Evidence-based Practice, Research, and Quality Improvement

What’s the Difference?

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Quality Health Care
IOM Definition of Quality

“...degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”

“Quality health care means doing the right thing, at the right time, in the right way, for the right person—and having the best possible results.”

http://archive.ahrq.gov/consumer/qot/qotlook.htm
Quality Indicators

- ANA  NDNQI program
- AHRQ  quality, safety, efficiency, and effectiveness of health care
- IOM  safe, effective, patient-centered, timely, efficient, equitable

Year 2020, 90 percent of clinical decisions will reflect the best available evidence

Quality Healthcare Approaches

- Evidence-based Practice
- Research (External Evidence)
- Quality Improvement (Internal Evidence)
Objectives

- Differentiate among Research, Quality Improvement and Evidence-based Practice
- Examine the Research, Quality Improvement and Evidence-based Practice processes for clinical practice

Evidence-based Practice

......a problem solving approach

evidence
clinician’s expertise
patient preferences and values

to make decisions about client care....

(Melnyk & Fineout-Overholt, 2005; Sackett et al 1996)
EBP
Formulate a Clinical Question (PICOT)

PICOT Drives the Search for Evidence

Appraise, Evaluate & Synthesize Evidence

No Evidence
A Gap?

Generate Evidence
- Internal: OM, QI
- External: Research
Appraise, Evaluate and Synthesize Evidence

valid and reliable evidence = quality

quality + LOE = strength of evidence

confidence to act

(Melnyk & Fineout-Overholt, 2011)

Apply Valid, Reliable and Relevant Evidence

Evaluate Outcomes
EBP

“...provides clinicians the tools to translate the evidence into clinical practice and integrate it with internal evidence to improve the quality of healthcare and patient outcomes”

(Melnyk & Fineout-Overholt, 2011, p 5)

Research

“A systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge”

http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm#46.102
Research Process (Burns & Grove, 2009)

- Formulate a research problem and purpose
- Review relevant literature
- Develop a framework
- Formulate research objectives, questions or hypotheses
- Define research variables
- Make assumptions explicit
- Identify limitations

Research Process (con’t)

- Select a research design
- Define the population and sample
- Select methods of measurement
- Develop a plan for data collection and analysis
- IRB
- Implement the research plan
- Pilot, collect data, analyze data, interpret research outcomes
- Communicate research findings
Research

- Knowledge seeking
- Knowledge is generated not implemented
- Uncertainty that an intervention is beneficial – aim is to produce knowledge that is generalizable
- No immediate improved care


EBP ≠ Research
EBP and Research

- No evidence
- Gap in Knowledge
- Research

Research and EBP

- External evidence
- Valid, reliable, applicable
- Practice Change
Quality Improvement

- “Systematic, data-guided activities designed to bring about immediate improvement in health care delivery in particular settings” (Lynn et al. 2007)
- “Use data to monitor the outcomes of care processes and use improvement methods to design and test changes to continuously improve the quality and safety of health care systems” (Hughes, 2003)

- Directed toward the organization's processes (practices) and generating solutions specific to the local setting (Reinhardt & Ray, 2003)
Quality Improvement

There is no one method to define QI (Varkey, Reller & Resar, 2007)

PDSA cycle,
Six-Sigma
Lean methodology

PDSA

Aim
Plan
Do
Study
Act

Langley et al (2009)
EBP and QI

- No evidence
- Local setting
- QI

QI and EBP

- Internal evidence
- Integrated with external evidence
- EBP
A QI initiative involves testing an intervention, using patients as subjects, comparing groups or subjecting patients to additional risks or burdens beyond usual practice?

Baily, Bottress, Lynn & Jennings (2006)

Then Think QI Research
http://answers.hhs.gov/ohrp/questions/7285

**What?** Implement an untested clinical intervention  
*not only* improving the quality of care  
*but also* collecting data about patient outcomes  
**Intent:** to establish *scientific evidence*  
**Why?** to determine how well the intervention achieves its intended results
Research vs. QI vs. EBP

Research:
Research is a diligent, systematic inquiry or investigation to validate, and refine existing knowledge and generate new knowledge” (Burns & Grove, 2009, p. 3)

Purpose:
Generate new knowledge and add to the existing evidence.

Context:
Often professional interest

QI:
Use of data to monitor the outcomes of care processes and use improvement methods to design and test changes to continuously improve the quality and safety of health care systems (QSEN)

Purpose:
Improve local systems.

Context:
Local practice

EBP:
A problem solving approach
- Evidence
- Clinician’s expertise
- Patient values and preferences

To make decisions about patient care
(Melnyk & Fineout-Overholt, 2005; Sackett et al 2000)

Purpose:
Search for and appraise evidence to answer a clinical question.

Context:
Practice problem
Research vs. QI vs. EBP

**Research:**
QUESTION: Research questions are usually directional

*Does the use of sitters decrease falls in hospitalized elders?*

**QI:**
QUESTION: QI questions are about fixing problems (aim)

*Why is our fall rate so high? (Decrease the percentage of falls from 15% to 0%)*

**EBP:**
QUESTION: EBP questions are not directional

*In hospitalized elders (P), how does a bed alarm (I) compared to use of sitters (C) affect fall rates (O) in 4 months (T)?*

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**Research vs. QI vs. EBP**

**Research:**
QUESTION: Research questions are usually directional

*Does the use of a foley insertion checklist decrease CAUTI*

**QI:**
QUESTION: QI questions are about fixing problems

*Why is our CAUTI rate so high? (Decrease the percentage of CAUTI to 0%)*

**EBP:**
QUESTION: EBP questions are not directional

*In hospitalized patients needing urinary catheterization (P), how does a checklist (I) compared to no checklist (C) affect infection rates (O) in 4 months (T)?*
Research vs. QI vs. EBP

**Research:**

- **Literature Review**
  - Summarizes background and significance of the problem, documenting the current knowledge of the problem;
  - provides justification for further study;
  - guides methodology;
  - not for the purpose of clinical decision-making

**QI:**

- **MODELS**
  - Example: PDSA
  - Test of Change
  - Ideas, one selected and tested

**EBP:**

- **Search the literature for the best evidence**
  - Exhaustive search for all research conducted on the topic as well as other evidence to answer the question;
  - systematic search of the literature

**Research vs. QI vs. EBP**

**Research:**

- **Critique Literature**
  - Comprehension
  - Comparison
  - Analysis
  - Evaluation
  - Conceptual clustering
  - Synthesizing (Burns & Grove, 2009)

**QI:**

- **MODELS**
  - Example: PDSA
  - Test of Change
  - Ideas, one selected and tested

**EBP:**

- **Appraise evidence**
  - Evaluate and Synthesize
    - How valid
    - How reliable
    - How applicable
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<tr>
<th>Research</th>
<th>QI:</th>
<th>EBP:</th>
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<tr>
<td>Carry out the study</td>
<td>PDSA (test change)</td>
<td>Implement evidence</td>
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<tr>
<td>Analyze results</td>
<td>DO</td>
<td>Evaluate Outcome(s)</td>
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<td>Disseminate</td>
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Research vs. QI vs. EBP

- Research
- EBP
- QI

Research ≠ EBP

EBP ≠ QI

QI ≠ Research
Highly Recommended

Shirey, M. R. et al. (2011) Showcasing differences between quality improvement, evidence-based practice and research. *Journal of Continuing Education in Nursing* 42(2) 57-68
References


