Implementing evidence into practice

By Anne Dabrow Woods, MSN, RN, CRNP, ANP-BC

THE PARADIGM OF HEALTHCARE as we know it is shifting. When the Patient Protection and Affordable Care Act was passed in 2010, 30 million people who didn't have access to healthcare were suddenly eligible for healthcare services. Reimbursement for care has started to shift from volume-based, fee-for-service care to value-based care in which reimbursement is based on patient outcomes. Why is this? Simply put, the care we've been delivering costs too much and the quality isn't what it should be.

In 1999, the Institute of Medicine (IOM) released its landmark report, *To Err Is Human*. This report noted that up to 98,000 patients die each year in the United States due to medical errors that could've been prevented.[1,2] A study by Gray et al. reported that only 20% of the care that healthcare professionals provide is based on evidence.[3] In 2001, the IOM released a study that showed patients received the recommended evidence-based course of treatment only 55% of the time.[4]

When it learned about this data, the healthcare community tried to improve healthcare by focusing on methods to improve patient care and outcomes. Unfortunately, the interventions it tried weren't successful. According to an update to the IOM report, billions of dollars have been wasted and one million people have lost their lives due to safety issues in healthcare.[5] One of the IOM's 2020 goals is to make sure that 90% of clinical decisions are evidence-based.

What is evidence-based practice (EBP), and why is this concept so important? EBP is an approach to healthcare clinical decision-making that integrates the best evidence from well-designed research studies with a clinician's expertise and a patient's preferences and values.[6,7] Evidence can also come from using the process of clinical intelligence: clinical data from the electronic healthcare record or quality improvement projects translated into information and then into knowledge, which in essence is evidence in practice.[8]

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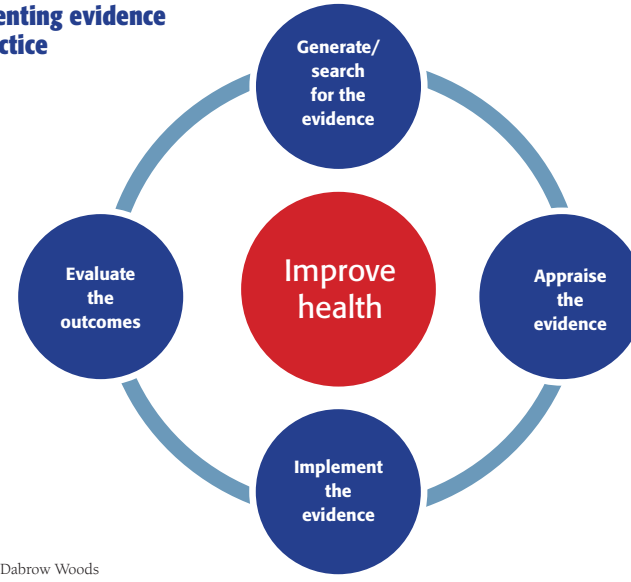


Source: Anne Dabrow Woods

EBP improves practice, improves patient outcomes, and decreases healthcare costs.[6,7] Patient safety can be improved when healthcare professionals use evidence in their practice.

Implementing EBP in healthcare institutions

How can a healthcare institution integrate EBP? The first step is to change its collective mindset to support a culture of change.[6] Leaders must support a culture that's not satisfied with doing things the way they've always been done.

The institution must invest in technology and healthcare information resources so that healthcare professionals can easily access information at the point of care.[6,9] Evidence-based information must include systematic reviews, evidence summaries, and clinical decision support tools to assist healthcare providers with clinical decisions.

The second step is to recognize the barriers to implementing evidence within a healthcare institution.[6,7] These barriers need to be addressed before an evidence-based culture can be successfully implemented. Implementing EBP isn't as easy as one might expect. Historically, the major barriers to EBP have been clinicians' lack of EBP knowledge

and skills, a perception that EBP is time consuming, the belief that EBP is burdensome, and organizational cultures that don't support an EBP environment.[10–12] In a recent study by Melnyk and colleagues, time and organizational culture were rated the top two factors that prevented healthcare professionals from using evidence in their practice.[9] Once the barriers have been identified, education about the importance of EBP can commence.

The third step in implementing EBP within a healthcare system is to have mentors within the organization to support EBP.[6,9] Without mentors, an organization will have a very difficult time sustaining an evidence-based culture, according to the research.[6]

EBP mentors are often advanced practice nurses who are experts in clinical practice as well as EBP and analytical decision-making.[6,13] The mentors should be available to teach the staff the principles of EBP and to function as coaches on quality improvement projects.

The next step in implementing EBP is education.[9] The entire staff, from the bedside to the boardroom, needs to understand and embrace the concepts of EBP. *(See Implementing evidence into practice.)* Clinicians can adopt one of the many methodologies related to EBP, which all follow these practices:

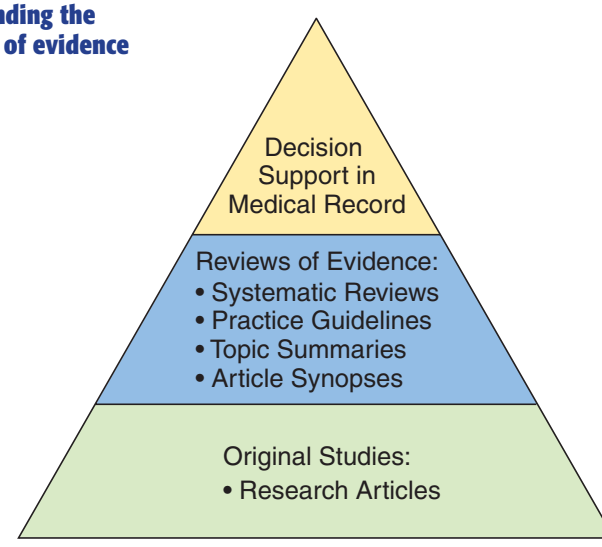
- Develop the clinical question.
- Generate or search for the best evidence.
- Appraise or synthesize the evidence.
- Implement the evidence.
- Evaluate the outcomes.[6,7]

Implementing evidence into practice

Advanced practice nurses and nurse researchers are often responsible for educating the staff about the concepts of EBP.

Step 1. Develop the clinical question.[6] Recognizing a clinical problem and building a question around it can be challenging. One of the best methods for developing a clinical question is the PICOT format, which includes the following criteria:

Understanding the hierarchy of evidence



Source: Melnyk BM, Fineout-Overholt E. Evidence-Based Practice in Nursing and Healthcare: A Guide to Best Practice. 2nd ed. Philadelphia, PA: Wolters Kluwer/Lippincott Williams & Wilkins; 2011.

- **P**: patient population–age, ethnicity, gender
- **I**: intervention or issue of interest
- **C**: comparison intervention–which could be no intervention at all
- **O**: outcome–what's expected from the intervention or therapy
- **T**: timeframe–in what time period is the outcome expected?[6]

A good clinical question is needed *to complete a thorough search* of the literature to yield the necessary results. Because the keywords used in an evidence search are obtained from the clinical question, the question must be targeted so that the results are what a healthcare professional seeks. Working with a medical librarian to develop the clinical question can be very helpful.

Step 2. Search for the best evidence.[6,7] The keywords within the clinical question are used as search terms. Most people go to Google to start their search, but for the best results, use a database such as Ovid, Medline, or CINAHL to retrieve the full text of the information rather than just the abstract. Using Boolean modifiers can help produce the best search results: The word "and" between two key words means both search terms must appear in each search result. The word "or" between two key words means either search term can appear in each search result.

Performing a search can be difficult, especially for someone who doesn't have experience with database searches. Tapping a medical librarian is recommended to help with an advanced search.

It's important to remember that all research isn't created equal. You must see where the exact result falls in a hierarchy of evidence.[6] (See *Understanding the hierarchy of evidence.*) Systematic reviews are considered the highest level of research because they're the result of a rigorous review of all the literature. Evidence from opinion, case studies, or reports from committees is considered a lower level of evidence.

The systematic review has two peer reviewers who review all the search results, giving it the most rigor.[7] The systematic review is used to develop practice guidelines and clinical decision support tools. A meta-analysis can be part of the process of conducting a systematic review, or the meta-analysis can be performed separately. Healthcare professionals should never change practice based on only one randomized controlled study; to change practice, they should use systematic reviews and clinical practice guidelines based on systematic reviews.[7]

Step 3. Appraise or synthesize the evidence.[6,7] Once the search has been completed, conduct an appraisal of

each result to determine whether the study is credible and valid and whether it should be included for consideration.[6] An evidence appraisal must include a thorough evaluation of the article for validity, reliability, and applicability to a wider audience. Different types of studies should be reviewed using different criteria. For instance, quantitative studies have different review criteria than qualitative studies. Cost-effectiveness needs to be considered when looking at intervention research.

Healthcare providers must use a tool that's already been tested for its reliability in appraising the literature. Once the research articles have been reviewed and the most valid and reliable ones have been identified, a recommendation can be formulated.

Step 4. Implement the evidence in practice.[6,7] To implement a practice change within a healthcare setting, you need to understand the knowledge level of the relevant staff.[6] Then develop an educational plan for those involved in the practice change and determine what outcomes to monitor. During the educational process, using the teach-back method will help verify that the staff implementing the practice change has a clear understanding of why and how the practice change is occurring and what outcomes they'll be monitoring. Once the staff has been educated, initiate the practice change.

Step 5. Evaluate whether the practice changes have improved outcomes.[6,7] After implementing the practice change for a specific period, the staff should monitor outcomes to determine whether the practice changes have improved patient outcomes.[6] Outcome measurement weighs heavily in The Joint Commission accreditation and for other accrediting body recognition. These organizations require documentation showing the organization is using evidence to improve practice.

Several tools can help nurses gather survey information. These include the National Database of Nursing Quality Indicators through the American Nurses Association and Practical Application of Clinical Evidence System through the Joanna Briggs Institute. The indicators in these tools have been found to impact patient outcomes.

Step 6. Disseminate the results.[6,7] It's crucial to disseminate the results of the practice change because this information can be used by other healthcare facilities to improve patient care.[6] Publishing the results in peer-reviewed, indexed journals can be very beneficial because doing so ensures the content can be easily discovered, cited, and used to improve practice globally.

Using evidence at the point of care

Many nurses find that time is the greatest barrier to using evidence to support their practice. Expecting nurses to do each of the six steps listed above every time a clinical decision needs to be made is unrealistic. Nurses need information at the point of care in a format that allows easy evidence discovery.

Clinical decision support (CDS) resources are tools that can be used at the point of care by all healthcare providers. Products such as UpToDate, DynaMed, and Lippincott's Nursing Procedures and Skills give clinicians evidence-based references that can be easily used at the point of care. Many of these products can be downloaded to portable devices such as tablets and smart phones, making access to evidence-based resources even easier for nurses and other healthcare providers.

Because many of these portable device platforms aren't encrypted to protect patient privacy, patient-related data shouldn't be on these devices unless they've been encrypted and approved by the facility. Many institutions have integrated links within their electronic healthcare records directly to CDS tools so evidence-based content is easily accessible to all healthcare providers.[14]

Improving outcomes

Patients deserve the very best care, based on the latest evidence. Using the evidence improves practice, patient outcomes, and cost efficiencies.[6,7] All healthcare professionals need to understand that EBP doesn't mean just taking the latest research article and implementing it into practice. EBP means using the latest evidence, combined with clinician expertise and patient preference, to deliver the highest quality care.[6,7]

As the model of healthcare changes to one focused on cost-effective, quality care, nurses are in a unique position to spearhead the use of evidence to improve care and patient outcomes. ■

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