

Lysander Jim, MD

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Evidence-based medicine

Evidence-based medicine is an approach to clinical care that makes use of the best available peer-reviewed scientific literature and practice standards to treat patients. The process involves identifying patient issues that can be operationalized and generalized enough by the clinician to generate a controlled vocabulary that will allow for a fruitful search for journal articles and other reliable sources of information such as textbooks. At its highest levels, evidence-based medicine requires a thorough understanding of differing, even competing, *paradigms*.

In practice evidence-based medicine is only as good as the paradigm underlying the research. Using the definition by the scientific philosopher Thomas Kuhn, a

paradigm is a fundamental change in the basic concepts and experimental practices of a scientific discipline. The paradigm contains implicit assumptions about the topic, which, if unexamined and faulty, can lead to an entire body of research that is erroneous and misleading. Further, support for a paradigm is only as good as the quality and relevance of the experiments and published research that supports it. For the above reasons, evidence-based medicine can fail if a flawed paradigm is applied or the flawed studies from the correct paradigm are used.

Challenges notwithstanding, clinicians have an ethical and fiduciary duty to correctly apply evidence-based medicine for the well-being of their patients. One interpretation of the dictum “do no harm” is limiting risks while maximizing therapeutic benefit. Following this dictum

is only possible with evidence-based medicine because it conveys the broad scope of diagnostic and management possibilities regarding what is currently known and from which the best options may be selected. The opposite of evidence-based medicine is medicine based on unsubstantiated impressions, tradition or ignorance--assumptions of assumptions.

Patient values also factor strongly into the importance of evidence-based medicine. Patients rightly expect that the physicians they see provide them treatment based on a solid scientific foundation to improve their health. A patient has distinct concerns from an insurer or medical defense attorney. For a patient, legalistic and professional concepts such as a community standard of care are of partial interest to the patient because the patient wants the best care and therapeutic

outcome, not one that is merely defensible as reasonable practice or average. As such, if the community standard of care can resolve the patient's problem, then he or she is satisfied. If it is not sufficient, the patient with sufficient resources and determination will seek specialty care, out of his immediate environment if necessary, whether at a "destination hospital," physician with a particular expertise or out of the mainstream medical establishment to non-physician healers.

Physicians with a mastery of evidence-based medicine also support other patient values beside treatment efficacy. When physicians are knowledgeable in evidence-based medicine, they engender trust and confidence, two elements that are essential to the underlying rapport between doctor and patient. Patients also seek non-technical qualities from

physicians such as compassion, honesty and availability. These “soft skills” are not directly linked to evidence-based medicine, but are required for the full realization of an ideal doctor-patient relationship.

To summarize, evidence-based medicine is the foundation of good medical care. It is through a mastery of the evidence-based medicine, an ongoing process, that the physician may have a foundation to appropriately diagnose and treat his patients and fulfill his fiduciary duty to the patient. The patient rightly expects the physician, above all healers, to have an approach substantiated by the best available science. The patient will have his highest value met which is to receive the best care and treatment available.