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Title	**Regional differences in where and how family medicine residents intend to practice: a cross-sectional survey analysis**
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Reviewer 1	Olga Szafran
Institution	University of Alberta, Family Medicine, Edmonton, Alta.
General comments (author response in bold)	Comments to the Author This study is a secondary analysis of data from the Family Medicine Longitudinal Survey collected by the College of Family Physicians of Canada in 2016 and 2017. The practice intentions of family medicine residents were analyzed in terms of comprehensiveness of care, clinical domain, setting and practice population, as well as by regional differences. Introduction The Introduction is brief, but concise. 1. Page 3, Lines 47-49: The sentence "Most Albertans receive services from Primary Care Networks which can include nurses, dieticians, pharmacists, as well as physicians, though the structure varies (11)" should be nuanced so that it reflects the reality of the situation. Most Albertans receive services from family physicians/practices affiliated with Primary Care Networks (PCN), which can include nurses, dieticians, pharmacists, and other health professionals. Community-based family physician practices are privately owned with their own staff complement; however, they are affiliated with PCNs that also have their own staff. In many instances, the two groups work together side-by-side. While the structure of each PCN can vary, access to clinical PCN services for the most part is through the family physician. Family physicians can opt in or out of being part of a PCN. I suggest checking relevant documents for accurate wording in this sentence. **Thank you for highlighting this point. We agree that our characterization was missing this nuance. In addressing the Editor's requirement that we further limit the introduction to two paragraphs we have removed this text.** Methods 2. Page 4, Line 35-49: A brief description of the survey methodology (online vs paper survey), should be provided or a reference or link to a website that describes the survey methodology. **We now include additional detail (please see Editor comment 7) as well as references that describe the survey methodology in the context of the College of Family Physicians of Canada's Triple C evaluation (page 4).** 3. The "regions" (Atlantic Canada, Quebec, Ontario, Western Canada) should be defined in the Methods section. On page 4, line 38, it would seem that data were available by province for 17 medical schools across Canada; however, on Page 10, Line 52 and page 11, lines 1-6 it is stated that "We had no information on province or medical school and so could not examine policy environments specific to each province, nor adjust for characteristics unique to each training program." Please clarify if the data obtained from the CFPC was by province or already grouped by region. **We obtained data from CFPC that had already been grouped by region (to remove our ability to identify individual programs). We have clarified this on page 5 in the methods section: "We summarized the demographic and**

	personal characteristics of respondents and the number and percent of respondents selecting "somewhat likely" or "highly likely" for all survey questions capturing practice intentions overall and in each region (Atlantic Canada, Quebec, Ontario, or Western Canada; data were only provided by region)." Interpretation 4. The focus of the paper is on regional differences in residents' intentions to practice family medicine, yet there is little discussion as to what may be contributing to these regional differences. What impact may regional differences in educational curricula have? For example, the study findings reveal that intentions to include teaching health professional learners were lowest in Ontario and highest in Western Canada. Are there wide differences in the inclusion in the curriculum of Resident-As-Teacher programs across the country? With some effort, this information can be obtained from the 17 medical schools. **This is an excellent point. We have focused on reporting descriptive information at region level that may inform policy and planning. We agree that the content of training is important in shaping these patterns and may well explain differences in intentions to include teaching health professional learners but we were not able to obtain institution-level data on practice intentions. We are reluctant to speculate on differences in educational curricula in the absence of institution-level data.** 5. In the first three years of practice (Question 17 of questionnaire), a substantial proportion of family medicine graduates do locum practice and may do so in various practice sites and in different groups of patients. In light of this, how reliable are the study findings on informing the provision of comprehensive care and physician workforce planning? **Thank you for raising this point. Intentions for locum practice are not captured in this survey. We will investigate this in a follow-up study that will use administrative data and in-depth interviews to track and understand changes over the first ten years of practice, including locum practice. We believe the survey results have value in describing intentions, and can inform workforce planning, but cannot capture intentions for locum practice. We have revised the limitations section as follows:** **"In addition, no definitions of terms like "comprehensive care" were provided in the survey, and respondents may have interpreted terms differently across regions. For example, "comprehensive care in one clinical setting" may have been interpreted as including locums or walk-in style practice among some respondents."** **We have also restructured the conclusion section to emphasize that further research is needed.** 6. Page 10, Lines 15-24: According to The College of Family Physicians of Canada, "Family Physicians with special interests are those family doctors with traditional comprehensive continuing care family practices who act as the personal physicians for their patients and whose practices include one or more areas of special interest as integrated parts of the broad scope of services they provide." (http://www.cfpc.ca/uploadedFiles/Directories/Sections/Overview_SIFP.pdf). Having a clinical area of special interest (e.g. maternity and newborn care, addictions medicine) does not preclude the provision of comprehensive care. One may argue that, while simple headcounts overestimate the supply of physicians, those who

	provide comprehensive care and have a special interest area of practice, should be considered as providing comprehensive care in the headcount. Please discuss. **This is an excellent point. The question as articulated in the survey differs somewhat from the CFPC definition provided above: "I plan to focus only on specific clinical areas (such as sports medicine, maternity care, emergency medicine, palliative care, hospital medicine etc.)" (emphasis ours). By including the word "only" it would seem to preclude the provision of comprehensive care. That said, the implications of focused practice for the provision of comprehensive care could differ substantially if integrated within a team-based setting as opposed to a stand-alone focused practice. We now discuss this on page 10 as well as in the conclusion section (page 12).**
Reviewer 2	Steve Slade
Institution	NA
General comments (author response in bold)	Comments to the Author The authors provide a great deal of very interesting information based on a very comprehensive survey with an exceptional response rate. **It is indeed a very comprehensive survey and an impressive response rate. We can of course claim no responsibility for design or execution – we are reporting analysis of secondary data only.** The survey population and sample is comprised of FMRs who have completed their training within the past three months. One cannot ignore the fact that subgroups of FMRs within the sample are highly associated with one another due to their training within the same residency programs. Sub groups of FMRs will have recently gone through their training at the same faculties of medicine, and within the same hospitals, clinical settings and with the same preceptors. This underlying characteristic of the sample raises the question of whether or not the study subjects can be considered to be independent of one another (an assumption that is required by some of the statistical procedures used in the study). While the authors were unable to stratify the analysis due to data limitations, a cautionary note could be added about the possible non-independence of study subjects and the impact this can have on interpreting statistical results. **This is an excellent point – please see our response 12 to the editors above. To summarize, we were not able to access information at the level of individual programs. We did run analysis adjusting our standard errors for clustering by region and found that they decreased in size. This result could be due to negative within region correlation or random variation. In either case, we are not concerned about downward biased standard error on reported results.** In the Interpretation section the authors state that a high percentage of FMRs intend to provide "interprofessional, team-based care", noting that "this does not correspond to current availability of these models". The study results support the first part of this assertion (i.e., intention to practice), but do not speak to the second part (i.e., the health systems ability to accommodate this intended practice style). One reference is given to support the argument that there is a lack of available models, which doesn't seem adequate to support a statement that is quite central to the study findings. The data and results we see in the paper would, at most, support some questioning of whether or not there is capacity within the system to support the practice expectations of FMRs. **Thank you for flagging this. The cited reference points to a fact that interprofessional, team-based care is not yet the norm in most provinces, but**

	this does not directly reflect availability of opportunities for practice, and our data do not support this directly. We removed the statement and tempered our language under "Conclusions and future directions" accordingly (page 12). The authors make an important point about the lack of a definition for "comprehensive care". They report that "intentions to provide comprehensive care to the same group of patients within the first three years of practice are highest in Ontario". At the same time the findings clearly show that FMRs in other (non-Ontario) regions are generally more likely to express an intention to provide most other specific types of care (e.g., intrapartum, palliative, emergency, care in the home, etc.). With so many variables seemingly at hand, I wonder if the authors considered developing an "intended comprehensiveness of future practice score". If the data allowed, such an indicator could be based on responses to several questions, possibly providing a more robust and discriminating measure of ones intention to provide comprehensive care. **This is a very interesting point. In fact we did conduct some exploratory cluster and principle components analysis (PCA). We were not able to identify clearly discernable clusters and the proportion variance explained within the PCA was modest. This may reflect the fact that questions capture intentions and are not mutually exclusive. We may pursue cluster analysis using administrative data capturing observed practice patterns. It may also be worth revisiting cluster analysis of FMLS data once more years are available, or when the in-practice surveys have been implemented.** I would be happy to discuss any of my comments, which are respectfully offered for the authors consideration. **Thank you very much for your helpful comments.**