Original Research Article

Evaluation of a pre-clerkship family medicine placement: Does it influence Canadian medical students' interest in pursuing family medicine?

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Abstract

Achieving a sustainable workforce in family medicine (FM) requires 50-53% of Canadian medical students to apply. However, in 2020, only 32.4% ranked FM as their top specialty choice. Increasing FM exposure during pre-clerkship is one strategy to boost interest in the specialty. In this context, McMaster University created the Family Medicine Experience (FME) for early clinical exposure. This mixed-methods study aims to evaluate the FME's influence on students' interest in pursuing FM. Pre- and post-FME surveys and focus groups included pre-clerkship McMaster medical students as participants. The survey results were analyzed for relationships between demographic variables and change in FM ranking or likelihood for pursuing a career in FM. The focus groups were conducted after the FME and analyzed for common themes. The surveys showed that there was neither a significant difference ($p>.05$) in the proportion of students with FM as their top specialty, nor any change in the mean score for likelihood of pursuing FM as a career. The focus groups analysis revealed that although the FME improved attitudes and perceptions of FM, the students' top specialty choice did not change. The FM+1 is an increasingly popular option for students and was the intended choice for most students interested in FM. Strategies including lunchtime panel sessions and workshops were suggested for FM promotion during pre-clerkship. A pre-clerkship FM placement does not influence the proportion of students with an intent to pursue FM.

Keywords: Canadian medical students; medical education; mixed-methods study; pre-clerkship placements

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Introduction

An estimated 15.3% of Canadians (4.7 million) do not have regular access to a Family Physician (FP), as of 2017 (1). Canada ranks 29th out of 33 developed countries in patient-to-physician ratio (2). Lack of a regular FP is associated with higher in-hospital and one-year post-admission mortality (3), decreased health promotion including cancer screening (1), and increased healthcare costs (4,5).

Up to 35.1% of Canadians looking for an FP cannot find one accepting new patients (6). A 2017 Canadian Medical Association (CMA) Workforce Survey found 73.6% of practising FPs are seeing few or no new patients, and that 39.4% of FPs plan to reduce working hours or retire within the next two years (7,8). Canadian FPs are also increasingly pursuing enhanced skills training ("FM+1"). This is an opportunity for graduates of family medicine (FM) programs to gain additional training in an area of interest, and it allows for them to work in other clinical settings, rather than practicing traditional FM (9).

Approximately 50-53% of Canadian medical school graduates should apply to FM to achieve a sustainable workforce (10). In 2020, only 32.4% of Canadian medical graduates applied to FM as their top specialty choice (five-year average (5YA) from 2016-2020: 33.8%), (11), and 49 Canadian FM residency spots went unfilled after both iterations of the match (5YA: 48.8 unfilled spots). The Canadian Federation of Medical Students (CFMS) released seven recommendations in 2006 to increase the popularity of FM as a career choice, including "increased exposure to FM in the pre-clerkship years of medical school, including rural or community experience or both." (12).

McMaster University, a medical school in Southwestern Ontario, has created a mandatory first year FM placement, the Family Medicine Experience (FME). This is an 18-hour (three half- or six full-days) placement that aims to promote early clinical experience in FM. Other medical schools in Canada have recently begun pre-clerkship FM placements (Appendix A). To date, there is no published Canadian literature examining whether participation in pre-clerkship FM placements influences students' eventual specialty selection, and whether it increases interest in FM. The purpose of this study is to evaluate whether the FME affects students' interest in pursuing a career in FM.

Methods

Study design

This is a mixed-methods study utilizing a pre- and post-FME survey and focus groups. The survey measured first-year students' interest in pursuing a career in FM at two cross-sectional timepoints: before and immediately after the FME. The focus groups were conducted after the FME, before students entered their clerkship training. This study was granted a HiREB

exemption waiver from ethics review as it was classified as program evaluation as per the TCPS2 (2014) Article, 2.5.

Setting and sample

The participants were pre-clerkship medical students from McMaster University. The survey was sent to all 206 first-year medical students (class of 2022) shortly after matriculation to medical school, one day after receiving an orientation presentation on the FME. All respondents to the pre-FME survey were contacted again for the post-FME survey, within one week of their placement ending.

Focus group participants were recruited via an e-mail to all students, and through snowball recruitment of survey participants, from the classes of 2021 and 2022. Students were encouraged to participate in surveys through random selection of one student to receive a $30 Amazon gift card, and in focus groups where a complimentary meal was provided.

Survey

The survey questions were based on a literature review of studies investigating factors affecting the career interests of first-year Canadian medical students (13). The initial survey was reviewed and edited by the McMaster Education Research, Innovation, and Theory group in a thinktank session for question content, vocabulary, and potential bias.

All first-year students were sent the Part I (Pre-FME) survey. This survey had two parts: 10 multiple-response questions collecting demographic data (e.g., age, ethnicity, gender…), and eight questions on specialties of interest (arranged by a top-five rank-order list of 27 specialties available in the residency (e.g., Anaesthesiology, Cardiac Surgery, Dermatology…) and subspecialty (e.g., FM+1, IM Subspecialty…) matches), five-item Likert scale question "How likely are you to pursue an FM residency?", with zero indicating "no interest", and five "absolute certainty", and free-text responses on factors most important for career selection (Appendix A).

Students who responded to the Part I survey were sent the Part II (Post-FME) survey. This survey also included the rank-order list of the top five specialties of interest, five-item Likert scale question "How likely are you to pursue an FM residency?", and several free-text questions about the FME, such as "How did the FME influence your likelihood of pursuing FM?".

Statistical analyses

Data regarding means, percentages, variation, and standard error were calculated using Microsoft Excel (Version 2007, Microsoft, Redmond, WA, USA). The Part I and II survey results were analyzed for relationships between independent demographic variables, number one ranked

specialty choice, and change in FM specialty ranking using Minitab ® statistical software (Version 17, Minitab Inc., State College, USA). Linear regression was performed to analyze whether independent variables accounted for significant variance in specialty choice and pre- and post- analyses of changes in FM interest. For categorical variables, chi-square testing was employed; for continuous variables, unpaired t-tests were used. For free-text survey responses, a document with all compiled answers was created and analyzed for common themes. Re-occurring themes were categorized, counted based on frequency of response, and reported quantitatively.

Focus groups

Focus groups lasting 60 to 90 minutes were carried out for participants after completion of the FME. Focus groups of students were facilitated by two trained investigators (AS, AG); neither facilitator was associated with any aspect of the medical curriculum in the medical school. Focus group questions covered two broad areas (Appendix A): first, the influences that shaped students' career interests before and during medical school, and second, how the FME influenced their perceptions of FM. Focus group sessions were recorded electronically using QuickTime Player (Apple, Cupertino, CA, USA).

Qualitative analyses

Audio recordings were initially transcribed using the Trint Audio Transcription software (2014, Florence, Italy). Two different investigators (AS, AG) reviewed these transcripts and simultaneously listened to the recordings to add qualitative details (e.g., tone, sarcasm, laughter) and make corrections for spelling and grammar. Both investigators independently read each transcript and used an open coding method of analysis, in which interesting words, phrases, or concepts in the transcripts were highlighted in Microsoft Word (Version 2007, Microsoft, Redmond, WA, USA). These codes were compiled into a master codebook, where descriptive commentary noted emerging themes or potential patterns in the data. The commentary was the basis of the primary thematic analysis. Codes were clustered under each theme, and a new theme was created where multiple codes did not fit an existing theme. Thematic analysis was completed when exhaustion of coding segments from the codebook was reported by each investigator. Both investigators then independently summarized each theme into discrete categories, with specific quotes and codes used as supporting evidence. These categories were compared between investigators, and consensus on a final summary of qualitative themes was achieved.

Results

Surveys

The Pre-FME survey (Appendix A) had 72 respondents (72/206, 35.0%), and 53 respondents completed all questions. The Post-FME survey had 43 respondents (43/72, 59.7%), and 40 respondents completed all questions. All survey respondents were in their first year of medical school; further demographic information regarding gender, campus and marital status is in Table 1.

Table 1. Demographic information of participants and comparison of interest in FM for independent variables. FM, family medicine; HRC, Hamilton campus; NRC, Niagara campus; WRC, Waterloo campus

Category	**n**	**%**	**Category for comparison**	**FM/FM+1 Rank #1**	**p**	**FM+1 only Rank #1**	**p**
Male	29	40.3%	Male	10/29	0.36	7/10	1.0
Female	43	59.7%	Female	5/24		4/5	
Age	22.9 (SD 2.7) yrs.		Age $\leq$ 24	10/44	0.10	9/10	.08
			Age > 24	5/9		2/5	
Hamilton Campus	52	72.2%	HRC	11/38	1.0	7/11	0.50
Niagara Campus	10	13.9%	NRC/WRC	4/15		4/4	
Waterloo Campus	10	13.9%					
Married	7	9.7%	Married/Relationship	9/24	0.23	6/9	0.60
Serious Relationship	21	29.2%	Single	6/29		5/6	
Single	43	59.7%					
No response	1	1.4%					
Hometown population <100,000	16	22.2%	Hometown <100,000	3/11	1.0	2/3	1.0
Hometown population >100,000	56	77.8%	Hometown >100,000	12/41		9/12	
Family income <$100,000	20	27.8%	Income <$100,000	6/25	0.56	4/6	1.0
Family Income $100,000-$300,000	29	40.3%	Income >$100,000	9/28		7/9	
Family Income >$300,000	6	8.3%					
Unsure/No response	4	5.6%					
Debt < $30,000	22	30.6%	Debt <$30,000	4/15	1.0	2/4	0.52
Debt > $30,000	45	62.5%	Debt >$30,000	11/38		9/11	
No response	5	6.9%					
Caucasian	28	38.9%	Caucasian	8/21	0.23	6/8	1.0
East Asian	29	40.3%	Non-Caucasian	7/32		5/7	
South Asian	13	18.1%					
Other	10	13.9%					
Has children	3	4.2%					

Part I survey

Of 53 respondents, 28.3% (15/53) ranked FM or FM+1 as their top specialty of interest. 26.7% (4/15) ranked traditional FM first, while 73.3% (11/15) ranked FM+1 first. Other popular selections were Pediatrics (11.3%, 6/53), Psychiatry (9.4%, 5/53), Internal Medicine (9.4%, 5/53) and Anaesthesiology (7.5%, 4/53) (Figure 1; Table 2). The mean Likert (1-5) score for the question: "How likely are you to pursue an FM residency?" was 3.13 (SD: 0.99, range: 1-5).

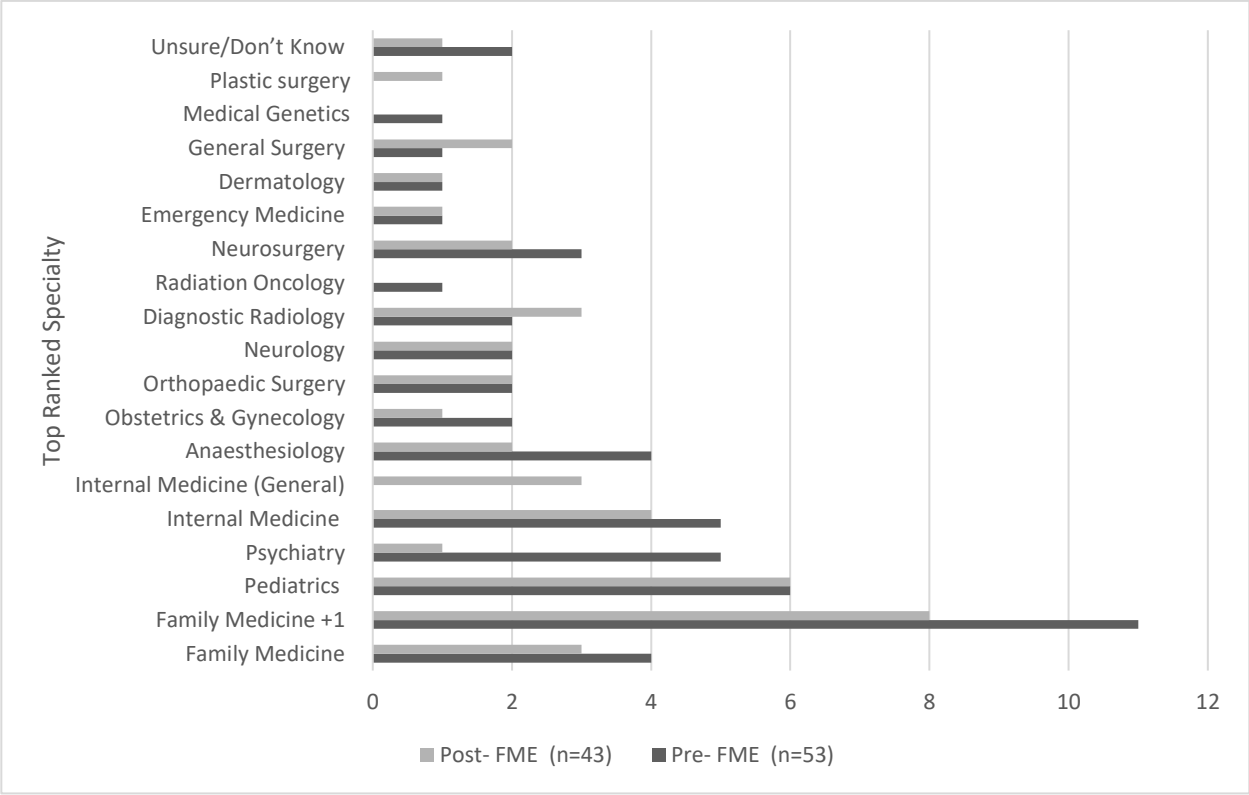

Figure 1. Top ranked specialties pre- and post-FME

Chi-squared tests of proportions revealed no statistically significant ($p>0.05$) associations between any of the demographic variables and the likelihood of ranking FM as the top specialty of interest, or FM+1 versus FM-only as the top specialty of interest (Table 1). Regression analysis failed to reveal any significant ($F>0.05$ and $p>0.05$) relationships between likelihood of pursuing FM or FM ranking and any of the demographic variables.

Factors commonly cited as most important for specialty interest were lifestyle after training (51/73), job satisfaction (45/73), personal fit in specialty (42/73) and control/predictability of schedule (40/73).

Table 2. Specialty interests of survey participants and focus group participants. FM, family medicine; FME, family medicine experience; EM, emergency medicine; ID, infectious diseases; IM, internal medicine; NR, not reported

Survey Participants			**Focus Group Participants**			
Top Ranked Specialty	Pre-FME (n=53)	Post-FME (n=43)	**ID**	**Gender**	**Current Interest (PreFME Interest)**	**Important Factors for Specialty Interest**
Family Medicine	4	3	A	Female	ID (ID)	Previous research in field, Ability to do future research
Family Medicine +1	11	8				
Pediatrics	6	6				
Psychiatry	5	1	B	Female	Pediatrics (Neurosurgery)	Ability to do medical humanities research, Lifestyle
Internal Medicine	5	4				
Internal Medicine (General)	0	3				
Anaesthesiology	4	2	C	Male	IM (IM)	Basic science research, Lifestyle, Interest in specialty
Obstetrics & Gynecology	2	1				
Orthopaedic Surgery	2	2				
Neurology	2	2	D	Female	FM (FM)	Lifestyle, Regional flexibility
Diagnostic Radiology	2	3				
Radiation Oncology	1	0	E	Female	Pediatrics (FM)	Lifestyle, Excitement, Interest in academic content (genetics)
Neurosurgery	3	2				
Emergency Medicine	1	1				
Dermatology	1	1	F	Male	Dermatology (Dermatology)	Interest in content, Lifestyle, Income
General Surgery	1	2				
Medical Genetics	1	0	G	Female	General Surgery/ Pediatrics (NR)	Lifestyle, Definitive management, Expertise
Plastic Surgery	0	1				
Unsure/Don't Know	2	1				
			H	Male	General Surgery (EM)	Interest in specialty (procedures, acuity)
			I	Female	IM (NR)	Lifestyle, Environment at work
Likelihood of ranking FM as top specialty for residency? (1 = not likely, 5 = very likely)						
1	6	8				
2	17	8				
3	8	7				
4	15	8				
5	6	9				

Part II survey

After the FME, the mean score for the likelihood of pursuing an FM residency was 3.07 (STD: 1.40, range 1-5). 27.5% (11/40) listed FM or FM+1 as their top specialty, 27.3% of whom (3/11) listed FM and 72.7% of whom (8/11) listed FM+1 first. Four students switched their top rank

from another specialty to FM, and three students switched from FM to another specialty. There was neither a significant pre-/post-FME difference ($p>0.05$) in the proportion of students with FM or FM+1 as their top specialty, nor in the mean score for the likelihood of pursuing a career in FM.

Qualitative themes

The most important factors for career choices were (n=53): lifestyle and balance (n=17), personal interest in specialty (n=10), job satisfaction (n=9), patient population (n=6), and intellectual content of the specialty (n=5). In the Post-FME survey, 95.3% (41/43) of students reported a positive experience. Responses to the question, "How did the FME influence your likelihood of pursuing FM" were analyzed. Positive responses included an improved perception and appreciation of FM (n=9), dispelled negative prejudice about FM (n=2), and improved understanding of the scope of FM (n=7). For some students, the FME increased the likelihood of applying to FM (n=11), confirmed FM as the top specialty of interest (n=5), and/or influenced them towards the FM+1 (n=4). For others, the FME did not change the likelihood of applying to FM (n=8) or negatively influenced the likelihood of applying to FM (n=9).

Focus groups

Nine students participated in two focus groups. Seven students were in first year and two were in second year; six participants were female and three were male. The specialty choices of participants in the focus groups and factors that are important in the specialty selection are in Table 2.

Pre-medical school influences

Impressions of FM before medical school were generally negative due to influence from family physicians and influence from role models. Several students said their only exposure to FM before medical school was with their family physician. On finding out she got into medical school, one participant said:

> "[My family physician said] congratulations but, run! I hate my life. You should not go into this…It takes a month or two to even book an appointment and when you get to that point, you're waiting for three hours and you go, they're just (like) 'Drink water'. I was like, ok, I definitely don't want to do this." (G – Gen Sx).

Other students reported perceptions of FP as "pushing people off to see [other] specialists" and believed that FM was less intellectually demanding. Students had negative experiences at walk-in clinics and perceived incompetence among FPs. As stated by one participant about their own

family physician, “She’s prescribed [me and my family] stuff that, through our own research and second opinions, [we] have [concluded] ‘this is not good for us’. So that altered my perception.” (B – Peds). Negative impressions of FPs from role models were pervasive:

> “[my research supervisor, an infectious diseases specialist] always kind of spoke down about FM. I was like oh, well it doesn’t seem like people really respect this [profession] as much. It seems very basic, I’m not going to be able to do research, I’m not really going to be challenged.” (A - IM/ID)

Focus group participants’ responses also illustrated that cultural perspectives influenced their perceptions:

> “So I’m Chinese, my parents were all immigrants. When I got into medical school, my mom was like ‘Great, be any doctor you want. Just not a family doctor’, and I was like ‘Why?’, and [she] was like ‘Those are the bad doctors, you know? The dumb doctors’. So that influenced me a bit.” (F – Derm)

Medical school influences

Negative sentiments about FPs were also expressed to first-year students during medical school. One participant shared that, “For clinical skills, I was just talking to a patient, and the patient was like ‘So are you going to be a family doctor, or *a doctor* doctor?” (G – Gen Sx). Some students said that positive impressions of FM were provided via interest group events and panel events where FPs spoke about their work. These events allowed students to meet passionate FPs and understand the special relationships that FPs can have with their patients.

FME

Students attributed positive experiences to preceptors who had strong patient-physician relationships and took an active role in student mentorship. Effective preceptors asked students to perform skills slightly above their level of expertise, with minimal consequences for failure. Students appreciated the longitudinal nature of the placement and benefitted from having senior students or residents in the environment. Negative experiences were due to logistics (travel time >45 minutes) or monotony.

The FME improved attitudes and perceptions of FM. Students viewed the ability to form longitudinal relationships with patients, the holistic nature of treatment, and the higher perceived intelligence of FPs as positives. However, some students now reported feeling intimidated by the intimacy of relationships and academic responsibility of being a primary care physician:

> "It's a full 180, like I don't think I'm smart enough to be an [FP], because they need to know everything. They play such a huge role [in] forming the link between hospitals, specialists, and general patient care." (A - IM/ID)

> "FM is what saves lives. People who want plastic surgery or general surgery…having that experience and exposing people who would not otherwise care to do electives in [FM] forces you to see that perspective." (C – IM)

> "Overall [the] FME is good for fostering a respect for the specialty within those that don't intend to pursue it and might otherwise have limited exposure to it." (E – Peds)

> "The FME gave me an experience of what a family doctor does because what me and my family [visit for] is very different from the variety of patients I was seeing." (B – Peds)

However, some negative perceptions were also reinforced by the FME:

> "As a family doc, you're not really an expert at anything unless you choose to do that plus one or centre your knowledge base in one thing, but it's impossible to be an expert in everything." (G - Gen Sx)

In general, the FME did not change students' top specialty of interest. For those not interested in FM before, it confirmed the desire to pursue alternate paths, usually due to patient population. One participant shared, "But the [FME] just made me not want to open my own clinic and have long term patients" (I – IM). Another stated, "I could really see how this would be for some people. But it's really just not for me" (C – IM). According to another participant, "The FME [helped me realize] I don't want to serve adult populations…I saw the same patients and …they're all pretty wealthy white people coming for their cholesterol. I wanted something where I would feel like I was actually impacting people's lives" (B – Peds). The student who switched from FM to Pediatrics felt "the things this person was doing weren't the things that were interesting to me" (E – Peds).

However, most students also reported more openness to a career alternative in FM because of the FME. One student expressed that, "It helped me not think FM is just people hating their lives and their jobs…I think I'd be okay to parallel plan with FM at this point" (G - Gen Sx). Another said, "I always had this sort of idea in my head about FM, that it would be cool…It didn't really push me towards or against FM. It just helped me understand what kind of FM I would want to do" (H - Gen Sx). Another participant shared, "My interest also went up as I was doing it. Originally, I didn't really know what FM was like, so I looked into ways I could run the clinic similar to Dermatology…I'm considering like parallel planning Dermatology with FM…Maybe [I] should just take it easy [and do FM]" (F – Derm).

The most common feedback to improve the FME was to place students in practices with specific foci, including women's health, at-risk/IV drug users, dermatology, or Indigenous

populations. Many students requested program standardization in the form of a curriculum with discrete learning objectives and topics for discussion (e.g., billing in FM, cardiac issues in family medicine) with preceptors. Finally, students requested closer placements for those without vehicles, and schedule changes to allow full-day experiences. To better promote FM, the clinical FME should be accompanied by panel-style presentations for FPs (e.g., generalist, +1 specialists) to interactively discuss career flexibility and their values, personal experiences and career paths. Increased observerships in FM and vlog-style videos by FPs were other methods of FM career promotion.

Specialty choices

Students who completed previous research were strongly inclined to specialize in that field. Factors important to students' career choices are in Table 2. Common themes were desire for good work-life balance, interest in the intellectual or clinical content of a specialty, and the desire to do clinical research in a specific field.

Discussion

This study found that a longitudinal 18-hour pre-clerkship placement in FM does not influence students' intentions to pursue a career in FM. In our sample, 28.3-30.0% (pre- and post-FME) of students indicated that FM was their top specialty of interest, consistent with historical averages. Of these students, 72.7-73.3% indicated that the FM+1 was their top choice. Currently, only 10.6% of FM residents pursue an additional year of training (14). These programs are controversial – while they make broad-scope FM more appealing, some consider them a back door to more competitive specialties (9). For example, most EM-trained FPs work exclusively in EM; less than 10% maintain a family practice (9). A recent poll found that 70.8% of FM residents were highly likely to have a special focus (e.g., sports medicine, EM, palliative care) (15). Indeed, FPs without fellowship training face negative stigma and are perceived as having less competence (16).

The negative stigma surrounding a career in FM is well-documented in the literature and was present in our focus groups (17–23). Strategies to mitigate this from the College of Family Physicians of Canada (CFPC) include: FM interest groups to provide information, facilitate contact with positive role models, and expose students to the diversity of FM; honours and awards to recognize students' commitment to FM; increased opportunities to experience the scope of FM; and longitudinal integrated programs (11). A recent systematic review found that "longitudinal programs are the only strategy that significantly increases the proportion of medical school graduates choosing a primary care specialty" (24). Longitudinal programs in pre-clerkship are consistently rated positively by students and preceptors (25). The FME was effective in educating students on the role of an FP, increasing positive attitudes about FM, and

dispelling negative stereotypes about primary care. This is consistent with previous qualitative research (26).

A recent meta-analysis found that pre-clerkship generalist placements were effective in increasing the proportion of students matching to FM residencies (27). Block placements of four to 11 weeks were more effective than horizontal half-day/full-day placements, which are more common in Canadian medical schools (Appendix A). The CFPC Undergraduate Education Committee suggested the implementation or improvement of longitudinal generalist placement opportunities in the first year of medical school to advance generalism (28). Having more family medicine role models early in medical school might encourage more medical students to select careers in family medicine (17).

Schools also discussed changes in admission policies to accept learners with generalist attributes (28). The Northern Ontario School of Medicine (NOSM) is a distributed medical school with admission criteria directed toward the institutional mission of producing rural generalists. These criteria include societal orientation and the desire for a varied scope of practice (29). NOSM is the only Canadian medical school with mandatory multiple block placements (three rural/remote four-week placements in years one to two) and had 47.4% of students apply to FM residencies from 2016-2020 (national average: 33.8) (30,31).

In this study, work-life balance and lifestyle were the most commonly cited factors for career choice, consistent with previous studies (32,33). Although FM is widely seen as affording a comfortable lifestyle, it is also perceived as a boring specialty that may offer inferior income (34). Specialty decision is certainly multifactorial, and many studies have attempted to previously characterize all the factors that may influence choices. We have created a model that arranges students' factors and experiences resulting in eventual FM specialty selection based on the findings in this study and a literature review on this topic over the past 20 years (2000-2020), in Figure 2.

Some FME feedback can be generalized to horizontal placements at other schools. Students felt the experience could have been optimized by reducing travel time, matching students with preceptors in a field of interest, and creating a standardized set of learning objectives. Although top specialty choice was unchanged, many students were more open to planning FM as an alternative career path. Career counselling and information sessions may augment these changes.

The present findings are important in the context of changing attitudes towards FM promotion in Canada at the pre-clerkship level. Given the increasing popularity of pre-clerkship FM programs, it is important to understand what is done well, and what can be done better for FM promotion. Discussions should be had among national education committees and with rural communities to facilitate the placement of students in longitudinal block placements with passionate FM preceptors.

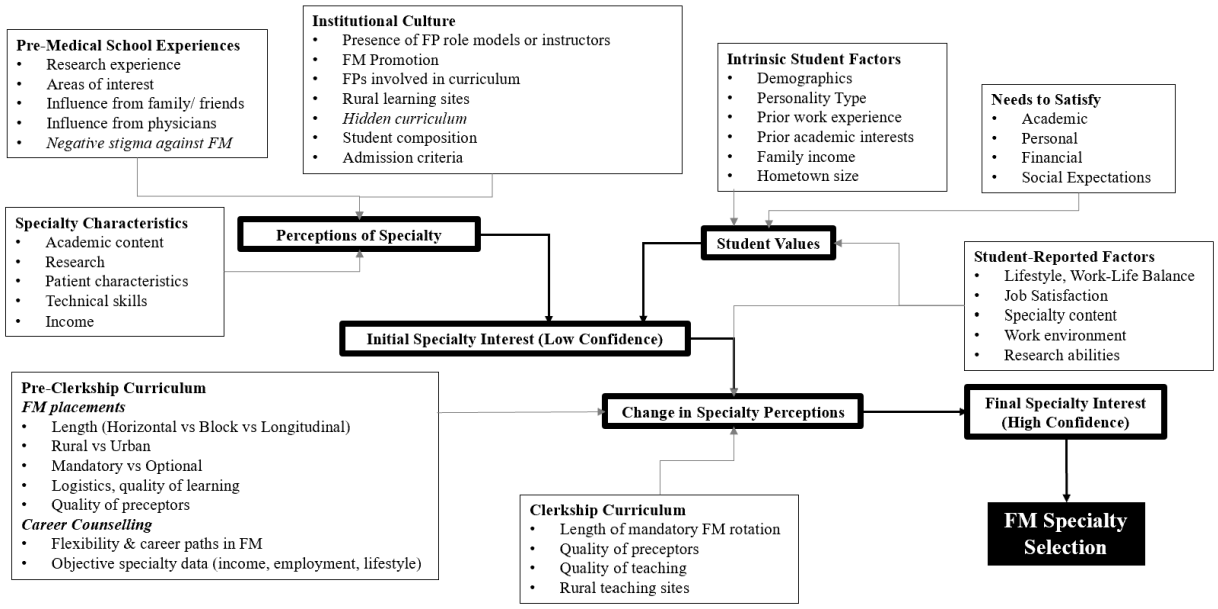

Figure 2. Factors and experiences that affect medical students' perceptions and intentions to pursue a career in family medicine (FM)

Recommendations

The following recommendations are presented for improvement of the FME and promotion of FM at the pre-clerkship level:

1. Place students in practices with specific foci, including women's health, at-risk/IV drug users, dermatology, rural medicine, or Indigenous populations for the FME.
2. FME program standardization in the form of a curriculum with discrete learning objectives and topics for discussion (e.g.: billing in FM, cardiac issues in family medicine, rural medicine) with preceptors.
3. Closer placements for those without vehicles, and schedule changes to allow full-day experiences.
4. Panel-style presentations and workshops for FPs (e.g.: generalist, +1 specialists) to interactively discuss career flexibility and their values, personal experiences and career paths.
5. Increased horizontal elective opportunities in FM and vlog-style videos by FPs.

Limitations

The main limitation of this study is the limited sample size and poor response rate (72/206 respondents, 43/206 respondents) of both surveys. The initial intention of the authors was to survey at least two cohorts of students and follow one to residency, but, due to the COVID-19

pandemic and shift to virtual learning, the FME has been suspended indefinitely. This limitation is mitigated by the inclusion of free-text responses from survey respondents about career choices and the FME, and analysis of qualitative findings of focus groups. It was not possible to validate the survey tool, but external validity was maximized by performing a literature search beforehand, and incorporating an assessment by a research methodology group.

Conclusion

The most significant finding in this study is that a longitudinal 18-hour pre-clerkship placement in FM does not influence the overall proportion of students with an intent to pursue FM in residency. This finding was determined following the immediate completion of the FME; however, this study was not repeated towards the end of medical school, when medical students would have made their choices regarding residency selection. In our sample, only 28.3% of students before the placement, and 30.0% after the placement, indicated that FM was their top specialty of interest. Of those students ranking FM first, the vast majority (73.3% pre-FME, 72.7% post-FME) indicated that FM+1 was their top choice. Both survey and focus group responses suggested increasing popularity of student desire for specialization within FM. Qualitative analysis revealed that work-life balance and lifestyle were the most commonly cited factors when considering career choice. While the FME was not significant in promoting FM as a career choice, it was effective in educating students on the role of an FP, increasing positive attitudes about FM, and dispelling negative stereotypes about primary care. Students appreciated the early clinical exposure and patient contact, but felt the experience could have been optimized by reducing travel time, allowing full-day clinic visits, and matching students with preceptors in a field of interest. Other suggestions were to create a standardized set of objectives for the FME and better advertising the flexibility of FM through panel events.

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Appendix 1.

Surveys

Pre-FME

Demographics

1. E-mail Address:
2. What is your age?:
3. What campus are you on?: Hamilton, Waterloo, Niagara
4. What is your previous educational background?:
5. What is your gender?:
6. What is your marital status?: Single, Serious relationship, Married, Prefer not to say
7. Do you have children?: Yes, No
8. What is your identified race/ethnicity?:
9. What is the population of the town in which you graduated high school?: Large (>100,000), Medium (30,000-99,999), Small (<30,000)
10. What was your household annual income in high school?: >$500,000, $300,000-$499,999, $100,000-$299,999, $50,000-$99,999, <$50,000, Prefer not to say
11. What is your estimated financial debt at the end of medical school?: None, >$30,000, $10,000-$30,000, $1-$9,999, Prefer not to say

Specialties of Interest

1. What are your top specialties of interest?: Rank #1, #2, #3, #4, #5

Anesthesiology, Cardiac Surgery, Dermatology, Diagnostic Radiology, Emergency Medicine, Family Medicine, Family Medicine (+1), General Surgery, Internal Medicine (General), Internal Medicine (Subspecialty), Medical Genetics and Genomics, Medical Microbiology, Neurology, Neurosurgery, Nuclear Medicine, Obstetrics & Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology (ENT), Pathology, Pediatrics, Physical Medicine & Rehabilitation, Plastic Surgery, Psychiatry, Public Health & Preventative Medicine, Radiation Oncology, Urology, Vascular Surgery, Unsure

2. How confident are you that your #1 selection will remain the same throughout medical school?: (1, Not confident – 5, Very confident)
3. What are the main factors affecting your specialty choice(s)? [select up to 5]:

Control/Predictability of Schedule, Income, Intellectual Content, Scope of Practice, Length of Training, Future Job Market, Job Flexibility, Availability of Residency Positions, Characteristics of Patient Population, Lifestyle during training, Lifestyle after training, Influence from a resident or attending physician, Perceived work environment, Influence of a personal mentor or family member, Prior knowledge or clinical experience in the specialty, Job satisfaction, Treatment outcomes of the patients, Opportunities to progress or sub-specialize, Gender distribution in specialty, Personal fit into the specialty, Opportunity to perform procedures/techniques, Prestige/status of the specialty

4. What is the most important factor for your #1 specialty selection?:
5. How likely are you to pursue family medicine (FM) in residency?: (1- not at all, 5- definitely)

Post-FME

1. E-mail Address:
2. How valuable was the FME as a learning experience?: (1- not at all, 5- very valuable)
3. How likely are you to pursue family medicine (FM) in residency?: (1- not at all, 5- definitely)
4. What are your top specialties of interest?: Rank #1, #2, #3, #4, #5

Anesthesiology, Cardiac Surgery, Dermatology, Diagnostic Radiology, Emergency Medicine, Family Medicine, Family Medicine (+1), General Surgery, Internal Medicine (General), Internal Medicine (Subspecialty), Medical Genetics and Genomics, Medical Microbiology, Neurology, Neurosurgery, Nuclear Medicine, Obstetrics & Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology (ENT), Pathology, Pediatrics, Physical Medicine & Rehabilitation, Plastic Surgery, Psychiatry, Public Health & Preventative Medicine, Radiation Oncology, Urology, Vascular Surgery, Unsure

5. How did the FME affect your perceptions of FM and your likelihood of applying to FM? [2-4 sentences]: