Development and Evaluation of a Nurse-Practitioner-Directed Re-Hospitalization Tool in a Sub-Acute Rehabilitation Facility

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Introduction

- The focus of this quality improvement project was on reducing rehospitalization rate in a a sub-acute rehabilitation facility
- The project was designed to use a validated tool to identify patients at risk of hospitalization

Problem Identification

- Re-hospitalizations place a high burden on the patients and hospitals (Pack et al., 2016)
- Potter (2019) indicates that rehospitalization result in the inflation of healthcare costs, complications, and elevated mortality and morbidity
- The risk factors enhancing the patients' susceptibility to hospital readmissions are the patient's age, condition, underlying comorbidities, length of hospitalization, surgery, early discharge, or medication provided during discharge (Robinson et al., 2019)
- In the United States, around 20-25% of patients discharged from skilled nursing facilities are usually re-hospitalized within the initial 30days (Mileski et al., 2017).

Specific Aims

- The aim of this project is the implementation of a validated tool that identified patients at risk of rehospitalization in patients in a Sub- acute rehabilitation facility. The tool used by the Nurse-Practitioner is called the HOSPITAL Score
- The use of a validated tool that predicts the rehospitalization risk has been shown to decrease the rehospitalization rate and improve patient outcome
- The main goal is the treatment of patients " in place "
- The outcome is the reduction in preventable rehospitalization rate and reduction in Emergency department transfer

PICOT

- In subacute rehab residents, (P) how does the use of a nurse-practitioner led application of "the HOSPITAL score" (I) compared to current state (C) affect the rehospitalization rate (O) within 6 weeks (T)

Theoretical Framework

- The conceptual framework selected for this quality improvement (QI) project is the stages of change model also called the transtheoretical model (TTM) (Prochaska & DiClemente, 1983)
- Prochaska and DiClemente's (1983) model focuses on the stages of change which are divided into five stages
- The first stage of the TTM is the pre-contemplation stage
- The second stage is the contemplation
- The third stage is the preparation stage
- The action stage is the fourth stage

EBP Design

- Using the Advanced Research and Clinical Practice Through Close Collaboration (ARCC) Model, evidence was appraised for quality, reliability, validity, applicability, generalizability, and strength, and then these results were ranked from level I to level VII.
- Data collection was done for six weeks excluding weekends and holidays. Pre-Intervention Data was collected from the facility's Electronic Medical Record (EMR)
- The project was implemented over 6 weeks period

Context

- This Quality improvement project was conducted in a sub-acute rehabilitation unit at the Health and Hospital corporation in New York City

Participant: All admitted patients in the sub-acute rehab that met inclusion criteria.

- H= Hemoglobin level at discharge <12mg/dl
- O= Discharge from Oncology service
- S= Sodium level at Discharge < 135mmol/L
- P=Procedure during hospital stay
- I=Index admission Type either urgent or emergent (non-elective)
- T A+ No of Hospital admission prior year
- L=Length of stay > 5 days

- Statistical analysis was done to determine if any change occurred that is if there was a change in the hospitalization rate

Intervention

EBP Project Initiation

- Stakeholders' identification
- Obtaining Clarences from Organization and Wilmington University

EBP Project Planning

- Mapping timeline and roll out of plan
- Meetings held with stakeholders on proposed project

EBP Project Execution

- Baseline data collected from Organization EMR
- Application of the HOSPITAL score on all newly admitted resident that meet criteria
- Data correlation
- Statistical analysis

EBP Project Results

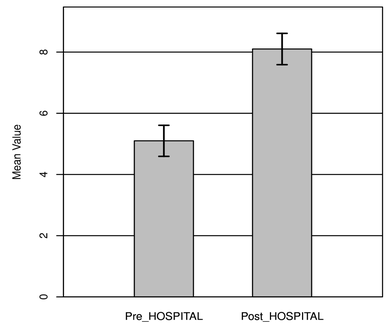
- Data analysis using Intellectus statistics

EBP Project Closing

- Project Sustainability
- Project Dissemination

Results

- Descriptive statistics and analysis were calculated using Intellectus Statistics® software
- The result of the two-tailed paired samples *t*-test was significant based on an alpha value of .05, t (59) = -56.44, $p < .001$, indicating that the HOSPITAL score risk assessment tool had a positive impact on the re-hospitalization rate
- The results of the two-tailed Wilcoxon signed rank test were significant based on an alpha value of .05, $V = 0.00$, $z = -7.39$, $p < .001$



Discussion

- The use of a nurse-practitioner led application of the HOSPITAL score effectively reduced the rehospitalization rate in sub-acute rehabs
- Patients admitted had various comorbidities that affected their outcomes

Implication for Advance Practice Nursing

- A Risk Assessment tool for the early identification of patients at risk of rehospitalization
- The design, direct, and evaluation of best practices in promoting and delivering patient-centered
- The APN demonstrated practical communication skills in developing and implementing practice change, guidelines, and standard of care

Plan for Sustainability

- Continuously serve as a resource to staff
- Create a quick reference guide for staff
- Embedding the risk assessment tool into the facility's Electronic Medical Record
- Orienting all new hires on this risk assessment tool

References

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