

## Chapter 8.5

# Evidence-Based Medicine: A New Approach in the Practice of Medicine

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### **ABSTRACT**

The ongoing tension between certainty over uncertainty is the main force that is driving the evidence-based medicine movement. The central philosophy of this practice lies in the idea that one can never take for granted one's own practice, but by using a structured, problem-based approach, practitioners can logically manoeuvre their way through the obstacle course of clinical decision-making. Attending postgraduate educational events and reading various science journals are no longer sufficient to keep healthcare practitioners aware of all the new developments in practice. To gain this knowledge they need to accept that there are questions they have to ask about their practice. Having posed a number of questions,

answers should be found to the most important, practitioners should appraise the quality of the resulting evidence and, if appropriate, practitioners should implement change in response to that new knowledge.

### **INTRODUCTION**

Evidence-based medicine (EBM) can be thought of as the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research (Sackett, 2003).

Medical practitioners see an overwhelming number of patients. Several questions concerning

diagnosis, prognosis, treatment and general care may arise during each session. Hence, it is quite possible for a medical practitioner to make many thousands of clinical decisions a year. As per Covell (Covell & Manning, 1995), when asked, general practitioners say that they generate on average two questions per three patients. Forty percent of the questions were factual (e.g., What dose?), 43% were concerned with medical opinion and 17% were nonmedical. On average, the clinician is left with four unanswered questions per surgery or clinic. A colleague typically meets only 30% of physicians' information needs during the patient visit. Further, the reasons for not using printed resources includes lack of knowledge of appropriate resources, office textbook collections are often too old, as well as a lack of time to search for needed information. In addition, there is no proof that the information obtained is 100% up-to-date. Evidence-based practice can be of great help in this scenario of the background of information needed and clinical overload and the general feeling of helplessness. EBM aims to provide the best possible evidence at the point of clinical (or management) contact.

As per the study by Lundberg (1992), in 1900 there were about 10,000 scientific journals; in 1990 there were more than 100,000 scientific journals. Ninety percent of all major scientific advances are in only 150 of those 100,000 publications; 80% of the citations noted by Science Citation Index are to less than 1,000 journals. Not all of this information is valid or useful for patient care. There is a need to be able to identify relevant information and to be able to critically evaluate the scientific methodology and conclusions of the information.

Evidence-based medicine then focuses on converting the abstract exercise of reading and appraising the literature into the pragmatic process of using the literature to benefit individual patients while simultaneously expanding the clinician's knowledge base (Bordley, 1997).

The primary objective of this chapter is to discuss this new approach of practicing medicine. The need for evidence-based medicine becomes even more pronounced in an environment focusing on lowering healthcare costs. However, it is our thesis that in order to realize the full power and potential of EBM we must integrate the strategies, processes, tools, techniques and technologies of knowledge management. Given that the focus of this entire book is on creating knowledge based healthcare organizations, the goal of this chapter is to familiarize readers with the new and growing area of EBM. From this chapter we believe it will then be possible to appreciate the key role of both information and more importantly knowledge to EBM and thus why it is indeed imperative to incorporate a KM focus in EBM.

## **STEPS IN EVIDENCE-BASED MEDICINE**

The practice of evidence-based medicine can be divided into the following components:

1. Ascertaining a problem or area of uncertainty.
2. Converting information into a focused, clinically important question that is likely to be answered.
3. Efficiently tracking down and appraising the best evidence.
4. Estimating the clinical importance of the evidence and the clinical applicability of any recommendations or conclusions.
5. Unifying the evidence with clinical expertise, patient preferences and applying the results in clinical practice.
6. Summarizing and caching records for future reference.

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