

Informatics in Nursing and Healthcare

NURS: 6401

Walden university

Ritu Adhikari

Date: 10/29/2023



**Part 1: ANA Competencies and Standards Identification**

From clinical practice to informatics, functional areas of Nursing Informatics describe the integrated functions of Nurses and Nurse Informaticists. According to ANA, there are 9 key functional areas of Nursing Informatics and they are Leadership and management, system analysis and design, Compliance, Development of systems, products, and resources, Education and professional development, policy development, Quality and performance improvement, and Research and Technology implementation. All are equally important but the one I am more interested in is Research as a functional area of Nursing Informaticists.

**Functional areas interest**

Nurse Informaticists can be on the frontline of research and incorporate patient data in patient care as they are in a position, where they can improve patient future through research. This is interesting to me because I can find myself as a researcher who can improve patient outcomes and assist in incorporating data into electronic health records to improve research. Advanced research can enhance clinical workflow via evidence-based practice and patient-centered care which is possible via the Implementation of an Information system as we have better access to evidence.

**TIGER competencies and ANA functional areas**

 In 2006, the TIGER Initiative was launched officially after key nursing stakeholders came together to make sure nursing would be mandatory for health informatics education and application. This is devoted to clinicians, mainly nurses, to better exploit the use of informatics tools, their principles, and underlying theories for improving patient care. In 2014 TIGER combined with the Healthcare Information and Management Systems Society (HIMSS) to extend its scope so that it can include other clinical personnel to enter an inter-professional space. Today (Huber et al., 2018) To develop recommendation (Informatics) for all nurses TIGER competencies was made following a survey and literature review which consists of three parts and they are Basic Computer Competencies, Information Literacy, and Information Management. (Shaw et al., 2020)

I might develop Basic computer skills, knowledge, and the ability to use computers and related technologies. I think this is a necessary skill in Research, a functional area of ANA. Researchers need to be familiar with the operating system of a computer and its applications, they should be educated on how to manipulate data and documents effectively. In order to develop evidence-based research they should know how to access files and data that are available on the World Wide Web (WWW).

Researchers should be able to manage the data efficiently that resulted from computer simulations, which are then subject to statistical analysis, or other forms of data mining to answer the underlying scientific questions. After this researcher should be able to present their discoveries in the form of reports or scientific articles and audiovisual presentations. (Smolinski, 2010) For this Basic computer skills are a must, therefore because of this I would say they related TIGER competency related to research.

**QSEN competencies and ANA functional areas**

For Nurses practicing at all levels, Quality and Safety Education in Nursing (QSEN) competencies are very important. According to GCU, a report was released in 2000 by IOM competencies highlighting the need to remodel healthcare systems for better patient care that gave birth to QSEN Competencies in 2005. The six competencies are Patient-centered care, Teamwork and collaboration, Evidence-Based Practice, Quality Improvement, Safety, and Informatics. The QSEN competency I might develop is safety not only for patients but also for Health care personal safety because knowledge about safety principles and the ability to recognize unsafe conditions is crucial in the workplace. Exploring factors that support a safe-minded work culture like open communication and error reporting systems as well as understanding the benefits and limitations of healthcare technologies that are intended to minimize patient harm such as automatic alert systems and medication pumps in needed for every healthcare personnel. Technologies that can minimize harm and promote both patient and healthcare personnel safety can be developed via Research where Nurse informaticists are included because they have both clinical and technical knowledge and experience. They have witnessed unsafe conditions and their consequences for both patients and organizations. Identifying the factors that can influence patient safety can be increasingly emphasized allowing nursing researchers to adopt a better approach in patient safety issues. (Kim & Seomun, 2023)

According to health care.gov, SDOH domains are Economic Stability, Education Access and Quality, Health Care Access, and Quality, Neighborhood, and Built Environment, and Social and Community Context. QSEN, ANA Functional areas, and TIGER competencies are all used to improve the SDOH domains. Exploring knowledge of patient safety will guide nurses in educating patients on how to improve safety conditions in the environment where they were born and where they live. QSEN focusing on the integration of modern knowledge and skills related to safety and quality into nursing education can be applied to improving population health, well-being, and quality of life. Continuous research on how to improve population health can be beneficial in improving SDOH domains. Data collection and research on how to provide affordable value-based care to achieve equal health for every person can be helpful in synthesizing clinical information into an actionable plan for improving SDOH.

References:

Hübner, U., Shaw, T., Thye, J., Egbert, N., Marin, H. de F., Chang, P., O’Connor, S., Day, K., Honey, M., Blake, R., Hovenga, E., Skiba, D., & Ball, M. J. (2018, June). *Technology Informatics Guiding Education Reform - Tiger*. Methods of information in medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6193400/

Kim, E. J., & Seomun, G. (2023, February 1). *Exploring the knowledge structure of patient safety in nursing using a keyword network analysis*. Computers, informatics, nursing : CIN. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9907707

Nursing informatics: Scope and standards of practice 2 edition ND (2014). (n.d.). https://www.nursingworld.org/~4adc2f/globalassets/catalog/book-toc/nursing-informatics-scp-stds-2e\_toc.pdf

Shaw, T., Blake, R., Hubner, U., Anderson, C., Wangia Anderson, V., & Elias, B. (2020, March). The evolution of Tiger Competencies and Informatics Resources. https://www.himss.org/sites/hde/files/media/file/2020/03/10/the-evolution-of-tiger-competencies-and-informatics-resources-final-10.2017.pdf

Smolinski, T. G. (2010). *Computer Literacy for Life Sciences: Helping the digital-era biology undergraduates face today’s research*. CBE life sciences education. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931684/#:~:text=Researchers%20should%20be%20familiar%20with,World%20Wide%20Web%20(WWW).

*Social Determinants of Health*. Social Determinants of Health - Healthy People 2030. (n.d.). https://health.gov/healthypeople/priority-areas/social-determinants-health

Tingen, M. S., Burnett, A. H., Murchison, R. B., & Zhu, H. (2009, March). *The importance of nursing research*. The Journal of nursing education. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677814/#:~:text=Although%20the%20majority%20of%20nurses,in%20all%20health%20care%20settings.

*Understanding the importance of Qsen competencies*. GCU. (2021, March). https://www.gcu.edu/blog/medical-studies-sciences/understanding-importance-qsen-competencies