

3.7 EVIDENCE-BASED MEDICINE

Evidence-based medicine (EBM) uses a systematic approach to medical decision-making and patient care, combining the highest available level of scientific evidence with practitioner clinical judgment and patient values and preferences. For hospitalists facing multiple critical medical choices daily, using an EBM approach helps them collaborate with patients to make the best possible individualized decisions. In the current environment, in which hospitalists have immediate access to vast amounts of information, knowledge management skills are critical so hospitalists can find, synthesize, and organize the best available information. Hospitalists also use their EBM skills to find current scientific evidence to develop quality improvement projects, including protocols and clinical pathways that improve the efficiency and quality of care within their organizations. Additionally, hospitalists lead and participate in educational efforts that foster the adoption of a rigorous evidence-based approach among medical trainees, hospital staff, and physician colleagues.

KNOWLEDGE

Hospitalists should be able to:

- Identify peer-reviewed databases and other resources to search for scientific evidence to answer clinical and systems questions.
- Distinguish between filtered and nonfiltered resources by providing examples and describing their advantages and disadvantages.
- Describe major study types, including therapy, diagnosis, prognosis, harm, meta-analysis (systematic review), economic analysis, and decision analysis.
- Describe and differentiate the salient features of the following study designs: randomized controlled trials, meta-analyses, cohort studies, case-control studies, case series, cost-effectiveness studies, and clinical decision analysis studies.
- Explain the core components and core statistical concepts used in therapy studies, including relative risk, relative risk reduction, absolute risk reduction, number needed to treat, and intention-to-treat analysis.

- Explain the core components and core statistical concepts used in diagnosis studies, including Bayes' theorem, sensitivity, specificity, and likelihood ratios.

SKILLS

Hospitalists should be able to:

- Formulate a well-designed clinical question using the Patient Intervention Comparison Outcome (PICO) approach.
- Seek the best available evidence to support clinical decisions and process improvements at the individual and institutional level.
- Identify the most appropriate study design(s) for any given clinical- or systems-based question.
- Search filtered and nonfiltered information resources efficiently to find answers to clinical questions.
- Critically appraise the validity of individual study methodology and reporting.
- Evaluate and interpret study results, including useful point estimates and precision analysis.
- Apply relevant results of validated studies to individual patient care or systems improvement projects.
- Develop a process for the ongoing incorporation of new information into existing clinical practice and system improvement projects.
- Lead, coordinate, and/or participate in educational initiatives aimed at teaching and practicing EBM.
- Lead, coordinate, and/or participate in evidence-based systems interventions to improve care quality and efficiency.

ATTITUDES

Hospitalists should be able to:

- Reflect upon individual practice patterns to identify new questions.
- Serve as a role model for evidence-based point-of-care practice.
- Advocate for institutional access to high-quality point-of-care EBM information resources.