A Very Brief Introduction to Evidence-Based Medicine (EBM)

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A Simple Question

How does the healthcare system know that it is providing the best possible care for patients in a system that is constantly changing?
Medical Education: A Whirlwind History - Galen (200 AD)

- Medical knowledge was handed down from a “wise” teacher to his students who, in turn, would pass on this knowledge to a new generation of medical practitioners.
- “Authority-based Medicine”
Medical Education: A Whirlwind History - The 18th Century

- International travel and communication become easier
- Pasteur and Semelweis begin our understanding of infection
- There is little science behind the majority of medical practices
- Many doctors in the US are found to be illiterate
Medical Education: A Whirlwind History - Late 20th Century

- Major advances in medical care
  - Antibiotics
  - Surgical methods
  - Molecular Biology

- A boom in medical publications
  - The quantity of publication does not correlate with the quality of the research
Information ≠ Useable Data

- Advertising
  - Direct-to-Consumer
  - Provider-focused
- The Media
- Internet
- Medical Journals
- Scientific Meetings
McMaster University
Hamilton, Ontario
Evidence-Based Medicine

“Evidence-based medicine (EBM) is about solving clinical problems. In 1992, we described EBM as a shift in medical paradigms…EBM acknowledges that intuition, unsystematic clinical experience and pathophysiologic rationale are insufficient grounds for clinical decision making.”

-Gordon Guyatt, MD

Evidence-Based Medicine

EBM requires the integration of the best research evidence with our clinical expertise and our patient’s unique values and circumstances

In: Evidence-Based Medicine: How to Practice and Teach EBM: Straus, SE et al:1, 2005
The Evidence Pyramid
Evidence-Based Medicine

Best Research Evidence

Clinical Expertise

Patient’s values and circumstances

EBM
Critical appraisal *applied* through the clinician’s *experience* and *judgment*