ESSAY

The Longitudinal Primary Care Clerkship at Harvard Medical School

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ABSTRACT

The primary care clerkship (PCC) at Harvard Medical School was established in 1997. The goals are to provide students with longitudinal experiences with patients and to include modern themes in the curriculum: managing illness and clinical relationships over time; finding the best available answers to clinical questions; preventing illness and promoting health; dealing with clinical uncertainty; getting the best outcomes with available resources; working in a health care team; and sharing decision making with patients. The PCC, a required course in the clinical years, meets one afternoon a week for nine months. Students spend three afternoons per month in primary care practices, where they see three to five patients per session and follow at least one patient ("longitudinal patient") over time. Classroom sessions, in both large- and small-group formats, promote a common educational philosophy and experience, and reinforce habits of problem-based learning established in the preclinical years. The students rated 74% of their preceptors excellent, especially praising their ability to facilitate and support good interpersonal relationships with patients, their ability to encourage students' independent evaluation of patients (as opposed to shadowing), and their enthusiasm for teaching. Students saw their longitudinal patients a mean of 4.8 times; 83% saw their patients at least three times. The PCC complements the curriculum of block clerkships in hospitals, and because the two are offered concurrently, students are required to come to terms with two substantially different cultures within medicine. Other medical schools are beginning to develop longitudinal clerkships to ensure that students have essential educational experiences that are difficult to achieve in block, hospital-based clerkships.
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Clinical curricula in North American medical schools have undergone two major changes in recent years. Beginning with family medicine clerkships in the 1970s, required clerkships in primary care have been introduced in nearly all medical schools. More recently, clinical teaching has been moving from hospital wards to ambulatory settings, prompted by a declining ward census and an increasingly restricted spectrum of patients in hospitals.

Additional changes are necessary if clinical curricula are to keep pace with the rapidly changing environment of medicine. Most diseases in modern society are chronic, and some of the most meaningful relationships between patients and physicians develop over time, and therefore students need longer experiences with individual patients. To address this need, some schools have developed longitudinal clerkships.[1–4] Also, new disciplines and perspectives integral to modern health care, such as evidence-based medicine and cost–effectiveness, need to become themes in medical school curricula.

Recognizing these needs, Harvard Medical School revised its clinical curriculum in 1997. Among the changes was the creation of a required longitudinal primary care clerkship (PCC). The PCC has two goals. One is to give students an opportunity to care for patients over time; the second to teach seven themes of modern primary care: (1) managing illness and clinical relationships over time; (2) finding the best available answers to clinical questions[5];

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(3) preventing illness and promoting health[6]; (4) dealing with clinical uncertainty; (5) getting the best outcomes within available resources[7]; (6) working in a health care team; and (7) sharing decision making with patients.[8]

This article describes how we designed the PCC to meet contemporary needs in clinical education.

Structure of the Primary Care Clerkship

The PCC runs for nine months, from January of the third year through September of the fourth. Time is divided between office practice and central classroom sessions.

Office Practice

Three afternoons each month, the student sees patients in the office of a primary care physician. We match each student with a preceptor for the duration of the clerkship, based on the preceptors' characteristics and students' preferences for specialty, location, ethnic and language characteristics (about 30% of our preceptors request facility with a foreign language), and special populations.

Most students see between three and seven patients in an afternoon. They evaluate patients with acute problems, follow up patients with chronic diseases, and perform preventive care visits. Students use a separate room to interview and examine patients before making presentations to the preceptor.

Each student is expected to follow at least one patient (a "longitudinal patient") over the course of the clerkship. As a final exercise, they write up and present these patients to their peers in their tutorials. Each presentation must include an initial evaluation of the patient, the clinical goals and rationale for the care given, a log outlining how the patient was followed over time, a discussion of how the clinical goals were met, demonstration of how the patient's care illustrates the themes of the course, and references supporting the student's clinical decisions.

Central Classroom Sessions

To promote a common curriculum, we offer monthly lectures and tutorials at the medical school. These half-day sessions begin with a clinically based, interactive lecture dealing with common patient complaints or the care of patients in certain age groups, such as adolescents and the elderly. Presenters also address one or two of the course themes.

The second half of the afternoon is spent in tutorial groups of 8–12 students and two primary care tutors. These tutorials emphasize clinical decision making, and provide an opportunity to reinforce the self-directed learning styles developed through the preclinical, problem-based learning curriculum.[9] Students describe deficits in their own knowledge or skills that they have identified through caring for patients in the primary care offices. Using the tutorial as a consult group, students present patients, share useful sources of information, identifying the themes that are relevant to patient care, and lead focused discussions of their patients' management. In September, students present oral reports on their longitudinal patients.

Meeting Goals and Addressing Problems

We realized that the teaching experiences of more than 220 tutors and preceptors would vary widely. Therefore, we sought to promote a coherent educational philosophy and experience by attending to three areas: the administration of the course, faculty development, and evaluation.

Administration of the Course

The PCC is led by a planning team of clinicians, an educator, and an administrator, who meet weekly. Site directors at the major teaching institutions help recruit and monitor the performances of faculty. Frequent communication between course leaders and faculty, as well as between pairs of tutors and preceptors, promotes quality control of teaching across venues and dispersed sites.

Each of the planning team members oversees the grading of 24–36 students belonging to a group of tutor–preceptor pairs. These groups are retained from year to year to enhance communication, support the growing relationship between tutors, preceptors, and planning group members, and develop a shared understanding of evaluation standards. Group members meet twice a year to evaluate students' performances.

Faculty Development

We designed faculty development programs to bring faculty up to date in new content areas, to create common standards for teaching and evaluation in the clerkship, and to promote integration of the themes into all aspects of teaching. These programs include an annual retreat that offers a selection of eight workshops for beginning and advanced teachers, workshops at teaching sites and at the medical school, site visits with one-on-one mentoring, newsletters and a course syllabus, and peer consultation among tutors and preceptors (e.g., at grading meetings and by telephone).

Evaluation Methods

We evaluate all aspects of instruction and student learning using paper surveys, small-group feedback, observations, and interviews (Figure 1). (The form used to evaluate students is available from the authors.) To maximize response rates during ongoing monitoring of the clerkship, we gather data from subsamples of different students and faculty members (e.g., in informal feedback sessions at the end of the monthly tu-

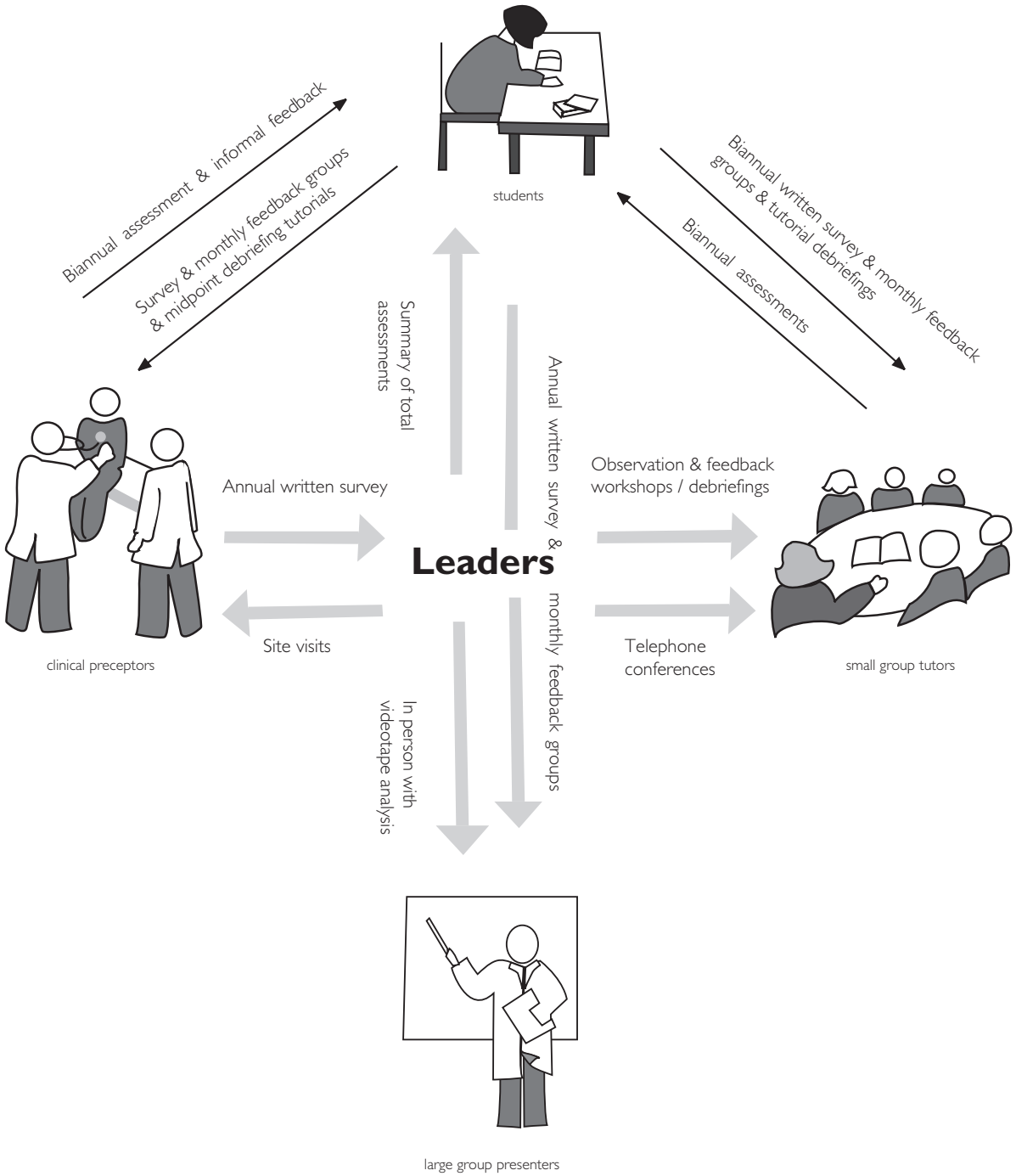

Figure 1. Formative and summative evaluation methods used in the primary care clerkship.

torials). We gather data from all participants at the end of the clerkship.

Evaluation Results

Our evaluation suggests that the clerkship is meeting some but not all of its goals very well. The students have given the preceptors high ratings. Three fourths (74%) of the student respondents rated their preceptors excellent in overall performance and 89% rated them in one of the top two categories on a five-point scale. Preceptors were rated highest for "facilitates and supports good interpersonal relationships with patients," "encourages independent evaluation of patients (as opposed to shadowing)" and "interest and enthusiasm for teaching." They were rated lowest in "encourages critical appraisal

of information from the medical literature."

The students' ratings of the function and utility of the tutorials varied between moderate and good. Only about half (55%) of the students rated the tutorials "good" or "excellent" in terms of helping them develop new skills relevant to clinical practice. On the other hand, the students gave the tutorials high marks for promoting the integration of the themes into clinical problem solving (68% rated them good or excellent).

The students were least positive about the large-group sessions. While the mean rating for 12 lectures was 2.31 (on a five-point scale with 1 = excellent), the ratings ranged from 1.55 to 2.85 for individual lectures. We have learned that students want to learn facts, especially about new diagnostic tests and treatments, that they can apply to their clinical practice.

Using available data* from 103 of the 132 reports (78%), the modal number of times students saw their longitudinal patients was 5 and the mean was 4.82; 83% of the students saw a patient at least three times. Only two students failed to see their patients more than once; at the other extreme, one student saw his patient 20 times. Many students also called their patients and reviewed their charts between visits. Some saw them during hospitalizations and in their homes.

The degrees to which the PCC themes were integrated into the longitudinal patient write-ups varied. Following patients over time was most often mentioned (58% of respondents), followed by prevention (42%), and evidence-based medicine (42%). Teamwork and dealing with uncertainty were rarely mentioned (10% and 11% respectively).

Independent evaluations from preceptors confirmed the students' impressions of the clerkship. Almost all preceptors reported that their students had seen patients independently (98%) and had been able to see patients more than once (98%). Ninety-one percent reported that they had been able to schedule appropriate amounts of time for teaching, and 72% thought they could integrate the clerkship themes into clinical teaching (meaning that one fourth found this difficult).

*Initially, we did not require students to include a log of visits, so some records were vague.

Discussion

The PCC is an opportunity for students to learn aspects of medicine that are difficult to address in hospital-based block rotations. They can see patients with new and undifferentiated complaints; deal with clinical uncertainty in a setting where it is unreasonable to employ aggressive diagnostic testing, intensive treatment, or consultation; practice preventive health care, which has only a small place on the wards; and see for themselves how disease arises, evolves, and affects patients and their relationships over time. The PCC is also an opportunity for medical students to work directly with faculty, rather than through housestaff and fellows, and to get to know them in their usual places of work.

Although the primary goal of this clerkship is to provide students with opportunities for longitudinal relationships with patients, students also develop longitudinal relationships with preceptors and sites. Many students said that their relationships with faculty alone would have made the clerkship unique and worthwhile. Moreover, because of their long-term working relationships with students, PCC faculty are in a position to detect difficulties in clinical development and professional behavior and to work with those who have problems.

Our efforts to promote longitudinal experiences with patients have for the most part been successful. However, in some sites, such as those where well children and adolescents receive care, most patients either do not need regular care or return at unpredictable times when the students are not present. Moreover, long-term relationships do not seem to fit comfortably into the worklives of many students. Ward rotations are a powerful socializing influence at this time in their lives and, on the wards, contacts with patients are brief and follow up with patients after hospitalization is neither usual nor expected. To promote longitudinal experiences with patients, we developed with the class a set of options for maintaining contact with patients over time. These include, among others, keeping a log of patients, following up visits by telephone, reviewing the preceding week's patients each week, and visiting patients at home or when they are hospitalized.

Although longitudinal programs are warmly received in the preclinical years, in the clinical years longitudinal contacts with patients have to compete with concurrent, block clerkships for students' attention and allegiance. Indeed, the students experienced conflicts in their responsibilities for the PCC and concurrent clerkships but learned to manage them effectively. Additionally, students must come to terms with two cultures, ward medicine and office practice, a challenge that is intensified when they are exposed to the two concurrently. Medical care in teaching hospitals tends to encourage high-technology biomedicine, whereas office practice calls for long-term, personal relationships, dealing with uncertainty, and efficiency. The hospital experience tends to be more compelling: students spend most of their time there and they see themselves as learning to be residents, who are mainly hospital-based. On the other hand, many students find the PCC a welcome counterpoint to the constraints of ward medicine, closer to what they thought the care of patients would be like.

Recently, clinical education has shifted to ambulatory settings. Will longitudinal clerkships be the next trend? An increasing number of schools are developing longitudinal experiences for their students, believing that a curriculum based only on brief encounters with patients is not sufficient.[1–4,10] The PCC is one model for dealing with this problem. It is adapted to the special circumstances of Harvard Medical School and the Boston area, and other medical schools are likely to develop somewhat different approaches. Nevertheless, we believe that many elements of the PCC are so central to modern health care that there will be more similarities than differences in these new clerkships.

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