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Preface

The second edition of *Teaching in Your Office* continues our mission of providing needed resources for physicians interested in improving their skills in office-based teaching. Teaching, particularly in the ambulatory setting, takes place in a fast-paced, chaotic environment where few of us were actually trained and fewer still are prepared to take on a teaching role. Office-based physicians often believe that they do not have the time to teach or the teaching skills to do so. Many physicians who teach have never observed others teach or received feedback on their own teaching skills. Consequently, preceptors consider the opportunity for self-improvement to be limited.

This book intends to help office-based physicians improve their own teaching while maintaining the efficiency of their practice. It is designed to allow busy clinicians to identify and read only those chapters that address their specific needs. In other words, *Teaching in Your Office* does

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not need to be read cover to cover; rather, it can be read selectively. The second edition is enriched with additional references, inclusion of information on the "new competencies," more innovative teaching tips, a new chapter on teaching procedural skills, and a greatly expanded chapter on learner feedback and evaluation. Additionally, the appendices have been reorganized to be more accessible and intuitive. Finally, the second edition has been enhanced with an online collection (www.acponline.org/acp_press/teaching_in_your_office) of additional educational tools, faculty development resources, and an electronic teaching encounter form for mobile devices (smart phones, PDAs) or your personal computer to help you record and remember interactions with your learners. This information may be helpful when completing the learner's final evaluation. The following paragraphs describe each of the major sections and who would benefit from reading them.

Making an Informed Decision About Precepting (Chapter 1)

This chapter is for physicians who have never taught in their offices and want to know why they should teach, what teaching entails, and its potential costs and benefits. This section also describes the "pre-requisites" for office-based teaching and where to turn for help in improving teaching skills.

The Curriculum (Chapter 2)

This chapter describes what the student or resident is expected to accomplish when participating in an office-based teaching experience. It is useful for physicians who teach, but who have not been told what to teach, clinicians who have been asked to help plan an office-based curriculum, and to learn about the ACGME six core competency areas including how they can be taught and evaluated in the office setting.

Getting Ready to Teach (Chapter 3)

This chapter describes how to prepare the office and staff for teaching, conduct a learner orientation, schedule patients when a learner is present, and prepare learning activities for the novice learner. It also addresses how

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to document a patient visit for billing purposes when a learner has participated in patient care. This section will be particularly helpful for new teachers or teachers trying to improve their efficiency.

Teaching Skills and Organizational Techniques for Office-Based Teaching (Chapter 4)

This chapter provides a definition of meaningful patient responsibility, describes the characteristics of effective teachers, provides tips on how to help learners organize their visit with the patient, and advice on how to select appropriate patients for learners. Novices and experienced teachers will benefit from this chapter.

Case-Based Learning (Chapter 5)

This chapter defines case-based learning and provides descriptions of seven different case-based learning models for office-based teaching, the pitfalls of case-based learning, and how to conclude the day. All preceptors will benefit from reading this section.

Ways to Be More Efficient When Teaching (Chapter 6)

This chapter presents tips on how to teach efficiently (getting more done in less time) yet effectively. The contents of this section were set aside specifically for preceptors wishing to minimize the effect of office-based teaching on productivity or the length of their day; however, it contains useful teaching suggestions for all preceptors, regardless of concerns about efficiency.

Teaching Procedures in the Office (Chapter 7)

This new chapter describes a method of teaching procedures to learners including the creation of learning objectives, how to break a skill down into its component parts and create a skill checklist, introducing a skill, and a description and pointers on the various phases of practice. An example of teaching a common office procedure is provided to illustrate the teaching points.

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Learner Feedback and Evaluation (Chapter 8)

This greatly expanded section describes how to give effective feedback to learners, evaluate a learner, give feedback efficiently, and how to use simple yet valid evaluation strategies. Additionally, new information on how to evaluate case presentations is included. This section concludes with advice on how to avoid common evaluation errors and how to conduct the final evaluation session. All preceptors should read the sections on feedback, whereas preceptors who must provide a formal evaluation of the learner to the sponsoring institution should review the section on evaluation.

Preceptor Evaluation and Teaching Improvement (Chapter 9)

This chapter provides information on how preceptors are evaluated by their learners, examples of how this information is used by the sponsoring institution, tips on how to continue the process of improving teaching skills, and new information on reflection as it pertains to improving teaching skills.

Tools, Summaries and Checklists, Resources (Appendices A, B, and C)

Collected in the back of the book are summaries of the major points described in the text, useful data collection and organizational tools, and resources intended to make the job of teaching easier and more efficient. Some experienced teachers may prefer to read only this section as a "refresher," but most preceptors will find the material in this section helpful both as a summary and as a source of practical teaching aids.

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1

Making an Informed Decision About Precepting

❖ What Is Community-Based Teaching?

Community-based teaching is a return to the historical roots of medical education: the one-on-one teaching of students and residents by practitioners in an office setting. While community-based teachers usually do not have full-time academic appointments, exceptions to this rule are common; many full-time academic physicians who deliver care in (nonhospital) office settings are considered community-based teachers. Some community-based teachers receive a financial stipend for their participation, but many do not. What all these groups do have in common is the delivery of comprehensive, primary, or subspecialty care in an ambulatory setting to patients who recognize the teacher as their personal physician. Community-based teaching establishes an environment of "educational intimacy," consisting of one teacher, one learner, and one patient: a place where role modeling, assessment, feedback, and evaluation are maximized for the benefit of the learner (1).

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❖ Why Is Community-Based Teaching Needed?

Teaching institutions need community-based practitioners who are willing to teach in their offices. Decreasing numbers of inpatients with shorter lengths of stay and higher illness intensity and the growing mismatch between the educational content and clinical practice of medicine have resulted in a greater emphasis on ambulatory training. One study showed that only 30% of patients in teaching hospitals were appropriate, available in their rooms, and willing to see medical students (2). Ambulatory settings provide the best opportunity to learn about common outpatient problems, chronic disease management, screening, health maintenance, doctor-patient relationships, and some psychosocial aspects of care (3,4).

However, not all ambulatory settings are equal. The traditional ambulatory environment is the academic medical center or the hospital-based clinic. In this setting, a single faculty member may supervise three to five learners caring for patients who may not recognize the supervising faculty as their "personal physician." In contrast, the community-based office can provide an outstanding educational environment with one-to-one mentoring. Also, the close relationships that develop between physicians and learners provide an opportunity for role modeling that cannot be reproduced in other settings.

Community-based teaching is rapidly becoming the standard for medical student and resident education. In 1984, only 7% of residency programs offered office assignments for internal medicine residents (5); by 2001, 94% of medical schools used community preceptors as clinical teachers, especially in ambulatory settings (6). Additionally, 84% of internal medicine clerkships nationwide require an ambulatory experience as part of their basic educational experience (2002 CDIM Survey Results [on-line] access at www.im.org/AAIM/Data/Docs/ 2002CDIMSurvey. ppt on 18 July 2007).

Among programs offering community-based training, ambulatory education accounts for more than 10% of training time for upper-level residents (Unpublished data, American College of Physicians).

However, this success has created problems. Office-based preceptors are a scarce commodity (7). Recruiting qualified preceptors is difficult, and

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it may be getting harder (8). A preponderance of schools report that preceptors are less likely to volunteer because of economic pressures in their offices that force them to become more efficient. There is increasing competition between medical schools, residency programs, and training programs for physician assistants and nurse practitioners for access to preceptors (8).

Finally, as the U.S. and other countries increase medical student numbers to address doctor shortages, ambulatory community-based settings are viewed as an ideal venue for education. Thus, there is an urgent need to attract more physicians to community-based teaching programs to provide excellent training opportunities for future doctors (9).

❖ How Good Is the Training in Community Offices?

Office-based teaching offers certain educational experiences that are more representative of "real world" medicine compared with the traditional hospital-based clinic. Students in community-based settings see more patients, are exposed to a wider variety of patient problems, provide more acute care, evaluate more patients in the emergency department, and perform more procedures than students assigned to traditional hospital-based clinics. Furthermore, compared with students in traditional clinic settings, students in community settings are more likely to be supervised closely, to see patients in follow-up, to discuss the patient's case with a preceptor, to witness the preceptor delivering care, and to rate their experiences highly (4,10-14).

Training in ambulatory settings away from the academic medical center must facilitate mastery of the required medical content to a level equal to that which is achieved in the academic medical center. Data to support or refute equivalence of the training at these sites are difficult to collect. The published studies to date show no evidence of decreased mastery of core content when students are assigned on a part-time basis to community offices compared with students who receive all of their training at academic medical centers. Although most of these studies were not randomized —which decreases their validity—the results of these nonrandomized

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studies are encouraging. Compared with students at academic medical centers (including hospital-based ambulatory clinics), students assigned on a part-time basis to community offices have similar scores on end-of-rotation evaluation exercises, including oral examinations, practical clinical examinations, and the National Board of Medical Examiners subject examination.

Furthermore, students spending part of their training time in a practitioner's office have similar clerkship grades and number of honors grades compared with students who receive all of their training at the academic medical center (10,15,16). On the other hand, students trained part-time in office settings may have more opportunity for continuity of care and have improved skills in clinical diagnosis, laboratory interpretation, doctor-patient relationships, and communication skills compared with their peers trained entirely in the academic medical center (4,15-20). Learners are more likely to care for patients with chronic conditions in community-based practices and observe their preceptor conduct histories and physical examinations (20). Student satisfaction concerning the overall educational value, patient mix, workload, faculty interest, and involvement in patient care has been noted to be higher as a result of training in a community site. The bottom line is that existing studies find no meaningful educational difference in student competencies as a result of part-time community training (21).

Initial fears that the office-based experience does not sufficiently involve students in patient care also seem to be unfounded. Students report that they are just as involved in patient care as when they were in the hospital, i.e., they have adequate supervision, have sufficient learning time, see a wider variety of patients and problems, and perform minimal "scut" work (17). Finally, residents rate their quality of supervision in private offices as being better than what they experienced in institutional clinics or health-maintenance organizations (HMOs) (22). Existing data suggests that preceptors rather than sites make the greatest difference in successful ambulatory care experiences for learners (23). Confidence in community-based teaching may be best exemplified by the Australian "Rural Clinical School" program, which now provides community-based training for at least one

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clinical year for 25% of all "metropolitan teaching hospital"–based students (24). In summary, the available data suggest that office-based training seems more enjoyable, varied, active, and supervised than traditional training.

❖ What Do Community-Based Practitioners Have to Offer Learners and Why Is It So Valuable?

Many physicians are reluctant to participate in community-based teaching because they believe they lack the time and talent to "teach." Many community physicians equate teaching with giving "lectures." In fact, this is not what learners, medical schools, and residency programs want from preceptors; they want exposure to practical skills. In this light, most community-based physicians *can* teach efficiently and effectively. In one study, students identified critical learning events in office-based settings. Typically, important teaching moments lasted less than five minutes, focused on problems (rather than on an abstract review of a topic), and had a practical outcome. The single most important learning event identified by students was observing an experienced physician interacting with a patient. This is not to suggest that the entire experience should be observational. On the contrary, students and residents crave the opportunity to actively deliver care (i.e., first seeing the patient alone, then with the preceptor), but the opportunity to watch an expert deal with a difficult problem is highly valued. Other highly rated learning events include improving communication and clinical skills (17,25), validating the learners' impression or plan, and verifying a physical finding (26). These are important abilities that preceptors have in abundance, and they require little in the way of preparation to be presented effectively to the learner.

The take-home message to office-based preceptors is that students who participate in office-based experiences value learning the process of care as much as, or possibly more than, mastering core content. Students and residents crave the real-world experience of caring for patients, which office-based practitioners can provide.

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❖ What Is the Preceptor's Role?

Preceptors are responsible for learner orientation, including setting and clarifying expectations; providing learning opportunities and demonstrating basic ambulatory medicine knowledge and skills; assessing learner performance and providing corrective feedback; and demonstrating professionalism and enthusiasm for medicine. Trainees consider preceptors excellent teachers if they love what they do, are enthusiastic about their career and convey that excitement to their learners. The most powerful influence on a novice learner is a preceptor who provides a positive role model of the doctor-patient relationship (23). Just as importantly, preceptors should engage the office staff to develop an excellent learning environment. Explaining to staff and colleagues what you want the learner to do and see may include everything from recruiting patients to how the learner spends time with other staff in the office.

❖ What Do Learners Want from a Community-Based Teaching Experience?

The message from the learners is consistent and clear: they want the opportunity to practice patient management, basic data collection, and interpretation skills on the wide variety of patients typically seen in the office setting. They desire feedback on their performance and a role model to emulate. To students, the preceptor's characteristics are the most important factor defining a successful office-based experience; of these, the most highly rated is the preceptor's ability to promote student independence (27). Most often this is accomplished by giving the student increasing patient care responsibility. Other highly favored characteristics include the preceptor's willingness to allow the student 1) to practice technical and problem-solving skills, 2) to show enthusiasm and interest in patients, and 3) to be actively involved in the learning process. The willingness of a preceptor to act as a mentor and to advise the student is also highly valued (17,25,27). While there is a striking degree of similarity in what is valued by learners, differences do exist, particularly among learners at different levels. Preceptor interaction is most valued by medical students in contrast

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to residents who value issues pertaining to patient logistics and office flow and practice management (28).

Although the characteristics of the office itself are important to learners, they are secondary to preceptor characteristics. Valued office characteristics include having many different preceptors available, a variety of patient problems, and a range of patient ages (27).

The areas that provide the most difficulty for students are learning to work within the time constraints of the office setting, performing a focused examination, and learning to rely on data-gathering skills and problem-solving abilities rather than on imaging and laboratory tests (29). Preceptors, by virtue of their everyday experience, can provide valuable tips and direction to help learners develop these skill sets. Residents value the opportunity to discuss differential diagnosis and management issues, and they appreciate close supervision, feedback, and the opportunity to practice and improve clinical and procedural skills (30).

❖ How Do Learners Rate the Community Experience and Preceptors?

Students and residents value their time with community preceptors and recognize the unique contributions the office-based experience brings to their training. Student evaluations rate volunteer preceptors as highly as they do full-time faculty (31), and even higher in their showing interest (13). When students were asked to compare their community-based experience with other clerkships, the office experience was seen as contributing most to their acquisition of improved clinical and communication skills and improved awareness of issues relating to cost-effectiveness. Comparing their community-based experiences with traditional clerkship rotations, students reported learning as much about disease pattern recognition and the ability to generate a differential diagnosis and actually learned *more* about managing chronic medical and psychosocial problems and evaluating patients' "hidden agenda" items (17,25,32).

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❖ What Are the Concerns of Practitioners Involved in Community-Based Teaching?

Practitioners involved in office-based teaching frequently voice concerns over potential costs and time required for teaching (3,33). Other concerns include 1) poor matching of student with preceptor; 2) dealing with potential teacher-learner conflicts, poorly motivated learners, and inappropriate learner behavior; and 3) the effect of office teaching on patient satisfaction (34). Preceptors are concerned about their ability to provide a good educational experience for the learner and their lack of resources (e.g., textbooks, computers) to support teaching (34). Additionally preceptors are more comfortable in their abilities as clinicians than as teachers. For example, behaviors associated with clinical practice (e.g., confirming clinical findings) occur more confidently than teaching behaviors that enhance learning such as giving feedback to students, particularly if it is negative (23). Preceptors also want to be assured that the institution will cover the learner's malpractice insurance, which it will. The following paragraphs address these important concerns and provide physicians with the necessary information to help them decide whether or not to be an office-based preceptor.

❖ What Are Some of the Costs Associated with Community-Based Teaching?

The two most commonly cited costs of office-based teaching are preceptor time and lost billings. Most studies involving students show an increase in the workday of 45 minutes to an hour for each half-day teaching session (33,35). Results of studies assessing productivity vary from showing no loss of productivity or revenue (but a longer workday) to seeing one less patient each half-day session, corresponding to reduced charges of $55 to $60 (35-40). A financial model based on prospective log data from both students and preceptors in rural "general"(family) practice showed that students contributed to productivity without any impact on patient satisfaction if they were based in a practice for more than 5 months (41). In another study, two thirds of physicians reported no loss of income (33). The presence of a student does not seem to be associated with increased "hidden

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costs" (e.g., more laboratory tests, prescriptions, or referrals to other physicians), an important consideration in a "managed" health care system (42).

Other studies have documented that the time actually spent in direct contact with a student is just over three hours for each half-day session, considerably more than the time documented for inpatient teaching (43). Approximately 30 minutes to an hour of the contact time is spent alone with the student; the balance is with the student and patient (23,39,43,44). Studies have not been reported for residents participating in office-based teaching; however, it is likely that the results would be similar. Although residents are more clinically capable, most practitioners see residents' patients (briefly) to maintain the doctor-patient relationship and to justify billing.

❖ What Are the Practitioner Benefits of Community-Based Teaching?

Community preceptors repeatedly report that precepting makes them enjoy clinical practice more (33,39,45,46). Most preceptors report a fulfilling sense of "giving something back" to medicine (47). For example, demonstration projects have identified that satisfaction in being involved in training of the next generation of physicians, pride in contributing to the growth of students' knowledge and skills, and being seen by students as a role model were important "affective benefits" experienced by community-based teachers (48). Others have commented on a decreased sense of professional isolation and the rewards of sharing knowledge and a vision of the specialty with the learner (46). Enhanced respect from patients and colleagues, along with increased staff satisfaction has been identified as other "affective benefits" by community-based teachers (45). Keeping up with the medical literature and reviewing basic sciences and clinical skills also are frequently reported as benefits of community-based teaching (39,46,47,49). Some physicians and institutions use precepting as a method to recruit newly graduated residents as employees or partners (33,50). There is even a suggestion that office-based education results in increased time spent in patient education, a value-added benefit of teaching that is reaped by

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patients (45). One potential economic windfall is a higher capitation rate for participating physicians negotiated in their behalf by the training institution. A 1% increase in the capitation rate has been negotiated by medical schools, which is a tangible reward despite its tendency to be a rather small sum of money (50). This strategy can be employed by most teaching institutions for their office preceptors.

❖ What Are the Most Commonly Offered Rewards for Community-Based Teaching?

Most preceptors are rewarded for their participation in office-based teaching programs, but typically the reward is not financial. Just over half of medical schools provide clinical appointments to volunteer faculty, but only 15% provide a financial stipend (11,36).

Although it is likely that practitioners would appreciate financial reimbursement for their efforts, most acknowledge that institutions cannot begin to pay what their teaching is worth. Nevertheless, practitioners are consistent in their desire to have their contribution recognized in some meaningful way (11,35,36,46,49,51). The value of the reward to the practitioner differs according to the practice type and location (51). (For a more detailed description, see Commonly Offered Rewards for Precepting in Appendix C on page 172).

❖ How Do Patients React to Office-Based Teaching?

One reason physicians may not participate in office-based teaching is their concerns about quality of care and patient satisfaction when a learner is in the office (7). To address these concerns, studies have been performed in both staff-model HMOs and traditional office practices. In the HMO setting, over 90% of the participating physicians and their patients indicated that quality of care and patient satisfaction were unaffected by the presence of students (39). Another survey found that 83% of patients interacting with first year medical students "enjoyed" their interaction (52). Similar results can be found in surveys of physicians in private practice and by question-

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ing their patients directly (42,53). Many patients report enjoying the extra attention they receive from the learner and are impressed that their personal physician is involved in training students and residents (54). Negative reactions to students are uncommon even around issues of repeating parts of the examination performed by the student, discussing personal issues in front of a student, or extending the length of the visit (54,55). Despite the rarity of negative experiences, it remains the prerogative of the patient to decline participation in office-based teaching, and consent always should be obtained before involving a student or resident in their care. When known well in advance, many preceptors rely on their front office staff to alert patients that a student will be in the office and to obtain their consent when scheduling the appointment.

❖ What Are the Prerequisites for Precepting?

Most institutions that need community-based preceptors do not require previous teaching experience as a pre-requisite. In fact, few full-time academic faculty have ever been taught how to teach. Nevertheless, faculty-development programs can be a helpful resource to improve teaching effectiveness and are recommended. In the interim, most community physicians can provide useful educational experiences to learners without formal training in teaching. Community preceptors have daily experience in teaching with their patients and the skills they have developed are valuable for teaching learners. As Charles Griffith has written about teaching effectiveness, "… the best teachers do not necessarily impart more factual knowledge (facts which may be obsolete in a few years), but rather they engender a learning climate that makes learning fun, enjoyable and exciting" (56). Keep in mind that what most learners want out of the experience is the opportunity to observe problems common to the ambulatory setting and then to practice treating them. They also desire feedback on their performance. Learners in the ambulatory setting are less interested in lectures and more interested in the "how to" process. Learners crave "real world" experiences with role models that care for patients. It is also important to understand that learners don't want a "shadowing" experience, i.e., follow-

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ing a preceptor from patient to patient simply observing the care that is given. Essentially, learners want meaningful and independent responsibility. Initially, this means having opportunities to see the patient alone. After this step, there are many teaching strategies that detail how to teach and provide care in ways that are efficient and satisfying to both the learner and the patient (see Chapter 5).

❖ Are There Courses to Improve Your Teaching?

For those interested in improving their teaching skills, this book helps lay a foundation; however, as with any learning situation, being observed and receiving feedback is probably the most effective method to improve your teaching. Many medical schools and residency programs provide workshops designed to improve teaching, and they will be happy to involve you. Some teaching workshops are offered at national meetings.

Due to their timing, duration, or location, faculty-development workshops may not be a feasible option for all physicians. To meet the needs of these preceptors, some teaching programs have put their faculty-development programs on the Internet or on CD-ROM, or they have created instructional videotapes and companion texts. Most of these programs are free or available for a modest price. For a listing of available faculty-development workshops or resources near you, call the Department of Continuing Medical Education at your local hospital, medical school, or professional society. Faculty development resources can also be identified by searching the Internet. On your web browser enter the search terms “Faculty Development” AND >your specialty<. For example, to search for faculty development resources in internal medicine enter “faculty development” AND “internal medicine.” (For more information, see Faculty Development Resources for Preceptors in Appendix C on page 173, and visit the electronic enhancements of this book at www.acponline.org/acp_press/teaching_in_your_office.)

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REFERENCES

1. **Irby DM.** Teaching and learning in ambulatory care settings: a thematic review of the literature. Acad Med. 1995;70:898-931.
2. **Olson LG, Hill SR, Newby DA.** Barriers to student access to patients in a group of teaching hospitals. Med J Aust. 2005;183:461-3.
3. **Woolliscroft JO, Schwenk TL.** Teaching and learning in the ambulatory setting. Acad Med. 1989;64:644-8.
4. **Butterfield PS, Libertin AG.** Learning outcomes of an ambulatory care rotation in internal medicine for junior medical students. J Gen Intern Med. 1993;8:189-92.
5. **Napodano RJ, Schuster BL, Krackov SK, et al.** Use of private offices in education of residents in internal medicine. Arch Intern Med. 1984;144:303-5.
6. **Walling AD, Sutton LD, Gold J.** Administrative relationships between medical schools and community preceptors. Acad Med. 2001;76:184-7.
7. **Levinsky NG.** A survey of changes in the proportions of ambulatory training in internal medicine and residencies from 1986-1987 and from 1996-1997. Acad Med. 1998;73:1114-5.
8. **Barzansky B, Jonas HS, Etzel SI.** Educational programs in U.S. medical schools, 1998-1999. JAMA. 1999;282:840-6.
9. **DeWitt DE, Robins LS, Curtis JR, Burke W.** Primary care residency graduates' reported training needs. Acad Med. 2001;76:285.
10. **Osborn LM, Sargent JR, Williams SD.** Effects of time-in-clinic setting, and faculty supervision on the continuity clinic experience. Pediatrics. 1993;91:1089-93.
11. **Usatine RP, Lin K.** Free Internet access for community physicians. Acad Med. 1999;74:204-5.
12. **Greer T, Schneeweiss R, Baldwin LM.** A comparison of student clerkship experiences in community practices and residency-based clinics. Fam Med. 1993;25:322-6.
13. **Schwiebert LP, Ramsey CNJ, Davis A.** Comparison of volunteer and full-time faculty performance in a required third-year medicine clerkship. Teach Learn Med. 1992;4:225-32.
14. **DeWitt DE, Migeon M, LeBlond R, Carline JD, Francis L, Irby DM.** Insights from outstanding rural internal medicine residency rotations at the University of Washington. Acad Med. 2001;76:273-81.
15. **Pangaro L, Gibson K, Russell W, et al.** A prospective randomized trial of a six-week ambulatory medicine rotation. Acad Med. 1995;70:537-41.
16. **Carney PA, Ogrinc G, Harwood BG, Schiffman JS, Cochran N.** The influence of teaching setting on medical students' clinical skills development: is the academic medical center the "gold standard"? Acad Med. 2005;80:1153-8.
17. **Prislin MD, Feighny KM, Stearns JA, et al.** What students say about learning and teaching in longitudinal ambulatory primary care clerkships: a multi-institutional study. Acad Med. 1998;73:680-7.
18. **Grum CM, Case SM, Swanson DB, Woolliscroft JO.** Identifying the trees in the forest: characteristics of students who demonstrate disparity between knowledge and diagnostic pattern recognition skills. Acad Med. 1994;10(Suppl):S66-8.
19. **Papadakis M, Kagawa MK.** A randomized controlled pilot study of placing third-year medical clerks in a continuity clinic. Acad Med. 1993;68:845-7.

SAMPLE ONLY. NOT FOR DISTRIBUTION.

20. **Carney PA, Eliassen MS, Pipas CF, Genereaux SH, Nierenberg DW.** Ambulatory care education: how do academic medical centers, affiliated residency teaching sites, and community-based practices compare? Acad Med. 2004;79:69-77.
21. **Ferenchick GS, Chamberlain J, Alguire P.** Community-based teaching: defining the added value for students and preceptors. Am J Med. 2002;112:512-7.
22. **Swing SR, Vasilias J.** Internal medicine residency education in ambulatory settings. Acad Med. 1997;72:988-96.
23. **Bowen JL, Irby DM.** Assessing quality and costs of education in the ambulatory setting: a review of the literature. Acad Med. 2002;77:621-80.
24. **Maley MA, Denz-Penhey H, Lockyer-Stevens V, Murdoch JC.** Tuning medical education for rural-ready practice: designing and resourcing optimally. Med Teach. 2006;8:345-50.
25. **Epstein RM, Cole DR, Gawinski BA, et al.** How students learn from community-based preceptors. Arch Fam Med. 1998;7:149-54.
26. **Cyran EM, Albertson G, Schilling LM, Lin CT, Ware L, Steiner JF, Anderson RJ.** What do attending physicians contribute in a house officer-based ambulatory continuity clinic? J Gen Intern Med. 2006;21:435-9.
27. **Biddle WB, Riesenberg LA, Dacy PA.** Medical student's perceptions of desirable characteristics of primary care teaching sites. Fam Med. 1996;28:629-33.
28. **Schultz KW, Kirby J, Delva D, Godwin M, Verma S, Birtwhistle R, Knapper C, Seguin R.** Medical Students' and Residents' preferred site characteristics and preceptor behaviours for learning in the ambulatory setting: a cross-sectional survey. BMC Med Educ. 2004;4:12.
29. **Feltovich J, Mast TA, Soler NG.** Teaching medical students in ambulatory settings in departments of internal medicine. Acad Med. 1989;64:36-41.
30. **O'Mallery PG, Kroenke K, Ritter J, et al.** What learners and teachers value most in ambulatory educational encounters: a prospective, qualitative study. Acad Med. 1999;74:186-91.
31. **Irby DM, Gillmore GM, Ramsey PG.** Factors affecting ratings of clinical teachers by medical students and residents. J Med Educ. 1987;62:1-7.
32. **Packman CH, Krackov SK, Groff GD, Cohen J.** The Rochester practice-based experience: an experiment in medical education. Arch Intern Med. 1994;154:1253-60.
33. **Vinson DC, Paden C.** The effect of teaching medical students on private practitioner's workloads. Acad Med. 1994;69:237-8.
34. **Kollisch DO, Frasier PY, Slatt L, Storaasli M.** Community preceptors' views of a required third-year family medicine clerkship. Arch Fam Med. 1997;6:25-8.
35. **Levy BT, Gjerde CL, Albrecht LA.** The effects of precepting on and the support desired by community-based preceptors in Iowa. Acad Med. 1997;72:382-4.
36. **Vinson DC, Paden C, Devera-Sales A, et al.** Teaching medical students in community-based practices: a national survey of generalist physicians. J Fam Prac. 1997;45:487-94.
37. **Fields SA, Toffler WL, Bledsoe NM.** Impact of the presence of a third-year medical student on gross charges and patient volumes in 22 rural community practices. Acad Med. 1994;69(Suppl 10):S87-9.
38. **Kearl GW, Mainous AG.** Physicians' productivity and teaching responsibilities. Acad Med. 1993;68:166-7.
39. **Kirz HL, Larsen C.** Costs and benefits of medical student training to a health maintenance organization. JAMA. 1986;256:734-9.

SAMPLE ONLY. NOT FOR DISTRIBUTION.

40. **Foley R, Yonke A, Smith J, et al.** Recruiting and retaining volunteer community preceptors. Acad Med. 1996;71:460-3.
41. **Worley PS, Kitto P.** Hypothetical model of the financial impact of student attachments on rural general practices. Rural Remote Health. 2001;1:83. Epub 2001 Mar 2.
42. **Frank SH, Stange KC, Langa D, Workings M.** Direct observation of community-based ambulatory encounters involving medical students. JAMA. 1997;278:712-6.
43. **Ricer RE, Van Horne A, Filak AT.** Costs of preceptors' time spent teaching during a third-year family medicine outpatient rotation. Acad Med. 1997;72:547-51.
44. **Denton GD, Durning SJ, Hemmer PA, Pangaro LN.** A time and motion study of the effect of ambulatory medical students on the duration of general internal medicine clinics. Teach Learn Med. 2005;17:285-9.
45. **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;13:485-8.
46. **Fulkerson PK, Wang-Cheng R.** Community-based faculty: motivations and rewards. Fam Med. 1997;29:105-7.
47. **Dodson MC.** Should private practitioners be paid for teaching? Acad Med. 1998;73:222.
48. **Ullian JA, Shore WB, First LR.** What did we learn about the impact on community-based faculty? Recommendations for recruitment, retention, and rewards. Acad Med. 2001;76:S78-85.
49. **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;82:698-703.
50. **Grayson MS, Newton DA, Klein M, Irons T.** Promoting institutional change to encourage primary care: experiences at New York Medical College and East Carolina University School of Medicine. Acad Med. 1999;74(Suppl):S9-15.
51. **Langlois JP.** Support of community-preceptors: What do they need? Fam Med. 1995;27:641-5.
52. **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;27:566-70.
53. **O'Malley PG, Omori DM, Landry FJ, Jackson J, Kroenke K.** A prospective study to assess the effect of ambulatory teaching on patient satisfaction. Acad Med. 1997;72:1015-7.
54. **Devera-Sales A, Paden C, Vinson DC.** What do family medicine patients think about medical students' participation in their health care? Acad Med. 1999;74:550-2.
55. **Gress TW, Flynn JA, Rubin HR, Simonson L, et al.** Effect of student involvement on patient perceptions of ambulatory care visits: a randomized controlled trial. J Gen Intern Med. 2002;17:420-7.
56. **Griffith CH 3rd, Georgesen JC, Wilson JF.** Six-year documentation of the association between excellent clinical teaching and improved students' examination performances. Acad Med. 2000;75:S62-4.