Enhancing the clinical decision making skills of nurse practitioners

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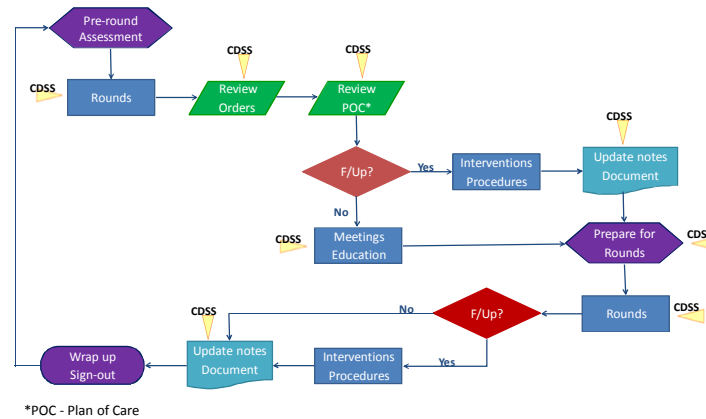*University of Maryland Medical Center*

Background/Significance

NeuroCritical care is a rapidly evolving subspecialty managing primary brain injury patients while seeking to mitigate or prevent secondary brain injury and maintaining acceptable patient quality of life. This requires swift, evidence-based practice (EBP) decisions by nurse practitioners (NP's) seeking to halt irreversible neurologic deterioration. In 2001, the Institute of Medicine emphasized the importance of EBP to parallel evidence-based management. Clinical decision support systems (CDSS) have been adopted throughout intensive care units to assist providers' in the identification and prevention of risk factors affecting patient safety while supporting the use of EBP and guidelines that improve outcomes. In an effort to obtain current best evidence, providers search a variety of databases to support the clinical decision making process. Unfortunately, performing a search can be extremely time consuming, the literature result may be irrelevant or overwhelming, and searches are usually not tailored to patient or user needs. Many times selected subspecialties are not well known and a new provider must be agile in locating evidence. An evidence retrieval application available on a mobile device could provide the nurse practitioner with timely access to resources with minimal disruption to routine workflow. The ability to make quick decisions at the point of care is paramount, therefore, it is of prime importance to assess the utility of mobile evidence retrieval applications and subsequently evaluate how research information is translated for decision making to improve patient care..

Leadership Goals

- Lead change in Maryland's Health Care System through translation of evidence into practice utilizing CDSS's to improve care and patient outcomes.
- Address policy related to meaningful use objectives and use of CDSS's to support EBP.
- Collaborate between health care organizations and academia to design a more effective and efficient health care delivery model using CDSS's.
- Develop individual leadership role in project management, collaboration, communication, and research to include application for external funding.

Conceptual Workflow Design

*POC - Plan of Care

Evidence Retrieval Applications

EBP InfoBot

CQA

Patient vs. Population

Project Aims

Aim 1: Prepare and implement two different evidence-based retrieval applications (ERA) on mobile devices for NP's to access during patient care activities.
Aim 2: Assess the utilization and usefulness of each mobile ERA.
Aim 3: Evaluate how the mobile ERA affects clinical decision making behaviors of NP's,
Aim 4: Identify enhancers, barriers, and recommendations related to using the mobile ERA's.

Methods

Design
- Quality Improvement Project (Pilot)

Setting
- Large Medical Center - 22 bed NeuroCritical Care Unit (NCCU)

Sample
- 13 NCCU Nurse Practitioners

Interventions
- Two evidence based retrieval applications
- Evidence-Based Practice InfoBot: patient focus
- Clinical Question Answering (CQA): population focus

Procedures
- Tablets: Icons with direct link to each application
- NP's will use the search tools each day to support decision making at the point of care during clinical rounds, in the unit or at the bedside.
- Data collection on utilization, enhancers, barriers, recommendations for improvement, and impact on patient care.

Next Steps

Pre-implementation
- Customize app's for NCCU use
- Set-up links and devices (to include security)

Education
- Conduct application and procedures training

Implementation
- September 2016

Evaluation – 3 methods
- Utilization data automatically tracked via the app's
- Survey data on outcome of use
- Follow-up focus groups at one and six months