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The Premier Medical Education Model: Improving Preceptor Recruitment in Underserved Areas

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ABSTRACT

Background and Objectives: Building on research highlighting the success of tribal, rural, and underserved clerkships to increase students' intention to practice family medicine in these areas, we explored the perspectives of prospective precepting physicians and administrators to develop an optimal structure to facilitate recruitment of external preceptors.

Methods: We conducted semistructured interviews with family physicians (N=14) and health system administrators (N=14) working in tribal, rural, and underserved areas. Discussions were recorded, transcribed verbatim, and coded independently by two researchers. Applying rapid assessment qualitative research methods, we used a framework method to identify emergent themes that were applied to improve the recruitment of external preceptors.

Results: Physicians identified key facilitating factors and barriers to serving as a preceptor, which paralleled those common within the existing literature. However, administrators were motivated to serve as a precepting site to increase the potential of recruiting future physicians. We developed the Premier Medical Education Hub model to align these different but compatible interests with the goal to increase preceptor participation. In this model, each host site dedicates staff and adopts standardized procedures to manage rotations, hosts at least five students annually, provides housing, has procedures to facilitate electronic health record access, and offers student immersion experiences.

Conclusions: As practice ownership shifts from physician-owned to health system ownership, administrators become the gatekeepers for prospective preceptors. Our findings demonstrate that integrating the compatible interests between physicians and administrators allows for the creation of a synergistic model that facilitates preceptor recruitment.

INTRODUCTION

As the nationwide shortage of physicians grows, the number of physicians needed is expected to increase from 2020 estimates of 91,500 to 139,160 by 2030.[1] The shortage is particularly acute for primary care, and the demand is outpacing the supply.[2] By 2025, 37 states will face shortages of primary care physicians, and 12 are expected to have a deficit of 1,000 or more full-time equivalents.[2] Particularly tribal, rural, and medically underserved areas experience difficulty recruiting and retaining primary care and family physicians.[3]

Exposing medical students to high-quality preceptors and embedding them in underserved areas influences students' intentions to practice family medicine.[4,5] However, preceptors are limited because the increasing shortage of physicians parallels a decrease in preceptors.[4,6–8] Furthermore, the demand for preceptors is increasing. The osteopathic medical school class size increased by 77% in a decade, and allopathic class sizes also are growing.[9–13] Substituting family physician preceptors with other specialties or placing students in family medicine practices with a limited scope of practice reduces the effectiveness for increasing the family medicine match rate.[4,14]

A known barrier to precepting is the belief that students negatively influence productivity, thus limiting income and other financial incentives.[15–18] Other constraints include clinical workload demands, negative teaching experiences, institutional bureaucracy, electronic health record (EHR) access, and employer discouragement.[16–18]

Nevertheless, multiple factors contribute to a physician's willingness to volunteer as a preceptor. Family physicians take pride in recruiting for their specialty and find intrinsic rewards in precepting.[15–18] Benefits such as recognition, gifts, continuing medical education (CME) credits, faculty development, and medical library access are effective incentives.[15,16,18–20] Academic appointments and nominal payments have received mixed appraisal.[15,16,18–20]

This study explored barriers and facilitators to precepting in a state experiencing critical primary care shortages for the purpose of redesigning the recruitment and management of external preceptorship.

METHODS

In 2021, to understand attitudes toward external clerkships, we used a semistructured interview guide to conduct 14 interviews with family physicians working in tribal, rural, and medically underserved areas, followed by 14 interviews with health system administrators (Table 1; Appendixes A–C). The study was classified as exempt by the University of Oklahoma Institutional Review Board.

Physician participants were recruited from the Oklahoma Physicians Resource/Research Network (OKPRN), a network of primary care physicians (71%) and other clinical staff dedicated to quality improvement and practice-based research; and then these participants recommended others. Associate providers were excluded from the study. An administrative sample, geographical and institutionally representative, was purposefully recruited. After consent was obtained, a trained researcher with knowledge of medically underserved areas conducted the interviews virtually. Each interview was transcribed verbatim.

The approach was pragmatic and action-oriented. Building on the literature, the internal team and OKPRN contributed to the design of the interview guides. Relying on rapid assessment qualitative research methods, coding followed a framework analysis.[21] Specifically, codes were derived deductively from the interview guide and then inductively from the transcripts, organized into categories, and then charted into a matrix summary.[21–23] Working as a team, two researchers who were involved throughout the iterative data collection process analyzed the transcripts and participated in discussions to resolve differences. The sample was sufficient to reach saturation. OKPRN served as a member check; and the team, working in collaboration with OKPRN, used the findings to inform a redesign of external preceptor recruitment.

RESULTS

Physician Perspectives on External Clerkships

Benefits of Precepting

Among physician participants, the value of serving as a preceptor was intrinsic; they enjoyed teaching and interacting with students. One explained, "I enjoy getting to know them and learning from them and helping them develop their skills." Similarly, another commented, "It keeps it interesting for us. Students have new ideas and new questions. Something we consider a normal thing in our day, they have never seen before, so it keeps things more interesting for us." The same was true for physician participants who had not yet precepted; they anticipated enjoying teaching and mentoring.

Physicians felt professional pride when promoting the discipline of family medicine and the value of rural and medically underserved practice. Several thought clerkships reduced the stigma of rural family medicine practice. As one physician explained, "Family medicine is rewarding, but it is very complex. I think a lot of them had their eyes opened to what we do compared to their preconceptions." Moreover, a hospitalist family physician pointed out, "Some people think that I live here because I have nowhere else to live, but that is not the case. We like living out here. I want students to see there are good people in the rural areas."

The physicians believed they could influence students, explaining, "I am at the point where I want to leave a mark on the way people view and practice medicine. We show a lot of empathy for patients, and you are role modeling for the student."

Facilitating Factors and Barriers to Precepting

All but one of the physicians interviewed were employees, not small business owners, and needed administrative support to serve as a preceptor. They attributed the shortage of preceptors to health system administrators, not physician interest. One participant stated, "The challenge is that this decision is not up to me but the administrative leadership." Another surmised, "The barriers are not 'can you find a doc willing to have a student,' it's finding an administrator willing to do it."

These physicians conjectured that hosting student rotations was a business decision for administrators. They suspected that administrators considered the cost of reduced productivity, managing clerkships, and possible Health Insurance Portability and Accountability Act (HIPAA) violations or student malpractice risks. Physicians maintained that the medical school should garner administrative support, positing it is too much to expect of them.

Continuing, they explained that the process for precepting needed to be smooth—minimal paperwork with clearly defined goals and objectives. Several physicians indicated that they were willing to accept three to seven students each year. While including a break was preferred, maintaining a cycle of rotations would allow integration into the practice workflow. Additionally, knowing where students were in their training, the level of skill to expect, as well as any special interests was helpful.

Preceptors appreciated feedback from students. One participant lamented, "I never got any feedback from students if they thought they were getting anything useful from me. It would be helpful to learn . . . what was helpful to them."

Attitudes toward preceptor training were mixed. Mandated trainings like those required by their health systems was viewed negatively. Desired training would enable them to become better preceptors or integrate students into the clinic

TABLE 1. Description of Participants

	Physicians (N=14)	Administrators (N=14)
Precepting experience	12	N/A
Facility type		
Tribal nations (Indian Health Services)	3	2
Federally qualified health centers	4	7
Integrated health care system	5	2
Independent hospital system	1	3
Small physician-owned practice	1	0
Employee	13	14
Geographic location		
Urban	4	3
Rural	10	8
Mixed	N/A	3
Proportion of unique organizations represented	11	10
Exclusively based in Oklahoma	13	14

workflow. Three preferred training topics included meaningful feedback, adult learning methods, and effective mentorship. As one participant explained, "Sometimes I have a hard time figuring out how to tell them they aren't doing a good job without crushing their spirits. . . . It's hard telling them how to improve."

When asked how best to recruit family physicians to serve as preceptors, suggestions included outreach through affiliated associations and grassroots organizations. Recommended incentives included CME credits, recognition as an adjunct faculty member, access to the institution's library system, and awards. Interest in these tangible rewards varied. For example, a physician new in his career found adjunct faculty recognition "very attractive." Recognition was believed to foster goodwill in the community when accompanied by a press release or a local awards ceremony. Monetary stipends, when mentioned, were recommended, and one believed these should be in an amount equal to the cost of any lost productivity when salaries are based on relative value units (RVU); but another suggested nominal payment. One physician noted that the state osteopathic school arranged enhanced reimbursement with the institution.

Structuring the Student Rotation

Participant physicians were effusive about creating a positive learning experience for students. Ideally, students would be given a profile of the site to afford them the opportunity to assess the fit for themselves. A 1-month, one-on-one rotation offered students the opportunity to appreciate life in a rural area, explore the complexity of family medicine practice in tribal, rural, or medically underserved clinics, and gain exposure to clinical operations. Physician participants suggested that a 1-month clerkship was needed for the preceptor to form a relationship with the student. They wanted time to convey to students the "core values of the specialty" and to give students a chance to appreciate how much the physicians working with underserved populations care about their patients. Short rotations were described as "student tourism," positing, "the longer you can involve someone in a community, the more likely you are to get them to come back." While one respondent felt that longer rotations were a barrier to recruiting physician preceptors, that same physician proposed that a student remain at the same clinic for 1 month but shift weekly between physicians.

Respondents recommended student immersion experiences, described as

> immerse[ing] them into a community where they participate in all aspects of the community—so they go to the ball games, they go to social activities, they talk to the seniors at the senior center, they go to the high schools.

Another added that they fell in love with rural medicine because of their experiences at the local diner and the high school football games during their clerkship. Also proposed was that the medical student round with another local physician, such as a specialty clinic, hospital, or specialist, in addition to their preceptor.

Access to EHR, including security and efficiency, were identified as important to maximize students' learning experience. Students need access to patients' histories. However, using preceptors' computers negatively impacts productivity and creates security issues. A best practice recommended was to onboard the students on the EHR system, assign a temporary password with limited privileges, and make laptops available. This procedure was reported to optimize the student learning experience and reduce productivity drags.

Responses were mixed toward the concept of students performing value-added roles. Access and efficient use of EHR systems were described as barriers to serving as a scribe. Moreover, some had specific quality protocols and believed that

student collection and entry of data would increase errors. As one physician explained,

> Like any system, you have to learn which page to open, which box to check. . . . I find it more helpful for me to scribe and watch them with the patient and help them out during the process. If they learn my system, it will be different somewhere else.

In addition, physicians believed that value-added roles such as serving as a behaviorist could be disruptive to their clinical flow or supplant a role fulfilled by other personnel. One physician felt that students need a relationship with the patient before embarking on discussion of sensitive topics. However, a few advanced the utility of students screening for social determinants of health risk factors, depression, or substance misuse, but anticipated that no rooms would be available for private interviews.

Administrator Perspectives on External Clerkships

Because of the importance of administrative support, we explored administrators' perspectives toward serving as the host site for medical clerkships. Most administrators, including many who indicated they had experience hosting student clerkships, viewed medical education clerkships as a strategy to recruit future physicians, highlight primary care, and build social capital with the academic center and community.

> It's a great way to advertise our health system to students and get them exposed and hopefully engaged early in health care with [us]. . . . It's a recruitment tool for us, allows us to identify students that we think would . . . fit, and then prepare them to become part of our health system.

> It's all about getting people here, understanding our mission, values, and taking care to serve our patients according to our mission, [and] having that in-person [immersion experience] in that local community. That's going to make it more likely that an individual would be willing to look at a facility. A goal of ours is to identify those [who fit] and keep those connections.

Administrators who perceived student clerkships as an effective recruitment tool considered fiscal impacts manageable. Moreover, in their judgment, malpractice risk could be managed through contracts and insurance. Similarly, administrators expressed little concern over unmanageable HIPAA violations. Trepidation about the productivity drag of hosting students was shared, but one multisite organization managed it by sending students to sites with a more moderate patient flow and avoiding those with high demand. Also, several administrators were willing to invest in housing if enough students fulfilled their clerkship at the site. Notably, organizations were more reluctant to incur direct or indirect costs associated with clerkships if they questioned the effectiveness of clerkships as a recruitment tool. The turnover of preceptor physicians was not cited as a barrier to hosting students.

Sites preferred designating staff to manage clerkships and requested that the medical school coordinate clerkships with those staff, not physician employees. Preceptor recruitment was expected to be a collaborative effort. In addition, systems that reported robust clerkship programs had existing student onboarding protocols and procedures.

Representatives from federally qualified health centers (FQHC) expressed similar benefits and barriers as those from other health systems, with two distinctions. First, several relied heavily on advanced practice providers to staff their clinics and lacked physician capacity to supervise students. Second, some were in areas that lacked lodging for student housing. However, most FQHC administrators seemed very interested in hosting medical students.

THE PREMIER EDUCATION HUB

Clinical practices are shifting toward being part of large health care systems.[24] The interviews revealed that health system administrators are gatekeepers for potential physician preceptors. For administrators, the leverage point is whether some of the medical students who complete their clerkships can be recruited to become physicians for their organization. Assuming that clerkships are a viable recruitment opportunity, these administrators will absorb the costs associated with the clerkship.

Because of the intrinsic value of mentoring the next generation of physicians, family physicians are highly motivated to ensure a meaningful experience for medical students. Their interests are not the same as those of administrators, no conflict exists. Rather, their interests are complementary because motivated preceptors are interested in fostering a meaningful experience for students, which facilitates recruitment. Creating a recruitment pathway also aligns with the interest of physicians who prefer a well-organized stream of students—as many as three to seven clerkships a year with a duration of 1 month each.

Based on our findings, our team, working with OKPRN, created the Premier Medical Education Hub (PMEH). Sites designated as a PMEH adopt exemplary practices defined as accepting at least five students each academic year, subject to student interest; donating housing; offering unique immersion experiences that expose students to their community; and dedicating personnel to coordinate the rotation, provide onboarding, and facilitate access to the EHR system (Table 2). The medical school accepts responsibility for the cost of meals and mileage, and markets the PMEH to students with a site profile. Importantly, rotations are voluntary because the aim is to recruit students interested in careers in rural, tribal, and medically underserved areas. This system builds on structured community-based student clerkships.[25]

TABLE 2. Premier Medical Education Hub Overview and Alignment With Key Research Findings

Category	Description	Interviewee segment	PMEH model component
Core benefit	Find teaching rewarding and serve as a role model to medical student	Family physicians	Market core benefit to potential preceptors to facilitate recruitment
Core benefit	Exemplify complexity and diversity of family medicine practice and dispel myths	Family physicians	Market core benefit to potential preceptors and medical students
Core benefit	Showcase benefits of living in an underserved community and dispel myths	Family physicians	Market core benefit to medical students to increase interest in practicing FM in underserved community (site profile and immersion experience)
Core benefit	Physician recruitment tool	Administrators	(1) Promote recruitment pathway by prioritizing matching site with five or more students who have expressed interested in FM and working in a similar community; (2) 1-month, one-on-one rotations; (3) foster connectedness with community through immersion experiences
Core benefit	Highlight family medicine and foster social capital within community and with academic institution	Administrators	Awards, local ceremonies, press releases, affiliation with academic institution
Barriers	Lack of administrative support due to costs and legal risks	Family physicians and administrators	Promote core benefits and mitigate costs and risks; recruit host site participation with administrators, not potential preceptors
Barriers	Teaching experience (lack clarity of learning objectives and providing constructive feedback)	Family physicians	Preceptor orientation on learning objectives and providing feedback and clinician-to-clinician consultation on serving as a preceptor
Barriers	Redundant training	Family physicians	Mandatory training limited to preceptor orientation (less than 1 hour online training)
Barriers	Student electronic health record access	Family physicians	Recommend host site assign temporary passwords, confer limited privileges, and provide a personal laptop
Barriers	Preceptor compensation (mixed findings)	Family physicians	Advocating for adoption of state income tax credit for preceptors
Barriers	Value-added roles for students interfering with patient flow (eg, scribe, behaviorists, screening)	Family physicians	No assigned value-added roles
Barriers	Reduced productivity caused by student medical education experience	Family physicians and administrators	Administrators select host sites to manage patient flow; university provides consultation on integrating students into clinical flow
Facilitating factors	Administrative efficiency	Family physicians and administrators	Dedicated staff, defined procedures, administration manages required paperwork, and academic institution collaboratively recruits physician employees as preceptors with the health system; ongoing collaborative meetings between university and host sites
Facilitating factors	Rewards for service	Family physicians and administrators	Awards, local ceremonies, press releases, academic appointments for clinicians
FQHC-specific barriers	No available student housing and lack of physician employees to supervise students	FQHC administrators	Ongoing one-on-one discussions with an urban FQHC and an FQHC board packet on benefits of medical student clerkships and Federal Torts Claims Act coverage of medical students

Abbreviation: PMEH, Premier Medical Education Hub; FM, family medicine; FQHC, federally qualified health center

The PMEH was piloted at two locations: a rural tribal health system and an independent hospital system. Following the clerkship, participating students (N=3) were interviewed, and staff met with administrators to debrief and refine procedures. The three students reported an increased interest in practicing family medicine in a medically underserved area and recommended the program to other students.

DISCUSSION

This study not only affirms that family physicians working in medically underserved areas are motivated to volunteer as preceptors because of the intrinsic value, but also explains why. Precepting helps them keep their own knowledge up-to-date, and for many, it is a meaningful workplace activity.[15–17,20] Benefits such as academic appointments, recognition, faculty development, and medical library access facilitate volunteering as a preceptor, but the desirability is variable.[7,15,16,20] Preceptor reimbursement could be appreciated but is particularly important if compensation is based on an RVU system.[18] Training opportunities must add value to preceptors, and those required in other venues inhibit participation. Likewise, bureaucracy can be a constraining factor. Additionally, EHR systems create barriers to effective mentoring and add a burden for the preceptor, but onboarding students on the EHR system and providing laptops is helpful.[18,26,27]

Less is known about administrators' attitudes toward serving as a host site for medical student training.[28] This research found that administrative reluctance can be managed if clerkship rotations lead to a recruitment pipeline for the health system, given the critical shortage of family physicians in underserved areas.

The added value of the PMEH model is that it leverages the interests of both external preceptors and health system administrators. It streamlines student placement by creating a single point of contact, establishes procedures and protocols, offers immersion experiences intended to draw students to an underserved area, and increases the likelihood they would return to work in a similar community. By committing to hosting several students, the health system increases opportunities to recruit students when they graduate, and efficiency is gained in replicating processes.

Limitations

This quality improvement study had several limitations. One is sampling bias. The physician sample may have been predisposed to precepting and may not be representative of all physicians in the area. Similarly, sociodemographic characteristics of participants were not collected from physicians or administrators, including age, gender, years of practice, time at site, or years of precepting experience. As with many qualitative research studies, this study was meant to explore specific issues in one primarily rural state.[29] Facilitators and barriers may differ by region, and thus, the findings may have limited generalizability.

CONCLUSIONS

Integrated health care systems, not physicians, increasingly own clinical practices. As such, recruiting preceptors requires obtaining administrative approval. Nevertheless, all interested stakeholders have a collaborative advantage, and the collective impact is greater than that of any single actor. Recruiting enough family physicians to serve as preceptors in underserved areas is challenging. However, opportunities are available to leverage the interests of administrators and physicians.

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