How Do Precepting Physicians Select Patients for Teaching Medical Students in the Ambulatory Primary Care Setting?

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OBJECTIVE: **To study how clinical preceptors select patients for medical student teaching in ambulatory care and to explore key factors they consider in the selection process.**

DESIGN: **Qualitative analysis of transcribed interviews.**

SETTING: **Harvard Medical School, Boston, Mass.**

PARTICIPANTS: **Nineteen physicians (14 general internists and 5 general pediatricians) who serve as clinical preceptors.**

MEASUREMENTS: **Responses to in-depth open-ended interview regarding selection of patients for participation in medical student teaching.**

MAIN RESULTS: **Preceptors consider the competing needs of the patient, the student, and the practice the most important factors in selecting patients for medical student teaching. Three dominant themes emerged: time and efficiency, educational value, and the influence of teaching on the doctor-patient relationship. These physicians consciously attempt to select patients whose participation in medical student teaching maximizes the efficiency of the clinical practice and optimizes the students' educational experiences, while minimizing any potential for harming the relationship between preceptor and patient.**

CONCLUSIONS: **These findings may help validate the frustration preceptors frequently feel in their efforts to teach in the outpatient setting. Becoming more cognizant of the competing interests—the needs of the patient, the student, and the practice—may help physicians to select patients to enhance the educational experience without compromising efficiency or the doctor-patient relationship. For educators, this study suggests an opportunity for faculty development programs to assist the clinical preceptor both in selecting patients for medical student teaching and in finding ways to maximize the efficiency and educational quality of the outpatient teaching environment.**

KEY WORDS: **medical students; primary care; outpatient; teaching.**
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Nearly all medical schools in the United States require students to complete primary care educational experiences in the outpatient setting.[1] As compared with traditional inpatient clerkships, the ambulatory care office setting presents patients, students, and clinician-teachers with a set of unique opportunities and challenges.

In hospital-based clerkships, students expect to carry out extensive and comprehensive work-ups of patients' complaints, but in the outpatient setting, evaluations of patients' problems are typically performed serially and with variable lengths of time between tests and procedures. The hospital setting often allows students to observe an episode of illness. Arranging for ongoing experience with individual patients in the outpatient setting is challenging at best, even in the case of longitudinal clerkships.

For students, perhaps the biggest difference is that in the outpatient setting, the hospital hierarchy is absent. Without specialty attendings, fellows, and residents, students have more opportunity to feel responsible for the patient and greater potential for direct contact with the patient's doctor, the student's preceptor.

For the clinical preceptor, teaching medical students in the outpatient setting differs from the hospital in several important ways. Bedside teaching in the hospital can be scheduled throughout the day and usually revolves around an acute illness, often with key historical features or physical findings. Ambulatory teaching occurs when the patient visits the office, and patients generally have multiple concerns of a subacute or chronic nature; historical features and physical findings are often more subtle than for hospitalized patients. Perhaps most importantly, in the hospital setting the physician and patient usually do not have a pre-existing relationship, and it is generally presumed that the relationship will end upon discharge. In contrast, patients in the outpatient setting visit a physician with whom they have an ongoing professional relationship.

Because of these differences between inpatient and outpatient environments, teaching medical students in ambulatory care requires preceptors to have a special set of skills and competencies. These clinician-educators must simultaneously provide care to a panel of patients on a tightly regulated schedule and teach and supervise a medical student, who is likely still mastering the basics of history taking and physical examination, even as she attempts to learn the mechanics of delivering primary care. Much literature exists to help clinical preceptors integrate teaching into the busy office practice,[2–9] and previous studies have described attributes and characteristics of

outpatient preceptors that students believe are most useful and effective.[4,6,9–13]

Although much has been written about how to teach medical students in the outpatient setting, little attention has been paid to an important dimension of the ambulatory teaching experience: how are patients selected for medical student teaching? Both new and established clinical preceptors may wonder how to find "the best" patients to be involved in medical student teaching. There is currently no evidence that physicians perceive that they use any particular characteristics to select the suitable teaching-patient.[14] Preceptors in the ambulatory setting, however, have noted that appropriate patient selection can be a difficult and time-consuming process, and have expressed concerns about patient fatigue and the effects of teaching on the doctor-patient relationship.[15] Despite potential difficulties associated with it, appropriate patient selection is essential to a high-quality learning experience for students. Both medical students and preceptors have acknowledged the value of patient selection to clinical education,[10,16] as well as pointing it out as an area for improvement.[10]

We therefore studied how preceptors select patients for teaching and the key factors they consider in the selection process. We used qualitative methods for 2 reasons. First, to our knowledge, no prior studies have investigated how patients are selected for participation in medical student teaching. Qualitative research is well suited for exploratory studies for which previous literature is limited.[17,18] Second, we anticipated that the factors involved in selecting patients may be multidimensional and difficult to measure. Qualitative research provides a method for describing the diverse components and dimensions of such factors.[17,19]

METHODS

Study Setting

The study took place in the setting of the Primary Care Clerkship, a longitudinal course at Harvard Medical School, which has been previously described.[20] From January of the third year through September of the fourth year of medical school, students spend 1 afternoon each week seeing patients in the office of a primary care physician (a general internist, general pediatrician, or family physician). The course encourages preceptors to enable students to see and evaluate patients independently, with preceptors providing supervision and guidance. Students are expected to see 3 to 6 patients each session throughout the 9 months of the clerkship.

Study Design and Study Participants

We carried out a qualitative study, based on semistructured in-depth interviews of 19 physicians who were clinical preceptors in the Primary Care Clerkship of Harvard Medical School. Interviews were conducted from May 2001 through January 2002.

As is customary in qualitative research,[17,19] we selected preceptors using purposeful sampling to ensure that we included a broad array of physicians who practice in a variety of settings and who have varied levels of experience seeing patients and teaching medical students. Preceptors were interviewed until no new concepts were identified by the additional interviews, i.e., until the point of theoretical saturation. This occurred after the 19th interview. The characteristics of the participating physicians are displayed in Table 1. Fourteen of the interviewees practiced within Harvard Vanguard Medical Associates, a 14-site multispecialty group in greater Boston. Five interviewees were from practices affiliated with academic medical centers and community hospitals (Massachusetts General Hospital, Beth Israel Deaconess Medical Center, and Cambridge Hospital); some of these preceptors' offices were physically attached to the hospital, while others were in satellite locations.

The Harvard Pilgrim Health Care Human Studies Committee appraised the study protocol and identified it as exempt from review by an institutional review board under 45 CFR 46.101B#(1), research conducted in established or commonly accepted educational settings, involving normal educational practices.

Instrument Development and Data Collection

We developed a semistructured in-depth interview guide using qualitative research tools.[17,18,21] To ensure that the interview items were comprehensible, we conducted a videotaped interview of a recently retired physician who previously had served as a preceptor in the clerkship. After the formal interview was complete, we conducted cognitive interviewing to assess this physician's understanding of the interview items. We then revised the interview instrument based on review of the videotaped interview.

One of the authors (DD) conducted 17 interviews; the remaining 2 interviews were conducted by another author

Table 1. Characteristics of the 19 Physicians Interviewed in this Qualitative Study of How Preceptors Select Patients for Medical Student Teaching

Characteristic	*n* (%)
Gender	
Female	8 (42)
Male	11 (58)
Years in practice	
<5	1 (5)
5–9	4 (21)
≥10	14 (74)
Specialty	
General internal medicine	14 (74)
General pediatrics	5 (26)
Practice type	
Hospital-affiliated	5 (26)
Large multispecialty group	14 (74)

(SRS). The interview guide began with "warm-up" items, asking about the preceptor's years in practice and current and prior teaching activities. The interviewer then asked about patients' general reactions to having medical students involved in their visit and then proceeded to ask in open-ended fashion how the preceptor identified and selected patients to participate in medical student teaching in the office setting. We probed informants about whether characteristics of the patient, of the student, or of the visit affected how they selected patients to participate. Participants were encouraged to elaborate on the issues most pertinent to them. Built into the guide were narrative elements, open-ended prompts, and probe questions.[21] The interview instrument is available from the authors upon request.

Data Analysis

Interviews were audiotaped, transcribed, and reviewed for accuracy by two of us (SRS, DD). We analyzed transcribed data using common coding techniques for qualitative data.[17,22,23] Specifically, we developed a coding scheme based initially on the interview instrument and then modified after initial review of the transcripts.

We performed a content analysis of the final transcripts, using multiple close readings to identify prominent and recurring domains of content, or "themes."[18,21] Two of us (SRS, DD) coded each of the 19 transcripts independently and met periodically with the other coauthors to discuss emerging themes and to adjudicate occasional discordant codes. More than 90% of our initial codes were concordant, and through discussion we resolved all discrepancies to achieve a final consensus.

The data are presented and organized in this article by theme, with illustrative quotes. These quotes were edited for ease of reading; we made no substantive changes but deleted repeated words and corrected grammatical inconsistencies that commonly occur in spoken language.

Confirmation of Results

Approximately 12 to 18 months after completing the interviews, we contacted 10 of the 19 preceptors interviewed in this study and asked them for their reactions to the results in this manuscript. Specifically, we asked these preceptors whether the themes identified were consistent with their own experiences and with their general impressions of how preceptors select patients for teaching medical students.

RESULTS

Teaching medical students in a primary care office setting requires preceptors to consider the needs of the patient, the student, and the practice. With multiple competing needs, teachers varied in which issues they considered most important in selecting patients for medical student teaching. Three dominant themes emerged: time and efficiency, educational value, and the influence of teaching on the doctor-patient relationship. Thirteen of 19 preceptors (68%) discussed time and efficiency, while 16 of 19 (84%) addressed selecting patients for educational value and 10 of 19 (53%) expressed concern about the relationship between teaching and the doctor-patient relationship.

Time and Efficiency

Eleven of 19 interviewed preceptors reported that they choose patients to maximize the efficiency of the practice.

> *Keeping the flow moving is important so that if I'm getting a lot of patients at once, it's actually helpful to have the student start with somebody and I might be able to see a couple of patients while the student is seeing one, just to keep things moving.*

Another preceptor commented that he purposefully selects patients not only to maximize the efficiency of the practice but also to minimize "down time" for the student and waiting time for the patient:

> *I may be a half-hour or 45 minutes behind in the schedule, but I'll try to get out to the waiting room and get the patient and the student introduced well enough in advance so that the 45 minutes can be used by the student.*

A different preceptor added, "If there is a patient here that happens to be ready and my student is available, then I think that drives it [selection] more than anything else does. I don't like to have the student sitting there doing nothing."

All interviewed physicians reported that they try to make conscious decisions about which patients the medical students should see, but most preceptors felt that their ability to select patients was limited by the constraints of their schedules. "I don't have the luxury of looking for particular clinical conditions for my student to see," one preceptor commented. "I just take patients in order, according to my schedule that day." Another physician expressed some resignation in being limited by the schedule, suggesting that under different circumstances she would select different patients, for educational reasons. "My intention is always to modify the schedule and accommodate our students, but the reality is that in a real practice you run on a regular schedule and fit the student into that."

Three of the physicians mentioned that they were reluctant to select a patient returning for a follow-up visit that would require a painfully excessive amount of time and effort for the student and patient to get "up to speed" on the current issues:

> *If it's a patient who is 'in the middle of a conversation,' perhaps having changed medications last visit and it's the sixth time we had changed medications for this problem, then having the student go in seems inefficient to me.*

Another physician said,

> *In general, I've tried not to have the students continue to see patients who are here for a regularly scheduled*

follow-up for chronic illnesses that I am following. It's easier and works more efficiently for me if I see those patients. I can look at just what I want to look at on the return visit. I'm more comfortable having students seeing patients who are here for an acute problem or an acute illness, something that has flared up.

Educational Value

Despite being constrained by patient schedules, with appointments often booked months in advance, and feeling pressured by short-duration visits and patients waiting to be seen, most preceptors had strong convictions about trying to select patients to give students a valuable educational experience.

I look at the schedule and try to see if there's something about the visit, that the student is going to get something out of it and that he's going to grow from it. Sometimes it may be history; sometimes it may be physical findings. And sometimes I want him to see common problems, both chronic—like hypertension and diabetes—and acute—like colds and bronchitis.

Preceptors considered exposure to a broad perspective of primary care medicine essential.

I basically will look at my schedule before the student arrives and decide whom the student will see that day. I want them to have a balance of learning how to do both complete physicals and same day/urgent care visits. For the acute visits, I try to pick things that are interesting for the student to learn, and I try to vary it. For example, if I know the student has seen a lot of low back pain week after week, I will try to pick things for him that might be different—sinusitis, headache, or others—to vary the type of visit.

Several preceptors mentioned that they try to expose students to a variety of "interesting" conditions, both clinical and nonclinical:

Sometimes I will select patients who have an interesting story that may not even be medical. For example, I see a lot of international adoptions in my practice. Or, I'll have her see children who have recovered from a very serious illness, or children who have had the death of a parent. I try to give them not only an array of medical illnesses but also an array of social phenomena.

Most of the physicians try to expose students to a wide variety of patient problems, and that variation often includes seeing patients spanning the age spectrum. One respondent noted, "I wouldn't want a student to come here week after week to see 25-year-old women. They should see the 80-year-olds, too." Another physician stated that she considers patient age only if it is likely to correlate with the educational value of the visit:

Thinking about routine female check up visits, I'm more inclined to give the student a routine visit with a patient who is a bit older, say in her 20s, where there are issues of contraception and sexual activity, and safe sex is going to be more reliably germane. It's not to say that a 17-year-old girl isn't going to have those issues, but she's young and it could be that she's just coming in to get a school form that she needs me to do before she goes to school in the fall. I think in the latter case, we would get a little less bang for our effort.

One preceptor explained that selecting a younger patient could sometimes adversely affect the educational experience.

I have found that, in some cases, having a medical student dealing with a patient who is a chronological peer sometimes feels a bit awkward on both sides. Here, it is an issue of professionalism, and many of the medical students don't have a well enough developed sense of professionalism to feel comfortable in that environment. So I probably would be careful not to match student to a younger patient unless I really felt the student had good "centeredness" with a chronological peer.

The Doctor-patient Relationship

A unique characteristic of clinical teaching in the ambulatory setting is that the preceptor often has a longstanding relationship with the patients whom the medical student will see, and in most cases, the preceptor expects that her relationship with the patient will continue long after the student has completed the clerkship. Knowing the patients has many advantages for the preceptor. In some cases, having an established history with patients may enable preceptors to give students more autonomy in delivering patient care. In addition, preceptors are frequently able to gauge not only which patients will provide excellent educational experiences, but also which patients will be willing to participate in teaching activities. All the preceptors noted that there is a small fraction of their patients who would not want to participate in medical student teaching, and nearly all the preceptors said that they simply would not ask those patients to be involved. Many preceptors referred to some of these patients as "difficult," not in terms of medical complexity, but in terms of personality and demeanor. One physician framed these sentiments from the perspective of entitlement:

These people feel entitled in the sense that they feel that they need to come in and see their *doctor. I have to be careful about selecting these people for student teaching, because I have to deal with the repercussions. I have to deal with the unhappy patient, the patient who feels that he doesn't have enough time to be sure all his issues are adequately addressed. This is probably one of the most crucial factors in selecting patients, because I don't want to get into a situation where I have to spend more of my time figuring how to explain to the patient a situation that could have been avoided.*

Another physician described how he looks for signs that a patient would be annoyed, or even angered, by participating in medical student teaching.

The first thing I look for in a patient is whether it's somebody who is very private or feels put out by anything, the kind of person who feels generally angry or irritable or always says, 'How come you're 20 minutes late?' I tend to make the assumption that for them, any added distraction, such as seeing a medical student, will only add to this feeling of being imposed on.

A minority (3 of 19) of preceptors actually commented that it is important to give students experience encountering these issues themselves:

> *I think it's nice to have a patient that will be receptive to the student. I think that helps the student. But every once in a while, it's nice to have the student go see somebody who is particularly challenging, just to have the experience. By challenging I mean somebody who, regardless of what we do for them, is usually dissatisfied.*

All nineteen preceptors expressed that, in general, the patient's age, race/ethnicity, and gender had no influence on whether the patient was considered for teaching; however, several preceptors pointed out that in certain circumstances, they considered these demographic characteristics in selection, particularly if they were likely to correlate with threats to the doctor-patient relationship. For example, 5 preceptors, both internists and pediatricians, observed that young women tend to be somewhat less likely to agree to participate in medical student teaching, particularly when the student is a male, but even independent of the student's gender. Because of this perceived reluctance to participate, and the potential for interfering with the ongoing doctor-patient relationship, some preceptors, both male and female, noted that they are somewhat less likely to ask young women to participate in teaching. One male physician noted:

> *Gender only comes up, I think, with some teenage females who often don't even want to see me, so it's particularly harder that I have a male student. It worked out quite nicely in past years when I have had a female student, but with the male student, I think sometimes the two of us are sometimes seen as less welcome by female patients, especially when they have lower abdominal or pelvic symptoms. They often don't really want to see me, so I probably do steer my student away from those patients.*

This physician added that his reluctance to select young female patients was accounted for, in part, by the limitations of the process of the visit and the examination room itself. "When I do an external genitalia exam or a breast exam," he said, "I need to bring in a female chaperone, and it just gets to be a bit of a zoo to have myself, a student, a parent, the patient, plus the female chaperone in the room."

Confirmation of Results

All 10 preceptors contacted more than a year after the interviews agreed that educational value, time and efficiency, and the doctor-patient relationship were the major themes that guide selection of patients for medical student teaching in the ambulatory care setting.

Theoretical Model

Figure 1 is a Venn diagram that shows the inter-relationship of the 3 themes identified in this study. The diagram represents a theoretical model of the competing issues that preceptors consider in selecting patients for teaching medical students in the ambulatory care setting. While physicians aim to select patients who will provide students with optimal educational experiences, they must consider simultaneously issues of time and efficiency as well as the potential implications for the doctor-patient relationship.

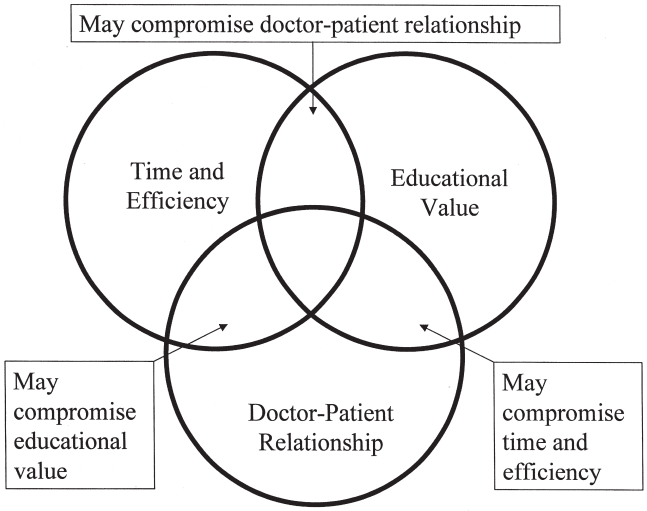

FIGURE 1. Venn diagram showing the inter-relationship of 3 themes in selecting patients for teaching medical students in the ambulatory care setting. From the perspective of the preceptor, overlap of all 3 themes may represent the ideal patient for medical student teaching.

DISCUSSION

Selecting patients to participate in medical student teaching in the ambulatory setting is not an arbitrary or random process. Primary care internists and pediatricians in a variety of clinical settings consciously attempt to select patients whose participation in medical student teaching will maximize the efficiency of the clinical practice and optimize the students' educational experiences, while minimizing any potential for harm to the relationship between the preceptor and the patient. As shown in Figure 1, these competing themes are often inter-related, and in reality, patient selection often involves compromise in one or more of these domains.

Preceptors in this qualitative study described various strategies for balancing the needs of the student with the needs of the patient and of the practice. These physicians recognize the importance of presenting students with clinical encounters that vary in many dimensions, including the demographics of the patient, and the acuity and complexity of the presenting clinical problem. The preceptors also appreciate the significance of maintaining the flow of patients through the busy pace of the outpatient practice environment, often capitalizing on students'

presence to occupy patients who would otherwise be waiting in the reception area to see the physician.

Paramount to these considerations is the preceptor's concern about the sanctity and fragility of the doctor-patient relationship. Preceptors are sensitive to the fact that their relationship with the patient may need to continue far beyond the duration of the student's clerkship. As such, preceptors generally will not select a patient if they believe the patient may have a negative reaction to the medical student or the teaching experience. This study suggests that physicians often, but not always, steer students clear of what preceptors describe as "difficult patients," those who would be less likely to be satisfied with their visit, regardless of its content.

Several limitations of this study should be recognized. First, we interviewed preceptors participating in a longitudinal primary care clerkship at a single medical school. Although we sampled both internists and pediatricians who practice in a variety of settings, the experiences of these physicians may not be generalizable to other physicians precepting elsewhere. Because internists and pediatricians represent the large majority of preceptors in this clerkship, we did not sample family physicians in this study. Second, although our interviews uncovered no new information after several iterations, we cannot be certain that additional factors in selection would not have been identified in subsequent interviews. Finally, it is possible that preceptors' responses to the interview may not reflect their actual beliefs or practices.

This study has important implications for clinicians who engage in clinical precepting and for educators administering such courses and the faculty development efforts associated with them. For preceptors, these findings may help validate the frustration they may feel in their efforts to teach in the outpatient setting. Becoming more cognizant of the competing interests—the needs of the patient, the student, and the practice—may help physicians to select patients to optimize the educational experience without compromising efficiency or the doctor-patient relationship.

For educators, this study suggests an opportunity for faculty development programs designed to assist the clinical preceptor both in selecting patients for medical student teaching and in finding ways to maximize both the efficiency and educational quality of the outpatient teaching environment. These programs may incorporate modules that help preceptors to identify patients whose participation in medical student teaching will fulfill the learning objectives of the course or clerkship while preserving the effectiveness of the physician and the sanctity of the doctor-patient relationship.

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