Ebm: Evolution, challenges, and future directions.

Thomas Becker*

Department of Evidence and Policy Studies, University of Bonn, Bonn, Germany

Introduction

This international survey highlights how evidence-based medicine (EBM) is currently taught to health professionals, emphasizing the shift towards digital resources and online learning during and after the pandemic. It reveals variability in teaching methods and identifies challenges and opportunities for future EBM education, particularly in integrating new technologies and addressing resource limitations [1].

This systematic review explores the ethical dilemmas inherent in evidence-based medicine (EBM), categorizing them into conflicts of interest, challenges in shared decision-making, issues related to research ethics, and equity concerns. It highlights the need for a more nuanced approach to EBM that integrates ethical considerations alongside clinical evidence, patient values, and clinician expertise [2].

This study investigates the perceptions, barriers, and facilitators affecting the implementation of evidence-based medicine (EBM) in clinical practice among physicians. It identifies common challenges like lack of time, limited access to resources, and insufficient training, while highlighting positive attitudes towards EBM and the importance of institutional support for successful integration [3].

This scoping review synthesizes current practices and methodologies for teaching medical students critical appraisal skills, a cornerstone of evidence-based medicine. It identifies various educational strategies, including workshops, problem-based learning, and longitudinal curricula, and highlights the need for standardized, effective approaches to equip future clinicians with the ability to evaluate medical literature rigorously [4].

This article examines the intersection of evidence-based medicine (EBM) and shared decision-making (SDM) in clinical practice, arguing that optimal patient care arises when high-quality evidence is integrated with patient preferences and values through collaborative discussions. It underscores the importance of communication skills for clinicians to effectively facilitate SDM within an EBM framework [5].

This paper describes the systematic process of developing clinical practice guidelines, highlighting the critical steps from synthesizing evidence to formulating actionable recommendations. It emphasizes the importance of transparent methodology, multidisciplinary expert panels, and patient involvement to ensure guidelines are trustworthy, relevant, and implementable in diverse clinical settings, thereby strengthening evidence-based practice [6].

This study details the creation and evaluation of an online module designed to innovate the teaching of evidence-based medicine (EBM) principles. It demonstrates the effectiveness of digital learning tools in enhancing knowledge and skills in EBM, offering a flexible and scalable solution for medical education, especially in contexts where traditional teaching methods are challenging to implement [7].

This perspective discusses the unique challenges and vast opportunities for applying evidence-based medicine (EBM) principles in global health contexts, particularly regarding neglected tropical diseases. It highlights the scarcity of high-quality evidence in low-resource settings and calls for innovative research methodologies and capacity building to ensure EBM contributes effectively to improving health outcomes worldwide [8].

This article elaborates on the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach as a framework for assessing the trustworthiness of clinical practice guidelines. It explains how GRADE systematically evaluates the quality of evidence and strength of recommendations, thereby improving the rigor and transparency of guidelines, which are fundamental tools in evidence-based medical practice [9].

This perspective argues for a symbiotic relationship between evidence-based medicine (EBM) and personalized medicine (PM), contending that rather than being contradictory, they are complementary. It emphasizes how PM can refine EBM by providing more granular evidence tailored to individual patient characteristics, while EBM provides the robust methodological framework to validate PM approaches, leading to more precise and effective treatments [10].

***Correspondence to:** Thomas Becker, Department of Evidence and Policy Studies, University of Bonn, Bonn, Germany. E-mail: thomas.becker@uni-bonn.de

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Conclusion

Evidence-Based Medicine (EBM) is undergoing significant evolution, particularly in its teaching and implementation. The shift towards digital resources and online learning has become prominent, especially since the pandemic, highlighting both variability in methods and the need for new technologies in education [1]. Despite positive attitudes, physicians encounter challenges like lack of time and resources when implementing EBM in clinical practice [3]. Ethically, EBM navigates dilemmas concerning conflicts of interest, shared decision-making, and equity, underscoring the necessity for a balanced approach that integrates evidence with patient values and clinician expertise [2].

Core to EBM are critical appraisal skills for evaluating medical literature [4], and the integration of shared decision-making, which requires strong communication skills from clinicians [5]. The development of trustworthy clinical practice guidelines, a systematic process involving evidence synthesis and expert panels, is also crucial, with frameworks like GRADE enhancing their rigor and transparency [6, 9]. EBM's reach extends to global health, where it faces challenges in low-resource settings but presents opportunities for innovative research and capacity building [8]. Innovations in teaching, such as online modules, prove effective for enhancing EBM knowledge and skills [7]. A symbiotic relationship between EBM and personalized medicine is also emerging, where personalized approaches refine EBM by offering tailored evidence, while EBM provides the validation framework for these methods, leading to more precise treatments [10].

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