Clinical Simulation as an Instructional Strategy for Animating the Clinical Nurse Framework

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The Clincal Nurse Leader (CNL) roles include both the management of clinical outcomes and management of the clinical environment. In a program in which students learn the CNL roles as a Master's Entry Option program, both the bedside and the systems roles must be mastered. This article describes how simulation can animate the curriculum by challenging students at both the bedside and microsystem level in a pediatric setting. Fourteen MEO/CNL students were exposed to two clinical days of simulated experience in both well assessment and emergency-response case-based scenarios. Results of a post-experience survey revealed high rates of agreement on the constructs measured. Another cohort of eight MEO/CNL students were assigned to observe and report on the systems-level issues of two cohorts of junior-level baccalaureate students who were engaged in pediatric simulations. Simulation can be used to animate both the bedside and system level roles expected of the Clincal Nurse Leader. (Index words: Clinical simulation; Clinical nurse leader; Instructional Strategy) J Prof Nurs 26:176–181, 2010.

THE AACN WHITE paper (2007) outlining the clinical nurse leader (CNL) curricular framework for client-centered health care conceptualizes the critical interaction among nursing leadership, the management of clinical outcomes, and the care environment. Embedded within this framework are key threads that include assessment, communication, clinical reasoning, and resource management. Providing an educational milieu that can animate those concepts requires thoughtful strategy, particularly if students enter a CNL curriculum in a Master's Entry Option (MEO) program.

Microsystems theory has been recently accepted as an important construct; an understanding of the role that systems play on outcomes depends on the recognition that patient care is delivered in small clusters composed of patients, clinicians, processes, equipment, physical facilities, and culture (Disch, 2006). Formed around a common purpose or need, a clinical microsystem is composed of small groups of individuals, such as physicians and nurses, who are embedded within a larger organization (IHI.org). If the CNL role, as conceptualized by the AACN White Paper, can be seen as a component of a clinical microsystem, then employing an instructional strategy to energize the concept is fundamental to its success.

This article describes an evaluation of the inaugural use of clinical simulation in a MEO/CNL course designed to teach both bedside-level pediatric content and the Microsystems-level role.

Background

In 1979, Charles Bosk published a seminal work about managing medical failure; *Forgive and Remember* informed readers about how surgeons and surgical residents recognized and managed medical error. Bosk explored the meanings of failure as a wake of breached expectations within a grammar of motives ending in the question: "What went wrong?" Today's clinical instruction is guided by the precepts outlined in *To Err is Human* (Kohn, Corrigan, & Donaldson, 2000), in which the authors concluded that adverse events are not always the result of individual failure but are also influenced by systems that pay too little attention to patient safety. The evidence for this assertion gains greater relevance when

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8755-7223/09/$ - see front matter

doi:10.1016/j.profnurs.2009.12.003

considering the complexity of health care systems in this modern era of shorter patient stays, increased use of technology, and sophisticated pharmacology.

Perhaps nowhere is this more evident than in a pediatric hospital setting. Most children are cared for through health promotion services in outpatient settings; those children who are cared for in hospital are increasingly unstable, complex, and challenging. Pediatric care environments would be well suited to the employ of CNLs, whose role encompasses microsystems within macrosystem oversight and who could serve to recognize and mitigate potential system error, particularly in a pediatric setting.

How can MEO/CNL students master both the bedside role and the CNL role in the course of a five-semester program? Irrespective of the length of time students spend in a given clinical rotation, it is the quality of that learning experience that makes the course objectives fully realized. There is little current evidence that traditional clinical rotations offer students the hands-on and interactive experiences that were once the mainstay of an earlier era in which patient safety, error awareness, and patient confidentiality were not explicated. Waldner and Olson (2007) take the position that it is unlikely that nursing students will ever be able to practice all of their skills on real patients again. Simulation as an educational strategy for the MEO/CNL student can expose students to the importance of communication, collaboration, and potential for error that lies within their own bedside practice and is embedded within the complex systems in which that practice occurs.

Characteristics Unique to the Pediatric Nursing Role

Children are not good historians and cannot provide important contributions to where they hurt, how much they hurt, when the pain or symptom started, or if the therapeutic intervention made it better. Repeated studies have shown that when children undergo the same surgical procedure as adults, children are consistently undermedicated for pain (Rush & Lambton, 2001). In the absence of a patient who can contribute to a logical nursing action, pediatric nursing relies on key assessments of subtle changes and a high index of suspicion that includes frequent and accurate assessments.

The development of children along the age continuum requires that students learn the appropriate benchmarks of each age stratum. For example, the assessment of a 1-month-old demands that students understand what constitutes a normal neurological examination when the functional brain at that point can only illicit reflexes, or what constitutes compensatory shock when the stroke volume of the heart is a mere 5 ml/beat and a 10% blood loss means a loss of less than 30 ml. Expected "normals" in assessment change again as systems mature and develop, requiring a reformulation of what constitutes signs of deterioration. Common nursing interventions also require greater precision. Fluid imbalances in children require calculation of a complicated formula that changes as the weight of the child changes; overload or inappropriate volume can result in congestive heart failure or renal impairment. Administering medications to children is rife with potential error as the misplacement of one decimal place constitutes a 10-fold error, and the techniques for administering medications require students to gain the trust and cooperation of patients who, for the most part, cannot understand why it is important to comply.

Pediatric nurses must also recognize the responsibilities and strengths that parents bring to the child's care. Parents have moral and legal responsibility for the health care decisions of their children; pediatric nursing is a family affair in which negotiation, tact, and anticipatory guidance are foundational to the care trajectory of the child. While no means a comprehensive review, some of the developmental and family differences that require pediatric nurses to think differently are thus illustrated.

Characteristics of the Pediatric Microsystems

Parents are part of the complex microsystem that exists within the clinical milieu that includes pediatricians, child-life specialists, and pediatric specialists who form the health care team along with nurses and assistive personnel. Mohr and Batalden (2002) take the position that linking patient safety and the existing microsystem requires deference to expertise that encourages the migration of authority to the people with the most expertise, regardless of rank. Unlike the operating room theater in which Bosk (1979) observed medical failure, in a highly performing clinical microsystem, "rank" does not always mean "right." In pediatric nursing, the person with the most expertise about an emerging problem shifts at any given time from the parent to the pediatrician, to the child-life specialist, to the bedside nurse with a fluidity that sometimes brings about open conflict. Collaboration requires the ability to share information openly, engage in conflict, and negotiate results; collaboration and communication are central to positive patient outcomes (Gerardi & Fontaine, 2007). The CNLs' role in pediatric settings could provide the leadership necessary to encourage and stabilize negotiation within a given microsystem and assist in effective teamwork, linking leadership, clinical outcomes, and care environment responsibilities. Currently, there is no one person charged with that level of responsibility in a functional pediatric team, yet the value of having a person available to serve this role is intuitive.

Pediatric units are also structurally different than other hospital units by the need to stock equipment that is size appropriate. Blood pressure cuffs, for example, come in at least four different sizes, as do chest electrodes, oxygen saturation devices, emergency ventilation equipment, and other lifesaving or everyday material. Having inappropriately sized equipment can lead to failure in accurate assessment and failure to rescue. Pediatric units must also have, at the ready, a variety of cribs, junior beds, and teen beds that have safety features that prevent harm to even the most curious child.