

OVERVIEW

Evidence Based practice is a problem-solving approach that incorporates the best available scientific evidence, clinicians' expertise and patients' preferences and values (Melnyk & Fineout-Overholt, 2004).

The Institute of Medicine has emphasized the importance of EBP to support the delivery of quality healthcare (Institute of Medicine, 2001). One of the five core competencies for health professional education deemed necessary by the Healthcare Professions Educational Summit is EBP (Greiner & Knebel, 2003).

Research has supported that patient outcomes are at least 28% better when clinical care is based upon evidence versus steeped in tradition (Heater, Becker & Olsen, 1988).

Effective nursing care rests on the development and use of nursing evidence. Today evidence is derived from many sources such as clinical trials, observational studies, outcomes research and case reports. Evidence-based nursing practice is identified as the integration of best research evidence with clinical expertise and patient values to facilitate clinical decision making. The concept of evidence-based practice is dependent upon synthesizing the evidence from a variety of sources and applying it appropriately to the care needs of populations and individuals. One of the challenges in nursing is the limited amount of evidential research specific to the direct care of patients. Research findings must be transformed into knowledge before the results are useable in clinical decision making. Identifying the most effective care requires a systematic approach. There are several published models of evidence-based practice. The Ace Star Model and the Iowa Model of Evidence-Based Practice are two conceptual models that provide the framework for systematically putting evidence-based practice processes into operation to improve care.

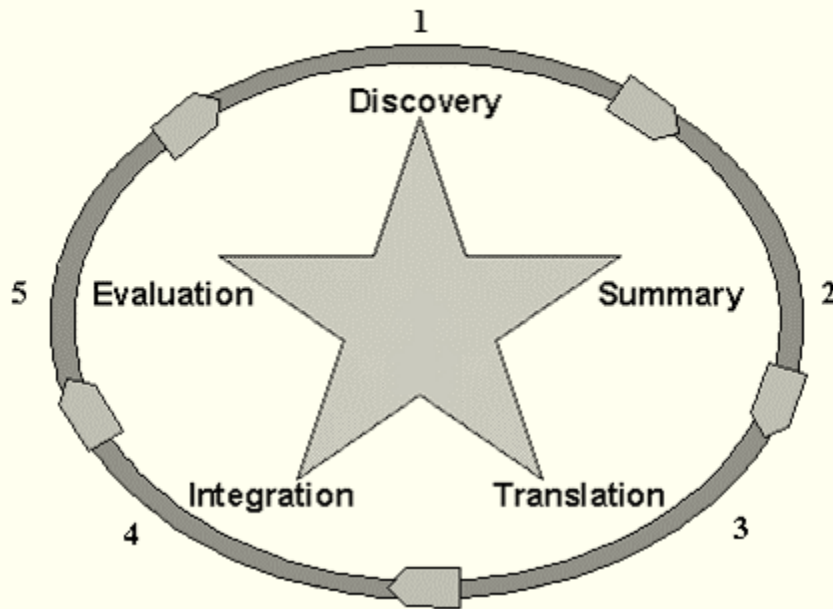
The Ace Star Model is a conceptual model that identifies the key stages to transform knowledge (i.e. research) into practice.

The Ace Star Model illustrates five major stages of knowledge transformation:

- 1) Knowledge discovery
- 2) Evidence summary
- 3) Translation into practice recommendations
- 4) Integration into practice
- 5) Evaluation.

Evidence-based processes and methods vary from one point of the star model to the next.

ACE Star Model of Knowledge Transformation



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Explanation of Each Stage

Star point 1. Discovery

This is the knowledge generating stage. In this stage new knowledge is discovered through the traditional research methodologies and scientific inquiry. Research designs can range from randomized control trials to qualitative studies.

Star point 2. Evidence Summary

Evidence summary is the first unique step in evidence-based practice (EBP). This is the knowledge generating stage in which research is synthesized into a single meaningful statement. Evidence summaries integrate the results from multiple studies to yield more credible results. Systematic reviews, similar to those found in the Cochrane Database, are considered the highest level of evidence.

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| Level I: | Evidence from a systematic review or meta-analysis of all relevant randomized control trials (RCTs), or evidence-based clinical practice guideline based on systematic reviews of RCTs |
| Level II: | Evidence obtained from at least one well designed RCT |
| Level III: | Evidence obtained from well-designed controlled trials without randomization |
| Level IV: | Evidence from well-designed case control and cohort studies |
| Level V: | Evidence from systematic reviews of descriptive and q qualitative studies |
| Level VI: | Evidence from a single descriptive or qualitative study |

Level VII: Evidence from the opinion of authorities and/or reports of expert committees

(Melnyk & Fineout-Overholt, (2005)

Star point 3. Translation

The transformation of evidence summaries into actual practice requires two stages: *translation* of evidence into practice recommendations and *integration* into practice. The aim of transformation is to provide useful tools to support care. Recommendations are generically termed *clinical practice guidelines* and embedded in care standards, protocols and algorithms.

Star point 4. Integration

The integration stage is perhaps the most challenging as this stage involves changing both individual and organizational practices. Practice changes are adopted and integrated into care. The rate of adoption is dependent upon individual and organizational factors and may require multiple cycles of change over a period of time. The Iowa Model of EBP identifies the steps of integrating evidence into practice. (See Iowa Model Diagram)

Star point 5. Evaluation

The final stage in knowledge transformation is evaluation of outcomes. The impact of EBP on patient outcomes, provider and patient satisfaction, efficacy, efficiency, and economic analysis are evaluated.

References

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