

## Preface



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Guest Editor

Many years ago, while a graduate student in periodontology, I attended a presentation by the prominent Swedish academician Dr. Jan Lindhe. I had attended many presentations on periodontology, but Lindhe's presentation was different. Rather than speaking of his personal clinical experiences and philosophy, he simply asked a series of questions (eg, "How much attached gingiva is required for gingival health?") and attempted to use literature to answer them. It was such a simple and obvious strategy: the use of evidence to guide our clinical decisions! But it seemed radical and transformative, simply because it was done so rarely at the time.

Every period in history is informed by a *Zeitgeist* or "spirit of the age." The current period is no different. In 21st century health care, the unifying concept may be evidence. Evidence-based health care (EBHC) appears to be a simple idea: doing what works as determined by the evidence. Although the term "evidence-based health care" was not in use at the time I heard Dr. Lindhe's presentation, he was modeling the techniques of EBHC.

EBHC has the potential to transform health care. It can reduce medical errors, improve patient outcomes, and control health care costs. Porter and Teisberg,<sup>1</sup> in their influential text "Redefining Health Care," argue that health care providers and organizations should compete on creating value for the patient. This value is achieved by assessing and improving patient-centered outcomes (which is made possible by basing clinical decisions upon the best evidence) and making these outcomes (another form of evidence) available to consumers (patients).

Of course, there are many gaps in our evidence, as pointed out by detractors of the EBHC movement. They have many concerns, the most compelling of which are related to the validity or integrity of the evidence. Obviously, recommendations can be no better than the evidence upon which they are based. And the evidence is always imperfect. Even more problematic is that evidence often is lacking or insufficient to permit the creation of evidence-based guidelines. But this is changing. Databases, such as the Cochrane Library (<http://www.cochrane.org/>), now have a considerable number of high-quality dental reviews, and the number is increasing dramatically.

More must be done, however. If EBHC is to realize its promise, it will require effort on the part of three constituencies: the creators of evidence, the compilers of evidence, and the users of evidence. The creators must conduct well-designed clinical trials of sufficient power to permit valid inferences to be drawn from their results. The compilers must act as “honest brokers” in synthesizing this evidence in the form of high-quality systematic reviews that are easily accessed by end-users. Lastly, the users must appraise the evidence and apply it in the service of individual patients. Obviously, many clinicians belong to all three groups.

The contributors to this issue all share a commitment to the principles and practice of evidence-based health care. They approach this subject from a variety of viewpoints. There are reports on educational initiatives, in which the principles of EBHC are used to enhance dental curricula, examples of best practices based on high-level evidence, and several examples of how to proceed when high-quality evidence is lacking. Readers will find a diverse selection of EBHC topics within this issue. It is hoped that this disparate collection of articles will provide the stimulus for further reading in the field.

Readers desiring further information will find a number of attractive resources available to them. *Evidence-Based Medicine: How to Practice and Teach EBM* by Straus and colleagues is foremost.<sup>2</sup> This small, easily read volume is in its third edition and is an overview of the tools of EBM. A more comprehensive text is the *Users' Guides to the Medical Literature* by Guyatt and colleagues.<sup>3</sup> This book provides a more thorough discussion of many EBHC topics and is recommended to the reader seeking in-depth knowledge. I also recommend *Evidence-based Dentistry: Managing Information for Better Practice* by Richards and colleagues.<sup>4</sup> I had the pleasure of reviewing this work recently and found it to be a succinct survey of EBHC as applied to dentistry. Lastly, I would recommend Elwood's *Critical Appraisal of Epidemiological Studies and Clinical Trials* for a comprehensive examination of the techniques used to appraise evidence.<sup>5</sup> Much of the peer-reviewed literature now contains systematic reviews and meta-analyses, and these can be found (to varying degrees) in most scholarly journals. *The Journal of Evidence-Based Dental Practice* is of particular interest. The September 2008 issue of that journal, entitled “Evidence-Based Champion Conference” was jointly sponsored by the American Dental Association and the *Journal of Evidence-Based Dental Practice*.<sup>6</sup> This issue is highly recommended as an overview on the state of the art and suggests the importance of EBHC from the perspective of organized dentistry.

The pieces are now in place to allow the transformation of health care. We have better evidence and the electronic means to search for and access it, and we are developing a cadre of young clinicians who are being taught that their clinical decisions should be based on the best evidence. Evidence-based medicine, with its foundational sciences of clinical epidemiology and biostatistics, will transform health care in the 21st century as thoroughly as molecular biology transformed health care in the 20<sup>th</sup> century. It will be an exciting time.

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