

Creating Healthy Work Environments 2019

Stroke Center and Academic Nursing Collaboration to Improve Patient Outcomes: A Proposed Evidence-Based Educational Program

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Project aims & objectives: National regulatory continuing (CE) education requirements for United States Designated Stroke Centers (DSCs), are a challenge to implement when personnel and financial resources are constrained. RNs caring for stroke survivors in the emergency department, medical ICU, and stroke units of DSCs are mandated to receive annual stroke CE to maintain care proficiency. Regulatory accrediting agencies have not delineated curricula content, nor described specific competencies knowledge, skills or attitudes (KSAs) to be achieved. Also, there are no baccalaureate nursing educational standards relative to stroke care. The overarching aim of this project is to improve functional outcomes and decrease mortality rates for hospitalized stroke survivors by enhancing the KSAs of the current and future nursing workforce by establishing a cost-effective, evidence-based stroke continuing professional and basic education curricula. The immediate aim of this project is to develop evidence-based curricula to enhance the acute stroke care knowledge, skills, and attitudes of practicing nurses and baccalaureate nursing students. The specific objectives of this project are to: 1) identify best continuing professional education strategies for practicing emergency, medical ICU and stroke unit nurses caring for acute stroke patients; 2) to identify best educational strategies for baccalaureate nursing students; and 3) draft continuing professional education and baccalaureate nursing student stroke knowledge, skills and attitude curricula. **Background/significance:** More than 795,000 people in the U.S. experience a new or recurrent stroke, which is the 5th leading cause of death and leading cause of serious long-term disability. Nurses are essential to improving functional outcomes, preventing stroke and its sequel, including death. The translation of clinical guidelines into daily practice demands ongoing, comprehensive provider education that is challenging to achieve with limited resources. The proposed service-academic partnership project will identify cost-effective educational programs to be implemented and tested in an under-resourced urban academic health center. Nurses play an essential role to operationalize best practices that improve functional outcomes after a stroke and prevent mortality. The translation of clinical guidelines into daily practice demands comprehensive and on-going education of the individuals expected to administer care. The annual CE requirement for RNs caring for acute stroke patients in US Designated Stroke Centers is eight hours in the initial year of working on the stroke team, and four hours every year thereafter. Understaffed nursing units and financial constraints present barriers for nurse managers to schedule RNs to attend in person live stroke CE offerings. As a result, an online CE offering with a post-test was developed and disseminated. Nursing staff feedback received from the online course evaluation expressed strong preference for in person live instruction versus online education. Limited information exists about content standardization or competencies to be learned in stroke education for baccalaureate nursing students or RNs practicing in DSCs. In addition, there is no standard evidenced based stroke curriculum for baccalaureate nursing students. Evidence highlights an association between the percentages of Baccalaureate prepared nurses in clinical acute practice with the decreased likelihood of inpatient mortality. There is an opportunity to create and develop Academic-practice stroke collaboration between a university college of nursing and an academic medical center to satisfy mutual stroke educational needs of baccalaureate nursing students as well as practicing RNs in DSCs to improve patient outcomes. **Methods: Theoretical framework:** Benner's from novice to expert model for the stages of professional growth will be used to guide the development, implementation, and evaluation of the proposed project. **Research Design:** A pre-test/post-test quasi experimental design will be used to assess the impact of the program. **Sample & Setting:** A convenience sample of baccalaureate nursing students and RNs employed in stroke care areas of an academic medical center will serve as the study participants. **The intervention:** Following an extensive review of the literature, a

standard evidenced -based acute stroke management core curricula, comprised of the most up to date, concise, clinical guidelines and best practices strategies which highlight critical aspects of stroke nursing care delivery across the stroke continuum will be developed. A committee of subject matter experts inclusive of Stroke Faculty, Stroke Advanced Practice Nurse, College of Nursing Faculty, Hospital Nurse Educator, and practicing RNs from the ED, will be assembled to develop a current, evidenced based curriculum and determine the most cost effective, sustainable method for delivery that will optimize patient outcomes and maximize nursing student and practicing nursing staff demonstration of learned stroke KSAs. Emphasis will be given to early symptom identification, patient assessment/screening tools for large vessel occlusion, the process of an acute stroke alert, patient stratification for judicious administration of first line IV antithrombotic rt-PA Alteplase, indications for use of endovascular therapy, aspects of post stroke recovery including safe communication, swallowing, mobility, acute rehabilitation dynamics and secondary stroke prevention. In phase two, both nursing students and practicing nurses will receive in person instruction together in the College of Nursing simulation lab. Phase two students will range from novice to expert, Dr. Benner's theory suggests with a clear understanding of the five stages of clinical competence nurses have an opportunity to support one another and grasp that proficiency is a process learned over the course of time. Key aspects of nursing knowledge, skills and attitudes will be evaluated by both performance on written exam, and return demonstration of practicum components. Instruction will be given in two phases. Phase one will include didactic content delivered in an innovative digital interactive format with videos. Nurses will be emailed a link to access the digital content and receive a written posttest following. Phase one will be completed prior to the in-person live session, which will encompass phase two. This phase will clarify didactic concepts, facilitate mock stroke code simulations, highlight meaningful case studies that mirror the most common acute stroke pathways and address all aspects of appropriate documentation requirements. Students and practicing RNs will demonstrate specified competencies such as admixing IV thrombolytic (Alteplase) rt-PA and programming an IV Smart pump to deliver IV rapid bolus and infusion. **Data collection:** A written test of KSA's using the APEX Innovations – Hemispheres 2.0 Stroke Competency Series will be administered before and after the intervention. Upon completion of all CE sessions, all hospital stroke performance measure data as it relates to nursing indicators and time targets will be aggregated and reviewed for three months to determine whether the curriculum modification correlated with improved nursing performance demonstrated in their KSAs and improved patient outcomes. **Data analysis:** Data will be analyzed using descriptive and comparative statistics to assess knowledge, skills and attitudes before and after the intervention. **Results:** Feedback from course evaluations and performance measures that were not enhanced will be used for curriculum adjustments. If improvements are noted, the most beneficial educational strategies for practicing RNs and baccalaureate nursing students will be replicated and expanded upon. Additionally, the curricula proposed for continuing professional education and baccalaureate nursing student KSAs can also demonstrate utility for academic-practice collaborative with broader applicability to other patient populations. The program will be evaluated in relation to its cost, reported KSAs, and participant acceptance of the approach used. If cost, KSA's and acceptance of learners are positive, the program will be adopted for both students and RNs working in stroke settings and disseminated to other stroke centers through presentations and publications. **Conclusion & impact:** If the project aims are met, the model curricula can provide a cost effective way for stroke centers and others to provide continuing education and professional education to improve stroke outcomes and satisfy stroke center requirements.

Title:

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Keywords:

service and education collaboration, stroke centers and stroke education

References:

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Abstract Summary:

Over 795,000 people in the US experience new or recurrent stroke, a leading cause of disability. Nurses are essential to improving outcomes. Translating guidelines into practice requires constant education. A proposed service-academic partnership will identify cost-effective educational programs to be implemented and tested in an under-resourced urban academic health center.

Content Outline:**I. Aims & Objectives****A. Need for stroke curriculum****B. Objectives**

1. Identify educational strategies for staff nurses working in stroke care
2. Identify educational strategies for baccalaureate nursing students
3. Draft continuing professional education and baccalaureate nursing student stroke KSAs

II. Background and significance**A. Scope of problem**

- B. Significance of problem
- C. Role of nurses and need for education
- D. National continuing education standards for baccalaureate nursing students and practicing RNs in acute stroke care
- E. Constraints and challenges in meeting educational requirements/standards

III. Methods

- A. Theoretical framework - Benner
- B. Research design
- C. Sample and setting
- D. The collaboration & intervention
- E. Data collection
- F. Data analysis

IV. Results (anticipated)

- A. Of collaboration
 - B. Of curriculum model
- ### V. Conclusion & impact
- A. Meeting the demand
 - B. Next steps

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