Walden University
ScholarWorks

Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies
Collection

2019

Reducing 30-Day Readmissions for Patients With Stroke

Faith Omomen Ighile
Walden University

Follow this and additional works at: https://scholarworks.waldenu.edu/dissertations

Part of the Nursing Commons

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Faith Ighile

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Donna Bailey, Committee Chairperson, Nursing Faculty
Dr. Melanie Braswell, Committee Member, Nursing Faculty
Dr. Maria Revell, University Reviewer, Nursing Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2019

Abstract

Reducing 30-Day Re-admissions for Patients With Stroke

by

Faith Ighile

MSN, Walden University, 2014

ADN, El Centro College, 1995

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

August 2019

Abstract

In a stroke-certified 500-bed acute care hospital, the 30-day readmission rates for patients discharged to rehabilitation centers or skilled nursing facilities were higher than the rates for patients discharged to home. A review of data by the stroke team showed 44 patients readmitted within 30 days of initial stroke discharge between October 2016 and January 2017. The rate of re-admission for those discharged home was 41% (18 patients), whereas the rate for those discharged to acute inpatient rehabilitation, long-term acute care, or skilled nursing facilities was 59% (26 patients). The practice-focused question for this project assessed whether using a re-admission risk-assessment tool and implementing interventions during the initial acute-care admission, would help to identify and improve risk for 30-day re-admissions for patients diagnosed with stroke. The goal of this research project was to adopt, test, and recommend the implementation of a readmission risk assessment tool to enable discharge planners to identify stroke patients at risk for re-admission and implement interventions to help reduce this risk. Lewin's theory of change was used to inform the project. A stroke re-admission risk-assessment tool in use at a similar hospital was adopted and tested for 1 week on the hospital's 28-bed stroke unit by nurse case managers. The test was conducted among 5 patients with confirmed diagnosis of stroke. A re-admission data review was performed 30 days after their discharge, which showed no readmissions for the 5 patients involved in the trial. The tool helped to improve case manager awareness of increased risk for readmissions, guide interventions, and improve patient transition and outcomes. The implications of this project for positive change include the potential to improve risk for patients with stroke in the acute-care facility.

Reducing 30-Day Re-admissions for Patients With Stroke

by

Faith Ighile

MSN, Walden University, 2014

ADN, El Centro College, 1995

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

August 2019

Table of Contents

i

Section 1: Nature of the Project

With the passage of the Patient Protection and Affordable Care Act (ACA), the

Centers for Medicare and Medicaid Services (CMS) is holding hospitals accountable for

excessive re-admission rates through financial penalties based on their performance using

risk-adjusted measures (Agency for Healthcare Research Quality [AHRQ], 2014). This

reduced reimbursements to hospitals with higher than expected re-admission rates has led

to increased focus on quality outcomes, proper discharge planning, and anticipating risk

of re-admissions in hospitalized patients. According to Lichtman et al. (2013), in 2016,

the CMS planned to begin using a hospital-level 30-day risk-standardized all-cause re-

admission measure for ischemic stroke in the Hospital Inpatient Quality Reporting

Program for payment determination. Therefore, hospitals caring for patients with strokes

are now faced with the challenge of meeting this performance goal to avoid payment

reductions. The CMS goal is to reduce re-admissions through improved quality of care

during the acute hospitalization, discharge planning, and care transitions (Fingar

&Washington, 2015).

According to the AHRQ (2016), although all hospital re-admissions are not

preventable, tracking and reporting re-admission rates may show how well a hospital

provides quality care and focus on prevention of complications. The AHRQ (2016), also

stated that improving the quality of care, and communication across the different care

settings, help to improve the quality of life for patients after an acute illness, while

dealing with chronic illness or disabilities following a stroke. It also helps to improve

shared accountabilities between health care systems and reduce health disparities. The

use of a re-admission risk-assessment tool will enable hospital case managers to identify

patients with increased risk for re-admission and implement interventions during the discharge planning to help address the risk. A focus on quality discharge planning, helps to identify barriers to discharge and address social issues that may hinder patients transition back to the community or subacute rehabilitation settings.

Problem Statement

In a stroke certified 500- bed acute care hospital, the re-admission rates for patients discharged to rehabilitation centers or skilled nursing facilities, were found to be higher than the rates for patients discharged to home after initial diagnosis of stroke including ischemic and hemorrhagic types. A review of data from 44 patients discharged between October 2016 and January 2017 who were re-admitted within 30-days of initial stroke discharge, revealed that the rate of re-admission for those discharged home was 41 % (18 patients), whereas the rate of re-admission for those discharged to acute inpatient rehabilitation, long term acute care or skilled nursing facilities was 59% (26 patients). Nursing plays an important role in care delivery and discharge planning, by ensuring that patients, families or caregivers receive adequate education during the discharge process and communicate pertinent details during the transition of care from acute to home or long-term care settings to promote a safe and smooth transition. Quality stroke care, discharge education, and discharge planning improve patient's success as they transition back to the community, or to a new environment, and reduces avoidable hospital readmissions (AHRQ, 2016).

Purpose

My intended outcome of the project was to improve awareness of discharge planners of the multiple patient risks, by using the re-admission risk-assessment tool. I

also wanted to improve collaboration between discharge planners of the acute care hospital and staff at receiving long-term care and post-acute rehabilitation facilities during the transition of care process. In this project, I conducted a retrospective review of the data on 30-day re-admissions for the 44 stroke patients who were re-admitted between October 2016 and January 2017, to determine the causes of re-admissions. I performed the review using data from the hospital's re-admission data base. The review included information regarding the initial discharge destination, family support, whether patients had a primary physician, whether a referral was made, and whether follow- up appointments with primary physicians were scheduled prior to discharge home.

The practice- focused question for this project is: Can using a re-admission risk- assessment tool, and implementing interventions during the initial acute care admission, help to identify and improve risk for 30-day re-admissions for patients diagnosed with stroke? The review also included the number of medications with which the patients were discharged, co-morbidities, age, acuity level at initial discharge, and if appropriate, whether palliative care or hospice evaluation was initiated during initial admission. According to Lichtman et al. (2013), these factors have been found to increase the rates of stroke re-admissions. In a systematic review of hospital re-admissions among stroke patients in which 24 studies were reviewed, Rao et al (2016), found that common patient- related risk factors associated with increased re-admission rate were age and history of coronary artery disease, heart failure, renal disease, respiratory disease, peripheral arterial disease, and diabetes.

Nature of the Doctoral Project

A stroke re-admission risk-assessment tool already in use at a similar hospital, was adopted and trialed by the discharge planners on the hospital's 28-bed inpatient stroke unit. The tool included a scoring system which helps to determine the patient's risk for re-admission (Appendix A). The tool also includes interventions put in place during discharge planning to help reduce risk of re-admissions, such as follow up appointments, and other collaborations with subacute facilities, or home health care agencies. The rationale for the test was to help validate the role of the risk assessment tool in identifying and addressing re-admission risk during the discharge planning process.

My goal in this project was to adopt, test and recommend the implementation of a re-admission risk assessment tool, to enable discharge planners identify stroke patients at risk for re-admission and implement evidence-based interventions to help reduce this risk. My intended outcome of the project was improved awareness of discharge planners by using the re-admission risk assessment tool, I also wanted to, improve collaboration between discharge planners in the acute-care hospital with long-term care and post-acute rehab facilities in the discharge planning and transition of care process.

Significance

When an improvement in quality of care occurs during the discharge process, the social implications for patients include improved quality of life for post stroke patients as they learn to live with long-term deficits and chronic illness. Implications for health care organizations include, improved team member and organizational satisfaction, as well as reduced cost for the hospital, patients, and insurance payors. According to the AHRQ

(2017), the CMS determined that using mandated reporting of stroke re-admission rates, comparison with similar hospitals, and the use of financial incentives, have the potential to reduce re-admissions, lower the cost of care associated with those re-admissions, and improve patient outcomes. I hope that the hospital leadership will incorporate the stroke re-admission risk assessment tool into the current electronic discharge planning to serve as a re-admission risk-assessment tool for other conditions.

Summary

According to the National Stroke Association (2018), strokes can affect physical, emotional and cognitive function. They can lead to long-term deficits that require chronic care management by a health-care team. Collaboration between the healthcare team in the acute and subacute levels of care, can improve patient outcomes and reduce unnecessary hospital re-admissions. The AHRQ (2016), reported that in 2013, the median rates of re-admissions for conditions with known high re-admission rates was as follows: heart failure 21.2%, chronic obstructive pulmonary disease (COPD) 19%, acute myocardial infarction (AMI) 16.2%, pneumonia 15.8% and stroke 12%. Although all re-admissions are not avoidable, hospital incentives and financial penalties have been put in place by the CMS to help promote quality of care, as well as to facilitate coordination of care among health care providers and organizations to improve patient outcomes. My goal in this project was to test a re-admission risk assessment tool in an acute-care hospital 28-bed inpatient stroke unit and to determine whether using the tool could improve the identification of patients at risk for re-admissions and implement interventions during the discharge planning process, to help reduce this risk. In Section 2, the framing concepts

and theory for the project, the relevance to nursing practice, the local background and context, my role as a DNP student, and role of the project team are discussed.

Section 2: Background and Context

Introduction

The practice focused question for this project was: Can using a re-admission risk-assessment tool, and implementing interventions during the initial acute-care admission, help to identify and improve risk for 30-day re-admissions for patients diagnosed with stroke? My goal in this project was to adopt, test and recommend the implementation of a re-admission risk assessment tool, to enable discharge planners identify stroke patients at risk for re-admission and implement evidence- based interventions to help reduce this risk. My intended outcome of the project was improved awareness of discharge planners by using the re-admission risk-assessment tool. I also wanted to improve collaboration between discharge planners in the acute care hospital with long-term care and post- acute rehab facilities in the discharge planning and transition of care process.

A theoretical framework was required to help guide the adoption and test of the stroke readmission risk-assessment tool. The selected theory had to allow me to focus on how to introduce, implement, and maintain change in a health care organization. My purpose in this section is to discuss the selected theory for my project, relevance of the project to nursing practice, local background and context, my role as a DNP student and the project team.

Concepts, Models, and Theories

I applied Lewin's theory of change (1951), in this project. The theory allows researchers to use three stages of change: unfreezing the current practice or way of doing things, moving or implementation of the desired change, and refreezing so that the change becomes part of everyday practice. To be successful, stakeholders such as the hospital stroke coordinator, case management director, case managers or discharge planners, stroke committee, and nurse leaders were included in the planning of the project. The unfreezing stage included educating the stakeholders on the current re-admission rates, how to improve the discharge process by identifying risk for 30-day re-admissions and implementing interventions during initial stroke admission to reduce the hospital rates of stroke re-admissions.

Once the decision to adopt and test a tool was made, there was a question on how to promote end user buy in, and their willingness to test and use a new tool. Because the hospital already had a discharge process in place, Lewin's theory was selected to introduce the tool, promote the evidence on the successful use of similar tools at other stroke certified hospitals, and to assess the cost-benefit to the hospital through reduced re-admission penalties. Barriers to this theory included the possibility that end users would perceive the use of the tool as extra work, or nurse leaders may not be willing to invest time or finances into incorporating the tool into their current electronic discharge planning process. In the *Canadian Journal of Nursing Informatics*, Sutherland (2013), described an evidence-based project in which Lewin's theory of change was used to implement bar code scanning to reduce medication errors in a hospital setting. The author also stated that using Lewin's theory helped to introduce and maintain the new process

which improves on patient safety and quality of care. In an article in the *Journal of Nursing Administration*, Shirley (n.d.), described an evidence-based project in which Lewin's theory of change was used to identify and develop staff nurses into nurse leaders for succession planning. The author also stated that Lewin's theory worked best in stable organizations where change can be planned and maintained.

The rationale for working closely with the case management team, providing education on the importance of the re-admission risk-assessment tool, and serving as a resource to the project team, was to unfreeze their current way of practice, educate the team to use the tool during the test, and provide their feedback which will be used to improve the tool. I hoped that including the discharge team in creating post-test feedback and recommendations to be presented to nurse leaders, would improve end user buy in and willingness of the team to continue using the tool if it is implemented hospital wide.

Relevance to Nursing Practice

Nursing plays a significant role in quality patient care at the bedside, during patient and family education, in the coordination of care with the interdisciplinary team, and during the discharge process. In the community, home health care nurses serve as care coordinators between patients and providers. The transition of care for stroke patients is complex and includes transition from the place of stroke to the acute care hospital, followed by a rehabilitation center, long term care setting or home. As care coordinators for post stroke patients, nurses help to manage co-morbidities such as hypertension, heart failure, diabetes or other conditions that can increase the risk of recurrent stroke or hospital readmissions. According to the National Stroke Association

(2018), a conscious, patient-centered coordination of care helps to improve the patient experience, long-term health outcomes, and reduced hospitalizations. According to Miller et al. (2010), due to the complex nature of stroke and the recovery process, it requires an interdisciplinary team approach. Nurses play a central role in the coordination of stroke care during the acute phase, during the transition to rehabilitation or home settings, and in the long-term management of care after a stroke.

Hesselink et al. (2014), performed a literature review in which they found that using a team approach and intervention mapping, improves interaction between care providers, improves patient outcome, and reduces readmissions. In the 500-bed stroke certified hospital that I examined, although a team approach is currently used for discharge planning for all patients, the hospital did not address the specific needs of stroke patients. Using a re-admission risk-assessment tool designed for stroke patients, could increase the nurse case managers' knowledge of the causes of re-admissions in stroke patients, and the importance of addressing these needs prior to discharge. Using the tool would allow for improved collaboration of patient discharge between nurses in the hospital, long-term or home health care setting and improve patient transition from hospital to the community settings.

Local Background and Context

In a report by Georgia Health News (September,2018), the author stated "nationally, Medicare is set to subtract payments to 2,599 hospitals throughout fiscal year 2019, which begins October 1st, 2018." This is estimated to cost hospitals up to $566 million in upcoming penalties. The report also stated that about 82 hospitals in Georgia were set to receive penalties in the 2018 fiscal year due to 30-day re-admission rates. The

financial penalties have forced many hospitals to take a closer look at quality measures, the discharge process, and coordination of care with community partners, to reduce re-admissions. According to the AHRQ (2014), the national average readmission rate for stroke patients per 100 admissions was 14.5 in the year 2011, and stroke re-admissions was ranked among the top 10 all cause re-admission rates nationally.

Role of the DNP Student

My role as the DNP student was to review the 500-bed hospital's prior in-house re-admission rates for stroke patients; review relevant literature on causes and measures to reduce re-admissions, and provide feedback to hospital stroke coordinator, stroke committee, the director of case management, and the discharge planning team. A stroke re-admission risk assessment tool already in use at a similar hospital was adopted and trialed on the stroke unit at the project site by the hospital's case managers. As a DNP student, I observed current hospital discharge planning for stroke patients by attending discharge huddles, I introduced the tool to the discharge planning huddle team which consists of hospitalists, nurse managers, charge nurses, rehabilitation staff and case managers. I also served as a resource for discharge planners during the testing of the tool, obtained feedback from the discharge planners after the test was completed, and performed a follow up review of deidentified hospital re-admission data from the case managers, for the patients involved in the test 30-days after their discharge. This follow up data review was to determine whether the tool was successful in identifying and reducing re-admissions.

Role of the Project Team

Although the discharge planning huddle was made up of other members of the interdisciplinary care team, the project team consisted only of nurse case managers who used the stroke re-admission risk-assessment tool, to assess and assign a score to patients during the testing period. The score was based on chronic conditions or medical diagnoses, social issues and support systems, and number of medications at discharge (Appendix A). The nurse case managers also provided me with their feedback which include recommendations on how to improve the tool or how it can be implemented into the daily discharge planning process.

Summary

The hospital team of stakeholders reviewed and approved the adoption and testing of the stroke re-admission risk-assessment tool on the 28 bed in patient stroke unit. The tool was modified to reflect issues specific to this hospital based on in house stroke re-admission data and data from online literature review. The hospital discharge planners, and leadership, showed support for the project because stroke readmissions is an important factor in quality indicators and reimbursement. In Section 3, the collection and analysis of evidence, sources of evidence, archival and operational data, protection of participants, analysis and synthesis of the data, and cost benefit analysis are discussed.

Section 3: Collection and Analysis of Evidence

Introduction

In a stroke certified 500- bed acute care hospital, the re-admission rates for patients discharged to rehabilitation centers or skilled nursing facilities, were found to be higher than the rates for patients discharged to home after initial diagnosis of stroke

including ischemic and hemorrhagic types. According to the AHRQ (2014), in the year 2011, the rate for stroke patients per 100 admissions was 14.5 and stroke re-admissions were ranked among the top 10 all cause re-admission rates nationally.

Current practice at this hospital included a daily interdisciplinary team huddle led by hospital employed physicians, case managers, nurse managers or charge nurses and rehabilitation staff. The team reviewed each patient to determine whether barriers to discharge planning exist and to recommend interventions to address the barriers. Although the team huddle approach was consistent, an observation of the discharge planning for individual stroke patients, showed a need for an evidence-based tool or scoring system that was specifically designed to identify the barriers to quality discharge planning for stroke patients. Stroke patients are unique in their discharge needs due to physical or cognitive deficits they may have sustained because of the stroke, and they often require lifestyle modifications to help them successfully transition back into their communities. Evidence-based discharge planning tools such as the LACE tool (Allscripts.com, 2016) and the Project Boost 8P's re-admission risk-assessment tool (South Carolina Hospital Association, 2012), were both reviewed. A tool that was currently in use at a similar stroke certified hospital was adopted and modified to meet the needs of the hospital population.

Practice- Focused Question

In the 500- bed stroke- certified acute care hospital, a review of in house hospital data from 44 patients discharged between October 2016 and January 2017 who were re-admitted within 30-days of initial stroke discharge, showed a rate of re-admission for those discharged home was 41 % (18 patients), whereas the rate of readmission for those

discharged to acute inpatient rehabilitation, long term acute care or skilled nursing facilities was 59% (26 patients). The practice focused question for the project was: Can using a re-admission risk-assessment tool, and implementing interventions during the initial acute care admission, help to identify and improve risk for 30-day re-admissions for patients diagnosed with stroke? The rationale for having the nurse case managers perform the trial of the tool was to raise their awareness regarding the factors that can influence patient re-admission rates, and the importance of case managers in addressing these factors through coordination between the acute care and community settings.

Sources of Evidence

Sources of evidence for the project include patient's electronic health records, which included diagnoses, co-morbidities, diagnostic testing, treatments, and provider documentation of care. The hospital's inhouse re-admission database for stroke patients, was also utilized in the initial review and post-trial review of re-admission data for the project reporting. The report included the number of patients involved in the trial, how the patients were scored using the tool, interventions put in place for each patient prior to discharge using the tool, and the number of patients re-admitted within 30-days. A recommendation was also included in the report regarding how the tool can benefit the organization if implemented as a re-admission risk-assessment tool for identifying and addressing high risk for re-admissions after a stroke.

Archival and Operational Data

The approach included reviewing existing data on the 30-day re-admission rates for patients with all types of strokes including ischemic and hemorrhagic strokes in the 500-bed hospital. Patients re-admitted due to previously scheduled follow-up procedures

were excluded. Methods include a retrospective review of re-admission data for 44 patients who were discharged between October 2016 and January 2017 with strokes and returned to the emergency room in 30 days or less after discharge. This review of inhouse data was done using criteria such as: patient age, gender, and whether stroke protocol was followed on initial admit. Also considered was whether hospice or palliative care consulted, as well as whether a post discharge appointment was scheduled. Further considered was whether a post discharge follow-up call made. In the assessment, I also included whether comorbidities were present such as: CHF, AFIB, CAD, HTN, DM, PAD, ESRD, COPD, or a history of smoking (Rao et al. 2016). This initial data review was necessary to identify the similarities between stroke patients discharged from this hospital with patients noted in previous studies, and how evidence from the literature on causes of stroke re-admissions, could be incorporated into developing solutions at this 500-bed stroke certified acute care hospital.

The tool was tested for 1 week by the nurse case managers in the 28-bed stroke unit. The tool includes a scoring system in which a score was assigned to the patient based on the presence of factors such as comorbidities, discharge destination, number of medications at discharge and whether follow up appointments were made (Appendix A). A score of 3 or higher is considered moderate and 5 or higher is considered high risk, and both require an intervention. In addition to the list of interventions already listed on the tool, the case managers added other interventions implemented during discharge planning to prevent re-admissions.

Protections

The project involved the review of information of 44 patients admitted between October 2016 and January 2017 for stroke and re-admitted within 30 days. The personal data included in this report are age, sex, chronic conditions, diagnostics performed on initial admission, discharge destination, number of days to re-admission, chief complaint and diagnosis on re-admission, and whether palliative or hospice consult was initiated. The hospital and Walden University IRB approvals were obtained prior to performing the test and reviewing post-test and re-admission data. No actual contact was made between the DNP student and the patients, no personal data or identification were shared in the reports or final paper.

Analysis and Synthesis

A total of 5 stroke patients were involved in the one-week test, there was a 30-day waiting period after the test to observe if the interventions implemented using the re-admission risk-assessment tool were successful in reducing re-admissions in the patients who were involved in the test. Data analysis also included a simple count of the number of stroke patients who were re-admitted within 30-days after the tool was used in their discharge planning. For every patient re-admitted within 30 days, after the test, the plan was to review chief compliant, diagnoses upon re-admission, and any other social or health related factors that may have contributed to the re-admission. I performed a 30-day review on the records of the 5 stroke patients, which showed no re-admissions after the test. To simplify and organize the data collection process, the nurse case managers recorded patient scores, interventions, feedback and recommendations on the paper tool during the test.

The tool consists of a scoring system: A score of 3 or higher was considered a moderate risk, whereas a score of 5 or greater was considered a high risk for re-admission (Appendix A). The case managers used interventions listed on the tool or other interventions as determined by patient need. The interventions used, were added by hand to the tool for my report. Data from the test and subsequent reviews for re-admissions, were presented in a formal presentation to the case management director, case managers, and stroke team coordinator. The report consisted of the number of patients in the test, individual risk scores, factors that contributed to their risk score such as diagnoses, comorbidities, discharge destinations, and interventions implemented prior to discharge. The interventions were added to the report, to give hospital leaders an idea of what was done to prevent readmissions once the risk score was identified for each patient, prior to their discharge.

Cost Benefit Analysis

The project was incorporated into my DNP student hours, the test was incorporated into the daily interdisciplinary team discharge huddles and did not create any cost for the hospital. Although current cost to the hospital related to 30-day readmissions was not researched for this project, I anticipated that by reducing the re-admission rates, the hospital would also improve the quality of the discharge process and reduce potential reimbursement penalties from the CMS. According to the Kaiser Family Foundation (KFF.org ,2017), the CMS penalties across all hospitals was a projected $528 million in 2017, which is an estimated $108 million more than the penalties in 2016.

Summary

Elkjær et al. (2000) concluded that 15% of long-term stroke survivors have disabilities and are institutionalized, with a re-admission rate of approximately 20% to 27% within 1 year. According to Lichtman et al. (2013), in the year 2016, the CMS planned to begin using a hospital-level 30-day risk-standardized all-cause re-admission measure for ischemic stroke in the hospital inpatient quality reporting program for payment determination. Improved quality of stroke care has the potential to reduce re-admissions, lower the cost of care associated with those re-admissions, and improve patient outcomes. My goal in this project was to adopt and test a post stroke re-admission risk-assessment tool, which would help identify and reduce the risk for 30-day re-admissions after discharge from the acute care hospital setting. The tool includes the top re-admission indicators for post stroke patients including those found in the hospital inhouse readmission database and review of online research data. In Section 4, the project findings and recommendations, contributions of the doctoral project team, and the strength and limitations of the project are discussed.

Section 4: Findings and Recommendations

Introduction

In a stroke certified 500 bed acute care hospital, the re-admission rates for patients discharged to rehabilitation centers or skilled nursing facilities were found to be higher than the rates for patients discharged to home after initial diagnosis of stroke including ischemic and hemorrhagic types. Between October 2016 and January 2017, the rate of re-admission for those discharged home was 41 % (18 patients), whereas the rate of re-admission for those discharged to acute inpatient rehabilitation, long term acute care or

skilled nursing facilities was 59% (26 patients). Although the hospital had a discharge planning process in place for identifying and addressing barriers to discharge, no specific methods existed for assigning risk level for re-admission especially for high risk populations such as stroke patients.

The practice focused question for this project was: Can using a readmission risk-assessment tool, and implementing interventions during the initial acute care admission, help to identify and improve risk for 30-day readmissions for patients diagnosed with stroke? A readmission risk assessment tool was adopted and tested on the hospital's 28 bed inpatient stroke unit for 1 week. My goal in this project was to adopt and test a re-admission risk assessment tool, to enable discharge planners to identify stroke patients at risk for re-admission and implement evidence-based interventions to address risks. The records of 5 patients with confirmed diagnosis of stroke, met criteria and were included in the test. Their de-identified data were provided by the case managers for analysis. Patients who were admitted with stoke-like symptoms but ruled out; patients with diagnosis of transient ischemic attacks (TIA), and unconfirmed strokes, were excluded from the test.

The paper tool (Appendix A) includes a scoring system that helps to determine the patient's risk for re-admission using criteria such as comorbidities, prior stroke, presence of a family or social support system, discharge destination, and acuity level at time of discharge. The tool also includes interventions put in place during discharge planning to help reduce risk of re-admissions, such as follow up appointments, and other collaborations with subacute facilities, or home health care agencies.

Findings and Implications

Of the five stroke patients included in the trial of the re-admission risk-assessment tool, two were at a moderate risk for re-admission, whereas three were at a high risk (Appendix B). two patients were discharged home directly from the acute care setting, whereas three patients were first transferred to in-house acute inpatient rehabilitation unit then discharged home. Interventions put in place prior to discharge included referral for primary care or neurologist follow up appointments, or appointments were scheduled prior to discharge home. All 5 patients either had home health care set up for transition back to community living, or outpatient rehabilitation referral was setup. A follow up review for re-admission was performed after 30 days, and none of the five patients had been re-admitted.

Although none of the five patients were re-admitted after 30 days, it cannot be concluded that using the tool alone resulted in this desired outcome. However, the feedback from the case managers involved in the test showed that using the tool and a scoring system increased their awareness of patients' risk for re-admission and caused them to focus on specific interventions to reduce re-admissions in the stroke patients. It also helped them to collaborate better with families, home health care or other resources that patients required to transition home and manage their post CVA deficits. It could therefore be implied that using the tool, improved the case managers awareness of re-admission risk and improved the planning and implementation of interventions to help reduce re-admissions for these patients.

Because the testing of the tool was performed only on five patients, the tool was used retrospectively to score 10 patients out of the initial 44 patients discharged from the

hospital between October 2016 and January 2017. The comparison was performed to identify the risk scores of 10 of those patients who were re-admitted within 30-days, identify any differences or similarities in the patient scores, and the discharge planning process. I also hoped that the comparison would help hospital leadership identify opportunities in their current discharge planning process that could benefit from using the tool. The 10 patients selected, included four who were discharged home, one who was discharged to assisted living, and five who were discharged to either acute inpatient rehabilitation units, long term acute care units (LTACs) or skilled nursing facilities (SNFs). (see Appendix C). The comparison showed that many stroke patients had similar comorbidities and that re-admission risk score for all the stroke patients in the trial and retrospective review, were moderate or high, warranting interventions to be put in place. It also showed that in the patients discharged and re-admitted between October 2016 and January 2017, follow up appointments with primary care physicians were not consistently scheduled. There was an improvement in the scheduling of post discharge follow up appointments during the trial, which may improve patient compliance with follow up appointments and reduce re-admissions. In a study conducted among 44,473 unique Medicaid recipients with 65,085 qualifying discharges in 114 hospitals in North Carolina. Jackson et al. (2015), concluded that patients identified as high risk for 30-day re-admissions, benefitted from follow-up appointments with care providers within 14 days of acute hospital discharge.

Recommendations

Recommendations to the stroke team, director of case management and nursing leadership was to consider incorporating the stroke re-admission risk-assessment tool,

into the hospital's current electronic discharge tool. The current discharge planning

process includes identifying barriers to discharge. The barriers are manually entered in

the electronic tool by discharge planners. The barriers are then addressed by the

individual case manager or assigned to the appropriate team member in the daily

interdisciplinary team discharge huddles. Incorporating the re-admission risk-assessment

tool into the system would require certain identified high-risk factors such as diagnosis,

comorbidities, discharge destination, number of medications, to trigger a re-admission

risk score. A score of moderate or high, would prompt the discharge planning team to pay

closer attention to interventions put in place prior to discharge, to help reduce 30-day re-

admissions. Because the hospital uses complete electronic health records and discharge

planning system, the tool could be expanded to all hospital units for other high-risk

groups such as CHF, COPD, pneumonia and AMI (AHRQ, 2016).

Contribution of the Doctoral Project Team

The project team consisted of nurse case managers on the hospitals 28 bed stroke

unit, and the team performed the trial of the risk-assessment tool, assigned risk scores to

the five stroke patients during discharge planning, and implemented interventions to help

reduce the risk for re-admission. The team also provided feedback to me which I used to

create the post-trial report and recommendations to the hospital leadership.

Strengths and Limitations of the Project

Strengths of the project included the presence of a discharge planning team and

daily huddle in which discharge barriers were already discussed daily. This simplified the

introduction of the tool and the willingness of discharge planners to perform the trial.

Support from the nursing and case management leadership also improved the success of the trial. Limitations included the small number of patients in the trial. During the period of the trial only five confirmed stroke patients were admitted to the inpatient stroke unit, and the trial was not extended for longer than 1 week due to availability of a nurse case manager to perform the trial. Recommendations for future projects addressing 30-day re-admissions for patients diagnosed with stroke, should include creating an education plan for case managers involved in the discharge of patients in high risk diagnosis groups. The education plan could incorporate the risk-assessment tool, and the interdisciplinary team approach as a guide to identifying discharge barriers and implementing interventions to reduce the risk for re-admissions.

Section 5: Dissemination Plan

The results of the test and recommendations were disseminated to the hospital stakeholders through a formal presentation to the case management leadership, case managers who performed the test, nursing leadership and the stroke team coordinator. Feedback from the case managers who performed the test, including time limitations, effect on workflow, and current barriers such as scheduling post hospital follow up appointments and ensuring patient compliance with interventions, were also shared with the leadership.

Because I focused on quality improvement, appropriate dissemination settings would include in-services to nursing and case management teams and hospital financial leadership regarding the potential improvement in quality of discharge process and cost savings that could result from implementing such a tool.

I hope that the hospital leadership will incorporate the stroke re-admission risk-assessment tool into the current electronic discharge planning to serve as a re-admission risk-assessment tool for other conditions.

Analysis of Self

Working as a Nurse Practitioner in the acute and long-term care rehabilitation settings was my motivation to perform a project in which I addressed the quality of stroke discharge planning and reduction of re-admissions. To prepare for the project, I shadowed multiple nurse leaders in their roles to understand the process of implementing change at an organizational level. Working with the nursing leadership, I was able to gain insight into the role that nurses play in driving organizational success in the areas of quality, safety, discharge planning, and the effect of technology in shaping nursing practice today. I also gained better understanding of the importance of aligning process improvement projects and change with organizational goals or interests, to promote success of the change. Challenges included limitations of time and availability of nurse case managers to continue the trial for 2 to 3 weeks. The solution was to reduce the trial period to 1 week due to limited resources. Working on this project, included working with multiple nurse leaders and interdisciplinary teams, it also gave me an opportunity to meet DNP essentials such as: Organizational and systems leadership for quality improvement and systems thinking, and interprofessional collaboration for improving patient and population health outcomes. As a DNP- prepared Nurse Practitioner my goal is to continue to contribute to the future of nursing both at the bedside, in the areas of quality, safety, patient outcomes, and the education of nurses.

Summary

My goal in this quality improvement project was to adopt and test a re-admission risk identification and reduction tool. The test was conducted on a hospital stroke unit among five patients with confirmed diagnosis of stroke, and the trial lasted for 1 week. After discharge, a 30-day waiting period was observed, and then a review of re-admission was performed after 30 days. Although none of the five patients were re-admitted after 30 days, it cannot be concluded that using the tool prevented their re-admissions. However, based on feedback from the case managers who performed the pilot, and interventions put in place using the tool, it can be concluded that the tool helped to improve case manager awareness of increased risk for re-admissions and guide the use of specific interventions to help reduce this risk. Using the tool, may have positively influenced the discharge process and discharge experience for the five patients included in the trial.

My recommendations and dissemination of the result to organizational leadership include incorporating the tool into the hospital discharge planning process for improved transition to a subacute or home setting after a stroke. My recommendations also include using the tool for other diagnoses groups that are considered high risk for re-admissions such as patients with CHF, AMI, COPD and pneumonia (AHRQ, 2016). In conclusion, using strategies, such as checklists and huddles, in an interdisciplinary team approach can improve patient outcomes thereby allowing them to have a higher level of quality of life than when they are not used. In this project I demonstrated their value in this hospital setting.

References

Agency for Healthcare Research Quality (AHRQ) (2016). National Healthcare Quality

and Disparities Report. Chartbook on Care Coordination June 2016. Retrieved

from https://www.ahrq.gov/sites/default/files/.../qdr2015-chartbook-

carecoordination.pptx

Agency for Healthcare Research Quality (AHRQ) (2017). Stroke: Hospital 30-day, all-

cause, unplanned risk-standardized readmission rate (RSRR) following ischemic

stroke hospitalization. Retrieved from

https://qualitymeasures.ahrq.gov/summaries/summary/51097

Agency for Healthcare Research Quality (AHRQ) (2014). Conditions with the largest

number of adult hospital readmissions by payer, 2011. Healthcare Cost and

Utilization Project. Retrieved from https://www.hcup

us.ahrq.gov/reports/statbriefs/sb172-Conditions- Readmissions-Payer.pdf

Besler Consulting. (2018). How to calculate the lace tool. Retrieved from

https://www.besler.com/lace-risk-score/

Elkjær, H., Schultz-Larsen, A.K., Kreiner, S., Forchhammer, B.H., Eriksen, K., &

Brown, A. (2000). Can readmission after stroke be prevented? Results of a

randomized clinical study: A post discharge follow-up service for stroke

survivors. *Stroke*. 31:1038- 1045 doi: 10.1161/01.STR.31.5.10

http://stroke.ahajournals.org/content/31/5/1038

Fingar, K., & Washington, R. (2013). Healthcare cost and utilization project. Retrieved

from https://www.hcup-us.ahrq.gov/reports/statbriefs/sb196-Readmissions-

Trends-High-Volume-Conditions.pdf

Georgia Health News (Sept, 2018). Medicare readmission penalties hit dozens of Georgia

hospitals again. Retrieved from

http://www.georgiahealthnews.com/2018/09/medicare-readmission-penalties-hit-

dozens- georgia-hospitals/

Hesselink, G., Zegers, M., Vernooij-Dassen, M….. European HANDOVER Research

Collaborative (2014). Improving patient discharge and reducing hospital

readmissions by using Intervention Mapping. *BMC Health Services Research*, *14*,

389. doi:10.1186/1472-6963-14-389

Jackson, C., Shahsahebi, M., Wedlake, T., & DuBard, C. A. (2015). Timeliness of

outpatient follow-up: An evidence-based approach for planning after hospital

discharge. *Annals of family medicine*, 13(2), *115*–122. doi:10.1370/afm.1753

Lewin, K. (1951). *Field theory in social science.* New York, NY: Harper & Row.

Lichtman, J.H., Leifheit-Limson, E.C., Jones, S.B., Wang, Y., Goldstein, L.B. (2013).

Preventable readmissions within 30 days of ischemic stroke among Medicare

beneficiaries. *Journal of the American Heart Association*, 2013,

http://stroke.ahajournals.org/content/strokeaha/44/12/3429.full.pdf

Miller, E. L., Murray, L., Richards, L., Zorowitz, R. D., Bakas, T., Clark, P., & Billinger,

S. A. (2010). Comprehensive overview of nursing and interdisciplinary

rehabilitation care of the stroke patient: A scientific statement from the American

Heart Association. *Stroke,* 41(10), 2402–2448. https://doi-

org.ezp.waldenulibrary.org/10.1161/STR.0b013e3181e7512b

Nahab, F., Takesaka, J., Mailyan, E., Judd, L., Culler, S., Webb, A., Helmers, S. (2012).

Avoidable 30-day readmissions among patients with stroke and other

cerebrovascular disease. *The Neurohospitalist*, 2(1),

711http://doi.org/10.1177/1941874411427733

National Stroke Association (2018). Post stroke conditions. Retrieved from

www.stroke.org/we-can-help/survivors/stroke-recovery/post-stroke-conditions

Naqvi, S (2016). Using LACE as a tool to avoid unnecessary hospital readmissions

Retrieved from https://www.allscripts.com/newsinsights/blog/blog/2016/04/using-

lace-as- a-tool-to-avoid-unnecessary-hospital-readmissions

Rao, A., Barrow, E., Vuik, S., Darzi, A., & Aylin, P. (2016). Systematic review of

hospital readmissions in stroke patients. *Stroke Research and Treatment*, 2016,

9325368. http://doi.org/10.1155/2016/9325368

South Carolina Hospital Association (2012). Best practice report project BOOST: Better

    Outcomes for Older Adults through Safe Transitions. Retrieved from

    https://www.scha.org/files/documents/bpr_project_boost_better_outcomes_for

    _older_adults_through_safe_transitions.pdf

Shirey, M. R. (n.d.). Lewin's theory of planned change as a strategic resource.

    Journal of Nursing Administration, 43(2), 69–72. https://doi-

    org.ezp.waldenulibrary.org/10.1097/NNA.0b013e31827f20a9

Society of Hospital Medicine (n.d) Project Boost 8P Screening Tool: Identifying your

    patient's risk for adverse events after discharge. Retrieved from

    https://www.hospitalmedicine.org/globalassets/clinical-topics/clinical-

    pdf/8ps_riskassess-1.pdf

Sutherland, K. (2013). Applying Lewin's change management theory to the

    implementation of bar-coded medication administration. *The Canadian Journal of*

    Nursing Informatics. Retrieved from http://cjni.net/journal/?p=2888

Appendix A: Stroke Readmission Risk Assessment Tool

STROKE READMISSION RISK ASSESSMENT TOOL
Score >= 3 Moderate Risk, >=5 High Risk

Risk Factors	Score	Intervention
Prior Admissions in past 6mos	1	
Chronic Diagnoses: CHF, AFIB, CAD, PVD, HTN, ESRD, COPD, DM, Prior Stroke	(1 point for each DX)	
Discharge to Long-term care: LTAC SNF Inpatient Rehab	2 2 2	
Age Greater than 65yrs Discharge to Home Prior Non-Compliance Lives Alone (no support)	1 1 1 1	
Presence of Dysphagia Diet or thickened Liquids	1	
>6 medications	1	
Uninsured	1	

Interventions

1)Palliative care consult on initial admit for poor prognosis and advanced age

2) Schedule follow up Appt within 1 week with PCP or Specialist

3) Patient has no PCP, referral and appt made

4) Make sure Long-term facility aware of readmission risk score for patients with moderate to high risk, communicate in D/C planning

Note

* If Discharged on Dysphagia diet or thickened liquids = Increased dehydration risk

*Debility or incontinence requires round the clock care= increased UTI's /skin breakdown

*Schedule Follow up appt prior to D/C if possible

*If patient has no PCP we should not simply order "follow up with PCP" for this population without giving a referral most likely will not keep appointment

Abbreviations

CHF- Congestive Heart Failure, Afib- Atrial fibrillation, CAD- Coronary artery disease, PVD- Peripheral vascular disease, HTN-Hypertension, ESRD -End Stage Renal Disease, CVA- Cerebrovascular Accident, DM- Diabetes, LTAC- Long Term Acute Care, SNF- Skilled Nursing Facility, DX – Diagnosis

Appendix B: Chart Audit Data Post-implementation of Stroke Readmission Risk Assessment
Tool (N = 5) Report

Patients	Comorbidities	Readmission Risk Score	Discharge Interventions	Readmit Review dates 30 days post discharge Readmitted: Yes/No
#1 - Lacunar Stroke	HTN, DM, Smoker	3- Moderate	Home with spouse, PCP 1 week, D/C on ASA/Statin, DM Education, Nicotine patch, Home health care set up	No
#2- Pontine Stroke, Left atrial mural thrombus	CAD, HTN, OSA, Obesity, HLD	7- High	To inpatient Rehab then Home w/sister Heparin-Lovenox-Warfarin bridge, CPAP for OSA, ASA/ Statin, PCP/ Cardiology/ Neuro Appts set up, Home health care set up	No
#3 -Left pontine stroke	PVD, HTN, DM	8- High	Inpatient Rehab then home, on ASA/Statin, Outpatient Rehab, PCP/Neuro appts set up	No
#4- Hemorrhagic stroke	CAD, PVD, HTN, ESRD, DM, CVA, DVT, SZ	9- High	Home on ASA/Statin, warfarin, ESRD on HD, PCP/Nephrology/Vascular follow up. Home health care set up	No
#5- Right pons stroke	DM	3- Moderate	To inpatient Rehab then home w/spouse, with outpatient Rehab, on ASA/ Statin Neuro appt, No PCP, appt made with community low cost clinic	No

Abbreviations

CHF- Congestive Heart Failure, Afib- Atrial fibrillation, CAD- Coronary artery disease, PVD-Peripheral vascular disease, HTN-Hypertension, ESRD -End Stage Renal Disease, CVA-Cerebrovascular Accident, DM- Diabetes, LTAC- Long Term Acute Care, SNF- Skilled Nursing Facility, DX- Diagnosis, SZ- Seizure, DVT- Deep vein thrombosis, HLD- hyperlipidemia, ASA-Aspirin

Appendix C: Retrospective Readmission Data Review of Stroke Patients Admitted
Between October 2016 and January 2017 and Readmitted Within 30 Days. (N=10) Using
the Stroke Readmission Risk Assessment Tool

Patients	Comorbidities	Readmit Risk Score	D/C Destination	Interventions (No PCP follow-up appts scheduled)
#1	HTN	3-Moderate	Home with family	Home healthcare (HHC), PCP in 3wks
#2	CHF, HTN, Prior stroke	7-High	Home	HHC, Dialysis set up
#3	CHF, HTN, DM	6-High	Home with spouse,	HHC set up. PCP/ Neuro/ Nephrology in 1 week
#4	Afib, HTN, Prior Stroke	7-High	To assisted living facility with home health care	PCP in 1 week
#5	HTN, Prior stroke, Medical Non-compliance, Polysubstance abuse	7-High	Home with family	HHC set up, Neuro in 2 weeks
#6	CHF, CAD, HTN, DM	8-High	To inpatient Rehab	Readmitted to acute hospital from inpatient Rehab
#7	HTN	5-High	To LTAC for Tracheostomy wean	Readmitted to acute hospital from LTAC
#8	CAD, HTN, DM	6-High	To LTAC for Tracheostomy wean	Readmitted to acute hospital from LTAC
#9	Afib, HTN	5-High	To inpatient Rehab	Readmitted to acute hospital from inpatient Rehab
#10	HTN, CHF, DM, Prior Stroke	8-High	To inpatient Rehab	Readmitted from inpatient Rehab for another CVA, then referred to Hospice

Abbreviations

CHF- Congestive Heart Failure, Afib- Atrial fibrillation, CAD- Coronary artery disease, PVD-
Peripheral vascular disease, HTN-Hypertension, ESRD -End Stage Renal Disease, CVA-
Cerebrovascular Accident, DM- Diabetes, LTAC- Long Term Acute Care, SNF- Skilled Nursing
Facility, DX- Diagnosis, PCP- Primary care physician, HHC- Home Health Care