Historically, the nursing care of patients has been managed by decisions that were made on the spot, relied on memory, and shaped by experience. The summation of these and other processes created the automatic thinking process referred to as intuition, which largely determined patient care decisions. Depending on the quality of one’s memory, critical thinking abilities, and quality of experience, the outcome could be good or bad. With the disruptive transition to the digital world of health care driven by analytics, we now have an opportunity to provide care based on data. However, the transition to move from traditional thinking to data-driven decision support does not come easy. In some situations, we are well supported with technology (e.g., “smart” devices and monitors) and in other areas we continue to depend on opinion-based decisions (e.g., nurse assignments and patient placement). We are in the midst of the digital revolution which is creatively turning everything we have known about health care upside down (Topol, 2013). We have two challenges: preparing chief nursing officers and other leaders and staff to lead in the digital revolution, and moving nursing care as quickly as possible into the intelligent data/analytics world of health care.

Preparing CNOs, Other Leaders, and Staff to Lead in the Digital Revolution

The leadership of the chief nursing officer (CNO) in information technology is absolutely essential for the future of nursing and excellence in patient care. Unfortunately, extensive competency in health care information technology (HIT) is not universally seen as an entry into practice in the CNO role. This results in a wide variance across the country in the ability to make informed decisions about HIT, to advocate for technology support for nursing and nursing care, and support for nonclinical smart solutions as well as clinical solutions. Simpson (2015) notes nurse executives need to take seriously a lifelong learning commitment to HIT content because the quickening speed of technology innovation and adoption is creating a complex environment in which CNOs lead. He further notes nurse executives can be marginalized in the process of HIT selection by being relegated to merely looking at the systems features and dominated by physician-led decisions that exclude the needs of nursing and other clinical staff. By becoming highly competent in the area of IT and by developing nursing informatics personnel into a strong nurse-centric role, these pitfalls can be avoided (Simpson, 2015).

With strong leadership in IT from the CNO who advocates for the needs of patients and nurses, better outcomes for integrating HIT across all disciplines will be enhanced. However, it doesn’t stop with the CNO. The integration of HIT and nursing informatics (NI) knowledge should be expected from every clinical leader in a health care organization and of direct care nurses. The digital revolution has made competency in this area mandatory for the successful selection, development, and competent use of devices and clinical systems. HIT has become the foundation of almost everything we do in health care. Most devices and equipment include embedded technology. And, of course, the electronic health record (EHR) has taken center stage for some time now as the installation, integration, and optimization of these systems dominates the health care landscape. All of these innovations require a higher skill set to lead operations effectively.

Executive Summary

- Much information and clinical data are available in health care.
- Unfortunately, much of it is not available for clinical decision making and management support.
- Analytics within the context of health information technology (HIT) will provide a framework to bring better reasoning and intelligence to HIT and nursing care.
- The missing link is the people who will bring this forward into the everyday lives of clinical nurses and nurse executives.
- With better competencies among staff and leaders in nursing and more credentialed nursing informatics leaders in influential positions, nursing will be a full participant in the digital revolution which, along with analytics, will lead to intelligent and effective systems.

Karlene M. Kerfoot

KARLENE M. KERFOOT, PhD, RN, CNA, FAAN, is Chief Nursing Officer, API Healthcare, a GE Healthcare Company; and a Nursing Economic® Editorial Board Member. Comments and suggestions can be sent to Karlene.Kerfoot@ge.com

Copyright ©2015 Nursing Economic®.
With the challenge of developing competencies in HIT and NI, there are opportunities to consider “raising the bar” and helping everyone in nursing have the skills to be at the table when HIT is the topic of discussion, and to bring informed and enlightened discussions that represent the voices of patients and nurses. Moving competencies into undergraduate and graduate education is essential for the future of nursing. Integrating competencies into certification exams will go a long way in insuring the integration of competencies in the many roles of nurses.

**Moving Nursing Care to the Era of Intelligent Data/Analytics Systems**

Health care has only recently developed intelligent systems to aid the practitioner at the point of care. Support for the nurse has lagged, while innovations for the practice of medicine are a priority in the development of clinical decision support systems to provide computer-assisted support and information to the physician. However, there is an ever-increasing plethora of smart devices the nurse must oversee to maintain a safe environment for the patient. But the real need is for intelligent systems to proactively provide suggested actionable information to the nurses.

Much of the emphasis in HIT and NI has been centered on the EHR and patient care. However, the support structures for patient care are in need of smart technology. Opinion-based decision making is common in areas such as patient flow, bed assignment, nurse and patient care scheduling, staffing, patient assignment, and budgeting. If these functions have been moved from pencil and paper to electronic systems, these systems may not be smart systems but merely replicate the paper processes. When intelligent information about the nursing care needs of the patient are matched with the characteristics of the nurse, much more “intelligent” assignments of the patient to the nurse, for example, will happen. Issues such as nurse fatigue can be factored into assignments. The complexity of making data-driven assignments without the support of an electronic system is virtually impossible. With the integration of analytics into these processes, predictive information and decision support for many of these functions are achievable and will drive real value in health care (Madsen, 2014).

**Work to Do**

A great deal of information and clinical data are available in health care. Unfortunately, much of it is not available for clinical decision making and management support. Analytics within the context of HIT will provide a framework to bring better reasoning and intelligence to HIT (Ghavami, 2014) and to the world of nursing care. The missing link is the people who will carry this forward into the everyday lives of clinical nurses and nurse executives. The demand for people with NI competencies is growing rapidly as health care and technology companies discover the worth of these positions. With better competencies among staff and leaders in nursing and more credentialed NI leaders in influential positions, nursing will be a full participant in the digital revolution which, along with analytics, will lead to intelligent and effective systems.

**REFERENCES**


