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Implementing evidence-based medicine in the clinical setting

It is generally agreed that the development of an evidence-based medicine (EBM) approach to medicine in the early 1990s was a positive development.¹ Previous practice relied primarily on the experience of clinicians, which, while extremely valuable, could often overlook important new developments in the relevant field. An EBM approach recognizes the importance of the clinician's experience, but it suggests that to provide the best level of care to patients, three different elements need to be combined.² In addition to fully using the experience of the doctor administering a treatment, the choice of treatment needs to be based on the best available evidence from the literature; and the patient's preferences also need to be taken into consideration. Sackett et al.³ state that evidence-based medicine is a 'conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients'. The clinical benefits of an EBM approach are clearly evident, as it results in more positive treatment outcomes and more satisfied patients. There are also economic benefits for the hospital in terms of shorter treatment times.

Most practitioners seem to agree that implementing best practice is desirable, but the literature suggests that there can be massive barriers to introducing evidence-based medicine in clinical settings. Evidence from the literature indicates that one of the most important of these barriers is the difficulty of identifying the best treatment for the specific patient whom a doctor is treating. Clearly, patients are different from each other in terms of age, gender, previous medical history and many other factors which have an impact on the effectiveness of a treatment. Unfortunately, as Greenhalgh et al.⁴ point out, many authors have given little or no thought to how their studies 'might be used, by whom, or for what' (p.4). This presents major difficulties for doctors who are used to adapting treatments to the needs of specific patients.

Another problem is the enormous number of publications. The number of research articles has rocketed over the past 20 years, and individual doctors don't have time to identify and read all the available evidence for themselves. Yet to reach a decision on a particular treatment, it is essential to evaluate the strength of all the evidence.⁵ Systematic reviews, which gather together and evaluate all the evidence on a clinical topic, can help overcome this problem. Evidence can take many different forms, but the consensus is that only systematic reviews using randomized control trials can provide a 'gold standard' for the effectiveness of treatments. Producing these reviews to high standards can take a huge amount of time, however. For example, the Cochrane Library, which is an outstanding source of high-quality reviews, has produced only around 8,000 topics. In addition, many of these topics relate to conditions seen mainly in primary care settings, so there may not be enough systematic review evidence to cover the full range of specialist treatments provided.

It is clear that implementing EBM in the hospital will take a considerable amount of work on the part of management and clinical staff. Some writers have suggested that two approaches need to be considered when deciding on a plan. The first is the top-down approach, where management implement detailed clinical guidelines for all procedures using the best available evidence. If healthcare staff in each department adhere closely to these guidelines, the work carried out by doctors should be in line with best practice. The second is a bottom-up approach, where clinical staff themselves are encouraged to find the best available evidence for the types of patient they see in their clinics. This takes time and requires staff to develop critical appraisal skills; however, because the clinical guidelines are tailored to a specific situation by the staff who need to implement them, the evidence indicates they are more likely to be used effectively.

In addition to the issues around finding the appropriate evidence, getting the evidence to the doctor when decisions are being made on treatment choices is also a significant problem. Integrating the evidence into digital systems which are used for decision support is one way this can be addressed. As a recent article⁶ indicates, when this is implemented properly it can be very effective in ensuring clinicians adhere to best practice. Developments in the way in which evidence is provided can also help. For example, the BMJ Best Practice database provides updated systematic reviews on a wide range of topics and can be integrated with local care pathways and local patient preferences.