

# FACULTY PERSPECTIVE

IEWS ON DENTAL TOPICS & TRENDS

## Evidence-Based Dentistry: An Evolution of Practice

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In its early stages of development, evidence-based dentistry (EBD) focused on providing a solid rationale for why scientific evidence, as opposed to other sources of information to guide practice, improves patient care. Many organizations focused on training clinicians and academicians on the principles of EBD, reflected in creating skills on how to critically appraise the scientific literature (i.e., search and identify a study, assess study validity, interpret the study results, and determine the applicability of the study results to practice). Systematic reviews and meta-analyses, and evidence-informed clinical practice guidelines became a more common and desirable deliverable in the oral health community, with guidelines being cited as essential pieces in several high-level oral healthcare frameworks, including value-based care and universal health coverage. All this progress, loadable and necessary, represented the infancy and adolescence of evidence-based dentistry.

The challenges ahead for the oral health community are vast. Current reports suggest that, although systematic reviews and meta-analyses are often available in oral health for many clinical questions, their methodological quality and appropriateness to decision-making is, at least, questionable. For example, excluding patient-important outcomes, or poor description or reporting of interventions included in the primary studies, would make a methodologically sound review useless for decision making. Regarding clinical practice guidelines, the number of organizations committed to creating, disseminating, and maintaining a set of key evidence-based guidelines addressing oral health issues is minimal. To move the production of guidelines to the next level, oral healthcare agencies will need to focus on sustainability, and move from the current philosophy for guideline



development as a one-time effort, to understand it as an iterative process across a set of versions of the recommendations. The inclusion of technology can make these processes less resource-intensive by having artificial intelligence integrated into several steps, including evidence identification, retrieval, appraisal, and real-time updates of systematic reviews and meta-analysis informing a guideline.

Another area where the oral health community will be focusing is in studying people/patients' values and preferences. This aspect of the practice of EBD, although largely neglected, plays an essential role in decision-making. In many scenarios, where high certainty evidence suggests that an intervention is effective in improving patient-important outcomes, it is variability or uncertainty in people/patients' values what may warrant a "conditional recommendation for an intervention," as opposed to a strong recommendation. Studying people/patients' values and preferences requires that the oral health community moves from a paternalistic approach to decision-making to a different approach, where patients and clinicians

join efforts to ensure that the best available evidence informs the next clinical decision, and the consideration of the balance between the desirable and undesirable consequences of intervention is driven by the patients' values. This approach should also be extended to guidelines, health technology assessment reports, and policies.

The third area of evolution in the coming years for EBD is creating and including new sources of evidence beyond what is available in the scientific literature. The emergence of large repositories of data (not only limited to clinical data) relevant to oral health will allow the provision of real-time insights regarding health parameters of a particular population or an individual, even at a practice level. Such an approach will demand the creation of new frameworks to store, process, analyze, and synthesize relevant information using data visualization tools that are designed using a solid user-oriented philosophy and ready to be part of the clinical workflow. The learning health system framework is currently under discussion in several oral health venues, with interesting initiatives being piloted.

For EBD to move to the next level, primary and secondary studies should be more sensitive to the end-user application of their results (i.e., patients, clinicians, policymakers); researchers summarizing primary studies using systematic review methods should identify and report people/patient-important outcomes; a new area of research should emerge focusing on the study of people/patients' values and preferences in oral health; clinicians, researchers, and policymakers should join efforts to establish the fundamentals to build a learning oral health system, in which the conduct of sustainable living evidence-informed clinical practice guidelines becomes the new normal. ■