Putting evidence into practice to improve patient care is a challenging yet necessary component of healthcare delivery. Although the value of evidence-based practice (EBP) is widely accepted, it is well documented that availability of high-quality research does not guarantee that findings will be implemented into practice (Clancy, Slutsky, & Patton, 2004; Institute of Medicine, 2001; McGlynn et al., 2003). Even as government bodies and organizations dedicate time, attention, and money into compiling and evaluating research findings, as shown by the increase in published systematic reviews, the findings have not been translated into EBPs at the point-of-care delivery (Institute of Medicine, 2008). Although many research efforts have resulted in the development of behavioral interventions and evidence-based guidelines, the impact on direct patient care has been inconsistent (Clancy et al., 2004; Grimshaw et al., 2004; Institute of Medicine, 2007).

The importance of providing the best possible care in military facilities through the application of evidence is described by Duong (in this supplement), who led the TriServices Nursing Research Program initiative to integrate evidence into practice in military medical treatment facilities (MTFs); whereas Kelley (in this supplement) executed, solidified, and institutionalized the practice of EBP in the military healthcare system. I was invited to provide EBP educational programs for military nurses responsible for leading EBP initiatives in their respective organizations. The purpose of this presentation was to provide an overview and civilian perspective of EBP and comment on working with nurses in MTFs to integrate evidence in practice.

OVERVIEW OF EBP

Conduct of research and that of EBP differ. Conduct of research is the analysis of data collected from a homogeneous group of participants who meet study inclusion and exclusion criteria for answering specific research questions or testing specified hypotheses. Research design, methods, and statistical analyses are guided by the state of the science in the area of investigation. Traditionally, conduct of research has included dissemination of findings via research reports in journals and at scientific conferences. In comparison, EBP is the conscientious and judicious use of current best evidence in conjunction with clinical expertise and patient values to guide healthcare decisions (Cook, 1998; Jennings & Loan, 2001; Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000; Titler, 2006). Best evidence includes empirical evidence from randomized controlled trials; evidence from other scientific methods such as descriptive and qualitative research; and information from case reports, scientific principles, and expert opinion (Titler, 2008).

As the body of knowledge and research evidence becomes sufficient, healthcare professionals should consider the combination of research findings, clinical expertise, and patient values when determining the best healthcare practices to deliver to each patient. However, there may be situations in which there is an insufficient amount of clinical data and sound research findings to guide decision making in a specific setting. For example, Bridges et al. (in this supplement) described prevention of hypothermia during battlefield resuscitation and military aeromedical transport. Civilian research on hypothermia prevention emphasizes the use of equipment such as intravenous fluid warmers and forced-air heating units that may not be feasible under military transport, thus requiring conduct of research. When research findings are not available, practitioners rely on use of expert opinion and scientific principles as the body of knowledge for a particular practice (Titler &
Everett, 2001). As more research is conducted, the research findings are incorporated into EBP (Titler, 2006).

MODELS OF EBP

Multiple models of EBP are available and are the subject of a review article (Grol, Bosch, Hulscher, Eccles, & Wensing, 2007). Several models guiding the EBP process emphasize identifying topics amenable to EBP integration, collecting and analyzing evidence, promoting evidence-based decision making for practice changes, and evaluating the change. One shortcoming of these models lies within the most crucial component, implementation, which is identified as a concept without any structure or guidance on execution (Stetler, 2001; Titler, 2008; Titler & Everett, 2001). Implementing EBP, although complex and unique to each healthcare environment, has received minimal attention, thus contributing to the low rate of implementing research findings at the bedside (Graham et al., 2006).

The Iowa Model of EBP

The Iowa Model of Evidence-Based Practice to Promote Quality Care is a practice model, with the primary purpose of guiding clinicians (physicians, nurses, and allied health care) in the use of evidence to improve healthcare outcomes (Figure 1). The Iowa model, in conjunction with the implementation model that will be described later, was used as a guiding framework for the educational programs offered to nurses in military facilities.

In this model, knowledge- and problem-focused triggers lead staff members to question current nursing practice and whether patient care can be improved through the use of research findings. If through the process of literature review and critique of studies, it is found that there are not a sufficient number of scientifically sound studies to use as a base for practice, consideration is given to conducting a study. Nurses in practice collaborate with nurse scientists and scientists from other disciplines to conduct clinical research to address practice problems encountered in the care of patients. Findings from such studies are then combined with findings from existing scientific knowledge to develop and implement these practices. If there is insufficient research to guide practice, and conducting a study is not feasible, other types of evidence (e.g., case reports, expert opinion, scientific principles, and theory) are used or combined with available research evidence to guide practice. Priority is given to projects in which a high proportion of practice is guided by research evidence. Practice guidelines usually reflect research and nonresearch evidence and therefore are called EBP guidelines.

An EBP guideline is developed from the available evidence. The recommended practices, based on the relevant evidence, are compared with current practice, and a decision is made about the necessity for a practice change. If a practice change is warranted, changes are implemented using a process of planned change. The practice is first implemented with a small group of patients, and an evaluation is carried out. The EBP is then refined based on evaluation data, and the change is implemented with additional patient populations for which it is appropriate.

Assumptions implicit in the model include the following: (a) Working as a group or team is an important part of applying evidence in practice; (b) evaluation is an essential part of EBP; and (c) EBP is a process, not an event, that requires multiple steps to align clinician behavior and system support for delivery of evidence-based health care. The Iowa model was used to guide some of the presentations in this issue; the knowledge transfer model (Bridges et al., in this supplement) or a model to guide EBP integration (McCraw et al., in this supplement) was used in others.

The Implementation Model

The most frequently used model for guiding change in practice is diffusion of innovations by Rogers (2003). The implementation model (Titler et al., 2001), derived from Rogers’ model (Figure 2), suggests that the adoption of an innovation is influenced by (a) the nature of the innovation, (b) the manner in which the innovation is communicated, (c) the characteristics of the users, and (d) the social system into which the innovation is used (Titler, 2008; Titler et al., 2001).

Characteristics of the Innovation

The characteristics of innovation that influence adoption include (a) the complexity of the topic, (b) the credibility and pertinence of the evidence-based healthcare practice to the user, and (c) the ease of assimilation into existing behavior (Rogers, 2003; Titler et al., 2001). Regardless of the EBP, it must be credible, easy to use, and applicable to the environment to facilitate adoption.

The attributes of the EBP topic as perceived by users and stakeholders (e.g., ease of use and valued part of practice) are neither stable features nor sure determinants of adoption. Rather, it is the interaction among the characteristics of the EBP topic, the intended users, and a particular context of practice that determines the rate and extent of adoption (Greenhalgh, Robert, Bate, Macfarlane, & Kyriakidou, 2005; Rogers, 2003; Titler & Everett, 2001). This principle is exemplified in the articles in this special issue.

Studies suggest that clinical systems, computerized decision support, and prompts or quick reference guides to support practice (e.g., decision-making algorithms and paper reminders) have a positive effect on aligning practices with the evidence base (Shojania & Grimshaw, 2005; Titler, 2006; Wensing, Wollersheim, & Grol, 2006). This is illustrated in several of the articles in this issue in which quick reference guides, reminders, and decision algorithms were used as implementation strategies. For example, the Battlefield and Disaster Nursing Pocket Guide (Bridges, 2008) contains evidence-based recommendations for the care of wounded persons under unique and austere conditions, including prevention of hypothermia under operational conditions.

Communication

Interpersonal communication channels, methods of communication, and influence among social networks of users affect adoption of EBP (Rogers, 2003). Communication strategies to promote adoption of EBP include (a) education, (b) opinion leaders and change champions, (c) outreach or academic detailing, and (d) a clearly written action plan with achievable outcomes (Adams & Titler, in press). Communication channels include both formal methods of communication established in the hierarchical system and informal communication networks that occur spontaneously throughout the system.

Several of the presentations in this issue illustrate the use of opinion leaders and change champions in implementing
EBP. For example, Yackel et al. (in this supplement) used an Advanced Practice Registered Nurse change champion and physician opinion leader to implement depression screening in primary care. Mark et al. (in this supplement) described the use of a change champion and opinion leader dyads for implementing EBP. Kenny, Richards et al. (in this supplement)
described the importance of an interdisciplinary approach as important in promoting communication among different healthcare providers to enhance quality of care. Transfer of knowledge among the disciplines enhanced collegiality in problem solving and increased the buy-in for adoption of the EBPs.

A unique challenge that exists within military healthcare facilities regarding communication is deployment of staff members to combat duty or rotation to a new assignment every 3 years. When these individuals are the opinion leaders or change champions, this requires succession planning to assure that the EBP integration continues and is sustained. Without a clear plan of action to ensure that important work continues, it is not possible to implement EBP projects consistently.

Users of the Innovation Consideration of those who use EBP, based on the clinical topic, is important in EBP work. The characteristics of users that influence adoption of EBP include (a) performance gap assessment, (b) audit and feedback, (c) focus groups, and (d) trying the EBP. Audit and feedback were used as an implementation strategy in projects described in this special issue. For example, McCraw et al. (in this supplement) used multidisciplinary team members to implement EBPs for Type II diabetes in ambulatory care and used audit and feedback with providers about EBP performance measures.

Within the military healthcare system, there is a constant influx of new team members who need to be acclimated into the culture of the facility. Because each facility is unique, there is a need to listen to, acknowledge, and address the prior experiences of team members to ensure that they are able to adjust to the new environment. Establishing an expectation to be an active participant in research activities, including adoption of EBPs, plays a vital role. As an example of addressing this challenge, Kenny and Goodman (in this supplement) noted that nurses were assessed biannually for knowledge competency on enteral tube feedings.

Social System The social system or context of care delivery matters when implementing EBPs (Institute of Medicine, 2001; Kochevar & Yano, 2006; Litaker, Tomolo, Liberatore, Stange, & Aron, 2006; Rogers, 2003). The exemplars in this issue illustrate integration of EBPs in a variety of settings including ambulatory and inpatient settings.

Social system characteristics that influence adoption of EBP include (a) ability to modify policies, procedures, and standards; (b) ability to modify medical record forms; (c) education and support from senior administrator to adopt EBP changes; and (d) orientation of new staff. Support of EBP and flexibility of the social system is essential. Otherwise, research findings cannot be translated successfully into EBPs and implemented. Policies, procedures, protocols, and standards must indicate clearly the requirement of organization-wide adoption of EBPs to ensure consistent high-quality patient care (Adams & Titler, in press). Furthermore, it is essential that all members of the healthcare facility be expected to engage in research activities as part of their job description, with evaluation of their participation through job performance reviews and merit evaluations for salary increases, bonuses, and promotions.

*Based on Rogers’ model of Diffusion of Innovation


FIGURE 2. Implementation Research Model.
The military healthcare system offers a unique practice environment. During peacetime, the mission is much the same as any civilian facility. However, the mission of MTFs changes during wartime to focus on those injured as a result of combat. The TriServices initiative began during peacetime but extended into wartime—specifically Operation Iraqi Freedom and Operation Enduring Freedom—thereby changing patient demographics and context of practice. This transition provided unique challenges, as described in this special issue. Despite these changes, the MTF personnel were highly committed to integrating EBP at the point-of-care delivery to improve patient outcomes.

CIVILIAN PERSPECTIVE OF EBP IN MTFs

It is the duty of civilian healthcare professionals to support MTFs in their efforts to integrate evidence into practice so that those in harm’s way and veterans of war receive the best possible care. It is necessary to understand the unique challenges of the context of practice and the ever-changing patient populations at MTFs. These challenges and the actions to address them are described eloquently in the presentations in this issue. Sustaining this EBP work begun by this talented group will depend in part on the value of EBP articulated and enacted by leaders of MTFs and the continued mentoring and education of the next generation of military nurses. It was both an honor and a humbling experience to work on this project and to learn from the military nurses who give of themselves everyday for the health care of our soldiers.

(See Table, Supplemental Digital Content 1, which expands the reference list, http://links.lww.com/NRES/A12).

Marita G. Titler, PhD, RN, FAAN
University of Michigan
mtitler@umich.edu

Jennifer Moore, MS, RN
University of Michigan

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