Evidence Based Practice, Quality Improvement, and Nursing Research
Fact Sheet

Evidence Based Practice
• A problem solving approach to clinical decision making that incorporates a search for the best and latest evidence, clinical expertise, and assessment, and patient preference values within a context of caring.
  (Melnyk, 2003)

Nursing Research
• Nursing research involves the systematic inquiry specifically designed to develop, refine, and extend nursing knowledge
• The intent of nursing research is to answer questions and develop knowledge using a scientific method such as quantitative, qualitative, or mixed methods.

Quality Improvement
• Quality, clinical or performance improvement focuses on systems, processes, and functional, clinical, satisfaction, and cost outcomes
• QI projects may contribute to understanding best practice or processes of care in which nurses are involved
• QI is not designed to develop nursing practice standards or nursing science

Differences between EBNP and QI and Nursing Research
• EBNP is the translation of existing research
• Research is the generation of new knowledge
• Quality Improvement looks at systematic processes to eliminate error

The Evidence Based Nursing Practice Process

The five steps of the Evidence Based Nursing Practice Process are:

1. Ask the “burning” question
2. Collect the most relevant and best evidence.
3. Critically appraise the evidence
4. Integrate the information to make a practice decision or change
   – Best evidence, clinical experience, patient preferences, values
5. Evaluate the practice decision or change.
Step 1: Developing a Good Question: PICO

- The problem
  - Describe the group of patients, Describe the clinical issue
- The intervention
  - What do you want to do?
- The comparison
  - Are you comparing interventions?
- The outcome
  - What do you want to accomplish?

Step 2: Collecting the Evidence

A literature review is:
- a broad, comprehensive, in depth, systematic, and critical review of scholarly publications, including unpublished scholarly print materials, audiovisuals and personal communications

What is Evidence?

<table>
<thead>
<tr>
<th>Primary Sources:</th>
<th>Secondary Sources:</th>
</tr>
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<tbody>
<tr>
<td>Clinical trials</td>
<td>Review papers</td>
</tr>
<tr>
<td>Randomized Controlled Studies</td>
<td>Meta-analyses</td>
</tr>
<tr>
<td>Multi-center Studies</td>
<td></td>
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- Maturity of the science
  - The base: idea or laboratory research
- Rigor of the research methodology
  - The top: thorough examination of valid studies on a topic

As you move up the pyramid, the amount of available literature decreases, but increases in relevance to clinical setting

Evidence Pyramid

Databases and Resources:

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<table>
<thead>
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<tbody>
<tr>
<td>Google Scholar</td>
<td>Medscape</td>
</tr>
<tr>
<td>ScienceDirect</td>
<td>Up to Date</td>
</tr>
<tr>
<td>HighWire Press</td>
<td>CINAHL</td>
</tr>
<tr>
<td>Mosby’s Nursing Index</td>
<td>PubMED/Medline</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>The COCHRANE Library</td>
</tr>
<tr>
<td>Health Reference Center</td>
<td></td>
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Step 3: Critically appraise the evidence

Read and appraise the literature to:

- Evaluate the validity of the study (closeness to the truth)
- Evaluate the clinical applicability (usefulness to clinical practice)

Answer the following questions:

- What are the results of the study?
- Are the results valid?
- Will the results help me in clinical practice?

Levels of Evidence:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Good evidence to support the recommendation that the condition be specifically considered in periodic health examination</td>
</tr>
<tr>
<td>B</td>
<td>Fair evidence to support the recommendation that the condition be specifically considered in periodic health examination</td>
</tr>
<tr>
<td>C</td>
<td>Poor evidence regarding the inclusion of the condition in a periodic health examination but recommendation may be made on other grounds</td>
</tr>
<tr>
<td>D</td>
<td>Fair evidence to support that the recommendation be excluded from consideration in periodic health examination</td>
</tr>
<tr>
<td>E</td>
<td>Good evidence to exclude the recommendation from consideration in periodic health examination</td>
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</tbody>
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Step 4: Integrate the information to make a practice decision or change

- Develop New or revise of a standard with current information
- Perform new practice (monitor if it works or not)

Step 5: Evaluate the practice decision or change
Examples of Evidence Based Practice

• Assessing the Standard for Chemotherapy induced nausea and vomiting
• Listening to Bowel Sounds
• Best Practice for Tracheotomy Dressing
• Positioning in the OR to prevent pressure ulcers
• Early Mobilization to prevent pneumonia

Examples of Quality Improvement

• Improving the discharge time of patients
• Improving Documentation of Critical Lab Values
• Reduce the time between when a provider writes an order (antibiotic) and when the patient receives the order
• Decrease infections associated with central venous catheters
• Improve patient satisfaction
• Decrease pressure sores with the use of pressure dressings

Examples of Nursing Research

• 3 year study examining symptoms clusters of patients with congestive heart failure
• 1 year study examining if women delay reporting symptoms of heart attack more than men
• 5 year study examining if location from hospital impacts follow up treatment of breast cancer patients
• 10 year longitudinal study examining quality of life outcomes in heart transplant patients from pre transplant to 5 years post transplant

The UAB Center for Nursing Excellence Exists to:

Provide leadership for enhancing the highest quality evidence-based nursing practice, research, educational initiatives, and partnerships within UAB Health System entities, our communities, as well as other academic and health care institutions.

Serve as an internal and external conduit for the promotion of excellence in nursing through collaboration, consultation, career development, educational initiatives, scholarly productivity, and professional partnerships.
How to Read a Benchmark Graph

The following graph is the property of NDNQI and Not allowed to be shared outside this learning activity.

As seen on this slide, the red dotted line is the median for all academic medical centers participating in this benchmarking database. Patients in SICU, TBICU, and MICU are all above the benchmark which means there should be action taken to reduce pressure ulcers in these units.

This is an example of the fall rate in a particular unit. The red line is the NDNQI median. The dark green line is the monthly fall rate for 2009. The light green line is the fall rate for 2010. This unit is mostly below the median which means the unit is doing pretty well with falls. However, there are a few months that falls were above the median.