Title:
Utility of Educating Prelicensure Students on Genetic and Genomic Competencies

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Session Title:
Genetic Practices in Healthcare
Slot:
E 18: Sunday, 29 October 2017: 4:15 PM-5:00 PM
Scheduled Time:
4:35 PM

Keywords:
acute-care hospital, bedside nurse and genetics

References:
Older references are seminal:

American Association of Colleges of Nursing (AACN). (2008). *The essentials of baccalaureate education for professional nursing practice.* AACN: Washington, DC.

Consensus Panel on Genetic/Genomic Nursing Competencies (2009). *Essentials of genetic and genomic nursing: Competencies, curricula guidelines, and outcome indicators, (2nd ed.).* Silver Spring, MD: American Nurses Association. Retrieved from http://www.genome.gov/Pages/Careers/HealthProfessionalEducation/geneticscompetency.pdf

Wright, D. (2015). *Competency assessment field guide: A real world guide for implementation and application.* Creative Health Care Management, Inc.: Minneapolis, MN.

Abstract Summary:
Participants will learn how the "Genetic and Genomic Competencies for All Registered Nurses" are being used in bedside hospital nursing a decade after their inclusion in the "Essentials of Baccalaureate Nursing" document which guides most baccalaureate nursing program curricula in the United States.
Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
Identify genetic/genomic competencies shown to be frequently used in bedside hospital practice	Results of a cross-sectional study of almost 800 hospital nurses who responded to a request for information about the frequency of their use of the published Genetic and Genomic Competencies for All Registered Nurses showed that none were used frequently and most were considered irrelevant to contemporary acute-care bedside hospital practice.

Describe the evolution of the Genetic and Genomic Competencies for All Registered Nurses in the United States.	History of the Genetic and Genomic competencies for all registered nurses from the completion of the Human Genome Project to the present.
Evaluate the utility of the Genetic and Genomic competencies for All Registered Nurses in nurse populations, including bedside nurses employed in acute-care hospitals and advanced practice nurses.	Results of a cross-sectional study of uses of target competencies among bedside nurses will be presented and participants will be invited to reflect and use their own judgment to evaluate the usefulness of the competencies.

Abstract Text:

Background. In the nursing context, **c**ompetency refers to the nurse's actual performance in a work situation. Typically, nurses are expected to master competencies that are related to their specific work-environments. Sets of performance standards defining different competencies have been used to structure nursing education since the 1970s. In the past forty years, the list of competencies registered nurses are expected to master has accumulated dramatically.

Purpose. The purpose of this study was to describe the utilization of genetic/genomic nursing competencies in contemporary acute-care hospitals.

Design. This cross-sectional study examined survey responses from 796 bedside nurses practicing in two of the largest private hospital networks in north Texas in 2014-2015. The study was reviewed and approved by the Institutional Review Boards of both hospital systems involved in the project and complied with principles of the Belmont report and Declaration of Helsinki governing ethical treatment of human research subjects.

Methods. We constructed a questionnaire by listing each of the published genetics/genomics competencies for all registered U.S. nurses. Respondents were surveyed over 4 weeks in ten diverse hospitals ranging from small, rural entities to large, urban facilities. Questionnaires were delivered by e-mail to all registered nurses at participating hospitals along with a letter explaining the study. Nurses rated each competency in regard to frequency of use and relevance. We used descriptive statistics to characterize the sample and survey responses. Associational methods assessed the magnitude of relationships between selected variables and integration of genetics and genomic competencies into bedside practice.

Findings. Registered nurses in staff (bedside) positions were the target population for this study. A small group of non-bedside nurses participated across both networks. Their responses were included in the descriptive statistics, but were omitted from inferential analyses. Overall the mean score of every competency was low (< 2.5), indicating that, on average, the competencies were never performed or performed only a few times a year. Only two of the competencies were ever performed by a majority of the respondents, including "being aware" of the impact of genetic information on clients and "thinking about" one's own beliefs and values related to genetics. The category "Master's degree" within the education variable includes APRNs; therefore we examined that group for incidental findings. After adjustment for multiple testing (Bonferroni adjustment), we found nurses with Master's degrees reported performing several competencies significantly more often than their bedside counterparts. Furthermore, nurses with Master's degrees reported participating in continuing education regarding genetics or genomics significantly more often than other nurses ($X^2 = 40.06$, $p = 0.0001$).

Conclusions. Competencies for all registered nurses are competencies shared by all nurses across all practice settings and educational levels. It is expected that nurses will be exposed to the knowledge required to master competencies for all registered nurses in their pre-licensure nursing educational

programs, thus, schools of nursing struggle to integrate content that will enable students to master genetics/genomics competencies. It is also expected that nurses will have the opportunity to use the competencies in practice. Mandating skills that will not be used in practice creates unnecessary burdens on students, educators, bedside nurses, and administrators. There may be legal implications when "essential," but unrealistic, competencies cannot be fulfilled, as well. Genetics and genomic competencies are rarely used or considered relevant to practice by hospital bedside nurses. For the foreseeable future, the published genetic/genomic competencies for all registered nurses are more likely to be relevant to the activities of nurses in advanced practice. Mastering fundamentals of nursing, which address current nursing problems in hospital care, such as patient falls, line-related infections, and nurse-patient communication, is still a higher priority for hospital nurses.

Educational Relevance. Allocating resources to educating undergraduate or bedside hospital nurses to master the published genetics/genomics competencies for all nurses does not reflect current realities of hospital practice and may be a poor use of resources in contemporary healthcare. Targeting advanced practice nursing roles for genetic and genomics education may be a more efficient and realistic strategy for incorporating genetics and genomics into nursing.