In this issue of *Family Medicine*, two papers—one by Grad and colleagues and one by Scott and colleagues—describe and evaluate the addition of personal digital assistants (PDAs) to an educational intervention.1,2

Before discussing those papers, however, it is useful to examine some previous work on information-seeking behavior of trainees and community clinicians3-6 since that work provides a context for the research described in the Grad and Scott papers.

In one prior study, Gorman5 found that clinicians in primary care generated an average of 0.83 questions per patient seen, pursued roughly only half of these questions, and were able to find an answer about 75% of the time—meaning they ended up with answers to only slightly more than one third of their questions! Another study6 found that primary care clinicians were most likely to seek information when it was directly related to a patient during a clinical encounter. In short, they wanted information when they needed it. They were much less likely to pursue answers to general questions for which there was no immediate need.

These two studies show the need for methods that make information readily available at the moment it is needed and to make it easy to find the information. In the paper by Grad and colleagues in this issue of *Family Medicine*,1 the investigators asked whether first-year residents learn evidence-based medicine (EBM) better when an EBM course is combined with use of a PDA. Scott and colleagues2 asked whether community preceptors involved in educating undergraduate medical students will use PDAs with medical reference software installed when given the devices as an incentive for teaching. In both cases, the answer is clear: maybe.

The residents in Grad’s study who received an EBM course and a PDA performed no better on an objective test of EBM than did their colleagues without PDAs. While these learners did perform better on a subsequent test with the PDA in hand during the test, this demonstrates little more than the residents’ ability to find the information with the PDA—the equivalent of an open-book test.

That, of course, is the point. Memorization of facts is not our educational goal. Rather, our goal is to help trainees develop the ability to make good decisions by gathering information when they need it from a variety of sources. The history, physical examination, and diagnostic tests are the obvious initial sources of information we gather in our quest for a good plan of care. Additional sources of information may be a physician’s knowledge base, the physician’s understanding of a patient’s cultural or social preferences, and of course, the Holy Grail of modern primary care: “The Evidence,” which in the case of Grad’s study was found on the PDA. It is not necessary for residents to memorize the information tested in Grad’s study on the pretest probability of strep pharyngitis. But, if they have not memorized it, they ought to be able to find it quickly and easily using their PDAs, which they did. The hypothesis is compelling: with easy access to information, the likelihood that clinicians will look for answers (and make good clinical decisions) will increase, with an equal reduction in the likelihood that they will guess and make potentially harmful decisions.

Grad’s project thus demonstrates that the medium and the tools didn’t change learning at all. Yet, if we ask these residents a specific question, and give them a resource with which they can quickly locate the answer, chances are very good that they will find it.
Does a PDA really provide such easy access to clinical information? Judging from Scott’s paper in this issue of the journal, it does not always appear to be so. Many of the preceptors who received PDAs as an incentive for teaching medical students in the office reported technical problems with the hardware or software, and 25% of them were not even using their PDAs 1 year later. While one could conclude from these results that PDAs are not an easy source of information, the preceptors in the study received the PDAs without formal training about how to use them. Thus, Scott’s research really demonstrates only that some training may be needed to use a PDA effectively. It demonstrates little about the preceptors’ likelihood to seek (and find) clinically useful information with the PDAs if they knew how to use them.

Information technology has improved to the point that the use of computer hardware and software is becoming transparent in much of our society. Yet the hardware and software that assists us in medical education and the practice of medicine has yet to reach the usability threshold that Google.com and the automated teller machines on most street corners exemplify: we use them with neither training nor documentation.

The research described in this issue of *Family Medicine* portrays the PDA as a useful yet still “gestational” example of a modern information retrieval tool and demonstrates that learners and clinicians can use these tools—but not without some technical hurdles. As the tools improve and provide more transparent access to information, I would hope to see future research documenting that such resources do result in increased information-seeking behavior and successful retrieval of information by trainees and their mentors.

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**REFERENCES**