Communicating Evidence: The Final Frontier

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Evidence-based medicine (EBM) has been described as “the integration of the best research evidence with clinical expertise and patient values.” Since EBM came on the scene, there has been significant emphasis on the steps of EBM that include framing an evidence-based question, retrieving and appraising the evidence, and understanding the results. However, finding and evaluating research evidence is only part of the task. The real challenge may lie in the clinician’s ability to communicate research evidence to patients to help them make informed decisions.

Encouraging patients to participate in decisions about their care is termed shared (or participatory) decision making, and it is an increasingly emphasized aspect of the larger movement toward patient-centered care. Shared decision making occupies the middle ground between paternalistic decision making by the clinician and “informed” or “consumer choice” where the patient is provided with information and the clinician withdraws from the decision process. Lists of shared decision-making steps and suggested competencies have been proposed (Table 1), and it is recognized that one key element of this process is the communication of evidence to the patient.

Unfortunately, there is little known about how to most effectively communicate evidence to patients. In 2004, Epstein and colleagues published a systematic review that identified original research in this area, but their search yielded only a few potentially relevant articles. Still, some general principles applicable to practicing clinicians do emerge.

First, there are 4 ways of presenting research evidence to patients: 1. Description of benefits and harm in general conceptual terms (i.e., “There is good evidence showing that hydrochlorothiazide improves the life expectancy of patients with hypertension and very few patients have side effects from this medication”).

2. Numerical translation of evidence (i.e., “One patient out of 500 will have complications after this surgery requiring a longer stay in the hospital”).

3. Graphical representation of data with pie charts, bar graphs, stick figures or faces.

4. Decision aid programs.

Second, since conveying information verbally is likely to be most practical in the office setting, physicians should know that their word choice is key. Research clearly shows that how information is presented or “framed” can influence decision making. Bias can be introduced when risks and benefits of treatments are presented in positive versus negative frames. For example, saying “For every 100 people treated with this medication, 70 will have no problems with side effects” versus “For every 100 people treated with this medication, 30 will experience side effects” may have a different connotation for the patient. Also, procedures and treatments are more likely to be chosen when outcomes are presented in terms of gain (i.e., “Ninety percent of the time, a mammogram will find a cancer if it is there.”) versus loss (i.e., “Ten percent of the time, a mammogram will miss a breast cancer.”) And clearly, when treatment benefits are described in relative terms (like relative risk reduction) rather than absolute terms (like absolute risk reduction or number needed to treat), those results are more likely to result in a “treat” response due to the potential for exaggerating the significance of a positive effect. For example, if a physician says, “Patients taking this medication had 34% fewer heart attacks than patients taking placebo,” a patient is more likely to favor treatment than if the physician describes the same data saying, “Almost 3% of...
patients taking this medication had heart attacks, compared with 4% of patients taking a placebo,” or “For every 71 patients treated with this medication, I patient will benefit.” Interestingly, it is worth noting that pharmaceutical companies and news media are more likely to express results in relative terms.

Finally, decision making can be influenced significantly by the individual values of patients and their physicians, and prior experiences. Factors such as level of risk, individual tendency toward risk taking, preexisting prejudices or beliefs and even value judgments regarding cost can have significant impact.

Because little evidence was found in their systematic review of the communication of evidence to patients, Epstein and colleagues proposed a 5-step process to guide clinicians in incorporating evidence into decision-making discussions with patients. These proposed methods are based on the general communication skills literature and the authors’ clinical experience.

Step 1: Understand the Patients’ (and Family Members’) Experience and Expectations. Delineate patients’ specific needs, fears, expectations, and context specific to the issue at hand.

A 25-year-old woman with asthma saw a television advertisement for a new asthma medication. She is interested in whether this medication would be beneficial to her.

To understand her experience and expectations, you might ask: “What leads you to ask about this medication?” or “What do you know about this medication?”

Step 2: Build Partnership. Employ expressions of empathy and understanding, acknowledge the complexity or difficulty of the issue, and foster partnership.

Your patient says that the advertisement suggested improvement in asthma with minimal side effects. Her asthma is under good control but she dislikes her current asthma medicines because they are expensive and cause bothersome side effects.

To build partnership, you might say: “I hear you saying that you would like to pay less for your prescriptions and reduce side effects. I would like to work with you on this.”

Step 3: Provide Evidence, Including Uncertainties. Determine the appropriate format for presenting evidence. Balance the limitation of what is known and unknown without overemphasizing uncertainty to the point that a patient loses confidence.

You recall some recent studies about this new medication. To communicate the evidence you might say “Some studies show this new medication reduces asthma symptoms when compared with no treatment, but we do not have data about how it compares with the types of medicines you are currently taking.”

Step 4: Present Recommendations. When the physician has no clear recommendation, the choices should be presented objectively. If the physician has a clear recommendation, then it should be explained while explicitly defining the evidence that was used and patient’s values that were considered.

“I think it is unlikely that the new medication will improve your asthma. Also, since you are concerned about cost, you should know that this new medicine is unlikely to save money. But, I’d like to consider other options to minimize your side effects and costs.”

Step 5: Check for Understanding and Agreement. In complex situations, it may be helpful to ask the patient or family member to summarize his or her understanding of the choices and/or recommendation: “Does that make sense to you?” or “Do you agree?”

Interestingly, though research in evidence-based communication is at an early stage, some medical schools are already teaching evidence-based communication skills as part of their larger curriculum efforts in EBM. At the University of Wisconsin Medical School, second-year students participate in a small group exercise where they find research evidence to answer a standardized patient’s clinical question and they communicate that evidence to the patient with emphasis on demonstrating appropriate communication skills. At the Medical College of Wisconsin, first-year students are taught to discuss risk, such as genetic risk for disease, with standardized patients.
At least 2 schools have published data on using performance-based exams to evaluate students’ communication of evidence.9,10 At the University of Liverpool, standardized patients rated the global communication skills of students’ evidence-based management of a patient with a sore throat. Students who gave self-help advice and avoided prescribing antibiotics were rated as having the best communication skills.9 The University of Florida College of Medicine used a checklist to more specifically evaluate students’ skills in avoidance of medical jargon, organization of presentation, allowing the patient to ask questions, and demonstrating an interest in the patient’s concerns. Students averaged 93% on the performance of these skills.10

**Conclusion**

Evidence-based communication is undoubtedly the next frontier in the field of EBM. A recently proposed model by some of the leaders of the EBM movement calls for evidence-based clinical decision making that relies on clinicians’ ability to balance their clinical expertise with the best current evidence as well as the clinical state, circumstances, and preferences of each patient.11 Although communication with patients has always been important, a new emphasis on skills required to explore patients’ values and translate research evidence to patients will be critical. Further research is surely needed to aid physicians in these challenging conversations with patients.

**References**

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