide palliative care
- More than 50 per cent of graduates were somewhat or highly likely to provide care in each of the settings of rural communities and Indigenous communities
- About half of graduates were somewhat or highly likely to practise in each of the settings of emergency departments (EDs) and long-term care (LTC) facilities

In actual practice three years later, the aggregate results showed that the proportions of family physicians including most domains and settings in their work again appeared to be similar for the two T3 cohorts

(whether the T3 cohorts differed statistically was not analyzed). The data indicate:

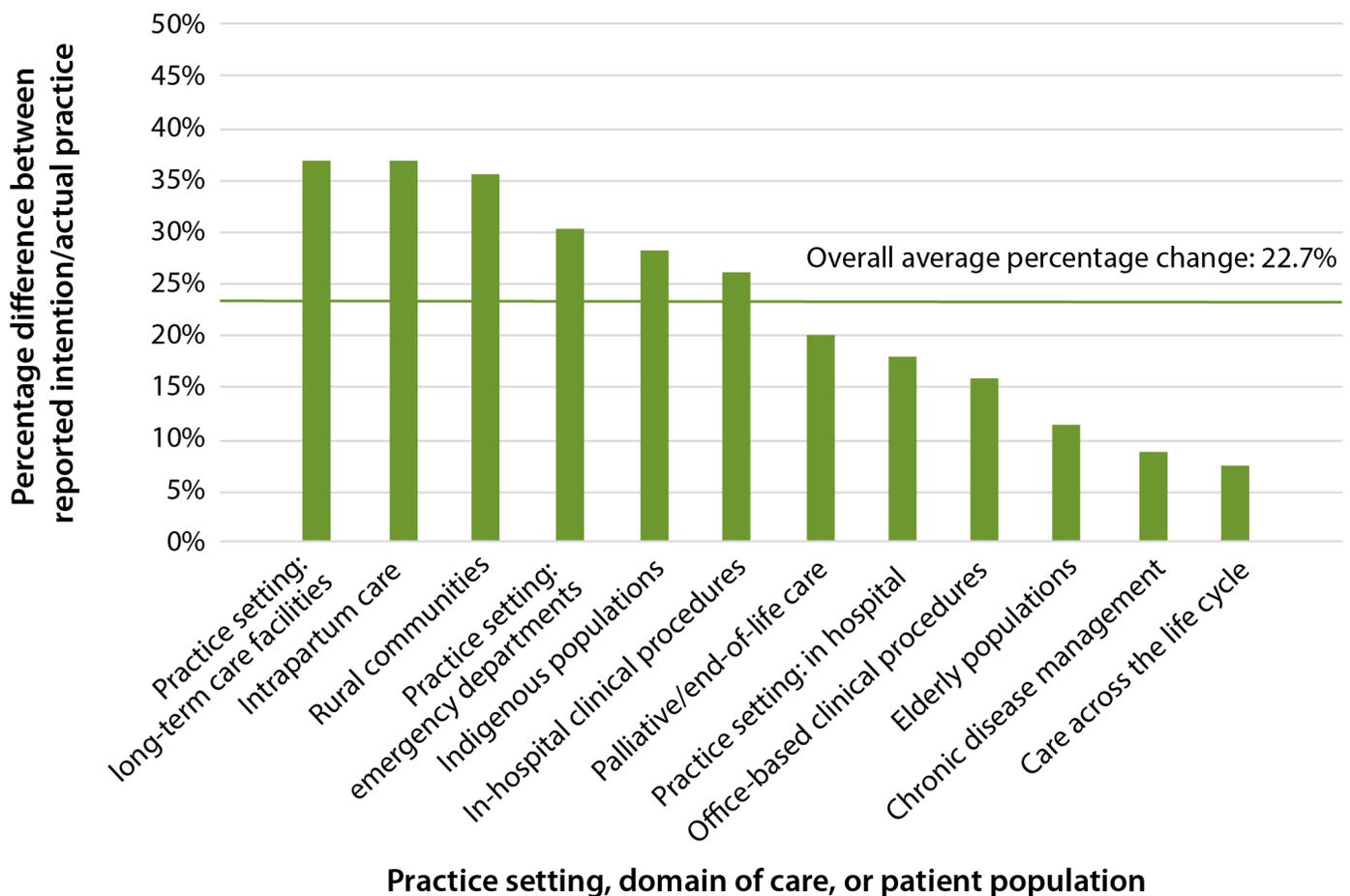
- Eighty per cent or more of early-career family physicians from the 2015 exit cohort (T3 in 2018) reported providing care in each of the domains of chronic disease management, care across the life cycle, mental health care, care of the elderly, and office-based clinical procedures
- More than 50 per cent from the 2016 exit cohort (T3 in 2019) reported providing care in each of the domains of palliative care, care in the hospital, office-based clinical procedures, and care of marginalized populations
- Less than 50 per cent in either T3 cohort reported providing care in each of the domains of care in rural communities, care for Indigenous populations, care in the home, ED care, LTC, in-hospital clinical procedures, and intrapartum care

For most domains, declines were noted when comparing the percentages of family physicians who reported intentions to include a specific clinical domain as part of their delivery of comprehensive care and the percentage who actually included the domain in their practices. The asterisks in Figure 1 represent statistically significant declines for each domain between T2 and T3. Declines were significant for 12 of the 15 domains for the 2015 family medicine graduates, with the exceptions being mental health care, home care, and care of marginalized populations. For the 2016 family medicine graduates, declines were significant for 13 domains, with the exceptions of care of marginalized populations and in-hospital clinical procedures.

Since declines were noted for almost every domain when comparing intention with actual practice,

we identified the domains that had above-average declines by calculating an average rate of decline from intention to practice. **Figure 2** shows the percentage change between intention versus actual practice for family physicians upon graduation in 2015 and at three years into practice in 2018. The percentage change presented here is the difference between the percentage of the reported intention and the percentage reported for actual practice divided by the percentage of the reported intention. On average, there was an overall decline of 22.7 per cent between the intention and actual practice inclusion rates. The most significant declines were seen in providing LTC, intrapartum care, care to rural communities, ED care, care to Indigenous populations, and in-hospital clinical procedures.

**Figure 2. Percentage differences between family physicians’ reported practice intentions at the end of residency in 2015 and actual practice in 2018 by domains of care**



**Figure 3** shows the percentage change between intentions versus actual practice for family physicians upon graduation in 2016 and at three years into practice in 2019. The average change was similar to that of the earlier cohort at 22.8 per cent. The most significant declines were seen in providing LTC, care to rural communities, ED care, care to Indigenous populations, intrapartum care, and home care.

## Limitations

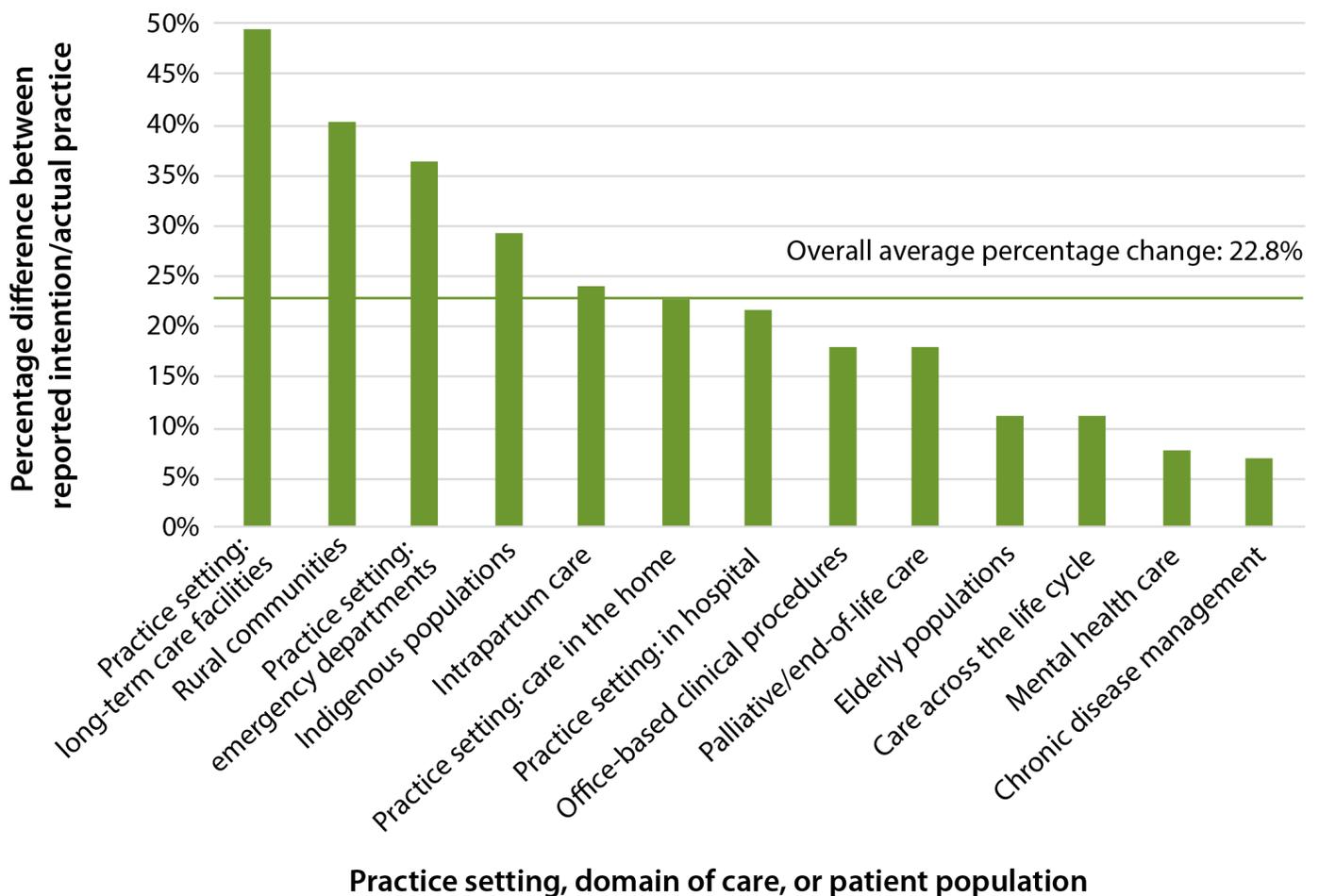
There are several limitations of this study. First, two programs did not participate in the 2015 exit and 2018 in-practice surveys, and one program did not participate in the 2016 exit survey. In addition, the results from one program were excluded from two

questions in the survey at the end of residency for both cohorts. Second, the results are based on aggregate-level data of T2 and T3 responses and response rates were lower for the FMLS T3 for both cohorts. Third, the findings presented are based on self-report and are subject to social desirability bias. Although self-reported data have limitations, there is no other way to capture the intrapsychic concepts about a topic such as intentions other than through subjective reporting.

## Discussion

The goal of Triple C is to produce family medicine residents who are ready to practise comprehensive family medicine in any community in Canada. In both exiting cohorts of 2015 and 2016, the majority of

**Figure 3. Percentage differences between family physicians' reported practice intentions at the end of residency in 2016 and actual practice in 2019 by domains of care**



family medicine graduates reported they did intend to provide care across the life cycle, mental health care, chronic disease management, office-based procedures, palliative care, and care of the elderly. However, fewer than half of family medicine graduates intended to provide intrapartum care, care in LTC settings, ED care, and in-hospital clinical procedures.

In actual practice, the majority of family physicians surveyed reported providing care across the life cycle, mental health care, chronic disease management, office-based procedures, and care of the elderly. However, fewer than half of family physicians surveyed reported providing intrapartum care, in-hospital clinical procedures, care in LTC settings, ED care, home care, and care to rural and Indigenous populations.

Finally, family medicine graduates reported greater intentions to include the various comprehensive care domains in their practices than what they actually chose to do in their practices three years later. This study found there were statistically significant declines when comparing actual practices with intentions in most of the comprehensive care domains, with the greatest declines seen in providing care in LTC facilities, intrapartum care, care to rural communities, ED care, and care to Indigenous populations. These patterns suggest there is a need to understand the factors that shape family physicians' practice choices and for the CFPC to understand how education can better influence practice decisions. The CFPC is exploring the use of the theory of planned behaviour<sup>5</sup> to understand how the theory can help explain the differences found between practice intentions and actual practice decisions made by early-career family physicians. Having a better understanding of the factors influencing practice decisions may help in crafting educational recommendations for change that could be included as part of the CFPC's Outcomes of Training Project (OTP).

The review indicates that practice intentions at the end of residency do not necessarily match actual practice choices. The areas of practice that saw the greatest declines between intentions and actual practice relate to providing intrapartum care, LTC, ED care, and in-hospital procedures as well as to providing care to Indigenous

populations and marginalized inner-city populations. Given that family medicine graduates are successfully completing residency training—by passing the CFPC's Certification Examination in Family Medicine and having program directors attest to their competence—yet they choose not to include certain domains in their actual practices is significant. There seems to be an underuse of the skills they could provide based on the intentions graduates express at the end of training.

An opportunity exists for the CFPC to maximize its educational influence, particularly as we have learned that exposure to clinical domains, care settings, and patient populations influences feelings of preparedness and feelings of preparedness influence practice choices. Knowing what factors influence practice choices can help optimize the role family physicians have in our health care system and thereby improve patients' access to care and the health outcomes of the population. The summaries included in the OTP that highlight a narrowing scope of practice among family physicians point to an urgent need to explore how this change can be reversed through the OTP educational recommendations.

## Conclusion

The intent of the OTP is to articulate the CFPC's hopes for what individuals who obtain Certification in the College of Family Physicians of Canada will contribute to the health of people in Canada. Knowing that access to a family physician has been shown to improve population health outcomes, there has been a focus on increasing the numbers of family physicians in practice. However, understanding what family physicians do once they are out in practice is another critical factor that influences access to care. Finding ways to enhance graduates' decisions to practise with a broad, comprehensive scope, either individually or in teams as they embark upon their first few years of independent practice, should be investigated. In addition, the CFPC, in its educational role, needs to explore how it can better meet its social accountability mandate to help everyone in Canada, no matter where they live, access comprehensive care close to home. Efforts to address narrowing scopes of family practice (domains

of care, practice settings, and patient populations) would honour our discipline's commitment to health care equity and improve the overall health system by

optimizing the role of family physicians in providing comprehensive family medicine care.

## Further information

To read the full report—*Preparing Our Future Family Physicians: An educational prescription for strengthening health care in changing times*—and related evidence and scholarship, please visit <https://www.cfpc.ca/futurefp>.

To request de-identified Family Medicine Longitudinal Survey data please contact the Education Evaluation and Research Unit ([eeru@cfpc.ca](mailto:eeru@cfpc.ca)).

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