Objectives

- Discuss factors that created EBP as a new paradigm and movement in health care quality.
- Examine essential elements of evidence-based practice including ACE Star Model.
- Identify resources and access appropriate evidence into clinical decision making.
Impetus

Quality of care lags behind knowledge.

Evidence-based practice is seen as a solution.

“STEEP” Redesign

Safety
Timeliness
Effectiveness (EBP)
Efficiency
Equity
Patient-Centeredness

HERE

? THERE

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**Hurdles**

**VOLUME** of literature:
“No unaided human being can read, recall, and act effectively on the volume of clinically relevant scientific literature.”
(IOM, 2001, 25)

**FORM** of knowledge:
Are results from a single primary research adequate for informing practice?
What is the base of standards, protocols?

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**The Emergence of EBP**

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**EBP Defined**

Integration of
➢ best research evidence with
➢ clinical expertise and
➢ patient values.

Sackett, et al. 2000
One obstacle in moving research rapidly into patient care is the growing volume and complexity of science and technology. (IOM, 2001, 25).

Evidence summaries, systematic reviews reduce volume and complexity of evidence by integrating all research results into a meaningful whole.

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Knowledge Transformation

Conversion increases meaning to the clinician and utility in clinical decision making. This conversion is explained by the ACE Star Model of Knowledge Transformation.

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ACE Star Model
Description is available:

http://acestar.uthscsa.edu
Click on “Learn About EBP”

Definition of Knowledge Transformation
The conversion of research findings from primary research results, through a series of stages and forms, to impact on health outcomes by way of evidence-based care.

1 Discovery
New knowledge is discovered through primary research.
There were 22% fewer falls during the trial in the group exercise group than in the comparison group (IRR = 0.78, 95% CI = 0.62–0.99).


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This step distinguishes EBP from the old paradigm of research utilization.

All research is synthesized into a single, meaningful statement of the state of the knowledge.

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Smoking Interventions for Pregnant Women

Located 64 randomized and quasi-randomized trials including over 20,000 women: There was a significant reduction in smoking in the intervention groups of the 48 trials included; the authors concluded that smoking cessation programs in pregnancy reduce the proportion of women who continue to smoke, and reduce low birthweight and preterm birth.

Lumley, J; Oliver, SS; Chamberlain, C; Oakley, L. (2005). Interventions for promoting smoking cessation during pregnancy. Cochrane Pregnancy and Childbirth Group Cochrane Database of Systematic Reviews.
EXAMPLE OF EVIDENCE SUMMARY
Interventions for Preventing Falls in Elderly People

Located 62 trials involving 21,668 people
Interventions likely to be beneficial:
- Multi factor health/environmental risk factor screening/intervention
- Muscle strengthening and balance retraining
- Home hazard assessment and modification
- Withdrawal of psychotropic medication
- Tai Chi group exercise intervention


In Translation, the summary of the scientific evidence is considered in context of clinical expertise and other information, to result in a practice recommendation.

3 Translation
Research evidence is translated into clinical recommendations.

Rating Strength of Evidence-NHS

1A SR with homogeneity of RCTs
1B Individual RCT with narrow CI
1C All or none
2A SR with homogeneity of cohort studies
2B Individual cohort study
2C "Outcomes" research
3A SR with homogeneity of case-control studies
3B Individual case-control study
4 Case-series, poor quality cohort & case-control
5 Expert opinion, theory, bench research

USPSTF-Colorrectal Cancer Screening

The USPSTF strongly recommends that clinicians screen men and women 50 years of age or older for colorectal cancer. **A** recommendation.

**Rationale:** The USPSTF found fair to good evidence that several screening methods are effective in reducing mortality from colorectal cancer. The USPSTF concluded that the benefits from screening substantially outweigh potential harms.

The USPSTF found good evidence that periodic fecal occult blood testing (FOBT) reduces mortality from colorectal cancer and fair evidence that sigmoidoscopy alone or in combination with FOBT reduces mortality.

http://www.ahrq.gov/clinic/uspsft/uspscolo.htm

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**EXAMPLE OF TRANSLATION**

**CPG** for the assessment and prevention of falls in older people.

**Multifactorial Interventions**

A - All older people with recurrent falls or assessed as being at increased risk of falling should be considered for an individualized multifactorial intervention. (Evidence level I)

A - In successful multifactorial intervention programs the following specific components are common (Evidence level I):

- Strength and balance training
- Home hazard assessment and intervention
- Vision assessment and referral
- Medication review with modification/withdrawal

**SOURCE:** National Collaborating Centre for Nursing and Supportive Care. London (UK). National Institute for Clinical Excellence. 2004

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**National Guideline Clearinghouse**

- Sponsored by AHRQ
- Clinical Practice Guidelines

http://www.guideline.gov
Integration requires a change in professional practice at the individual, organizational, & environmental levels.

Integration requires a change in professional practice at the individual, organizational, & environmental levels.

The impact of the change is measured on a number of end points.

National Quality Measures Clearinghouse

- Colon cancer screening: % of patients receiving timely colorectal cancer screening

http://www.qualitymeasures.ahrq.gov
EXAMPLE OF EVALUATION
Colorectal Cancer Screening

- Colon cancer screening: % of patients receiving timely colorectal cancer screening


http://www.qualitymeasures.ahrq.gov

Knowledge Transformation

ACE Star Model ©2004

Organizations and Resources

* Research Journal
* Agency for Healthcare Research and Quality
* Cochrane Library
* US Preventive Services Task Force
* National Guideline Clearinghouse
* National Quality Measures Clearinghouse
Accessing Resources

Go to http://www.acestar.uthscsa.edu; click “EBP Resources” to access list of Evidence-based Practice Resources on the World Wide Web

How the ACE Star Model Helps Us Understand EBP

The most important distinction one can make:
Once you have identified the knowledge underlying the clinical practice--
- Determine the stage of knowledge transformation by placing it on a point of the ACE Star Model (e.g., primary research? evidence summary? CPG?)
- Assess that prior stages have been accomplished
- Continue moving the knowledge through subsequent stages of transformation.

Further EBP Education Tools

- Please contact ACE for access to the booklet, Essential Competencies for Evidence-Based Practice in Nursing.
  - acestar@uthscsa.edu
- NATIONAL CONSENSUS has been established for these competencies.
- Between 20 and 30 competency statements are defined for Undergraduate, Masters, and Doctoral nursing programs.
## EBP Performance Competencies
### Examples for Staff Nurse

<table>
<thead>
<tr>
<th>STAR POINT</th>
<th>PERFORMANCE COMPETENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Discovery</strong></td>
<td>“Recognize ratings of strength of evidence when reading literature including web resources”</td>
</tr>
<tr>
<td><strong>2 Summary</strong></td>
<td>“List advantages of SRs as strong evidential foundation for clinical decision making”</td>
</tr>
<tr>
<td><strong>3 Translation</strong></td>
<td>“Using specified databases, access CPGs on various clinical topics”</td>
</tr>
<tr>
<td><strong>4 Integration</strong></td>
<td>“Assist in integrating practice change based on EB CPGs”</td>
</tr>
<tr>
<td><strong>5 Evaluation</strong></td>
<td>“Participate in EB quality improvement processes to evaluate outcomes of practice changes”</td>
</tr>
</tbody>
</table>

Source: Stevens, K. (2005). *Essential Competencies for EBP in Nursing*. ACE UTHSCSA, p.6-16. Contact acestar@uthscsa.edu
TO THE USER OF THIS PPT SLIDE SET

- Please let me know
  - How well this met your needs
  - What else would be helpful
- ACE is developing additional materials to assist with teaching EBP and your feedback is vital!
- This material is copyright protected so that it can be disseminated more widely via various channels

My sincere thanks for your interest and efforts in advancing EBP in healthcare!!

Kathleen Stevens

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