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Nursing Science and Evidence-Based Practice

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Use of research findings at the point of care delivery is central to improving health care processes and patient outcomes. As nursing science has grown in depth and breadth, we now have evidence to guide our practice in a number of areas such as pain management, transitional care, pressure ulcer prevention, as well as others. Despite the availability of this scientific knowledge, use of it in practice is still a challenge. Promoting uptake and use of research findings in mainstream practice at the point of care delivery represents the final translation hurdle (Avorn, 2010). Although nurses are making significant contributions in fostering use of evidence, we still struggle to deliver high-quality care and improved health outcomes because of the systemic failure of scientific findings to reach patients and communities in a timely fashion (Dougherty & Conway, 2008).

Evidence-based practice (EBP), once viewed as a luxury, is now central in discussions about quality of care. We can no longer afford to invest billions of dollars in research and leave it to chance alone, that empirical findings will find their way to the point of care delivery. Evidence-based practice is the conscientious and judicious use of current best evidence in conjunction with clinical expertise and patient values to guide health care decisions (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). In contrast, translation/implementation science is the investigation of methods, interventions, and variables that influence adoption of evidence-based practices (EBPs) by individuals and organizations to improve clinical and operational decision making in health care (Eccles & Mittman, 2006; Rubenstein & Pugh, 2006; Titler & Everett, 2001; Walsh & Rundall, 2001). This includes testing the effect of translating research into practice (TRIP) interventions. Thus, EBP is the process of integrating evidence into health care delivery whereas translation science is the study of how to promote adoption of evidence in health care; it is the conduct of research. The emphasis of this special issue is EBP.

The rate and extent whereby evidence-based practices are adopted are influenced by the *nature of the evidence-based topic* (e.g., complexity, type, and strength of the evidence), and the manner in which the evidence-based knowledge is *communicated* (e.g., academic detailing) *to members* (e.g., physicians, nurses, and pharmacists) of a *social system/context of practice* (e.g., clinic, inpatient unit, health system, community; Titler et al., 2009; Titler &

Everett, 2001). There are a number of resources and models of EBP to assist clinicians in applying evidence in practice (Rycroft-Malone & Bucknall, 2010; Titler, 2002, 2009). Furthermore, the empirical knowledge in translation science suggests several principles that are informative for implementation of evidence-based practices (Brooks, Titler, Ardery, & Kerr, 2009; Carter et al., 2006; Feldman, Murtaugh, Pezzin, McDonald, & Peng, 2005; Greenhalgh, Robert, Bate, Macfarlane, & Kyriakidou, 2005; Hysong, Best, & Pugh, 2006; Shojania & Grimshaw, 2005; Shojania et al., 2006; Titler, 2008; Titler et al., 2009). First, consider the context and engage health care personnel who are at the point of care in selecting and prioritizing improvement initiatives based on evidence, and clearly communicate the evidence base (strength and type) for the practice topic(s). These communication messages need to be carefully designed and targeted to each stakeholder user group. Second, illustrate, through qualitative or quantitative data from the setting (e.g., fall rates, urinary catheter-associated UTI rates, pain intensity scores), the reason the organization and individuals within the organization should commit to practicing based on the evidence for the specified topic. Third, didactic education alone is never enough to change practice. Simply improving knowledge does not improve care. Rather, organizations must invest in the tools and skills needed to create a culture of evidence-based practices where questions are encouraged and systems are created to make it easy to do the right thing. Fourth, the context of the practice has to be addressed at each step of the implementation process. For example, trying the change in practice is essential to determine the fit between the EBP innovation and the setting of care delivery (Adams & Titler, 2009). There is not one way to implement, and what works in one agency may need modification to fit the organizational culture of another context. Lastly, it is important to evaluate the processes and outcomes of implementation. Users and stakeholders need to know that the efforts to improve care based on evidence have a positive impact on quality.

Moving from tradition-based to evidence-based care delivery is no small challenge. The first four articles in this special issue describe innovative approaches and programs used to foster EBPs in organizations. These innovative strategies hold promise in making EBP a normal part of care delivery. The next two articles (Calarco et al. and Shever et al.) are studies that address the practice environments of nurses, thereby illuminating some of the opportunities and findings about the importance of creating practice cultures that foster evidence-based care delivery. A third article, by Everett and Sitterding, addresses the importance of nursing leadership in transforming care environments

to be evidence-based. These three articles are important because we know that organizational context influences organizational support for EBP, provider attitudes for adopting EBPs, and can facilitate or hinder implementation of EBPs (Aarons, Sommerfeld, & Walrath-Greene, 2009; Scott, Plotnikoff, Karunamuni, Bize, & Rodgers, 2008; Wallin, 2009). The remaining three articles, two reports of EBP projects and one study, serve as exemplars of how nurses have led the integration of evidence to address important clinical topics. We are delighted to share this information with the hope that the various strategies and examples will assist in addressing this final step of bringing research findings into the mainstream of practice.

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