Community Preceptor Perspectives on Recruitment and Retention: The CoPPRR Study

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BACKGROUND AND OBJECTIVES: Medical schools are increasingly challenged to recruit and retain community-based preceptors. Physicians experience various incentives and deterrents to teaching medical students while providing patient care. Self-determination theory (SDT) posits people act in response to internal and external motivations and suggests autonomy, competence, and relatedness are basic psychological needs for well-being and integrity. The applicability of SDT to explain why physicians become or remain a preceptor is uncertain. This study explores physicians' motivations for precepting medical students within the framework of SDT.

METHODS: Focus groups were conducted at seven institutions chosen to represent national diversity using a semistructured interview guide based on SDT. Community-based family physicians discussed benefits and barriers to precepting. Interviews were recorded, transcribed, and coded using open codes. Thematic analysis was performed utilizing the conceptual framework of SDT emphasizing the domains of autonomy, competence, and relatedness.

RESULTS: Feeling competent about their medical practice and teaching skills, reporting connectedness to the institution and students, and having autonomy over their teaching increased preceptor motivation to teach. Concerns about clinical workload demands, negative teaching experiences, and institutional bureaucracy decreased motivation.

CONCLUSIONS: Preceptors choose to become and remain preceptors based on a combination of intrinsic motivating factors and effective external motivators. SDT appears to be a useful framework for assessing and responding to the needs of community-based family medicine preceptors and may be a useful guide for medical educators and policy makers seeking to identify and implement effective strategies to recruit and retain community preceptors to work with medical students.

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The majority of health care in the United States is provided in community settings.[1] Since most patients receive health care and most physicians practice outside of academic health centers, effective medical education requires medical students to train in the community with community-based physician preceptors. Recruiting and retaining an adequate number of preceptors is increasingly challenging, especially for family medicine educators.[2] In many ways, the community preceptor shortage is emblematic of the larger physician shortage, with many of the same root causes.[3] Family physicians are seeing more complicated patients in shorter periods of time with increased demands for documentation and productivity.[4] Many clinical faculty report that using an electronic health record is burdensome, resulting in decreased enthusiasm for teaching and decreased teaching time.[5] These demands contribute to physician burnout, which leads to early retirement or career change, with a decrease in the clinical and educational workforces.[6-8] As medical educators and policy makers seek to respond to the shortage of physicians[3] with new medical schools, increasing class sizes, and added programs for advanced-practice clinicians, larger numbers of students need placement with community-based preceptors, leading to competition between and within academic health centers.

Even when motivated to teach, physicians encounter significant barriers to teaching while seeing patients. Having a student is estimated to add 30 to 60 minutes to a typical preceptor's workday.[9-11] Preceptors face challenges with scheduling and may not have enough physical space

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to comfortably host a student.[12] Some physicians report seeing fewer patients when students are present,[13] which impacts clinical productivity and potentially compensation. Some physicians express concern that they are not skilled educators and worry about negative interactions with students, including communication difficulties.[14] Inadequate academic recognition can cause community-based faculty to feel like second-class citizens, particularly in the realm of promotion.[15] Despite these barriers, many community preceptors teach because they believe it is essential to contribute to the future of the medical profession and they enjoy the enthusiasm of students.[14,16-18] Having students improves physicians' lifelong learning, and patients report increased respect for doctors that teach students.[4]

Understanding the motivations of physicians who precept is crucial to ensuring an adequate number of placement opportunities for students. Self-determination theory (SDT) posits that people act in response to a combination of intrinsic and extrinsic motivations.[19] While people are intrinsically motivated to engage in activities they find personally interesting, they also respond to external incentives and penalties to complete less interesting tasks. Extrinsic motivation is more effective when it becomes internalized, which is impacted by socialization.[19,20] SDT proposes that autonomy (the opportunity to control one's actions), competence (the self-perceived ability to perform or complete an act), and relatedness (the sense of affiliation or belonging to a group) are basic psychological needs that must be satisfied to enhance motivation and experience ongoing well-being and integrity.[19] While self-determination theory has been used to guide faculty on how to motivate medical students,[21,22] it has not been used to evaluate the perspectives of physicians who teach students in community-based settings. Using the framework of SDT, we sought to explore family physicians' perspectives on serving as a clinical preceptor and explain why family physicians become and remain preceptors, hence our study entitled "Community Preceptor Perspectives on Recruitment and Retention" (CoPPRR).

Methods

The research team included members of the steering committee for the Society of Teachers of Family Medicine (STFM) Medical Student Education Collaborative (MSEC) with support from the STFM Foundation Project Fund. The University of Washington Institutional Review Board (IRB), with additional review by the IRB at the other participating institutions, reviewed and exempted the study. The research team invited STFM MSEC steering committee members to facilitate focus groups and seven sites were chosen to represent program diversity nationally. We conducted focus groups at seven distinct and geographically diverse academic health centers in the United States (Table 1). Focus group participants were family physicians and preceptors in family medicine courses at the participating medical schools.

The research team member at each site sent an email invitation to their distribution list of current, former, and potential community preceptors. Recruitment was a challenge, with invitations sent to over 100 family physicians, and only 26 individuals being able to participate. While attempts were made to include family physicians who have chosen not to precept medical students, only current and former preceptors responded to the invitation to participate. Eligible and interested participants provided written informed consent and answered demographic questions. Focus groups occurred in the fall or winter of 2016. Focus groups were conducted by the local research team member using a semistructured interview guide (Table 2) developed by the research team employing the framework of SDT to probe barriers and facilitators to precepting. Research team members responsible for leading the focus groups conferred by conference call in advance to agree on a common approach to facilitation; no additional formal facilitator training occurred.

Table 1: Focus Group Institutions

Institution	Location	Type of Course or Clerkship	Number of Preceptors Studied
Florida International University	Miami, FL	8-week block	2
Maine Medical Center	Portland, ME	6-week block and 9-month longitudinal integrated	7
Medical College of Wisconsin - Central Wisconsin	Wausau, WI	Longitudinal integrated	6
Oregon Health Sciences University	Portland, OR	5-week block	2
University of Missouri-Kansas City	Kansas City, MO	4-week block	2
University of North Carolina	Chapel Hill, NC	16-week longitudinal	6
University of Washington	Seattle, WA	6-week block and longitudinal integrated clerkship options	7
Total			26

Table 2: Focus Group Interview Guide

Topic	Questions
Reasons for joining	What motivated you to become a med student preceptor?
	Was there any compensation (financial or other) offered to precept?
	What are some things the SOM or teaching community did (or could do) to make you feel that your teaching is valued?
Reasons for remaining	What keeps you motivated to continue teaching medical students?
	What could the SOM do to encourage you to continue teaching?
Potential reasons for leaving	What are some of the reasons you might consider stopping precepting?
	What could the school of medicine do to decrease the likelihood that you would stop precepting medical students?
Autonomy	How much control do you have over how you teach medical students? Daily schedule? Curriculum? Timing during year?
	To what degree do you feel the medical school allows you to teach independently? Do you feel like you have autonomy?
	What can be done to provide better support?
Competence	Do you feel that you get the support you need to grow and develop your skills as a preceptor?
	How can the medical school help you strengthen your skills to be a medical student preceptor?
Relatedness	What helps you feel that you are part of the medical school?
	What does the medical school do that makes you feel that you are part of the medical education continuum and contributing to creating the next generation of physicians? What can be done better?

Interviews were audio recorded and transcribed by a transcription service with the removal of all personal identifying information. Data were uploaded to and analyzed with Dedoose version 7.0.23 (SocioCultural Research Consultants, Los Angeles, CA).

Study authors (S.M., M.H., P.L., J.P.) reviewed transcripts from institutions other than their own and individually coded key excerpts with themes relevant to SDT. These themes were iteratively refined by group discussion and consensus and further organized into overarching themes, which were themselves further refined to achieve final group consensus on wording and assessed for face validity. These overarching themes were mapped within the conceptual framework of SDT.

Results

A total of 26 community preceptors participated in the focus groups, which ranged in size from two to seven participants (Table 3). Most participants were male (n=19, 73%) with an average age of 46.8 years (SD 11.9). Participants had been precepting for an average of 12 years with a range of 1 to 30 years. While only one preceptor worked in a solo practice, five (19%) were the only preceptor at their location. About one-third of the focus group participants worked with more than one medical school (n=8, 31%) and most worked with other health professions students (n=19, 73%). Of those who had other students, half had multiple students at the same time. Four preceptors (15%) reported a requirement to precept as a condition of employment, and five (19%) reported receiving compensation for precepting.

From focus group transcripts, 774 excerpts were coded and grouped into themes based on the SDT conceptual framework of factors that increased and decreased motivation to teach (Figure 1). All identified themes are shown in Figure 1. Participant comments are aligned with SDT themes in Table 4.

One of the core psychological needs according to SDT is autonomy. Preceptors reported a desire for flexibility in the way they interact with students.

> So, you know, you've given us guidelines which are really just that, guidelines – they're sort of minimum requirements that we're supposed to do and then evaluate the students on. But there's a lot of flexibility and the providers have different styles and different amounts of things that they're comfortable with letting the students do.

> … to be fulfilled [I need] to teach them how to do things that I find important… [and] not to feel [constrained by an] extremely rigid curriculum.

Another core psychological need, according to SDT, is to feel competent. Preceptors reported one of the benefits of precepting is keeping current on medical knowledge.

> So, I quickly learned that I was learning … of course I was teaching the students, but I was learning as well, you know, some new techniques that they were learning.

> Well, I think the major motivation for me to become, and continuing

being, a preceptor for students is that it keeps me on my toes.

In addition to providing quality patient care, preceptors reported that efforts to maintain competency with their teaching skills encouraged them to continue to precept medical students. Their preferred methods of skills development were variable.

I actually still have the [teaching] manual that you gave me when you came to meet us as a group and I keep it on my desk in my office. And I do refer to it, from time to time.

… Because our time is so limited… traveling to the school would not be an option… for me, but I would participate in webinars, if there are specific courses that you can give on how to be better educators, even if it's a couple a year.

Table 3: Preceptor Demographics

Age		
Mean	46.8 years	
Range	29 to 66 years	
Years as Preceptor		
Average	12.2 years	
Range	1 to 30 years	
	n	**%**
Gender		
Male	19	74
Female	7	27
Type of Practice		
Academic health center	6	23
Federally qualified health center	3	12
Health maintenance organization	2	8
Hospital system	2	8
Private group	6	23
Private Solo	1	4
Rural health clinic	2	8
Other (eg, walk-in clinic)	4	15
Number of Preceptors in Practice		
1	5	19
2 to 5	12	46
6 or more	7	27
Missing	2	8
Precept for Other Health Professions Students in Practice		
Yes	19	73
No	6	23
Missing	1	4
Precept Students From Multiple Medical Schools in Practice		
Yes	8	31
No	18	69
Required to Precept by Employer		
Yes	4	15
No	22	85
Compensation for Precepting		
Yes	5	19
No	21	81

The final core psychological need is relatedness. Precepting allowed physicians to give back to their home institution and mentor students throughout their training. Serving as a preceptor satisfied a personal sense of obligation to give back to the medical profession.

> … I enjoyed [teaching], and went to school there, so feel like, you know, it's something I can give back.

> In my case, I don't have children, I don't want to have children, but it sort of helps me have that feeling of giving to, as I mentioned earlier, a future generation, in some way – passing on my knowledge.

> You get to where you really care about these students…I love it when I get a text from a student that tells me what they're going to be doing or where they're going to residency. I think that's great!

Preceptors also valued concrete (extrinsic) rewards for teaching, including academic titles, certificates, and continuing medical education (CME) credit given for teaching,

> …having a card from [the medical school] saying that I'm a professor… And I keep that in my wallet, but I don't think I've ever shown a single person, but that actually helps sort of somehow having a card, with your title on it, means something.

Focus group participants were asked for reasons why they have stopped precepting, or reasons other community preceptors may choose not to precept. They identified concerns that teaching takes time away from other personal and professional obligations (which results in diminished autonomy).

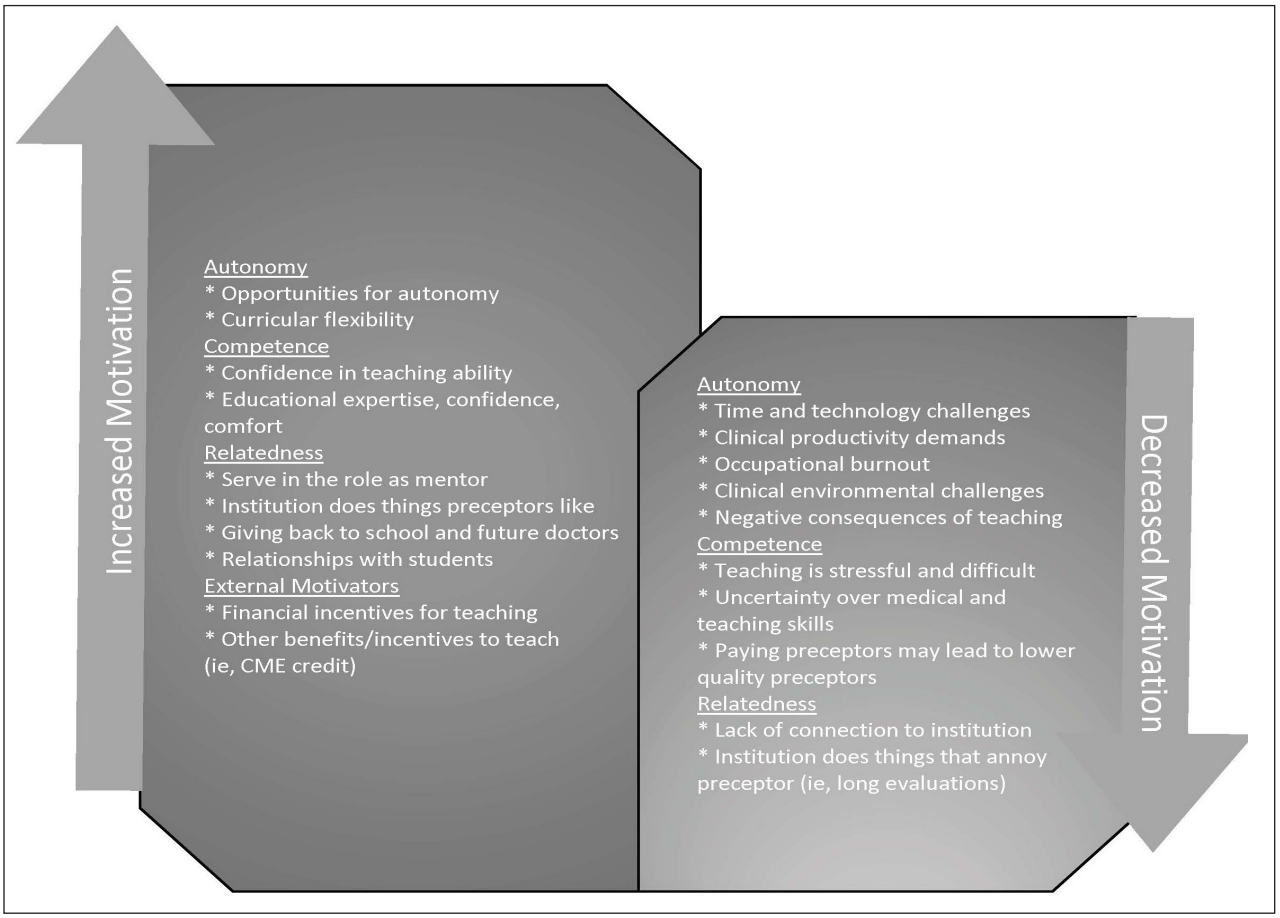
> … because it does increase the length of your day. You do have to spend some time talking when you could be charting … and you're staying later at the office.

> …if your productivity goes down because you're busy teaching, that's an issue.

Physicians reported factors that result in them questioning their competence as a community preceptor, often due to their environment. These situations have led them to stop precepting for a period of time or for some, altogether.

> There's physician turnover and then you've accumulated patients

Figure 1: Conceptual Framework Themes Related to Increased and Decreased Physician Motivation to Become, Remain, or Stop Serving as a Preceptor



and there's more work. You know, I never want to present a … you know, that over-worked, over-burdened physician.

We've had periods where we haven't been able to take students because of burdens that we've had… we're changing our EMR system in January, so there's going to probably be a couple months where our productivity is going to be decreased by 50% and we're probably not going to be able to take students as well.

For me, it's been a rough year… trying to have more students out with where I am… We're still working in quite a few different areas in the clinic and it's made it difficult to have students come through.

Academic health centers themselves may contribute to a preceptor's diminished sense of proficiency. Some preceptors reported struggling with using an institution's educational technology, lacking awareness of the learning objectives for the clinical experience, or lacking perspective on how their teaching fits into the overall medical school curriculum.

I know that via the online library, we're supposed to have access to some tools, ... I was assisted, in the beginning at trying to get set up and then it just … I had trouble. It just never really worked … and I gave up because of the amount of time to try again. But I was never

Table 4: Representative Physician Comments on Factors That Reduce Motivation to Become or Remain a Preceptor by Core Principles of Self-determination Theory

Diminished Autonomy
… it can make a day last a lot longer and it can really make certain numbers that we're required to achieve much harder. So, I think those are some major hurdles we have to look at.
And that's, I guess, part of the reason why I try not to have students… when we have so much going on in our clinic
Well, I think there's a part of being able to manage yourself and your time, but also, you know, the amount of work it does require to really tailor your practice in a way that you can really make sure that you're spending the time with students, that they need to learn what they need to learn, and not just make it an experience where they just kind of watch everything from the sidelines.
… because it does increase the length of your day. You do have to spend some time talking when you could be charting. And so that's going to take away your time from either home or you know, you're staying later at the office.
So, if you're productivity goes down because you're busy teaching, that's an issue.
I think a lot of it comes from looking at numbers and bottom lines. Where I am, it's really a … a slight competition, so to speak, with some of the outlying clinics. And so, it has made it to where there's been some concern about taking students and really there's been a lot of recommendation to not take students because of that.
Those evaluations are awful!
In one case, it was really just a matter of how many patients you could fit in the day and how many less you do … you were able to see because you had a student with you. And that was kind of the usual concern.
We've had periods where we haven't been able to take students because of burdens that we've had… we're changing our EMR system in January, so there's going to probably be a couple months where our productivity is going to be decreased by 50% and we're probably not going to be able to take students as well.
… there are some providers that have continued to take students and generally, those are providers that have been around a while … They are more relaxed and used to dealing with multiple things and changes and don't get stressed out. The younger providers that have to adapt, you know, they can get a little bit more overwhelmed is what I notice.
There's been talk about us taking residents and if that's the case, then it may be difficult to have residents and medical students at the same time.
Diminished Competence
Oh, I was just saying, I think, too, what's going on in the clinic [providers'] personal lives and there's physician turnover and then you've accumulated patients and there's more work. You know, I never want to present a … you know, that over-worked, over-burdened physician.
For me, it's been a rough year having … trying to have more students out with where I am. And a lot of that has been because of so many changes going on in the clinic itself, where I am. We're still working in quite a few different areas in the clinic and it's made it difficult to have students come through. But I think, yeah, definitely the space, the flow …
You know, it never seems like it's a good time to [take students] because we're always so busy.
Yeah, I know that via the online library, we're supposed to have access to some tools, ... I was assisted, in the beginning at trying to get set up and then it just … I had trouble. It just never really worked … and I gave up because of the amount of time to try again. But I was never able to access any of the library tools.

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Table 4: continued

Diminished Relatedness
But you know, I think a lot of other physicians are like, "I don't even get a thank you. Why am I going to do that? Why would I keep doing that?"
I don't get… you know, the recognition part, I think plays a role.
… a lot of people just kind of use that phrase "babysitting" kind of a thing and if it's becoming that, then you shouldn't be teaching, in my mind.
Increased Autonomy
And for me, I kind of reached out, at the beginning, and it was one of those things where it was very easy to facilitate, being still affiliated to some degree, with the school. It's definitely one of those kinds of things I saw myself doing, from a preceptor that I had when I was going through medical school, and it's been one of the reasons why I have enjoyed having students come out to work with me.
Just enjoying teaching, sharing knowledge. You know, once I felt comfortable enough in my own skin, being out in practice, and it just becomes, I think, a natural part of what you do, wanting to teach and just lend your knowledge.
I think one of the biggest components being altruism and really putting others' needs ahead of yours. And I think that was something that has always been a driving force for me.
I can look at it two ways – time and I guess, potentially even money, in that case. Those are things that I'm going to want to make sure that I'm managing effectively so that I'm balancing home and life in a way that makes sense.
With the charting… When they can chart that does help immensely.
I think it's really just been a matter of getting staff on the ball with kind of making sure that students are engaged in … both with what they're doing and what the patient needs so they can take a more active role in the clinic themselves.
I actually went to health care educators conference – it was a CME conference – and it explored all these reasons why people … health care professionals may precept and so forth and the satisfaction it gives me in giving back is important.
It's very low-pressure, you know, you ask if we can… and if we can't, you're very gracious and understanding, and then you just ask again the next time if we can take students.
So, you know, you've given us guidelines which are really just that, guidelines – they're sort of minimum requirements that we're supposed to do and then evaluate the students on. But there's a lot of flexibility and the providers have different styles and different amounts of things that they're comfortable with letting the students do.
Some providers let the students do more than others. Some of it is limited by internal policy, but not all of it. So, there's a good amount of control and I don't think that that's an issue.
… to be fulfilled [I need] to teach them how to do things that I find important… [and] not to feel [constrained by an] extremely rigid curriculum
… if [a] specific patient that we know is not comfortable with having a student, the students will happily stay aside. And likewise, I'm comfortable introducing the student to the patient and asking them if the student can work with them, I would say 99% of the time, the patient is fine with it.
… with regards to what the students will do… I work with them, with what they feel comfortable doing and most of the time, the students are very comfortable in learning new procedures and so forth
Increased Competence
Also, access to evidence-based resources, like up to date, to help students to find the right information in the right time and make it also available for the preceptor, that would be helpful.
… something that is available, online, that I can utilize for teaching purposes, specifically evidence-based guidelines.
So, my training is a little bit different, I guess, than training is nowadays, in terms of what students are taught and even … even as much as interviewing skills. So, I quickly learned that I was learning … of course I was teaching the students, but I was learning as well, you know, some new techniques that they were learning, and so they would share those with me, or I would see it in action and I would have them talk to the patients.
And the manual that you gave us, you go through that as well. So, it actually was an opportunity for me to learn some new things that I continue to use today
Well, I think the major motivation for me to become, and continuing being, a preceptor for students is that it keeps me on my toes.
…and brings it more to the surface – why I'm doing it, how I'm doing it. Is this the right thing, the way I'm doing it?
Having a younger crowd around me keeps … jogging my mind … or point out some new evidence, so I encourage [students] to ask me questions and I'm not afraid to say, "I don't know. Let's fine out together how we can find the information that we don't know."

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Table 4: continued

Increased Competence
… the emails that you send are always giving positive reinforcement. The students themselves give positive reinforcement.
I actually still have the manual that you gave me when you came to meet us as a group and I keep it on my desk in my office. And I do refer to it, from time to time.
I think it is also important to have a virtual document, somewhere on the website, that we can access, that is constantly being updated
… Because our time is so limited, for example, traveling to the school would not be an option, for example, for me, but I would participate in webinars, if there are specific courses that you can give on how to be better educators, even if it's a couple a year.
Increased Relatedness
I think one of the things I saw that helped, they added the adjunct professor thing and gave just a little bit of recognition to the physicians that [teach]
The new students that come speak of how the previous students spoke very highly of us and appreciated it. And all of that, you know, makes us feel good.
… I enjoyed [teaching], and went to school there, so feel like, you know, it's something I can give back.
I wouldn't say it's the school, really, as much as it was the preceptors. Having the one-on-one experience I had, as a student myself.
I enjoy the one-on-one time …
You get to where you're one-on-one with these students, you really start to get to know them as a person and you start to respect them like a friend
I'm going to keep some of these family practice interested students on the hook. Just say, "Okay, come back."
You get to where you really care about these students. You want them to do well. You want them to be motivated to keep going to really get through residency and do what they want to do and kind of live their dream. You know, you want to see them do well. I love it when I get a text from a student that tells me what they're going to be doing or where they're going to residency. I think that's great!
In my case (I don't have children, I don't want to have children) but it sort of helps me have that feeling of giving to, as I mentioned earlier, a future generation, in some way – passing on my knowledge
Well, I think to have, at different geographic regions, … mini meetings and mini sessions … inviting preceptors to your home is probably a wonderful idea. [A] get together would be helpful, maybe on an annual basis or bi-annual basis, to exchange ideas… just connect.
I do read your emails and I definitely get that feeling from them. And then also that you do try to put together these meet-ups, mixers, shows that you really are trying to get us to be part of a community.
… and my patients ask, "Oh, you're teaching for [the medical school]. I see this plaque on your wall." I say, "Yes, I do and I'm very proud of it."

able to access any of the library tools.

I'm still not 100% sure what the new curriculum is and were there really any major changes …and if we're supposed to be teaching them to a certain goal, I'm not sure really what my part is in this new curriculum.

Participants also expressed that a lack of a relationship with students results in a decreased desire to continue to precept.

But you know, I think a lot of other physicians are like, "I don't even get a thank you. Why am I going to do that? Why would I keep doing that?"

… a lot of people just kind of use that phrase "babysitting" kind of a thing and if it's becoming that, then you shouldn't be teaching, in my mind.

Discussion

Family physicians are motivated to serve as community preceptors for a variety of reasons. Our results suggest relating efforts to recruit and retain preceptors to the concepts of SDT, namely autonomy, competency, and relatedness, has potential to strengthen preceptor networks. Institutions may enhance preceptor autonomy by including community faculty and preceptors in the development of course goals and objectives, by providing flexibility on when, how, and where preceptors teach, and by seeking regular feedback on clerkship structure and curriculum. Institutions may enhance preceptor competency through informed general and targeted faculty development efforts, provision of CME activities, and through formal

recognition of excellence in teaching through awards, wall plaques, teaching pins, student thank-you notes, or other mechanisms. Institutions may enhance relatedness in several ways, including: (1) regular communications including academic detailing meetings, newsletters, and timely and relevant email messages; (2) provision of community faculty and preceptors with branded promotional materials, such as coffee mugs, clothing, pens or other similar items; (3) inclusion in campus activities, such as the white coat ceremony, match day and graduation activities, or student research presentation events.

Our analysis aligns with previous studies showing that preceptors teach because of a strong internal motivation.[23-25] While less effective than intrinsic motivation, external factors such as a clinical faculty appointment and academic promotion should not be taken lightly.[26,27] SDT suggests, and our study supports, that financial incentives are perhaps the least successful tool to encourage community family physicians to teach,[14,16,24] which may be reassuring to the many schools that are not paying community preceptors.[28] Preceptors in our focus groups reported that they want their time and energy to be acknowledged and appreciated, a strategy successfully used at some institutions.[26] Our analysis supports the findings of others that preceptors want to know they will receive adequate faculty development for precepting,[12,25] followed by regular, succinct, and accurate communication and feedback from the institution.[24,25]

Our findings aligned with previous studies suggesting that SDT can function as a useful framework to organize preceptor recruitment and retention efforts by enhancing motivation to teach. Medical educators and policy makers seeking to recruit community preceptors can highlight the intrinsic motivators for teaching: the joy of seeing a student learn, the value in passing on medical knowledge, and the opportunity to shape the lives of future physicians. Focusing on this meaningful work can prevent burnout, and teaching may be one way for physicians to find personal meaning in their professional work.[29-32]

Highlighting another aspect of SDT, preceptors need to see how their efforts fit into the overall medical education effort. Some preceptors reported a sense of pride in being connected with a medical school, either because they themselves trained there or because they identified with the values of the school, highlighting the internalization of these extrinsic motivators. Strategies to tighten this connection, such as adjunct faculty appointments, certificates of recognition, positive student feedback, and physical reminders of this affiliation (eg, a coffee mug or patch for a lab coat), are important extrinsic motivators for some community preceptors in our study. They value thank you notes from students and updates on where students match for residency or end up practicing. Another option for building on relatedness may be to lengthen weeks spent with preceptors through longer block or longitudinal rotations.

Having medical students in a community practice environment may help physicians maintain a sense of clinical competency, another optimizer of the core psychological needs described by SDT. Medical schools can promote this benefit by providing access to resources that community physicians can use to optimize patient care and medical student education. Medical educators and policy makers should also highlight extrinsic benefits of teaching, such as CME credit.

Preceptors need to feel autonomous and competent to maintain intrinsic motivation. Attacks on autonomy and competence, such as a strictly regimented plan for clinical teaching or a lack of regular specific feedback, can diminish intrinsic motivation In our study, preceptors reported that medical schools may diminish their autonomy by placing excessive structure around clinical teaching encounters (eg, multiple checklists). While clerkship directors attempt to standardize educational experiences to ensure graduation of competent physicians and attainment of accreditation requirements,[33-35] community preceptors desired flexibility to adjust learning opportunities to the patients at hand. Balancing these competing priorities is necessary to avoid diminishing intrinsic motivation for community preceptors.

Individual institutions may not be able to have a meaningful impact on some elements of the practice environment that make precepting medical students difficult. Participants in our study reported that the advent of the electronic health record and increasing documentation demands have made continuing to precept students difficult. Fortunately, Medicare now recognizes the documentation by medical students as acceptable for billing—highlighting another need for preceptor engagement and faculty development.[36]

Our study has several key limitations. Some sites had difficulty with convening focus groups, evidenced by three focus groups consisting of just two preceptors, also attesting to preceptor time challenges. We interviewed only family physicians who were community preceptors and agreed to participate in this study. We did not specifically recruit participants to understand the perspectives of those who had been preceptors but had since stopped teaching. Additionally, the perspectives of nonresponders are not known; we had a high nonresponse rate. We did not capture the views of physicians or other clinicians who have never taught. It is also unclear how these results would generalize to other communities of educators, such as advanced practice clinician educators or physicians in other specialties. Finally, this study did not seek to develop a hierarchy of strategies to recruit and retain preceptors, but rather to explore from community-based preceptors within the framework of SDT the challenges and frustrations of balancing a busy clinical practice with educating future physicians and other health professionals.

Future studies should determine if SDT applies to other groups of community preceptors. Surveys of community preceptors may guide medical educators and policy makers on where to focus their efforts as well as where to allocate limited financial and human resources. Local, state, and national organizations seeking to encourage community preceptors may use this framework to assess the effectiveness of their interventions. Further validation and strengthening of the community-preceptor workforce is in alignment with desires and demands to increase the primary care physician (and other clinician) workforce to meet the needs of a growing, aging, and diversifying US population.

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References

1. Green LA, Fryer GEJ Jr, Yawn BP, Lanier D, Dovey SM. The ecology of medical care revisited. N Engl J Med. 2001;344(26):2021-2025.
2. Rutter A, Theobald M. Committee tackles community preceptor shortage. Ann Fam Med. 2017;15(5):484-486.
3. Association of American Medical Colleges. Physician Supply and Demand Through 2030: Key Findings. 2018. https://aamc-black.global.ssl.fastly.net/production/media/filer_public/b2/09/b2096c37-00aa-43e0-bfac-63cf532a7997/aamc-physician-supply-demand-key-findings-2018.pdf. Accessed April 12, 2018.
4. Vath BE, Schneeweiss R, Scott CS. Volunteer physician faculty and the changing face of medicine. West J Med. 2001;174(4):242-246.
5. Spencer DC, Choi D, English C, Girard D. The effects of electronic health record implementation on medical student educators. Teach Learn Med. 2012;24(2):106-110.
6. Pathman DE, Konrad TR, Williams ES, Scheckler WE, Linzer M, Douglas J; Career Satidfaction Study Group. Physician job satisfaction, dissatisfaction, and turnover. J Fam Pract. 2002;51(7):593-593.
7. Shanafelt TD, Mungo M, Schmitgen J, et al. Longitudinal Study Evaluating the Association Between Physician Burnout and Changes in Professional Work Effort. Mayo Clin Proc. 2016;91(4):422-431.
8. Sibbald B, Bojke C, Gravelle H. National survey of job satisfaction and retirement intentions among general practitioners in England. BMJ. 2003;326(7379):22.
9. Vinson DC, Paden C, Devera-Sales A. Impact of medical student teaching on family physicians' use of time. J Fam Pract. 1996;42(3):243-249.
10. Ellis J, Alweis R. A review of learner impact on faculty productivity. Am J Med. 2015;128(1):96-101.
11. Baldor RA, Brooks WB, Warfield ME, O'Shea K. A survey of primary care physicians' perceptions and needs regarding the precepting of medical students in their offices. Med Educ. 2001;35(8):789-795.
12. Irby DM. Where have all the preceptors gone? Erosion of the volunteer clinical faculty. West J Med. 2001;174(4):246.
13. Grayson MS, Klein M, Lugo J, Visintainer P. Benefits and costs to community-based physicians teaching primary care to medical students. J Gen Intern Med. 1998;13(7):485-488.
14. DeWolfe JA, Laschinger S, Perkin C. Preceptors' perspective on recruitment, support, and retention of preceptors. J Nurs Educ. 2010;49(4):198-206.
15. Zinsmeister CS, Siu AL. Clinical teaching by voluntary faculty. Acad Med. 1993;68(5):355-356.
16. Scott I, Sazegar P. Why community physicians teach students (or not): barriers and opportunities for preceptor recruitment. Med Teach. 2006;28(6):563-565.
17. Starr S, Ferguson WJ, Haley H-L, Quirk M. Community preceptors' views of their identities as teachers. Acad Med. 2003;78(8):820-825.
18. Usatine RP, Hodgson CS, Marshall ET, Whitman DW, Slavin SJ, Wilkes MS. Reactions of family medicine community preceptors to teaching medical students. Fam Med. 1995;27(9):566-570.
19. Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. Am Psychol. 2000;55(1):68-78.
20. Cook DA, Artino AR Jr. Motivation to learn: an overview of contemporary theories. Med Educ. 2016;50(10):997-1014.
21. Patrick H, Williams GC. Self-determination in medical education: encouraging medical educators to be more like blues artists and poets. Sch Field. 2009;7(2):184-193.
22. Kusurkar RA, Croiset G, Ten Cate TJ. Twelve tips to stimulate intrinsic motivation in students through autonomy-supportive classroom teaching derived from self-determination theory. Med Teach. 2011;33(12):978-982.
23. Latessa R, Beaty N, Landis S, Colvin G, Janes C. The satisfaction, motivation, and future of community preceptors: the North Carolina experience. Acad Med. 2007;82(7):698-703.
24. Beck Dallaghan GL, Alerte AM, Ryan MS, et al. Recruiting and Retaining Community-Based Preceptors: A Multicenter Qualitative Action Study of Pediatric Preceptors. Acad Med. 2017;92(8):1168-1174.
25. Christner JG, Dallaghan GB, Briscoe G, et al. The Community Preceptor Crisis: Recruiting and Retaining Community-Based Faculty to Teach Medical Students-A Shared Perspective From the Alliance for Clinical Education. Teach Learn Med. 2016;28(3):329-336. 9
26. Denton GD, Griffin R, Cazabon P, Monks SR, Deichmann R. Recruiting primary care physicians to teach medical students in the ambulatory setting: a model of protected time, allocated money, and faculty development. Acad Med. 2015;90(11):1532-1535.
27. Dent MM, Boltri J, Okosun IS. Do volunteer community-based preceptors value students' feedback? Acad Med. 2004;79(11):1103-1107.
28. Anthony D, Jerpbak CM, Margo KL, Power DV, Slatt LM, Tarn DM. Do we pay our community preceptors? Results from a CERA clerkship directors' survey. Fam Med. 2014;46(3):167-173.
29. The Center for Health and the Social Sciences at the University of Chicago. Job Satisfaction and Meaning in the Practice of Medicine: A National Physician Study. https://pmr.uchicago.edu/sites/pmr.uchicago.edu/files/uploads/ProjGoodPhys/DPR%20questionnaire_final_with_merge_fields.pdf. Accessed February 27, 2019.
30. Allan BA, Dexter C, Kinsey R, Parker S. Meaningful work and mental health: job satisfaction as a moderator. J Ment Health. 2018;27(1):38-44.
31. Lyndon A. Burnout Among Health Professionals and Its Effect on Patient Safety. AHRQ Patient Safety Network. Burnout Among Health Professionals and Its Effect on Patient Safety. https://psnet.ahrq.gov/perspectives/perspective/190/burnout-among-health-professionals-and-its-effect-on-patient-safety. Published February 2016. Accessed December 15, 2016.
32. Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. Ann Fam Med. 2014;12(6):573-576.
33. Beck AH. The Flexner report and the standardization of American medical education. JAMA. 2004;291(17):2139-2140.
34. Englander R, Cameron T, Ballard AJ, Dodge J, Bull J, Aschenbrener CA. Toward a common taxonomy of competency domains for the health professions and competencies for physicians. Acad Med. 2013;88(8):1088-1094.
35. Liaison Committee on Medical Education. Scope and Purpose of Accredidation. http://lcme.org/about/. Accessed March 5, 2018.
36. Centers for Medicare and Medicaid Services. CMS Manual Update: E/M Service Documentation Provided by Students. https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/2018Downloads/R3971CP.pdf. Published February 2, 2018. Accessed March 5, 2018.