Recently, both healthcare organizations and academic settings have been challenged to develop new models of collaboration that facilitate use of existing evidence to improve patient outcomes (McBride, 2005; Melnyk & Fineout-Overholt, 2002). Several models now exist in the literature to guide the increased use of evidence-based practice (EBP) (Ciliska, DiCenso, Melynk, & Stetler, 2005; Haynes, 1993; Melnyk et al., 2004; Titler et al., 2001). The use of mentors has been identified in these models as an important facilitator for increasing use of EBP within healthcare organizations (Haynes, 1993; Melnyk et al., 2004; Rycroft-Malone, Bucknall, & Melynk, 2005; Titler et al., 2001). This article outlines the experiences of nursing faculty from diverse academic settings working part time within a large Midwestern teaching hospital to mentor staff in the use of EBP. The challenges and lessons learned and the successes realized through the collaborative efforts of clinical and academic partners are presented and explored from the context of implementing change within complex healthcare systems.

**CHANGE WITHIN COMPLEX HEALTHCARE SYSTEMS AND MENTORS FOR EBP**

An understanding of change is needed for the successful use of EBP models. Complexity theory is frequently identified as a useful nonlinear approach to enhance understanding of change within healthcare organizations (Holden, 2005; Rowe & Hogarth, 2005; Sibthorpe, Glasgow, & Longstaff, 2004). According to the complexity theory, one important aspect of facilitating change within a complex adaptive system is the identification of “agents” or “natural attractors” within the system that have the potential to interact and produce the change desired (Holden, 2005; Rowe & Hogarth, 2005). These individuals or agents interact in ways that influence each other and bring about change in behavior patterns that are seldom predictable. As agents or natural attractors interact within the

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system, new patterns of behavior emerge, eventually leading to natural change within the system.

Diverse patterns of behavior and relationships formed among individuals or agents are considered instrumental during the change process for several reasons. First, the complexity theory maintains that a system’s potential for change is increased when diversity is present within agent behavior. Secondly, agent relationships not only moderate uncertainty during change but also contribute to the eventual emergence of a natural and new order (Holden, 2005; Rowe & Hogarth, 2005; Sibthorpe et al., 2004).

Within complex healthcare organizations, the use of faculty mentors as agents for facilitating the use of EBP is a likely choice to build relationships, support change, and facilitate new practice patterns. Academic faculty bring both research and teaching skills to facilitate the development of the clinical nurse’s understanding of research and literature review processes. A recent survey conducted by Melynk et al. (2004) found that faculty and clinical nurse specialists were often identified by nurses as the individuals most helpful for implementing EBP within their organization. When organizations use faculty mentors from different academic settings, unique and varied perspectives are brought to complex systems, leading to the diverse behavior patterns that are needed to bring rapid and natural change to organizations.

CHALLENGES IN THE IMPLEMENTATION OF EBP

The nursing literature includes multiple citations of the barriers to implementation of EBP. Research has identified common barriers to implementation of EBP that are present in most institutions (Dunn, Critchon, Roe, Seers, & Williams, 1997; Gerrish & Clayton, 2004; Newhouse, Dearholt, Poe, Pugh, & White, 2005; Parahoo, 2000; Zeitz & McCutcheon, 2005). Nurses identify a lack of time during their work shift to consider legitimate sources, a lack of accessible computers and software to conduct literature searches, the tendency to ask colleagues rather than check the nursing literature for answers to practice questions, the tendency to continue what they have historically done rather than implement new practice, difficulty understanding research, and limited skills in literature searching and analysis. Internal system barriers may include a lack of emphasis on EBP in the institutional mission, vision, and philosophy. There may also be a lack of financial and material resources to support EBP.

Misperceptions of the role of the staff nurse may also contribute to limited application of evidence-based nursing practice. Staff nurses may associate research and EBP improvement activities with clinical nurse specialists and nurse educators. The role of the staff nurse must clearly include a responsibility for process improvement based on sound evidence.

EXISTING CONTEXT FOR IMPLEMENTING THE MENTOR ROLE AND STAFF DEVELOPMENT

Prior to expanding the EBP academic mentorship role within this large Midwestern teaching hospital, one faculty member had been working within medical units in the organization for approximately 3 years. This faculty member’s role and activities served as a model for new academic mentors hired to assist the organization in facilitating use of evidence in practice.

Within the first years, the first faculty mentor began by attending the medical unit’s discharge planning rounds, where nurses shared patient problems. As the faculty mentor listened, researchable questions were identified from discussions, and nurses were asked about their interest in actively participating in projects. Initially, the faculty mentor completed most steps needed to obtain evidence for the practice problem. However, after repeating this process several times, nurses began formulating practice questions and very slowly began to participate more actively in generating evidence to improve practice. It seemed that they were developing and learning about gathering evidence for practice through osmosis, learning from the faculty mentor as the process was repeated. The model continued to evolve as an action-oriented model where the faculty mentor worked along with the nurse, supporting the nurse and completing the portions of the study that the nurse did not have time or expertise to complete.

The chief nurse executive had watched the process on the medical unit, noted the change and the nursing staff development that were occurring in the unit toward increased use of EBP, and made a decision to expand this process using academic mentors throughout the organization. Moreover, prior to the expansion of the mentorship model, the administration made a decision to revise the system’s infrastructure to better support the use of EBP and address possible barriers throughout the organization. The chief nurse executive had already committed significant resources to sustain an existing shared-governance model, and nurse managers were scheduling time for nurses to work on various educational and quality improvement projects.

The expansion of the mentor model included the hiring of four part-time faculty mentors. These mentors were given the title of nurse research facilitator. Members of the Nursing Administration team further
developed the infrastructure to help sustain the shift toward EBP infrastructure development, including establishing a nursing research office and forming a nursing research advisory group (see Table 1) that meets quarterly to review EBP changes within the organization and generates ideas for supporting continued change. A nursing research award/recognition process and incorporation of research/EBP expectations into job descriptions and a clinical ladder program were also implemented.

Staff development specialists employed by the hospital played key roles in implementing EBP. Clinical nurse specialists, unit nurse educators, and nursing systems administrative specialists worked with both clinical nurses and nursing faculty facilitating the use of EBP (see Table 2).

**CHALLENGES AND LESSONS LEARNED DURING MENTORING**

The first challenge faced by the academic mentors was identifying a nurse or nurses on their assigned units who would be interested in developing their use of EBP. These nurses were more readily apparent in some units than in others. Sometimes, the contact was made through the unit-based council, and other times, a single nurse would contact the faculty mentor about a patient problem or practice question. Variable schedules of the nurses and the mentors sometimes made contact difficult. Mentors soon discovered that all options for contacting nurses must be considered. Attending unit-based council meetings, setting up journal clubs, and using flyers and group e-mails were all options that mentors used to make contact with clinical nurses who might be interested in becoming involved in EBP activities. Nursing staff development specialists worked with clinical nurses to identify areas for EBP development and worked with faculty mentors to encourage clinical nurse participation in activities.

Three of the academic mentors were committed to the program on different days of the week, with the fourth mentor providing 20 hours per week to the program at varying times. E-mail and telephone contact among mentors were helpful in sharing ideas and resources, but as the number of mentors grew, the need for occasional group meetings was recognized. This was spontaneously arranged so the mentors were able to share experiences and insights and make recommendations to improve staff development based on common themes.

One challenge faced by mentors was the different level of education of the nurses working within the organization. The level of education of the nursing staff may require different approaches to mentoring. For example, on one unit, almost all nurses within the unit have a baccalaureate and had some exposure to the impact of research in improving patient outcomes. This resulted in a large number of nurses valuing involvement in EBP projects. However, educational level was not the only determining factor for nurses’ interest in involvement in EBP projects. On one unit, a diploma-educated nurse was the only nurse expressing an interest in participating in a unit project. Although this nurse had no knowledge of the research process, she had an intense desire to learn about research and improve patient care. Nursing assistants and even a unit clerk have subsequently become involved in asking and finding the answers to EBP questions. The

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**TABLE 1** Nursing Research Advisory Group Members to Support Use of Evidence-Based Practice

- Chief nursing officer
- Director of nursing systems development
- Clinical nurse specialist
- Nursing quality specialist
- Nurse manager
- Institutional review board representative
- Medical center librarian
- Representatives from nursing academic settings (dean, chair)
- Academic nursing faculty mentors

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**TABLE 2** Nursing Staff Development Specialist Activities to Facilitate Use of Evidence-Based Practice

- Educates new employees about evidence-based practice and the commitment of the organization to improving quality of care delivery
- Communicates current evidence-based practice initiatives within nursing units
- Assists clinical nurses to identify practice issues that require an evidence-based practice approach
- Collaborates with the medical librarian in literature reviews to determine most current evidence
-Works with academic nursing faculty mentors to identify and prioritize practice issues for the implementation of evidence-based practice
- Provides consistent interaction with clinical staff related to evidence practice implementation
lesson learned from this experience is the importance of keeping the mentor role flexible. Asking questions about the nurse’s and staff member’s experience in research, the time he or she can devote to it, and the goals that he or she would like to accomplish helps the mentoring process move forward.

Navigating a proposal through the institutional review board can be a daunting process. Clinical staff can easily become frustrated and give up trying to conduct pilot studies. Mentors working with clinical staff found that this process was most easily accomplished by the mentor. The mentors took the lead in the development of the initial proposal and shared any changes that were recommended by the institutional review board. This allowed the proposal to move quickly through the system. Another challenge is the “lull” that often occurs in studies, where the nurse begins to lose interest in the study because the nurse is so busy clinically. The initial studies should be of a simple design that the nurse can complete in a fairly short time. If there are periods when the nurse does fall into a lull because of high demands of day-to-day patient care, the mentor can pick up the slack and keep the study momentum going. The consistent and encouraging presence of the nursing staff development specialists also assists in meeting this challenge.

Clinical staff need to be encouraged and taught how to access the resources and protocols already available for EBP. The enormous amount of new research generated each year makes it impossible to keep up by just reading one or two practice journals, the number typically read by nurses within this institution. Use of Internet tools such as Mosby’s NurseConsult (located at www.nursingconsult.com), the National Guideline Clearinghouse (located at http://www.guideline.gov/), and the Cochrane Library systematic review database can simplify the search for evidence. Consultation with other clinical agencies is a rich source of existing EBP protocols. For instance, the oncology unit wanted to develop an evidence-based protocol for care of the chemotherapy client with mucositis. A search of the currently available evidence was conducted along with e-mail requests for information from several large bone marrow transplant centers. One of these has already compiled the current evidence on this topic and has developed a comprehensive protocol, with references, which it was willing to share.

When the evidence-based projects are completed, pilot tested, and results are available, the final step, dissemination, becomes a challenge. Very few staff nurses have participated in developing an abstract or a poster or in writing a manuscript. They may see this as an intimidating activity. The nurse faculty at this facility have developed several approaches. It helps to ask if anyone enjoyed writing papers while in college. This person may be able to contribute to the background or literature review of the rough draft. If all staff involved in the study are fearful of the process, the mentor may prepare the manuscript through the results section and then have the staff nurses give their input by sharing nursing implications of the study. If the manuscript lends itself to a case study, a nurse can write the actual case of a patient and contribute to that portion of the manuscript. In all cases, the nurses can proofread the manuscript and learn about writing for publication through this method.

Discussions related to professional standards for assigning authorship to manuscripts are important throughout the process and need to occur early in the project. Staff nurses may not see the importance of including their names as coauthors on manuscripts, or, conversely, they may not recognize what a substantive contribution entails that would warrant coauthorship. Mentors who help guide nursing staff in a greater understanding of professional dissemination and publishing standards contribute to the professional growth of the individual staff member and the discipline as a whole.

MENTORING SUCCESSES
The use of the academic mentorship and infrastructure changes has resulted in change within the organization. Evaluation of the mentor model has been based upon the outcomes produced by the units, such as an increase in the number of nurses involved in EBP projects, practice changes based on evidence, publications, and clinical nurse presentations at conferences. Nursing staff development specialists provide education on EBP during orientation and refer clinical issues that require an in-depth EBP approach to faculty mentors. To date, outcomes achieved include the acceptance of abstracts for presentation of posters at regional and national meetings, generation of articles with a faculty mentor and staff about practice changes, and an increase in the number of clinical nurses interested in pursuing EBP projects. One poster presentation was the recipient of a poster award at a regional conference. Attending regional conferences and preparing and presenting posters on EBP changes increase staff nurses’ commitment to improving practice based on evidence. Conference networking and peer review bring new opportunities to improve patient care and increase feelings of professionalism.

CONCLUSION
Nursing faculty mentors serve as an important constituent for facilitating EBP in complex healthcare
environments. Using mentors and adapting EBP implementation models within large, complex organizations to increase use of EBP require an understanding of change processes. The use of a diverse group of faculty mentors, coupled with organizational infrastructure and nursing staff development specialist support, has shown early success in the use of EBP.

As complex healthcare organizations change, the complexity theory recognizes that changes occur both within and across organizational boundaries (Sibthorpe et al., 2004). In this Midwestern teaching hospital, the development of nursing staff’s use of EBP has not only resulted in gains in the professional development of nurses and improvements in care delivery but also provided faculty mentors with increased personal experience and expertise to improve classroom teaching related to EBP. This continuing connection between the classroom and clinical setting, in turn, influences nurses’ knowledge and abilities in the use of EBP and will ultimately serve to improve patient care and outcomes.

REFERENCES


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