



Residents' Perspectives on Careers in Academic Medicine: Obstacles and Opportunities

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BACKGROUND AND OBJECTIVES: Worsening faculty shortages in medical schools and residency programs are threatening the US medical education infrastructure. Little is known about the factors that influence the decision of family medicine residents to choose or not choose academic careers. Our study objective was to answer the following question among family medicine residents: "What is your greatest concern or fear about pursuing a career in academic family medicine?"

METHODS: Participants were family medicine residents who attended the Faculty for Tomorrow Workshop at the Society of Teachers of Family Medicine Annual Spring Conference in 2016 and 2017. Free responses to the aforementioned prompt were analyzed using a constant comparative method and grounded theory approach.

RESULTS: A total of 156 participants registered for the workshops and 95 (61%) answered the free response question. Eight distinct themes emerged from the analysis. The most frequently recurring theme was "lack of readiness or mentorship," which accounted for nearly one-third (31%) of the codes. Other themes included work-life balance and burnout (17%), job availability and logistics (15%), lack of autonomy or flexibility (11%), competing pressures/roles (10%), lower financial rewards (4%), politics and bureaucracy (4%), and research (3%).

CONCLUSIONS: To our knowledge, this is the first study to identify barriers and disincentives to pursuing a career in academic medicine from the perspective of family medicine residents. There may be at least eight major obstacles, for which we summarize and consider potential interventions. More research is needed to understand why residents choose, or don't choose, academic careers.

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they cannot fill open faculty positions.³ These worrisome trends shed light on a looming problem: without sufficient faculty members to teach the next generation of physicians, the nation's health systems are in jeopardy.

Several reasons may account for the widespread faculty shortages, including low level of interest in academic careers among residents, high level of burnout and competing pressures in academic life, lack of role models and mentors, and sharp disparities in financial reward between academia and private practice or industry.^{4,5} Two recent systematic reviews concluded that the question of how, when, and why physicians choose academic careers remains "essentially unanswered," and that more research is needed because the literature is scant and outdated.^{4,5} Many existing studies have been limited by small sample sizes and single institution sampling; few studies, if any, have explored the perspectives of family medicine residents specifically.^{4,5}

Understanding which factors influence the decision of family

Worsening faculty shortages in medical schools and residency programs across the United States are threatening the nation's medical education infrastructure.¹⁻³ According to the Association of Academic Health Centers (AAHC), 70% of chief executives of

academic health centers declared faculty shortages to be a serious problem.¹ In 2016, 87% of medical schools were "moderately or very concerned" about the supply of primary care preceptors.² Department chairs and residency program directors nationwide have reported that

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medicine residents to choose or not choose a career in academic medicine is vital to addressing the critical shortage of faculty and its threat to the nation's health systems. Our study's objective was to answer the following question among family medicine residents: "What is your greatest concern or fear about pursuing a career in academic family medicine?"

Methods

Participants

Participants were family medicine residents who attended the Faculty for Tomorrow Workshop at the Society of Teachers of Family Medicine's (STFM) Annual Spring Conference in 2016 and 2017, held in Minneapolis, MN and San Diego, CA, respectively. The workshop was a free, full-day, 9-hour program designed to increase residents' interest in, and prepare them for, careers in academic family medicine. Participants learned about the workshop through STFM marketing, website, digital newsletter, and social media.

Survey

Data for this research was collected as part of a larger study evaluating the Faculty for Tomorrow Workshop, described elsewhere in the literature.⁶ Participants were asked to complete an 18-item preworkshop questionnaire; questions included demographics, residency program characteristics, and future career plans. At the end of the survey, participants were asked: "What is your greatest concern or fear about pursuing a career in academic family medicine?" as a free response with a 500-character limit. The Faculty for Tomorrow Task Force chose to frame the question this way after a literature review^{4,5} and field testing with residents, with the intent to generate a ranked list of concerns that can be used by STFM for strategic planning. Questionnaires were voluntary and anonymous.

Qualitative Analysis

A codebook was developed using a constant comparative method—grounded theory approach.⁷ One reviewer (SL) identified and defined recurring themes from the

free responses using a data-driven approach with triangulation from literature. Two coders (CN, SL) independently reviewed each response and labeled it according to the codebook. The content units for data analysis were words and phrases. Interrater agreement was analyzed using Cohen's kappa coefficient.

Ethical Approval

This study was granted an exemption by the Institutional Review Board of Stanford University School of Medicine.

Results

A total of 156 participants registered for the workshops in 2016 and 2017. Of those who registered, 126 (81%) completed the questionnaire, and 95 (61%) answered the free response question. Most participants were PGY-3 (54%), female (80%), white (60%), and came from urban (61%), community-based (53%) residency programs. Overall, our participants broadly represented family medicine residents nationally⁸ (Tables 1 and 2).

Table 1: Characteristics of Participants Who Responded to "What is your greatest concern or fear about pursuing a career in academic family medicine?" at the 2016 and 2017 Conferences

Participants	2016 (N=44)	2017 (N=51)	Combined (N=95)
	n (%)	n (%)	n (%)
PGY			
1	2 (4.5)	3 (5.9)	5 (5.3)
2	15 (34.1)	11 (21.6)	26 (27.4)
3	25 (56.8)	26 (51.0)	51 (53.7)
4	2 (4.5)	3 (5.9)	5 (5.3)
Other	0 (0.0)	8 (15.7)	8 (8.4)
Gender			
Female	35 (79.5)	41 (80.4)	76 (80.0)
Male	9 (20.5)	10 (19.6)	19 (20.0)
Race and Ethnicity			
Non-Hispanic white	26 (59.1)	31 (60.8)	57 (60.0)
Asian	6 (13.6)	10 (19.6)	16 (16.8)
Hispanic or Latino	4 (9.1)	3 (5.9)	7 (7.4)
Black or African American	3 (6.8)	4 (7.8)	7 (7.4)
Other	5 (11.4)	3 (5.9)	8 (8.4)

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Table 1, continued

Participants	2016 (N=44)	2017 (N=51)	Combined (N=95)
Setting of Residency Program			
Urban	24 (54.5)	34 (66.7)	58 (61.1)
Suburban	11 (25.0)	15 (29.4)	26 (27.4)
Rural	5 (11.4)	1 (2.0)	6 (6.3)
Other	4 (9.1)	1 (2.0)	5 (5.3)
Location of Residency Program			
Midwest	20 (45.5)	14 (27.5)	34 (35.8)
Northeast	8 (18.2)	17 (33.3)	25 (26.3)
West	10 (22.7)	13 (25.5)	23 (24.2)
South	6 (13.6)	6 (11.8)	12 (12.6)
Other	0 (0.0)	1 (2.0)	1 (1.1)
Type of Residency Program			
Community-based medical center	27 (61.4)	23 (45.1)	50 (52.6)
University-based medical center	12 (27.3)	27 (52.9)	39 (41.1)
Other	5 (11.4)	1 (2.0)	6 (6.3)

Table 2: Participants' Career Plans

Survey Question	2016 (N=44)	2017 (N=51)	Combined (N=95)
	n (%)	n (%)	n (%)
How likely are you to pursue a career in academic family medicine (ie, become faculty or community preceptor)?			
7 (very likely)	25 (56.8)	27 (52.9)	52 (54.7)
6	10 (22.7)	11 (21.6)	21 (22.1)
5	7 (15.9)	11 (21.6)	18 (18.9)
4	1 (2.3)	2 (3.9)	3 (3.2)
3	1 (2.3)	0 (0.0)	1 (1.1)
2	0 (0.0)	0 (0.0)	0 (0.0)
1 (very unlikely)	0 (0.0)	0 (0.0)	0 (0.0)
After residency, do you plan on pursuing a faculty development fellowship?			
Yes	9 (20.5)	11 (21.6)	20 (21.1)
No	23 (52.3)	23 (45.1)	46 (48.4)
Maybe	12 (27.3)	17 (33.3)	29 (30.5)
When will you most likely pursue a career in academic family medicine?			
Straight out of residency or fellowship	32 (72.7)	31 (60.8)	63 (66.3)
After 1-5 years in practice	9 (20.5)	11 (21.6)	20 (21.1)
After 5-10 years in practice	0 (0.0)	2 (3.9)	2 (2.1)
After more than 10 years in practice	0 (0.0)	1 (2.0)	1 (1.1)
Other	3 (6.8)	6 (11.8)	9 (9.5)

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Table 2, continued

	2016 (N=44)	2017 (N=51)	Combined (N=95)
	n (%)	n (%)	n (%)
What role will you most likely pursue in academic family medicine?			
Formal faculty position, nontenure track	15 (34.1)	23 (45.1)	38 (40.0)
Formal faculty position, tenure track	9 (20.5)	12 (23.5)	21 (22.1)
Community preceptor	7 (15.9)	3 (5.9)	10 (10.5)
I don't know	13 (29.5)	13 (25.5)	26 (27.4)
In what setting will you most likely pursue a career in academic family medicine?			
Residency program at a university-based medical center	13 (29.5)	20 (39.2)	33 (34.7)
Residency program at a community-based medical center	21 (47.7)	11 (21.6)	32 (33.7)
Medical school	0 (0.0)	6 (11.8)	6 (6.3)
Community clinic	3 (6.8)	1 (2.0)	4 (4.2)
Government, military, or professional organization	1 (2.3)	2 (3.9)	3 (3.2)
Other	6 (13.6)	11 (21.6)	17 (17.9)

Table 3: Codebook With Representative Comments

Theme	Definition	Examples
Lower financial rewards	Lower income compared to other career choices; concern about debt	<p>“My greatest concern is that I will never pay off my debt because of the difference in salary.”</p> <p>“Time compared to lower pay.”</p> <p>“Probably time management and being remunerated for the actual work you do.”</p>
Research	Aversion to research; pressure to publish; difficulty in obtaining funding; lack of formal training	<p>“I have less research experience so that feels challenging.”</p> <p>“Meeting the research and leadership expectations of my position.”</p>
Lack of autonomy or flexibility	Reduced scope of practice; lack of control over own schedule or duties; inability to find “the right fit” or pursue passions	<p>“I am afraid of missing opportunities and committing to a program or a job that does not allow me the full spectrum of medicine, research and academia that I hope to practice.”</p> <p>“Getting locked into a career in a large institution where you can't be innovative.”</p>
Politics and bureaucracy	Too bureaucratic; low efficiency; administrative burden	<p>“Conflict and strain between hospital/clinic administration and academic faculty.”</p> <p>“Keeping up with constant changes in accreditation requirements.”</p> <p>“Being overwhelmed by the academic hierarchy.”</p>

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Table 3, continued

Theme	Definition	Examples
Work-life balance and burnout	Family influence; unsupportive culture/environment; academic competitiveness; stress/burnout	<p>“Not being able to teach effectively due to work life balance in two physician household/marriage with potentially kids in future.”</p> <p>“Not getting a job that meets my career and life needs.”</p> <p>“How it will impact family time and work life balance.”</p>
Competing pressures or roles	Pressure to be a “triple threat” (ie, patient care, teaching, and research); lack of time for one or more of the above; difficulty in balancing multiple roles; unclear expectations	<p>“How to negotiate a position so that teaching isn’t an extra thing on my plate, but rather something with allocated time, so that I can dedicate appropriate time and energy.”</p> <p>“Not having time to see my patients.”</p> <p>“I wonder about how to effectively balance teaching, research and other academic demands with the need to build my own clinical competency and confidence so that I can provide excellent care for my patients and be a good role model for learners.”</p> <p>“Ability to juggle clinical duties with education/scholarship and administrative duties.”</p>
Lack of readiness or mentorship	Lack of confidence in knowledge or skills; perceived need for more training or time out in practice; lack of role models; uncertainty of success	<p>“Not having adequate skills or experience to be a useful faculty member when I am only just out of residency.”</p> <p>“If I am ready to teach others. Have I learned enough? Feels like I could use at least another year of residency before teaching.”</p>
Job availability and logistics	Perceived lack of jobs; perceived competitiveness of positions; geographical considerations	<p>“How broad to look for opportunities. Many faculty seem to stay where they trained but it may be beneficial to move and explore new programs.”</p> <p>“I think my greatest concern about a career in academic medicine is there not being any positions for me in teaching other than as a clinical faculty/occasional attending or lecturer.”</p> <p>“Not knowing about the process of application and job requirements.”</p>

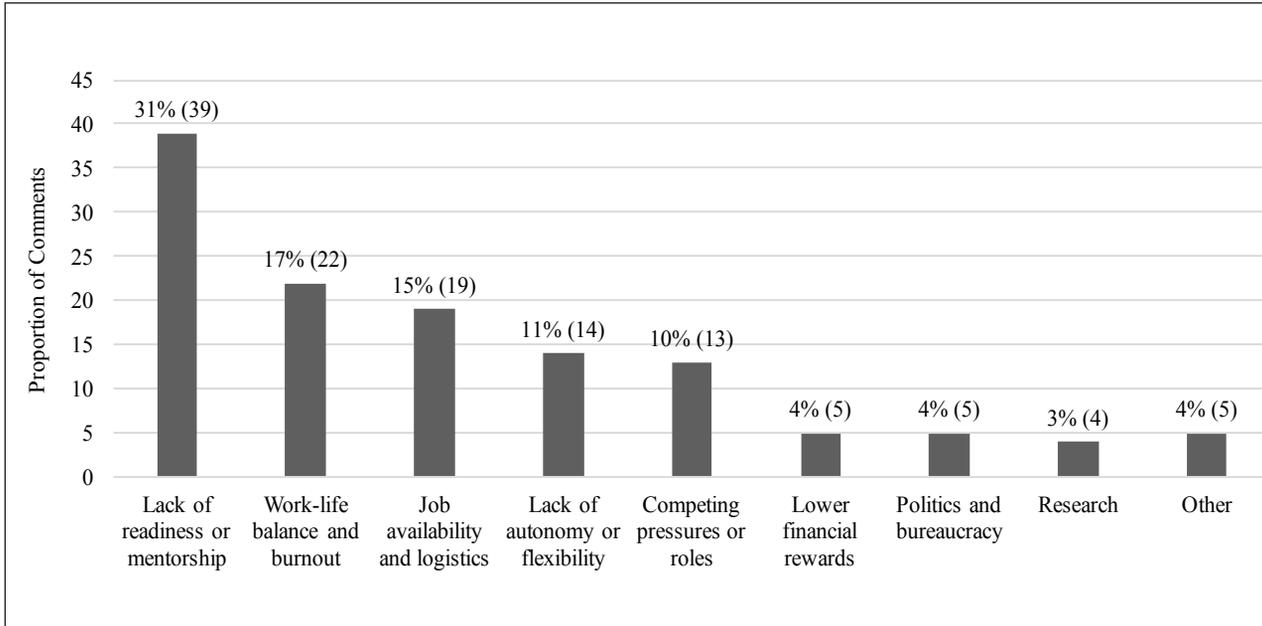
Eight distinct themes emerged from the analysis (Table 3 and Figure 1). Of the 95 individual free responses, 126 codes were assigned. The most frequently recurring theme was lack of readiness or mentorship, which made up nearly one-third (31%) of the codes. The remaining themes were work-life balance and

burnout (17%), job availability and logistics (15%), lack of autonomy or flexibility (11%), competing pressures or roles (10%), lower financial rewards (4%), politics and bureaucracy (4%), and research (3%). Interrater reliability was established with a kappa of 0.69.

Discussion

To our knowledge, this is the first study to identify barriers and disincentives to pursuing a career in academic medicine from the perspective of family medicine residents. Our results suggest that there may be at least eight major obstacles, which we

Figure 1: Frequency of Themes Identified (N=126)



summarize and offer potential interventions for in Table 4.⁹⁻³⁸

Consistent with prior studies in other specialties,^{4,5} we found that lack of mentorship was a major disincentive for family medicine residents contemplating academic careers. Formal faculty development programs are likely the most effective type of intervention here, as they have the most evidence in the literature for improving teaching

skills, increasing scholarly activities, and advancing young faculty to new leadership roles.⁹⁻¹⁴ These programs are usually part-time, with participants meeting weekly for 10 to 36 months.⁹⁻¹⁴

Contrary to prior studies in other specialties suggesting that the largest obstacle is lower financial rewards,^{4,5} the residents in our study were not as concerned about money. This result seems to be consistent

with one study suggesting that family medicine teachers tend to make career decisions based on values other than financial gain.³⁹

Limitations

Although our data draws from a national cohort of residents, the study is still limited by a small sample size. Participants self-selected for interest in academic family medicine; thus, our results may not be

Table 4: Residents' Perceived Obstacles to Careers in Academic Family Medicine and Potential Interventions

Obstacle	Potential Intervention
Lack of readiness or mentorship	<ul style="list-style-type: none"> - Workshops designed to improve knowledge and skills that are relevant to becoming faculty (eg, STFM Faculty for Tomorrow Workshop)⁶ - Formal faculty development programs⁹⁻¹⁴ and fellowships (eg, STFM Emerging Leaders)¹⁵ - Certificate programs (eg, Residency Faculty Fundamentals Certificate Program)¹⁶ - Online courses (eg, TeachingPhysician.org and Faculty for Tomorrow Webinar Series)^{17,18} - Formal departmental mentorship programs¹⁹⁻²⁰ - Clinician-educator tracks during residency²¹⁻²³

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Table 4, continued

Obstacle	Potential Intervention
Work-life balance and burnout	<ul style="list-style-type: none"> - Resident wellness curriculum²⁴ - Reduce burden of documentation (eg, medical scribes)²⁵ - Faculty well-being should be routinely assessed as an institutional performance metric²⁶ - Self-awareness and resilience training²⁷ (eg, mindfulness, narrative medicine, cognitive behavioral techniques, connecting with meaning and purpose in work)
Job availability and logistics	<ul style="list-style-type: none"> - Faculty recruitment fairs at national meetings and conferences - A centralized website to post all open faculty positions (eg, FamilyMedicineCareers.com)²⁸
Lack of autonomy or flexibility	<ul style="list-style-type: none"> - Institutional leadership to promote autonomy and flexibility for faculty well-being²⁹
Competing pressures or roles	<ul style="list-style-type: none"> - Faculty tracks with clear roles and expectations for advancement and promotion³⁰
Lower financial rewards	<ul style="list-style-type: none"> - Wider adoption of the academic RVU to reward scholarly and educational productivity³¹⁻³²
Politics and bureaucracy	<ul style="list-style-type: none"> - Executive leadership with a more participatory management style²⁹
Research	<ul style="list-style-type: none"> - Formal research fellowships (eg, Robert Wood Johnson Clinical Scholars Program)³³ - Departmental scholarship support programs³⁴⁻³⁵ - North American Primary Care Research Group (NAPCRG)³⁶ conferences and programs (eg, Grant Generating Project)³⁷ - Mentorship through national research alliances (eg, Council of Academic Family Medicine Educational Research Alliance–CERA)³⁸

generalizable to all residents. Lastly, the wording of our prompt (“What is your greatest concern or fear...”) may have introduced a negative bias, although it did enable us to identify the most pressing challenges and generate a ranked list of concerns.

Conclusion

We identified eight major obstacles for residents who are contemplating academic careers. Each of these obstacles need to be further explored. More research is needed to understand why residents choose, or don't choose, academic careers.

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