As a family physician practicing in a small rural town in central Pennsylvania, I was amazed to find that I was being asked as a preceptor for third-year primary care clerkship students to help teach evidence-based medicine (EBM). My question was how could I, a busy practitioner in a small rural office, possibly contribute to the education of a third-year medical student on the application of EBM in my practice? I always thought that the ability to utilize EBM was reserved for those faculty fortunate enough to teach in large academic medical centers where time and access to electronic resources were not a problem. However, after participating in the faculty development program offered by Penn State College of Medicine and administered in my office, I was astounded to learn that I could have a great deal to offer to the education of medical students in this area.

As you all know, EBM is nothing more than the integration of the best, most up-to-date research evidence, expert clinical expertise, and the patient’s own values or preferences. After learning about EBM, the question we all asked was “Haven’t we been practicing EBM all along?” but upon reflection, I noticed that I was as guilty as others in that I have not always carefully assessed the evidence on which I based my clinical practice.

Thanks to the training provided by the faculty of Penn State, I can now truthfully say that as a rural preceptor I can make a significant impact on the education of third-year students by modeling for them how EBM can be used in a practice such as mine.

First, some background information on the program in which I precept. Penn State University’s College of Medicine, through the Center for Primary Care, has a required third-year primary care clerkship. Since this clerkship was designed to provide students with an experience in primary care, there is a great opportunity to demonstrate across the disciplines of internal medicine, family medicine, and general pediatrics the application of principles of primary care. Students are assigned to my office for a 4-week period and work alongside me for 40 hours a week. Recently, as part of the curriculum for the clerkship, the College of Medicine asked preceptors if we would be willing to learn how we could model application of EBM in our practices. Students
at Penn State are gradually introduced to the concepts involved in EBM throughout their first and second years of medical school. With such background courses as biostatistics, in which they learn the art of critically appraising articles through an introduction to EBM in year two, the students are introduced to the basic knowledge and skills required to do EBM. Unfortunately, the students, when evaluating the courses, indicated that they often lack a feeling for the applicability of EBM to medical practice and thus were not paying sufficient attention during this instruction. Therefore, the third-year primary care clerkship curriculum was revised to incorporate EBM as a practical application for third-year students and to allow students to see how practicing physicians can use EBM on a daily basis.

Based on the training provided, I can now report that teaching EBM in a busy rural practice is not only practical but desirable. The first step in EBM is generating the clinical question. Obviously, whenever physicians see a patient, they often leave that exam room with some underlying questions in their minds that they’re not sure about. The questions are often whether or not there has been a change in the approach to treating a particular disease or if there is a better test that could be ordered or a new therapy that might be tried. Regardless, we always walk away with underlying questions. The trick is to learn to write those questions down and save them for a later period. So, when students arrive in my office and begin to see patients, I ask them to intentionally make notes at the end of each patient’s session on what questions were raised in their minds regarding the patients or the underlying disease process that they have just seen. At the end of the day, we gather to review what we have learned from the day, and that’s when our list of questions come out, and we begin to think about how we could build some good clinical questions that would help guide us in a search for answers.

Particularly helpful in this process is to consult the Web site developed by Penn State at wwww.hmc.psu.edu/cpc/ebm. This Web site has as part of its content a four-step process for working through EBM. There are simple, clear instructions on each of the four steps used in applying EBM.

The first step is asking the well-built clinical question. By looking at the kind of issues that provoked questions in our minds after seeing patients, it is easy to refer to the Web site and begin to build some good clinical questions. Then it’s a matter of going to the various EBM search sites that have been incorporated into this Web site and choosing one of those sites. Useful sites include POEMs, the site developed for family medicine, or Best Evidence, the electronic version of the American College of Physicians Journal Club, or the Cochrane Library, which is a collection of medical analysis on a variety of clinical issues. Picking one of these, we are able to enter our clinical question and see what kind of results we can get. Often, we will search several different sites so that we can compare the results from each site and determine which site can provide the best information for our application. Once we have narrowed the search and collected the evidence, we can then work through appraising the evidence. The Web site has provided worksheets for the students and me to use in helping us work through an appraisal of the evidence. Finally, we get to the most important part, which is a discussion about whether the findings presented in the article can be applied to the patient population in a practice such as mine given their economic, social, and financial considerations. It is in this last step that the preceptor is most helpful in bringing reality to the student in terms of the application of the findings. Yes, there may be a new drug on the market, but is it affordable and accessible to the patient given the patient’s type of payor?

Helping medical students understand the realities of practice and the application of these findings is a key component that the rural preceptor can add to the student’s education. Participating in this program and providing an opportunity for students to work alongside a preceptor using EBM within our practices allows students to see how simple and easy it can be for a physician to review evidence and investigate ways of doing things within a practice. This process also allows the integration of factors regarding family, economics, social histories, culture, and religious implications into the application of clinical findings.

An added benefit to me as a preceptor is that starting to model this behavior for the students has caused me to improve the care I deliver to my patients. By reexamining many of the habits I had developed over the years, I have found that there may be better and different ways that can be incorporated into my practice and, ultimately, my patients are the winners.

If you are ever given the opportunity to help teach EBM to medical students, do not feel that this is something that only an academic physician will have to do, but, in fact, you can become a positive role model for students in demonstrating how EBM can be applied successfully in a busy practice. You may find that teaching EBM principles will actually help you improve the care delivered to your patients.

Corresponding Author: Address correspondence to Dr Hennig, Penn State University, 75 Brownstone Drive, Hershey, PA 17033. 717-838-6305. Fax: 717-838-5332. ghennig@psu.edu.