# Technology to Support Evidence Based Practice

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# Objectives

- Identify technology initiatives that impact Evidence Based Practice.

- Recognize the role of information technology in supporting research and evidence based practice to improve patient care outcomes and create a safe care environment.

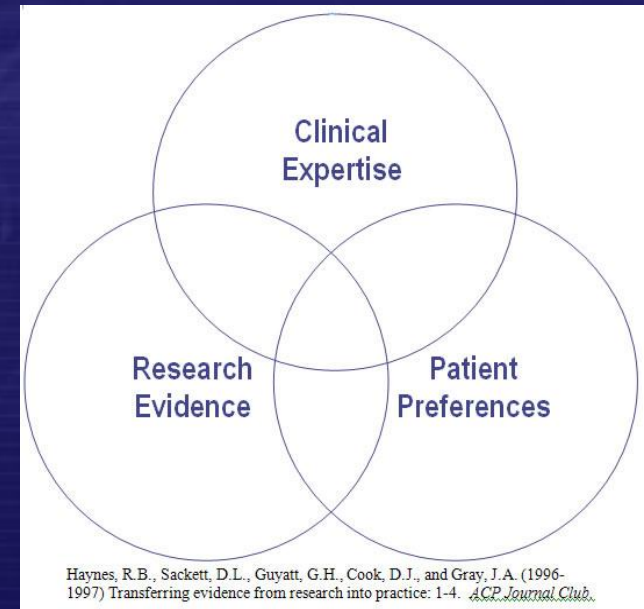- Examine the adoption and use of the electronic health record to support EBP.

# Evidence-Based Practice (EBP)

"Evidence-Based Practice is the explicit, judicious, and conscientious use of current best evidence from health care research in decisions about the care of individuals and populations"



Haynes, R.B., Sackett, D.L., Guyatt, G.H., Cook, D.J., and Gray, J.A. (1996-1997) Transferring evidence from research into practice: 1-4. *ACP Journal Club.*

(Sackett, Straus, Richardson, Rosenberg, & Haynes, 2002).
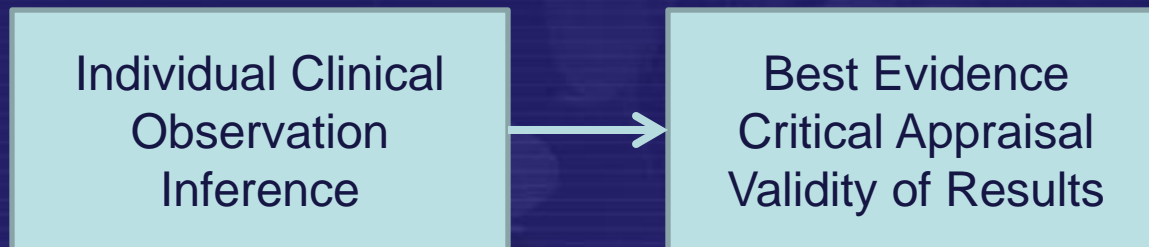
# EBP - Benefits

- Improve patient outcomes

- Standardize practice

- Strengthen Nursing as a profession and science

- Increase patient satisfaction

- Reduce liability

- Save health care dollars

- Help providers & facilities meet regulatory requirements

# Background

- Early 1990's – paradigm shift

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│  Individual Clinical │   ──▶  │   Best Evidence      │
│     Observation      │        │  Critical Appraisal  │
│      Inference       │        │  Validity of Results │
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- Internet – NLM gateway search engines
  - Grateful Med (retired in 2001)
  - Medline

- Knowledge Repositories – rules/structure

# Sources of Evidence

- NLM Resources
  - Medline
  - PubMed
  - OVID
  - CINAHL
- EBSCO Host
- Science Direct

- Cochrane Reviews
- Joanna Briggs Institute
- Online Journals
- Online Textbooks
- AHRQ – TRIP I & II
- NIH sources
- Google (Scholar)

# Technology and Research Process

Topic or Clinical Question Identification

- Online literature searches

- Email, online communities

- Computer folders

Proposal Preparation

- Word processing

- Spreadsheets (budget)

- Online submission

Data collection

- Online surveys, interviews, data storage

- Tablets, handheld devices

# Technology and Research Process

- Statistical analysis
  - SPSS, SAS (quantitative)
  - Nvivo, NuDist (qualitative)
- Results Reporting
  - Wordprocessing
  - Graphics
  - Presentation software
- Electronic dissemination of findings
  - Online journals
  - Email
  - Web pages

# EBP and the
# Electronic Health Record

# A word from our sponsor…

*"In attempting to arrive at the truth, I have applied everywhere for information, but in scarcely an instance have I been able to obtain hospital records fit for any purposes of comparison. If they could be obtained they would enable us to decide many other questions besides the ones alluded to. They would show subscribers how their money was being spent, what amount of good was really being done with it, or whether the money was not doing mischief rather than good."(Nightingale, 1863, p.176).*

# Institutes of Medicine (2007 & 2010)

**Key initiatives related to EBP:**

- Use **EHR's** to build and leverage a knowledge and evidence base for nursing care that improves outcomes.

- Establish a monitoring system with the most current analytics to mine data.

- Apply research on health IT to improve care efficiency and quality.

# Institutes of Medicine (2007 & 2010)

**Key initiatives related to EBP:**

- **Electronic Health Record** adoption for Advanced Practice Nurses.

- Utilize electronic tools for education, simulation, evaluation, and reporting of outcomes of transition programs.

- Technology to maintain cutting edge practice, teaching, and research.

# Informatics Contribution to EBP

- Improves information access to "evidence"
- Facilitates communication among healthcare team members
- Automates surveillance for real-time error detection and prevention
- Supports and maintains standardization of practice patterns
- Supports access to information in the clinical setting to improve care and care planning
- Enhances educational programs
- Supports research and the generation of knowledge