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Organizational Change Strategies for Evidence-Based Practice

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Evidence-based practice, a crucial competency for healthcare providers and a basic force in Magnet hospitals, results in better patient outcomes. The authors describe the strategic approach to support the maturation of The Johns Hopkins Nursing evidence-based practice model through providing leadership, setting expectations, establishing structure, building skills, and allocating human and material resources as well as incorporating the model and tools into undergraduate and graduate education at the affiliated university.

Evidence-based practice (EBP) is an essential component of professional nursing,[1,2] a crucial competency for healthcare providers,[3] and a basic force in Magnet hospitals[4] and results in better patient outcomes and higher levels of nursing autonomy.[5] Fostering EBP within organizations requires strong infrastructure, including nursing leadership and human and material resources.[6-10] Several organizations have reported on the use of EBP change models to assist and mentor individual EBP project teams.[11-14] One recent publication discusses the use of a change model in the context of organizational change, highlighting the establishment of an EBP committee that is positioned within the nursing department's administrative structure.[15] Approaching the implementation of EBP as an organizational transformational change frames the approach strategically.[16]

After the creation and testing of a conceptual model for EBP,[17] a strategic plan was developed to implement the Johns Hopkins Nursing EBP model and guidelines (JHN EBP) throughout the organization. The team knew that the implementation of EBP would require a substantial change in nursing culture. The goal was to infuse the use of JHN EBP into routine practice within each department. This goal required a number of strategic objectives that included developing EBP education programs and Web-based resources, modifying job description criteria to include behavioral outcomes for EBP, defining the origin of potential question generation, and building nurse EBP skills and expertise (Table 1). The EBP program was built through providing leadership, setting expectations, establishing structure, building skills, and allocating human and material resources. The JHN EBP model and tools were then incorporated into undergraduate and graduate education at the affiliated university. This article describes the strategic approach to building infrastructure to support the maturation of EBP within an academic medical center.

Leadership

Leadership endorsement was the initial step in building the EBP program. Nurse administrators are responsible for managing both human and

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Table 1. *Strategic Plan to Infuse The Johns Hopkins Nursing Evidence-Based Practice (EBP) Model*

Objectives	Responsibility
Build local experts through the following 1. Each functional unit will complete 1 EBP project using The Johns Hopkins Nursing EBP Model and Guidelines. 2. Central committee members (research, standard of care, education, and nursing clinical quality improvement) will collaborate on choosing the practice question, leading the EBP process, recommending the practice changes if indicated, assuring that the implementation occurs, and evaluating the outcome of the project. 3. Functional units will develop a practice question and identify EBP team members in consultation with central committee representatives. 4. Functional units will create a plan for staff education, format selecting from the options listed below.	Central committees
Develop EBP education programs Target: trainers 1. Small group rapid cycle or 1-day training 2. Train the trainer competencies (health stream) Target: staff Mandatory health stream training is dependent on job description. 1. Health stream Module 1: Introduction (history, definitions, model, and practice question) Module 2: Searching evidence (defining terms, sources, and technique) Module 3: Evaluating the evidence (rating, summarizing, and recommending practice changes) Module 4: Implementing practice changes Optional training if desired 2. Health stream plus day practicum 3. One-day workshop by core mentors and trainers scheduled by functional unit	EBP core members EBP core members with committee approval
Develop Web-based resources for all nursing staff to access 1. Model and guidelines (manual) 2. Tools (practice question, rating scales, critique summaries, project management guide, and evaluation)	EBP core members
Modify job description criteria to include behavioral outcomes for EBP 1. Nurse clinician I—objectives related to module 1 2. Nurse clinician IIM and E—objectives related to modules 1-3 3. Nurse clinician III—participation in 1 EBP project per year (modules 1-4)	Standards of practice
Define origin of potential question generation Problem prone/high-risk clinical processes or diagnosis, evidence to support the practice challenged, or high variations in practice or outcomes.	EBP core members
Build EBP competencies 1. Require module 1 for all current registered nurses (RNs) in 2006. 2. Require module 1 for all newly hired RNs within the first year of employment.	Nursing administration/ departments

material resources necessary for the successful implementation of the EBP program. Leadership is critical to build organizational readiness for change.[16,18] This nursing department is part of a highly decentralized organization. A director of nursing, an administrator, and a physician director lead each department with responsibility for the service area. Because of their accountability for resources, it was essential that the directors of nursing were committed to the EBP implementation goals. The strategic plan was approved by leadership and the governance committees (standards of care [SOC], standards of practice, nursing clinical quality improvement, staff education, and research committees) and was then incorporated into the committee structure.

Establishing the Structure

To establish a structure for building and sustaining EBP, a majority of the governance committees were charged with specific responsibilities. These governance committees include committee chairs, SOC, standards of practice, nursing clinical quality improvement, staff education, and research. Committee chairs consist of the chairs and cochairs for each of the governance committees. Committee chairs drafted EBP committee goals that were aligned with the purpose of each committee. Each committee then reviewed and revised or supported these goals. In addition, the purpose and functions of each committee were reviewed in light of the EBP initiative. During implementation, each

committee in the governance structure had responsibility for a specific goal (Figure 1). The SOC committee became responsible for reporting progress and monitoring outcomes of the EBP initiatives within each department. This structure was important because it infused the responsibility for EBP across the professional governance committees, making nurse leaders on the committees accountable for growing and sustaining the EBP program. To continue to enhance EBP expertise and engagement, each department is completing at least 1 project over a 15-month period.

Developing an EBP Skill Set

One of the most important steps in the plan was to develop EBP experts that would act as future mentors. These individuals were to be the primary champions and facilitators of EBP. They were members of the governance committees; thus, incorporating EBP goals into responsibilities as a committee member was well aligned with moving the strategic initiative ahead.[19]

In addition, nurse schedules needed to accommodate time away from clinical responsibilities for initial training and then later to complete the EBP process. The buy-in from nursing leadership was essential to support nurse scheduling to meet the training requirements, provide the needed encouragement, and assure that the EBP projects were focused on an important area for which practice recommendations were needed.

Development of Material Resources

A number of resources needed to be established to foster the growth and development of the program. These resources included the availability of the JHN EBP model, process, guidelines, and tools in written and electronic formats. It was also important to assure that library, database, and Web resources were accessible to each nurse.

Training and mentorship were offered in each department through the committee member mentors who had completed initial training. The authors (core EBP group) were also available for committee members and teams. Because there is not one strategy that is always successful, the team planned multiple strategies for training and education.[8] Our goal to develop EBP skills and competencies required that we develop a training and education plan, using several approaches to meet the needs of the nurses and organization through multimethod education, demonstration, mentorship, and fellowship. Examples of strategies included rapid cycle training, a 1-and 2-day seminar approach, multidisciplinary groups, completion of projects within the committee structure, and committee members mentoring teams in their departments.

In addition to these educational approaches, a fellowship in EBP was developed and budgeted through the department of nursing administration. Two fellowships were awarded through a competitive process that provided salary support for 20 hours per week for 3 months. This opportunity provided the time needed for the fellows to develop advanced EBP skills to prepare them to lead EBP initiatives at the unit, functional unit, and hospital levels. The first fellow focused on delirium screening and nursing interventions to decrease the intensity, frequency, and duration of delirium. Results of her project were used to provide education to unit nurses. She also completed her first publication. The team recommended that the next fellowship be assigned by the SOC committee to better align the fellow's work with the needs of

1. Include the conduct of one EBP project in each functional unit as a director goal.
2. Standard of care (SOC) will coordinate topic, and the co-chair will maintain the list of project to assure that there is no overlap in questions.
3. Functional units will report outcomes of project back to SOC.
4. Unit central committee representatives will be responsible for collaborating to develop a question. Each representative will be responsible for:
   - **SOC-** assuring that a significant topic is selected, a project is planned, implemented, and reported back centrally.
   - **Nursing clinical quality improvement-** consult on the measure to be used and oversight of the monitoring of the outcome
   - **Research-** selecting the measure
   - **Education-** planning and completing the education for implementation of the recommended practice change
5. Use central committees to review and mentor EBP work by placing EBP report as a standing agenda item to all committees.
6. Refer EBP process questions to central committee members, nurse researcher, coordinator of clinical quality or coordinator of practice. These resources can also recommend content experts for a variety of topics.

Figure 1. The shared governance role in the implementation of evidence-based practice (EBP).

the organization. A protocol was selected in the ophthalmology department, with the second fellow facilitating and supporting their EBP process.

An additional resource developed was EBP assistants who were available on an as-needed basis for unit projects. These assistants were undergraduate nursing students from local universities. Examples of the types of support they provided include running literature searches, retrieving requested articles, disseminating the team's evidence summaries, and documenting EBP team meetings. The salary for these assistants was initially supported through a small grant from the Maryland Health Services Cost Review Commission. After a favorable evaluation of this resource at the end of the funding period, EBP assistants were included in subsequent nursing administration budgets.

Setting Expectations

To incorporate EBP as an expectation of nursing practice, nursing staff job descriptions were revised after significant input from the governance committees, staff, and managers. An example of a revision is provided in Figure 2. It was important to construct language that was broad enough to allow different units to apply the standard to fit their needs. All indirect care positions are now under review for incorporating EBP expectations.

A basic Web EBP course was developed in 2005 and implemented as a required competency for RNs in 2006 to promote understanding of the EBP program, goal, and resources. The basic competency education will move from yearly competency to the nurse orientation curriculum for 2007. Three additional modules are in development to address educational needs beyond basic competencies.

Collaborative Strategies: Introduction of the Model to the School of Nursing

Since the early 1990s, research utilization has been a major focus in the undergraduate research courses at Johns Hopkins University School of Nursing (JHUSON). As the focus changed from research utilization to EBP and the JHN EBP team began presenting their model and resources, part of the implementation plan was to infuse EBP into the JHUSON. In fall of 2004, a pilot was conducted with 1 section of the undergraduate research class. The class used the JHN EBP tools and worked on a project from a problem identified by nurses at The Johns Hopkins Hospital. The requirement for an undergraduate EBP project was revised with full implementation using the JHN EBP model in the spring semester of 2005.

At the same time, the master's program curriculum was being revised. Revisions were driven by

Nurse Clinician I
F-1. Complies with changes in clinical practice and standards.
F-2. Participates in data collection when the opportunity is presented.
F-3. Poses relevant clinical questions when evidence and practice differ.
F-4. Consults appropriate experts when the basis for practice is questioned.
F-5. Uses appropriate resources to answer evidence-based practice questions
F-6. Additional requirement for IM: Reviews current evidence relevant to practice.
Nurse Clinician II
F-1. Critically examines and questions the rationale and scientific basis for clinical practice and/or changes in practice.
F-2. Supports research-based clinical practice and questions practices (teaches, role models, applies to own practices).
F-3. Participates in data collection, when the opportunity is presented.
F-4. Identifies research findings with potential implications for changing clinical practice.
F-6. Consults appropriate experts to answer evidence-based practice questions.
F-7. Articulates evidence-based rational for care.
F-8. Serves as a resource and mentor in evidence-based discussions articulating rational for practice.
Nurse Clinician III
F. Interprets research and uses scientific inquiry to validate and/or change clinical practice.
F-1. Evaluates research findings with potential implications for changing clinical practice, compares practice to findings, and takes appropriate action.
F-2. Designs tool and/or participates in data collection and other specific assignments (e.g. literature review) in the conduct of research when the opportunity presents.
F-3. Mentors staff to identify differences in practice and best evidence, generates clinical questions, searches evidence, reviews and critiques evidence related to area of clinical, administrative, or education practice.
F-4. Serves as a resource and mentor in evidence-based discussions articulating rational for practice.
F-5. Participates in implementing evidence-based practice through role modeling and support of practice changes.
F-6. Incorporates EBP into daily patient care and leadership responsibilities.
F-7. Participates in/supports evidence-based practice projects within unit/department.

Figure 2. Job descriptions revisions to incorporate evidence-based practice (EBP) into standard: maintains awareness of scientific basis for nursing practice.

- Practice question
- Appraisal
  - Research
  - Non-research
- Individual evidence summary
- Rating Scale
- Evidence Synthesis
- Project management

Figure 3. Evidence-based practice tools.

the belief that the research course should prepare advanced practice nurses to translate evidence into the best practices. A new course was developed: Application of Research to Practice. The skills demonstrated are essential for the EBP organizational leader. Two outcomes of this course include (1) conducting a team EBP project and (2) demonstrating evidence critique and rating competencies in an individual state of the sciences paper. The focus of these assignments can be clinical, administrative, or educational nursing problems.

Incorporating these changes into the JHUSON curriculum also required faculty training in the conceptual underpinnings of the model as well as the EBP process and available tools. Three members of the team presented a faculty training seminar, covering the model, tools, and process. A mock critique and rating session provided the faculty with a hands_on experience with the tools and process.

Lessons Learned

The EBP implementation and infusion described in this article occurred between 2004 and 2006. The team learned a number of lessons, which include the importance of leadership support to foster the strategic plan, the need for flexibility in training approaches to meet the requirements of the staff, the necessity of strategic resource planning, the essential role of mentors, and the need to have a model and tools available. Seeking synergistic opportunities to collaborate with academic institutions and students provides a win-win outcome.[20]

Model and Tool Revisions

We have used the model and guidelines previously published[21] in multiple projects within and outside the organization. Based on this experience, we have kept the PET (*p*ractice question, *e*vidence, *t*ranslation) process in place but have made some modifications to the tools used for the EBP project (Figure 3) and further refined the graphic for the conceptual model (Figure 4). Within the JHN EBP model, EBP is a problem-solving approach to making clinical, educational, and administrative decisions that combines the best available scientific evidence with the best available practical evidence. The process takes internal and external influences on practice into consideration and requires the nurse to use critical thinking when applying the evidence.[17]

Future Directions

The JHN EBP has evolved into a mature phase of development. To move to the next stage, we need to develop and mentor additional EBP experts, expand the use of the model and tools, and continue to make revisions based on our experiences. We have planned additional training for staff and mentors, continued fellowships, and added a seminar on publication to help nurses publish the results their EBP projects. A book which includes the JHN EBP model and tools is in press.[22]

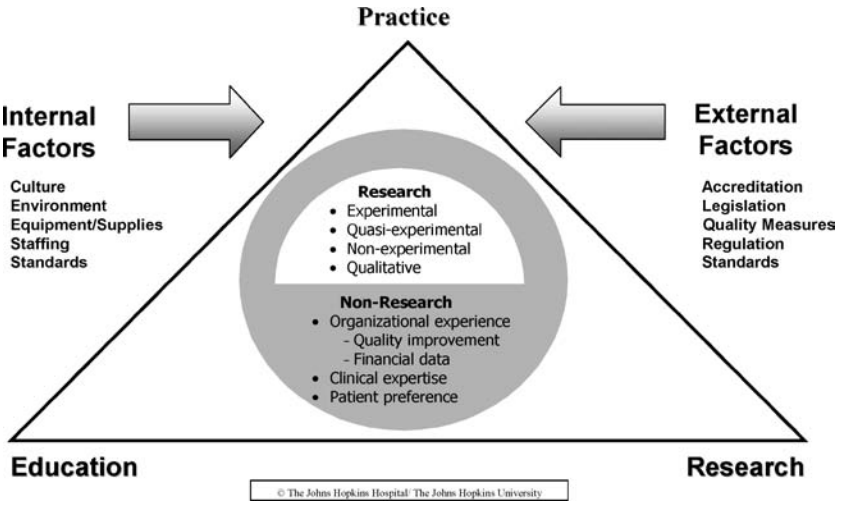

Figure 4. The Johns Hopkins Nursing Evidence-based Practice Conceptual Model.

We continue to support the strategic plan for our organization to facilitate the infusion of EBP into every component of nursing practice, providing leadership, mentorship, and resources. The plan must be flexible and iterative to incorporate lessons learned, to adapt the process to meet the needs of the nurses, and to continue to develop opportunities to engage and build skills for nurses.

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