Editorials

Why Are We So Slow to Adopt Some Evidence-Based Practices?

Mark H. Ebell, MD, MS, College of Public Health, University of Georgia, Athens, Georgia

Allen F. Shaughnessy, PharmD, MMedEd, Tufts University School of Medicine, Boston, Massachusetts

David C. Slawson, MD, University of North Carolina School of Medicine, Chapel Hill, and Atrium Health, Charlotte, North Carolina

Treatments such as prescribing phosphodiesterase-5 inhibitors for erectile dysfunction or cyclooxygenase-2 inhibitors for pain were rapidly adopted into practice by physicians, in part because of aggressive marketing campaigns. Although the former were significantly more effective than existing treatments, the latter were no better, and in some patients led to more harms than older nonsteroidal anti-inflammatory drugs.[1,2] These examples show that physicians can and will incorporate new information and treatments into their practice; however, they do not always result in better patient outcomes, and they are not always so readily adopted into practice.

In fact, a number of new recommendations have seen little adoption in modern American primary care practice. For instance, most patients are still told to fast before having their blood drawn, even though measurement of nonfasting lipids is a more accurate predictor of cardiovascular risk than fasting lipids.[3] Most physicians also still recommend routine home blood glucose monitoring even though numerous well-designed randomized trials have shown no benefit to daily measurement of blood glucose in patients with type 2 diabetes mellitus who are not using insulin.[4-6] Years after the release of guidelines to screen only average-risk women 21 to 65 years of age for cervical cancer every three to five years, many primary care physicians still recommend annual screening of older and younger women at average risk.[7,8] Lastly, although corticosteroids have been shown to safely reduce morbidity and mortality in hospitalized patients with community-acquired pneumonia, their use is not considered a standard of care in many U.S. hospitals.[9,10]

Why are physicians so slow to adopt new practices that could improve patient outcomes while saving money? There are several possible explanations. One is that the information does not reach physicians because it is published in a journal or database that they do not regularly review. Actively seeking out the latest evidence is especially challenging for primary care physicians whose expertise is defined by breadth of knowledge as well as by depth.[11] Physicians may also be slow to incorporate a new approach into their practice because it is inconsistent with a previous practice to which they are accustomed (i.e., practice inertia).

Physician training and education are another factor. Traditional medical education emphasizes pathophysiologic reasoning as a pathway to making treatment decisions, with much of the first two years of education given over to the basic sciences. Biologic plausibility would suggest that monitoring blood glucose *should* improve control, more screening *should* detect more cancers, and corticosteroids *should* be detrimental in patients with pneumonia. It is hard to abandon this way of thinking when new research findings contradict these beliefs. This inductive process is now being challenged by a patient-oriented evidence-based approach that prioritizes decision making based on research that demonstrates a net benefit of an intervention rather than on biologic plausibility. In other words, pathophysiologic reasoning should not supersede evidence from well-designed clinical trials.

This paradigm shift, from relying on "what *should* work" to "what *has been shown* to work," requires that physicians appreciate the role of probability in medicine. However, for many physicians inculcated with a pathophysiologic approach to making medical decisions, embracing outcomes-based, probabilistic thinking requires a transformation in their worldview.

A final factor explaining the failure to adopt evidence-based interventions is that many of these recommendations have no reason for industry support, and when a recommendation results in decreased use of a screening test or blood glucose monitor, someone actually stands to lose money. Indeed, many current guidelines suffer from intellectual or financial conflicts of interest that reflect the interests of the sponsoring subspecialty society or the industry cosponsors.[12] Too often, primary care physicians, who care for most patients most of the time, are not at the table when these guidelines are written. Federal guidelines for diagnosis and treatment

are unlikely in today's political climate, especially given industry opposition to truly independent guidelines. The industry successfully squelched an attempt to do just that in the mid-1990s.[13,14] A way forward is to give primary care physicians independent, unbiased, evidence-based guidance that can be trusted to guide clinical decisions. We should not leave guidance regarding the treatment of diabetes, hypertension, and sore throat to the endocrinologists, cardiologists, and otolaryngologists who do not see our spectrum of patients in our primary care setting.

Although financial incentives and care driven by expert consensus guidelines make it hard to buck the system, physicians ultimately have to take responsibility to do what's best for patients according to our understanding of the best available evidence. This sometimes means ignoring subspecialty guidelines or quality markers that we know are out of date or have never been correct.[15] Physicians have to find more efficient ways to keep up with changes in medical research. For example, all of the practices noted above that physicians have failed to widely adopt have been identified as POEMs (Patient-Oriented Evidence That Matters), and these were published previously in *American Family Physician*.

Physicians need to take responsibility for our decisions rather than relying on subspecialists to teach us how to practice. Primary care organizations such as the American Academy of Family Physicians, American College of Physicians, and American Academy of Pediatrics should work together to build continuously updated primary care–oriented references to provide evidence-based clinical guidance for their members. Finally, physicians must accept that change is uncomfortable, recognizing the pain of giving up an old idea or practice as medical knowledge evolves around us. We need to remain flexible in our thinking if we are to meet our goal of doing our best when caring for every patient.

Editor's Note: Dr. Ebell is *AFP's* Deputy Editor for Evidence-Based Medicine and Dr. Shaughnessy is Assistant Medical Editor for *AFP*.

Address correspondence to Mark H. Ebell, MD, MS, at ebell@uga.edu. Reprints are not available from the authors.

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