



A VISION FOR The Changing Faculty Role: Preparing Students for the Technological World of Health Care

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Mission: Promote excellence in nursing education to build a strong and diverse nursing workforce to advance the health of our nation and the global community.

Core Values: Caring, Integrity, Diversity, Excellence

INTRODUCTION

The National League for Nursing is committed to faculty excellence in using emerging technologies to advance the health of the nation. The NLN recognizes the need to reframe how nursing students are taught and how graduates engage with patients and their caregivers in the connected age of health care. The connections forged across the changing technological landscape magnify the reach and value of both information and relationships, creating opportunities for learning, working, and collaborating on an unprecedented scale.

Providing affordable, high quality, efficient care is changing health care delivery in the United States. Armed with information, patients engage digitally with health care providers, and manage their own health and health care. Technologies that leverage the power of connected health (e.g., eHealth and mHealth) and social media are avenues for care of patients on their terms, with relevant health care information and resources. Technology also provides avenues for monitoring patient-care outcomes, expanding the actualization of nursing's scope of practice and for nurses to engage with patients to provide safe, patient-centered care.

The NLN's mission and core values, its long history of leading the national and international nursing education community in promoting teaching excellence, and the intellectual capital of its members and leaders provide the foundation to address the challenges and opportunities of leveraging technology as a tool in health care and nursing education. Teaching with and about emerging technology is the future of nursing education. Providing nursing care in a highly technological, connected work environment is the future of nursing practice.

BACKGROUND AND SIGNIFICANCE

The compelling need for technological fluency and competency among nurse educators is not a new phenomenon.

- In 2008 the NLN released *Preparing the Next Generation of Nurses to Practice in a Technology-Rich Environment: An Informatics Agenda*. Acknowledging that health care technology had expanded and that access to information had grown at a phenomenal rate, the position statement called for nurses to acquire the necessary “21st-century knowledge and skills for practice in a complex, emerging technologically sophisticated, consumer-centric, global environment” (Warren & Connors, 2007, p. 58).
- The Robert Wood Johnson Foundation’s *Quality and Safety in Nursing Education* (QSEN) project has had a major impact on fostering informatics competence and urging faculty to use technology to communicate, manage knowledge, mitigate error, and support clinical decision making (Cronenwett, Sherwood, Disch, Johnson, Mitchell, Warren, 2007).
- The Robert Wood Johnson Foundation-funded Institute of Medicine report, *The Future of Nursing: Leading Change, Advancing Health* (2011), noted that while the US redesigns the health care landscape, nursing education has not kept pace with consumer engagement, the changing patient demographic, health system expectations, evolving practice requirements, and the focus on innovative technologies.

Since young adults start college with a vast array of technology-enhanced learning experiences, the challenges facing faculty who did not grow up in the computer age are a concern. In the National Survey of Student Engagement (NSSE, 2014), both learning with technology and courses that improved student understanding and use of technology had a positive association with all four academic challenge indicators (higher order learning, reflective and integrative learning, learning strategies, and quantitative reasoning).

In early 2014, the NLN engaged national leaders in technology, from education, practice and government, to identify key issues that are changing the face of health care delivery:

Consumer Engagement in Health

The participatory medicine movement and its vision of consumers as ePatients shift the dependency paradigm toward the consumer as a part of the care team, engaging with technology that can support them as they age (Abrahms, 2012; Skiba, 2012). Providing patients with their data in a rapid manner alongside appropriate guidance and coaching will be the new patient engagement model. Patient-centered care and personalized health take on new meaning as the patient becomes an active member of the health care team.

Mobile health initiatives (mHealth) – using mobile devices (e.g., pedometers, mobile ECG), smart tools, and wearable sensors – make it possible to receive diagnostic data in real time and help manage individual health and wellness (Skiba, 2014). The focus for health care professionals will be on helping patients to translate the data for their own health and health

care and ensuring that they know how to keep their personal health data secure. Because breaches in digital information frequently occur, nursing curricula should address this issue.

On-Demand Access to Technological Applications and Data Storage

Advances in cloud computing will create on-demand access to software applications, massive storage capacity, and collaborative networks. Consumers and health care professionals can readily access health information to analyze patterns of health and illness trajectories, lifestyle changes, and social networks (Yang, Chiang, Lui, Wen, and Chuang, 2010).

Nurses are increasingly called upon to lead and participate in teams that design these data initiatives. For example, advances in genomics will necessitate guidance for consumers to tap into their Electronic Health Records (EHR) for genomic information that can guide health and wellness regimens. Contemporary curricula need to teach nurses how to 1) track, trend, and integrate population-based data; 2) use predictive models to forecast health and wellness trends; and 3) translate data for effective use by the patient and the clinician.

Virtual Health Care

Today's health care visits, both inpatient and outpatient, are dominated by traditional face-to-face encounters with providers. This results in HER data entry into institutional repositories by multiple providers. Yet, the increasing virtual nature of health care changes access to care and, in some cases, provides better care (Galaski, 2013). Virtual technologies support the growing trend of health care management from episodic to continuous care.

New patterns of patient-care responses and health information emerge that further inform nursing interventions. Telecommunications technologies can enable nursing and medical teams provide health management on a continuum from chronic illness to acute injuries, using telemedicine to support primary care providers with limited access to these services. How can faculty partner with practice to incorporate these distance technologies into the clinical education experience to better assist students to develop a continuous care approach and to support acute care experiences outside of the acute care setting?

Informatics

A blend of many sciences and disciplines, informatics is the use, generation and reformulation of data and information. Computers and technology are just tools of informatics. There are scant quality educational resources and too few faculty members that are knowledgeable of informatics principles that are useful in the practice setting. Moving forward requires an emphasis on informatics competencies that facilitate interdisciplinary communication, reduce error, and improve clinical decision-making. Students need to apply a wide variety of health information technologies in clinical settings, with an emphasis on safe and effective care management (AHIMA, 2008).

CALL TO ACTION

Using technology in creative and innovative ways "is about finding new ways to engage students in acquiring, managing and using nursing knowledge as well as 'improving the

learning experience...to not only provide knowledge, but also promote the development of creativity, innovation and leadership skills” (Skiba, 2013, p. 202). The implications for nursing education are clear: nursing curricula and teaching strategies need to teach **with and about** technology to better inform health care interventions that improve health care outcomes and prepare the nursing workforce. In many ways, nurses are the bridge between the patient and technology.

How can nurse educators collaborate with practice partners and other health disciplines like public health, epidemiology, and urban planning, to design innovative educational experiences?

How can nursing education incorporate current and real-time health issues with an emphasis on outcomes and trending of data to inform quality processes on care units and in work teams?

How can we incorporate experts in the use of instructional technology and eHealth technology into teaching teams to assist with faculty development?

How can we ensure the use of existing technology competencies to better develop the emerging faculty role?

How can we increase the use of technologies that provide contextual learning experiences in the teaching of patient-centered care and the leveraging of informatics functions, such as interaction with EHRs, online drug references, and clinical pathways?

CONCLUSION

The changing landscape of patient care, driven by greater consumer engagement, practice-driven technologies, and virtual health care, provides a unique context for teaching and learning. Incorporating technology improves active teaching strategies and evaluation of learning outcomes. The National League for Nursing supports nurse educators and practicing nurses to meet the needs of our technology-rich health care and education environments. Consistent with this commitment, the NLN fully acknowledges the vital role that nurse educators play in preparing our nation’s diverse nursing workforce to enhance patient care outcomes in a shifting health care environment.

RECOMMENDATIONS

For Deans, Directors, Chairs of Nursing Programs

- Develop teaching teams with informatics and/or technology skills by adding instructional designers and informatics specialists to facilitate course design and operationalize classroom technology.

- Create incentive-based programs to build faculty competence in teaching with and about technology.
- Provide institutional support to increase educator competency and skill with technology, (e.g., TIGER, QSEN, AACN Essentials, AHIMA, etc.).
- Provide financial support for faculty development in informatics education and simulation technologies.

For Nurse Faculty

- Expand educator horizons to incorporate health promotion and health maintenance; include the patient as a central member of the team using health information technology.
- Seek learning opportunities to develop technological skills and knowledge to move students forward in the connected age of health care.
- Identify ways to work more efficiently with workplace technologies.
- Collaborate with practice partners to increase opportunities for contextual learning by designing clinical encounters using technology and simulation across the continuum of care.
- Developing learning activities that incorporate the shift to public health and community health resources and aggregate and population-based data.
- Create clinical experiences for students to assess consumer eHealth literacy and assist patients to translate data for meaningful use.

For the National League for Nursing

- Collaborate with key stakeholders (i.e., NSNA, AHIMA, AARP, IOM Patient Forum) to inform best practices in the use of technology in teaching and learning and to address the way patients engage with providers and access information.
- Provide faculty development to:
 - Incorporate competencies in informatics and technology throughout the program of learning.
 - Align curricula with current technological advances and consumer engagement.
 - Enhance faculty expertise in active learning teaching strategies with and about technology to better engage students in the learning process.
- Create a repository of shared teaching/learning resources focused on the use of technology in nursing programs and practice driven informatics.
- Engage with technology partners and the nursing education community to develop new technological resources and seek broad bases of funding to facilitate faculty development and the use of emerging technologies to advance the health of the nation.

REFERENCES

- Abrahms, S. (2012, March). Independent living for the aging is possible with new technology. AARP [Online]. Retrieved from <http://www.aarp.org/technology/innovations/info-04-2012/living-laboratories-aging-place.html>.
- American Health Information Management Association & American Medical Informatics Association. (2008). Joint Work Force Task Force: Health information management and informatics core competencies for individuals working with electronic health records. Retrieved from http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_040723.pdf
- Cronenwett, L., Sherwood, G., Barnsteiner, J., Disch, J., Johnson, J., Mitchell, P., & Warren, J. (2007). Quality and safety education for nurses. *Nursing Outlook*, 55, 122-131. doi:10.1016/j.outlook.2007.02.006
- Galaski, S. (2013). *Lehigh Valley uses telemedicine to treat patients*. Retrieved from <http://standardspeaker.com/news/hgh-lehigh-valley-use-telemedicine-to-treat-patients-1.1554252>
- Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health*. Washington, DC: National Academies Press.
- National League for Nursing, (2008). *Preparing the next generation of nurses to practice in a technology-rich environment: An informatics agenda* [Position Statement]. Retrieved from http://www.nln.org/about/nln/positionstatements/informatics_052808.pdf
- National Survey of Student Engagement. (2014). *Annual Results*. Retrieved from <http://nsse.iub.edu/>
- Skiba, D. J. (2012), Technology and gerontology: Is this in your nursing curriculum? [Emerging Technologies Center]. *Nursing Education Perspectives*, 33(3), 207-209.
- Skiba, D. J. (2013). Technology and gerontology: MOOCs and the future of nursing? [Emerging Technologies Center]. *Nursing Education Perspectives*, 34(3), 202-204.
- Skiba, D. J. (2014). The connected age and wearable technology [Emerging Technologies Center]. *Nursing Education Perspectives*, 35(5), 346-347.
- Warren J., & Connors, H. R. (2007). Health information technology can and will transform nursing education. *Nursing Outlook*, 55(1), 58-60.
- Yang, P. C., Chiang, J. H., Lui, J. C., Wen, Y. L., & Chuang, K. Y. (2010, December 13-15). *An efficient cloud for wellness self-management devices and services*. Fourth International Conference on Genetic and Evolutionary Computing, Shenzhen, China.

