

Beyond Evidence-Based Practice—Achieving Fundamental Changes in Research and Practice

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Since the early 2000s, significant discussion about evidence-based practice (EBP) has occurred in the healthcare arena and early steps have been taken toward it; however, searching the EBP literature can be overwhelming. A MEDLINE® (EBSCO) search for evidence-based practice yielded interesting results. When limited to 1999 or prior, 635 articles were identified starting at 1987, and when limited to 2000–2013, 11,511 articles were identified, an 18-fold increase. The concept of EBP has been readily adopted in the healthcare community. However, the questions that remain are: So what? Who cares? Has this avalanche of new information truly changed practice or just added more layers to practice and workloads? Where do we go next? The focus of the current article is to present current initiatives directed toward integrating research and clinical knowledge through interdisciplinary and transdisciplinary processes.

Transforming Nursing Care

Experts from all healthcare disciplines reported on the state of health care in the United States and provided recommendations for the future. Three key reports had a significant impact on quality care and the use of EBP: *To Err Is Human: Building a Safer Health System* (Kohn, Corrigan, & Donaldson, 2000), *Crossing the Quality Chasm: A New Health System for the 21st Century* (IOM, 2001), and *The Future of Nursing: Leading Change, Advancing Health* (IOM, 2011). With the acknowledgment of human error in healthcare delivery, a focus on giving the highest quality care based on best information, and the drive to transform nursing care, EBP issues cannot be ignored.

In addition to the IOM, the American Nurses Credentialing Center's ([ANCC's], 2013) Magnet Recognition

Program® and the Joint Commission's (2013) National Patient Safety Goals are two other main drivers in the EBP movement. The Magnet Recognition Program has five components: transformational leadership; structural empowerment; exemplary professional practice; new knowledge, innovation, and improvements; and empirical quality results (ANCC, 2013). EBP is a significant portion of those last three components. The National Patient Safety Goals (e.g., preventing catheter-related urinary tract infections) are important safety issues monitored and addressed with EBP activities (Joint Commission, 2013).

Initiatives

Most hospitals began EBP efforts in the mid-1990s. Much of the initial work involved reviewing the literature to revise and update policies and procedures, an important first step. Knowing the literature, incorporating the best supporting knowledge in practice, and demonstrating support for ongoing practice helped

to standardize some aspects of care and eliminate activities that were ineffective or detrimental. For example, before EBP initiatives, the routine for cleansing around a central line was alcohol and betadine. Research data supported the use of chlorhexidine scrubs instead of alcohol and betadine, and chlorhexidine then became the current national standard (Girard, Comby, & Jacques, 2012; Goldblum, Ulrich, Goldman, Reed, & Avasthi, 1983; Render et al., 2006). Various organizations began to develop guidelines, such as the U.S. Preventive Services Task Force for primary care and the Oncology Nursing Society for oncology nursing topics. In addition, the Cochrane Library offers a repository of systematic reviews of healthcare topics across disciplines.

Partnerships

The next advance came from academic partnerships through an EBP researcher or consultant. The role was initially filled by an academic researcher working part-time in the clinical setting; in some

Table 1. Collaborative Research and Translation to Practice Terminology

Term	Definition
Interdisciplinary	Investigators working with other disciplines (but in discipline-specific frameworks) on a common problem
Integrated knowledge translation	"Involves collaboration between researchers and research uses in the research process including the shaping of the research questions, deciding the methodology, involvement in the data collection and tools development, interpreting the findings and helping disseminating the research results" (Graham & Tetroe, 2009, p. 48)
Multidisciplinary	Investigators working in parallel or sequentially in own discipline to address common problems
Transdisciplinary	Investigators working in full partnership, sharing credit in all disciplines: study question development, design, and research aims

Note. Based on information from Choi & Pak, 2006; Graham & Tetroe, 2009.

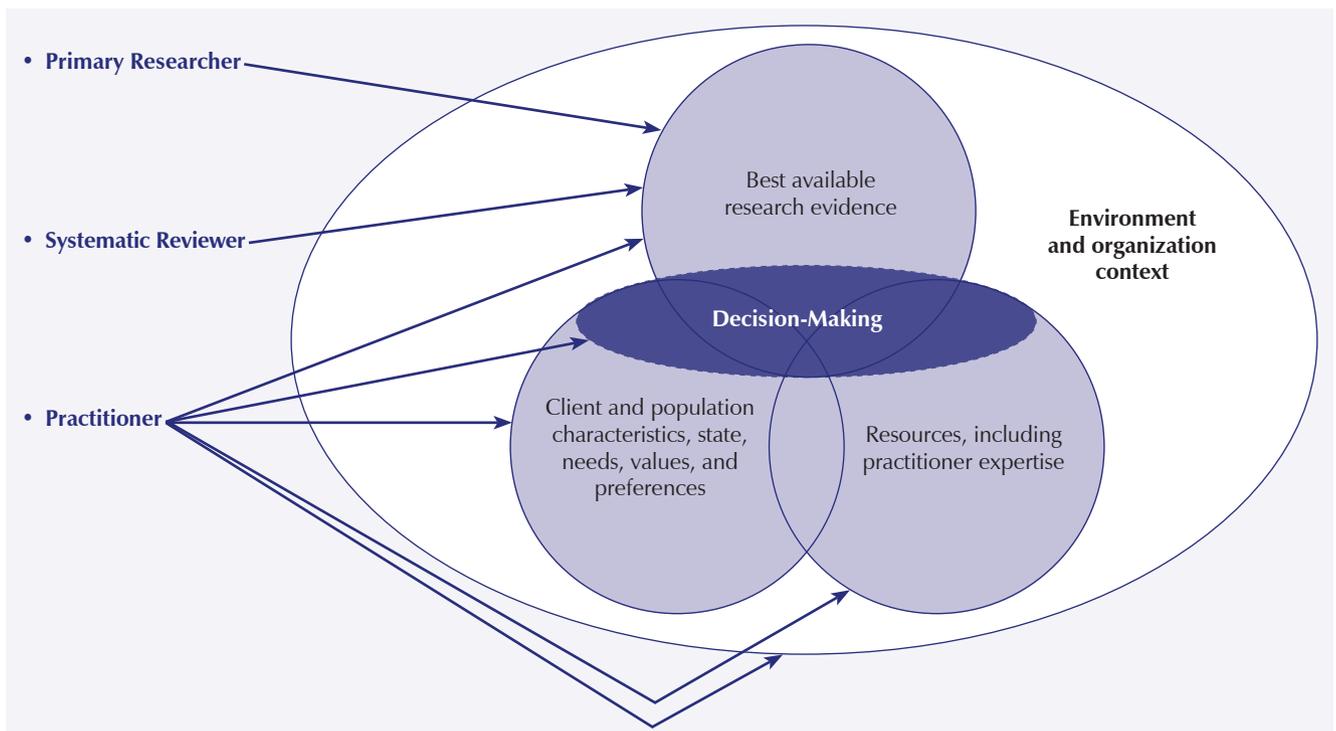


Figure 1. The Transdisciplinary Model of Evidence-Based Practice and Health Professionals' Roles in Evidence-Based Practice

Note. From "Interdisciplinary Evidence-Based Practice: Moving Silos to Synergy," by R.P. Newhouse and B. Spring, 2010, *Nursing Outlook*, 58, p. 311. Copyright 2010 by the American Academy of Nursing. Reprinted with permission.

cases, that researcher or consultant became an employee of the hospital or healthcare system (Brockopp et al., 2011; Bucknall, 2012; Wilson, Kelly, Reifsnider, Pipe, & Brumfield, 2013). The foci of an EBP consultant are to assist in the translation of current knowledge and science into practice and to develop EBP clinical research projects in situations where no solid evidence supports current or new practice (Brockopp et al., 2011). EBP consultants have contributed much to the advancement of EBP; however, the method of implementing evidence into practice is local and the results of small in-house studies may not be generalizable (Harrison & Graham, 2012). Little is reported on the outcomes of EBP at regional or national levels; instead, general survey data often are reported (Doorenbos et al., 2008).

At the Crossroads

What does the future hold for EBP and EBP research? Scientific research has dramatically increased the knowledge of health and illness. However, for valid reasons, the clinical use of that information still lags behind. First, publication of study results does not

ensure that methodologies and data analyses were appropriate or that the discussion and conclusions were precise. Flawed data, analyses, or conclusions often are nonmalicious and result from poor analysis or assumptions; in other situations, conclusions may be intentionally fraudulent to promote a specific idea (Moore, Derry, & McQuay, 2010). Second, funding for clinical, translational research was limited in the past. Changes in the U.S. healthcare sector have reflected "the sense of urgency to improve care based on what we know now not what we have left to explore and examine" (Broome, 2012, p. 337). Funding sources, such as the Agency for Healthcare Research and Quality and the Patient-Centered Outcomes Institute, have increased funding for translational studies. Last, researchers with clinical and joint appointments or nonacademic, institution-based researchers may be stretched for time and resources to integrate current knowledge into practice as well as complete clinical research projects (Jones, 2012). The use of EBP research and advancements in measuring patient-centered outcomes, development of evidence-based transdisciplinary methodologies,

and redesigned curricula for researchers need to be the focus for the future.

Models for Evidence-Based Practice

A comparative thematic analysis identified 47 models of translational science in which the following thematic areas are discussed: EBP and knowledge transformation processes, strategic change to promote adoptions of new knowledge, knowledge exchange and synthesis for application and inquiry, and designing and interpreting dissemination research (Mitchell, Fisher, Hastings, Silverman, & Wallen, 2010). Key issues discussed included model testing and refinement and defining a lexicon for translational science.

Although the terms *multidisciplinary*, *interdisciplinary*, and *transdisciplinary* often are used interchangeably, they are different constructs. Since the late 1980s, collaborative research and its translation to practice have progressed from multidisciplinary (parallel research), to interdisciplinary (working on the same issues from different perspectives), to transdisciplinary (combined development of research questions

and methodologies) (Choi & Pak, 2006; Grey & Connolly, 2008). Another term used is *integrated knowledge translation*, which is very similar to the concept of transdisciplinary. Table 1 provides short definitions for those terms.

Implementing Knowledge

Clinical science, unlike theoretical science, has only started to come into its own. Current healthcare policies and funding sources, particularly those associated with the Affordable Care Act of 2010, are asking that clinical and community settings translate and integrate evidence-based answers for clinical or patient care issues. In addition, new models are being developed that enable transdisciplinary research and its development into practice.

An interdisciplinary research team has developed the Queen's University Research Roadmap for Knowledge Implementation using a planned action approach (Harrison & Graham, 2012). The plan has three phases: issue identification and clarification; solution building; and implementation, evaluation, and nurturing the change. The phases overlap one another along a continuum, and the steps of each phase are discussed in detail with an accompanying exemplar. That method of knowledge implementation consists of more than just investigator-initiated research; it seeks to improve patient care from the initial practice question through long-term follow-up.

Evidence-based behavioral practice (EBBP) is an interdisciplinary conceptual model and process commissioned by the National Institutes of Health Office of Behavioral and Social Science Research (Newhouse & Spring, 2010). EBBP is based on the transdisciplinary model of EBP (see Figure 1), which reflects shared decision-making among stakeholders such as the community, practitioners, patients, and researchers. Additional results of that collaborative group are available on its training Web site (www.ebbp.org).

Conclusion

Leveraging nursing's role in interdisciplinary research requires the involvement of nursing faculty maintaining excellent EBP curricula, clinicians developing EBP skills for use at the local level, and researchers testing models, implementing EBP, and evaluating outcomes of

interdisciplinary research (Newhouse & Spring, 2010).

EBP is an integral part of all healthcare domains: clinical, academic, and research. As with any new thought paradigm, information is produced in significant volume, leading to decision points or crossroads that necessitate a time to reflect and process the current body of knowledge before moving forward. The Queen's University Research Roadmap for Knowledge Implementation and the transdisciplinary model of EBP are two promising models for advancing the science of EBP.

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