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RESEARCH

Assessing students' perceptions of the effects of a new Canadian longitudinal pre-clerkship family medicine experience

Karen A. Willoughby[a], Charo Rodríguez[b], Miriam Boillat[a], Marion Dove[b], Peter Nugus[c], Yvonne Steinert[d] and Leonora Lalla[b]

[a]Faculty of Medicine, McGill University, Montreal, Canada; [b]Faculty of Medicine, Department of Family Medicine, McGill University, Montreal, Canada; [c]Faculty of Medicine, Department of Family Medicine, Center for Medical Education, McGill University, Montreal, Canada; [d]Faculty of Medicine, Center for Medical Education, McGill University, Montreal, Canada

ABSTRACT

Background: Despite the implementation of longitudinal community-based pre-clerkship courses in several Canadian medical schools, there is a paucity of data assessing students' views regarding their experiences. The present study sought to measure students' perceived effects of the new Longitudinal Family Medicine Experience (LFME) course at McGill University. *Methods*: A 34-item questionnaire called the 'LFME Survey (Student Version)' was created, and all first-year medical students completed it online. *Results*: The participation rate was 64% (N = 120). Eight factors were identified in the factor analysis performed: overall satisfaction, satisfaction with preceptor, knowledge, affective learning, clinical skills, teaching/feedback, professional identity/professionalism and attitude toward primary care. Factor composite scores were above 4.5/7,indicating that students had positive perceptions of the LFME. Students felt that the LFME was a valuable educational experience and that their preceptors were good role-models. The course improved students' confidence, reinforced their commitment to being a physician and increased their positive attitude toward primary care. *Interpretation*: Along with similar pre-clerkship courses, the LFME provides a valuable context for developing students' clinical skills, providing real-world cases, teaching patient-centred care and improving attitudes toward primary care. The LFME Survey appears to be a promising and innovative tool that deserves further validation.

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KEYWORDS
Undergraduate medical education; longitudinal pre-clerkship community medical training; family medicine; primary care

What is already known
- Across North America and Europe medical schools are implementing longitudinal, community-based pre-clerkship experiences to improve attitudes towards primary care.
- These early clinical experiences may enhance students' knowledge, clinical skills, professional socialisation and offer preceptor role modelling and mentorship.
- Valid and reliable tools to evaluate these experiences are lacking.

What this work adds
- A new quantitative evaluation tool, the Longitudinal Family Medicine Experience (LFME).
- Solid preliminary evidence that the LFME has validity and reliability which will provide many opportunities for future investigations.

Suggestions for future research
- Use of the LFME survey to compare impact of these cleerkships both within and across different medical schools.
- Correlation of LFME survey data with student attitudes towards primary care as a career as they progress through medical school

Background

Over the past 20 years, there has been a shift in undergraduate medical education to include more longitudinal, community-based experiences in the first or second year of medical school.[1] Numerous studies in the United States and Europe have been conducted to assess the effects of these curriculum changes.[2–9] Three systematic reviews have highlighted the many benefits of early community clinical exposure across a variety of dimensions, such

CONTACT Charo Rodríguez charo.rodriguez@mcgill.ca

as preceptor role modelling, enhancement of students' knowledge, affective learning (i.e. emotions/feelings such as empathy or confidence), clinical skills, professional socialisation, and increased interest in primary care residencies.[1,10,11]

Stemming from the 2010 *Future of Medical Education in Canada* report,[12] several Canadian medical schools (e.g. Toronto, McGill, Saskatchewan) have implemented new community-based longitudinal pre-clerkship courses.[13,14] McGill University launched its Longitudinal Family Medicine Experience (LFME) course in August, 2013, to provide students with: (1) early exposure to primary care, (2) clinical correlation of themes introduced in the classroom, and (3) opportunities to practice history-taking, communication, and physical examination skills.[13] In contrast to other longitudinal clerkship programs, the LFME placement occurs in the first year of medical school. Each LFME student is paired with a family physician for 16–20 half-day sessions spread throughout the first year of the medical curriculum. The remainder of the first year curriculum consists of lectures, laboratories, and small group teaching. The LFME sessions take place in a variety of clinical contexts, and student participation is expected to evolve over the year from observation to a more active participation during patient encounters. Students are required to complete an online patient log for each patient seen and to produce a final reflective essay. Preceptors attend an orientation workshop before the start of the course and are provided with ongoing support from the LFME course committee.[13]

Despite the implementation of these new longitudinal pre-clerkship courses in Canada, there is a paucity of published works measuring students' views with respect thereto. This creates an unfortunate knowledge gap regarding the effects of these educational initiatives, which in turn hinders their potential for improvement. To complicate matters, there is a dearth of valid and reliable questionnaires aimed at assessing early clinical experiences, which limits the ability to compare data from different cohorts over time or across different medical schools. The purpose of the present investigation was to address these research gaps by answering the overarching research question: What were the perceptions of first-year medical students regarding the effects of the McGill LFME course during its first year of implementation? To do so, we developed a new tool that allowed students to rate the course along various themes identified in previous systematic reviews as potential benefits. This study was part of a larger exploratory case study, financially supported by a 2014 College of Family Physicians of Canada Janus Grant, on the LFME during its first year of implementation. Results from this study appear particularly valuable in light of the fact that the academic context at McGill in which it was conducted had the lowest percentage of graduating students choosing residencies in family medicine (19%) across Canada in 2014,[15] and there is evidence that the identification process with respect to the discipline of family medicine has been challenging for students at this medical school.[16]

Methods

Research design and participants

This was a cross-sectional survey study. All 187 first-year McGill medical students from the Class of 2017 were invited to complete a questionnaire online at the end of their first academic year. Ethics approval was granted by the McGill Faculty of Medicine Institutional Review Board.

Questionnaire development

After conducting an extensive literature review, we drafted an exploratory 34-item questionnaire called the LFME Survey (Student Version). The questionnaire items were developed based on themes identified in systematic reviews (e.g. satisfaction with preceptors, enhancement of knowledge, affective learning, clinical skills, etc.), adaptations from previous questionnaires assessing other types of clerkship experiences,[7,8,17–19] and alignment with the LFME course objectives (i.e. having early exposure to primary care, clinical correlation of themes introduced in the classroom, and opportunities to practice history-taking, communication, and physical examination skills). For each item, students responded using a seven-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) and items were randomized in their presentation. Both positive and negative items were included to avoid acquiescence response bias and multiple questions assessing similar constructs were included for reliability purposes. We collected demographic data (see Table 1) and assessed students' interest in pursuing family medicine by measuring agreement with the statement 'I would like to become a family physician in the future' using a seven-point Likert scale. Finally, students had the opportunity to provide open-ended comments about the course online after completing the survey.

Questionnaire implementation

The LFME Survey was available online using fluidsurveys.com from May to September 2014. All students provided

Table 1. Frequency and percentages (in parentheses) for demographic variables.

Variable	Number (% of total respondents)	
Age (mean = 23.87)		
19–21	41 (34.2)	
22–24	39 (32.5)	
25–27	22 (18.4)	
28–30	11 (9.2)	
31–39	7 (5.8)	
Sex		
Female	69 (57.5)	
Male	51 (42.5)	
Highest level of prior education		
CEGEP	41 (34.2)	
Undergraduate degree	45 (37.5)	
Master's degree	24 (20.0)	
PhD	6 (5.0)	
Professional degree	3 (2.5)	
Other (secondary school)	1 (0.8)	
Population of home town		
<10,000	7 (5.8)	
10,000–50,000	19 (15.8)	
50,001–100,000	11 (9.2)	
>100,000	73 (60.8)	
Unsure	10 (8.3)	
Specialty of interest		
Internal medicine	22 (18.3)	
Surgery	22 (18.3)	
Family medicine	20 (16.7)	
Pediatrics	12 (10.6)	
Emergency	8 (6.7)	
Ophthalmology	4 (3.3)	
Radiology	4 (3.3)	
Psychiatry	3 (2.5)	
Anaesthesiology	3 (2.5)	
Other	9 (7.5)	
Unsure	13 (10.8)	
Change in specialty of interest since starting medical school		
Yes	50 (41.7)*	
No	70 (58.3)	
Agreement with statement: 'I would like to become a family physician in the future'		
Strongly disagree	18 (15.0)	
Moderately disagree	21 (17.5)	
Mildly disagree	16 (13.3)	
Neutral	18 (15.0)	
Mildly agree	17 (14.2)	47 (39.2)**
Moderately agree	20 (16.7)	
Strongly agree	10 (8.3)	

*10 students (8.3%) changed their specialty of interest to family medicine since starting medical school.

**Of the 47 students who agreed with the statement regarding wanting to become a family physician, 20 (42.6%) reported family medicine as their specialty of interest and 6 (12.8%) were unsure of their specialty of interest.

informed consent prior to participation, which was voluntary and anonymous.

Data analysis

Data were analysed using SPSS 21.0. Incomplete surveys ($n = 3$) were removed from the analysis and missing items ($n = 5$) were replaced with the mean score. Scores from negative items were inverted so that 1 represented the most unfavourable option and 7 represented the most favourable option. An exploratory factor analysis was conducted to identify the underlying factor structure of the LFME Survey to ensure adequate construct validity. Factors were extracted if their eigenvalue was greater than 1 using principal components estimation and the varimax orthogonal rotation method. Eight factors were initially identified and in combination explained 69% of the variance. Slight modifications were made to ensure each factor conceptually matched a distinct theoretical dimension identified in previous literature (e.g. by grouping similar factors or moving an item to a more conceptually appropriate factor). Three items that did not strongly load or conceptually fit within a single factor were removed from the analysis, reducing the survey to 31 items. As shown in Figure 1, the final eight factors reflected seven dimensions identified in previous literature, as well as one new dimension, entitled teaching/feedback.

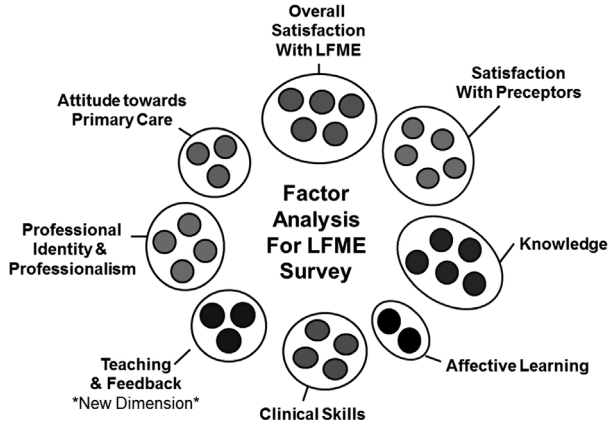

Figure 1. Illustration of the eight dimensions of the LFME Survey elicited through factor analysis.

Cronbach's α was 0.93 for all 31 items and above 0.70 for each factor (see Table 2 for values), indicating adequate reliability. Composite scores for each dimension were created and are presented in Table 2. Univariate analyses of variance and linear regressions were used to assess the effects of demographic variables on the composite scores. To control for multiple comparisons, an overall significance level of $p < 0.01$ was used; however, a few interesting findings with $p < 0.02$ are discussed. Finally, students' open-ended responses were analysed for recurring themes.

Results

In total 120 students (64% of those enrolled) responded to the questionnaire. Demographic data are presented in Table 1. The distribution of age, sex, and prior education in the

Table 2. Composite scores with standard deviations (SD) and Cronbach alphas for each dimension, as well as mean and percentage agreement scores for each item of the LFME Survey.

Dimension & *Items*	Mean	%Agree (total)	%Mildly agree	%Mod. agree	%Strongly agree
1) Overall satisfaction with LFME (Cronbach $\alpha = 0.79$)		**Composite: 5.43 (SD = 1.02)**			
I would recommend the LFME to other students at other medical schools	6.42	96%	10%	22%	64%
The LFME was an appropriate and valuable educational experience	6.39	96%	8%	27%	61%
I am very satisfied with my experience with the LFME	5.87	88%	19%	27%	42%
I enjoyed the LFME because I had exposure to a wide variety of clinical problems	5.39	80%	23%	24%	33%
The patient logs and final reflective essay components of LFME were useful	3.08	25%	14%	8%	3%
2) Satisfaction with preceptor[a] (Cronbach $\alpha = 0.80$)		**Composite: 6.30 (SD = 0.91)**			
My preceptor was knowledgeable	6.55	100%	9%	27%	64%
My preceptor had good communication skills with patients	6.32	95%	12%	22%	61%
My preceptor was a good role-model	6.21	91%	11%	22%	58%
I would recommend my preceptor to other students	6.11	90%	10%	24%	56%
*My preceptor did not provide an open welcoming environment where I felt comfortable asking questions**	6.31	88%	3%	10%	75%
3) Knowledge (Cronbach $\alpha = 0.72$)		**Composite: 5.71 (SD = 0.91)**			
The knowledge & skills I learned through the LFME are relevant for my future career in medicine[b]	6.34	96%	12%	26%	58%
The LFME gave me a good understanding of the work performed by family doctors	6.14	95%	13%	35%	47%
*The LFME did not enhance my understanding of the doctor-patient relationship**	6.20	93%	13%	22%	58%
The LFME helped me feel more prepared for clerkship and future patient encounters	5.55	84%	26%	31%	28%
The LFME has contributed to my understanding of the basic sciences	4.31	58%	30%	20%	8%
4) Affective learning (Cronbach $\alpha = 0.71$)		**Composite: 5.46 (SD = 1.06)**			
The LFME has made me more self-aware of my emotional reactions towards patients	5.62	83%	23%	28%	32%
The LFME helped me develop greater empathy towards patients	5.52	79%	16%	37%	26%
The LFME motivated me to learn the basic medical sciences by giving me first-hand exposure to relevant cases)	5.45	78%	24%	26%	28%
The LFME made me more confident in my history-taking and physical exam skills	5.28	75%	21%	28%	26%
5) Clinical skills[c] (correlation coefficient = 0.419, $p < 0.001$)		**Composite: 4.64 (SD = 1.35)**			
The LFME improved my ability to communicate with patients	5.64	84%	24%	29%	31%
*I was not given sufficient opportunity to practice my history-taking and physical exam skills**	3.63	37%	14%	15%	8%
6) Teaching/feedback[d] (Cronbach $\alpha = 0.75$)		**Composite: 4.56 (SD = 1.55)**			
*I did not have sufficient time with my preceptor for teaching or discussion**	5.26	71%	18%	19%	33%
*I was disappointed that I did not get as much teaching from my preceptor as other students**	4.32	46%	8%	12%	26%
*I was not given enough feedback about my strengths and weaknesses in my history-taking and physical exam skills**	4.08	44%	12%	14%	17%
7) Professional identity/professionalism (Cronbach $\alpha = 0.76$)		**Composite: 5.70 (SD = 0.96)**			
The LFME has positively reinforced my commitment to be a physician	6.18	93%	16%	24%	53%
The LFME taught me the importance of good communication & multidisciplinary teamwork	5.76	85%	18%	34%	33%
The LFME helped me in identifying myself as a medical care provider	5.62	84%	28%	28%	28%
The LFME helped me to develop social accountability (i.e. *the desire to serve my community and make a difference in people's lives*)	5.26	74%	26%	25%	23%
8) Attitude towards primary care (Cronbach $\alpha = 0.82$)		**Composite: 4.84 (SD = 1.52)**			
The LFME had a positive impact on my attitude towards primary care	5.89	87%	16%	28%	43%
As a result of the LFME, I am more interested in pursuing a career in primary care (e.g. *family medicine, general internal medicine, general paediatrics, general surgery*)[e]	4.65	59%	19%	23%	17%
As a result of the LFME, I am more interested in pursuing a career in family medicine	3.98	43%	15%	13%	15%

Notes: The three deleted items from the original survey were: I found the LFME to be repetitive and not intellectually stimulating; the LFME made me feel that primary care is overwhelming in terms of the knowledge required, uncertainty in diagnosis, and the number of patients to be seen; and my preceptor encouraged me to be an active learner and to examine patients on my own.

*Items that were transposed from negative (1 = favourable) to positive (1 = unfavourable) for analysis.

[a]In order to improve the LFME Survey for future use the authors suggest including the following item in the 'Satisfaction with Preceptor' dimension: *the longitudinal aspect of the LFME enabled me to develop a good mentoring relationship with my preceptor*.

[b]In order to improve the LFME Survey for future use the authors suggest omitting '& skills' from the following item in the 'Knowledge' dimension: *the knowledge & skills I learned through the LFME are relevant for my future career in medicine*.

[c]In order to improve the LFME Survey for future use the authors suggest including the following item in the 'Clinical Skills' dimension: *the LFME improved my history-taking and physical examination skills*.

[d]In order to improve the LFME Survey for future use the authors suggest including the following item in the 'Teaching & Feedback' dimension: *I was given enough general feedback about my progress from my preceptor*.

[e]In order to improve the LFME Survey for future use the authors suggest removing general surgery from the definition of primary care.

present sample did not statistically differ from data collected from the entire class by McGill University's Admissions, Equity, and Diversity department at the start of medical training (i.e. Mean age 22.7 (range: 18–38), 55.1% females, 31 students with a Masters degree and 6 with a Doctorate degree). Older students were more interested in becoming family physicians ($F = 7.01$; $p = 0.009$) and less likely to have changed their specialty of interest since starting

medical school ($F = 6.18$; $p = 0.014$) than younger students. Female students were more interested than male students in becoming family physicians ($F = 5.65$; $p = 0.019$). Finally, students who were more interested in becoming family physicians reported higher scores for overall satisfaction ($F = 25.41$; $p < 0.001$), knowledge ($F = 11.94$; $p = 0.001$), affective learning ($F = 12.38$; $p = 0.001$), professional identity/professionalism ($F = 21.74$; $p < 0.001$), and attitude towards primary care ($F = 188.33$; $p < 0.001$), than students less interested in becoming family physicians.

Mean and percentage scores for all items of the LFME Survey are presented in Table 2. As also shown in Table 2, composite scores for all eight dimensions of the survey were above 4.5, indicating that the majority of students had positive views of the LFME and their preceptors, and felt the course had positive effects on their knowledge, affective learning, clinical skills, teaching/feedback, professional identity/professionalism, and attitude towards primary care. An unexpected finding was that only 25% of students felt the patient logs and final reflective essay were useful. These students were more interested in becoming family physicians ($F = 6.16$, $p = 0.015$) and reported greater overall satisfaction with the course ($F = 53.16$, $p < 0.001$) than the 75% who did not find the logs and essay useful.

After completing the LFME Survey, 53% of students provided written comments and recommendations (see Table 3 for an illustration of comments provided). The majority of statements from students were positive, and several students conveyed appreciation for their preceptor's efforts to tailor their clinical sessions to the student's specialty of interest or to themes recently introduced in the classroom. Many students suggested switching preceptors halfway through the year to compensate for variability across clinic sites and preceptors ($n = 20$) and felt that their preceptors would have benefited from having more guidance regarding the objectives of the course ($n = 20$). Five students felt the logs were too time-consuming, and eight would have preferred alternatives to the reflective essay, such as group presentations about their experiences or evaluated patient encounters at the end of the year to assess their clinical skills. Other concerns from students included the number of sessions, travel arrangements, language issues, and not having the opportunity to provide anonymous feedback to preceptors on the quality of their teaching.

Discussion

The goal of the present study was to measure students' perceptions of the effects of the new pre-clerkship longitudinal family medicine course at McGill University. Due to the lack of appropriate published inventories, this goal was accomplished by creating a new survey that demonstrated solid preliminary evidence of validity and reliability.

In line with previous studies across North America and Europe,[4,8,14] the first major result obtained from our data is that first-year Canadian medical students find early clinical exposure to be beneficial and worthwhile. The majority of students strongly agreed that they would recommend the LFME course to other students at other medical schools, and had very positive perceptions of their preceptors, many of whom were relatively new to the role of supervising and mentoring medical students. Overall, our findings indicate that the first year of McGill's innovative LFME course was a success in terms of eliciting perceptions of satisfaction from the first cohort of medical students.

In terms of the perceived benefits of the LFME, it was hoped that the course would improve students' understanding of the basic sciences by providing real-world examples of classroom themes. Only 8% of students strongly believed this to be the case; however, most students agreed that the course improved their motivation to learn the basic sciences and gave them relevant knowledge and skills that helped them feel more prepared for clerkship. These findings reinforce the idea that pre-clerkship community-based courses serve not to replace the basic science curriculum, but rather to complement concepts learned in the classroom.

It was clear from both the LFME Survey and students' comments that not all students had sufficient opportunity to practice their patient history-taking and physical examination skills. Many students were also disappointed because they felt their preceptor did not provide as much teaching as some other preceptors and did not provide enough feedback on their clinical skills. Although many students requested switching preceptors halfway through the year (34%), some researchers have suggested that developing a longitudinal mentoring relationship with a single preceptor might be more important in the pre-clerkship years than breadth of exposure.[6,8] Given that students often discuss and compare their experiences amongst themselves, our results highlight the need to educate students that variability is inevitable with community-based courses and to reassure them that each experience provides its own unique set of valuable learning opportunities.

Consistent with previous research,[20] we found that older students and female students were most interested in pursuing family medicine. However, age and sex did not have an impact on students' perceptions of the LFME. Interestingly, we found that 41.7% of our sample reported changing their specialty of interest since starting medical school (8.3% changed their interest to family medicine), with younger students being more likely to change their specialty of interest than older students. This finding suggests that experiences during the first year of medical school, such as the LFME, could significantly influence

Table 3. Selected student comments relating to each dimension of the LFME Survey.

1) Overall satisfaction with LFME

'*The LFME was a fantastic experience that supported my love for medicine and caring for patients*'. (*Male student interested in Family Medicine*)

'*Overall, this was one of the most rewarding and useful experiences in my first year of medical school*'. (*Male student interested in Internal Medicine*)

2) Satisfaction with preceptor

'*My LFME preceptor and experience was absolutely fantastic! One of the best things my preceptor did was take the time to follow along with our schedule, and plan patients accordingly whenever possible. For example, during Block C (Cardiovascular), she would schedule patients with heart disease on the afternoon I would be there so that I would be able to hear heart murmurs, see pitting edema, examine the JVP, etc. It was a very powerful teaching tool to supplement our in-class learning. She also gradually had me participate more in the patient interviews, to the point where I was able to perform a full, routine PHE on my own by the end of the year*'. (*Female student interested in Family Medicine*)

3) Knowledge

'*LFME helped me a lot to understand how the clinical thinking we are learning in class gets used in real-world complex scenarios, and how certain diseases present themselves. There is no better way of remembering something for life than to learn it in class, and one week later meeting a patient living with this exact problem*'. (*Male student interested in Internal Medicine*)

4) Affective learning

'*I loved LFME, it really gave me a motivation to learn and it gave me more confidence with patients and history taking. I think next year's students would also greatly benefit from this experience*'. (*Female student interested in Anaesthesiology*)

'*Going to the LFME helped motivate me to learn and keep the passion for medicine that I had when I first applied to medical school*'. (*Female student interested in Psychiatry*)

5) Clinical skills

'*Objectives for how sessions should be run was not clear. For example, some students were routinely told to take histories, and present to their preceptor, while others were told simply to sit in the room and watch. Though the information may have been in the manual, it could have been disseminated and explained better*'. (*Male student interested in Anaesthesiology*)

6) Teaching and feedback

No specific comments

7) Professional identity & professionalism

No specific comments

8) Attitude towards primary care

'*In the 20 sessions I learned a lot and even if I am not interested in pursuing family med I think it was a wonderful experience*'. (*Male student interested in Internal Medicine*)

'*LFME certainly showed me the importance of a good GP for a patient...but it absolutely didn't make me want to be one! In fact, it really clarified for me that I want to be in some kind of specialty, although I'm not sure which*'. (*Female student, unsure of specialty of interest*)

Notes: Other logistical suggestions provided by students changing preceptors halfway through year (34%), providing preceptors with more guidance (17%), allowing students to take more patient histories (17%) and more physical exams (12.5%), reducing the number of visits required (12.5%), and removing the reflective essay component (12.5%).

future career choices, especially in younger students who might have had less prior exposure to the health care system. Importantly, a large percentage of the class felt the course had a positive impact on their attitude towards primary care, regardless of whether they were interested in pursuing a career in primary care or family medicine. Forty-three per cent (43%) of students were more interested in family medicine and 59% were more interested in primary care careers after experiencing the LFME. Similarly, most students felt the LFME improved their understanding of the work performed by family doctors and the doctor-patient relationship. These findings reinforce the idea that early community-based experiences may not only facilitate processes of identification with family medicine, but also improve the reputation of this medical discipline among students who choose other specialties, which could ultimately optimise patient care through improved collaborative clinical practices in and across levels of healthcare delivery. This finding appears of particular importance at this medical school, which has consistently had one of the lowest numbers of graduates pursing family medicine across the country.[14]

The strength of the present study is that it is the first Canadian study, to our knowledge, to assess students' perceptions of the effects of longitudinal pre-clerkship community-based experiences. This was accomplished using a new quantitative tool that demonstrates solid preliminary evidence of validity and reliability, and provides many opportunities for future investigations. The use of this promising questionnaire could, for instance, help researchers answer the following questions: To what extent do results from the first LFME cohort differ from other cohorts? To what extent is the LFME associated with changes in attitude toward primary care or current specialty of interest when this data is collected both before and after the course? What assessment or reflective exercises would maximise learning from an LFME experience? To what extent does student satisfaction with the LFME correlate with future outcomes, such as family medicine clerkship evaluations and residency choice when compared to previous cohorts who did not participate in the LFME? Also, as the present study follows the first level of Kirkpatrick's evaluation criteria (reaction, i.e. how well learners appreciated the learning process),[21–23] future research could expand on this model by assessing the LFME with regards to Kirkpatrick's learning, behaviour, and results criteria.[21]

The present study has certain limitations. First, we relied on self-reported data, which can be vulnerable to

social desirability and recall bias. However, students' perceptions can provide valuable insight into the effects of instituting changes to the medical training curriculum. Complimentary data from the first cohort of LFME preceptors have been collected and will be published subsequently. Second, we collected data at a single time-point and had no objective outcomes or control group, which limited our ability to directly assess the potential benefits of the LFME and the predictive validity of our survey. Given that this work is framed in a larger exploratory case study, we hope to explore these issues in future studies. Third, although our response rate was acceptable (64%), it is possible that that selection bias could explain some of our findings. However, our sample did not statistically differ from demographic data collected from the entire class and our findings are consistent with previous research. Finally, our use of a single cohort at only one institution limits the generalizability of the LFME Survey; however, it is our hope that adapted versions of this tool will be used at other Canadian medical schools.

In conclusion, the present study assessed Canadian students' perceptions of a new LFME course and yielded very positive ratings across a variety of dimensions. Along with similar pre-clerkship courses, the LFME appears to provide a valuable context for teaching the philosophy of patient-centred care, providing real-world examples of classroom concepts, developing students' clinical skills, and improving their attitudes towards primary care. Moreover, the results of this study also supports the utility of early clinical experience to help students develop their medical professional identity.

Ethical statement

Ethics approval was granted by the McGill Faculty of Medicine Institutional Review Board.

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Disclosure statement

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