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Reducing 30-Day Readmission Rates in Chronic Obstructive Pulmonary Disease Patients

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This is to certify that the doctoral study by

Stacey Jerrick Machado

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Walden University
2019

Abstract

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by

Stacey Jerrick Machado

MS, University of Oklahoma, 2009

BS, University of Oklahoma, 2005

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2019

Abstract

Early avoidable 30-day post discharge readmission among patients diagnosed with chronic obstructive pulmonary disease (COPD) is associated with poor transition care processes. The purpose of this project was to analyze organizational system processes for admission and discharge transition care of patients diagnosed with COPD to identify key intervention strategies that could decrease the rate of 30-day post-discharge readmission by 1%. The project used the transitional care model as the framework to target specific care transition needs and create patient-centered, supportive, evidence-based relationships among the patient, the providers, the community, and the health care system to identify key intervention strategies for implementation. A retrospective chart review was conducted of transitional care management and care coordination practices of providers of patients diagnosed with COPD. Analysis of the data revealed that the local regional organization used a single, generic, computerized discharge planning and care transition process for patients diagnosed with COPD. As a result, missed opportunities to target a patient's specific care needs led to higher rates of readmission. The implications of the findings of this project for social change include identification of evidence-based recommendations and practices that could influence clinician practices and improve patient outcomes and the quality of health care delivery.

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Dedication

To my hubby, Rigoberto Machado for your continued support, love, confidence, and belief in me throughout this process. To our best friend and personal mentor Dr. Lyndon K. Burnham PhD, for your continued encouragement and motivation in keeping me on-track with my personal goals and self-assessment. To my GOD and healer who has always and continues to answer my prayers and lead the way. Thank you all for your continued support and trust in me.

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Section 1: Nature of the Project

Introduction

Chronic obstructive pulmonary disease (COPD) is a common, treatable, and preventable disease that is increasing in prevalence, and is associated with significant health care expenditures related to early rehospitalizations due to acute exacerbations of COPD (Global Initiative on Chronic Obstructive Lung Disease, 2015). In the United States, Medicare expenditures for early readmission are estimated to be as high as $17.4 billion a year (Fidahussein, Croghan, Cha, & Klocke, 2014), making it a priority measure for quality improvement for the Centers for Medicare and Medicaid Services (CMS), health care organizations, and health care clinicians. In 2015, the local regional hospital in Southwest Oklahoma had an average early readmission rate of approximately 20% for patients diagnosed with COPD, which was above the national average.

In this project, I discuss the significant impact that 30-day early readmissions have on patients with COPD quality of life and healthcare costs, and compare the organization's system processes of admission and discharge transition care of patients diagnosed with COPD. Section 1 includes information regarding the background, problem statement, purpose, project question, objectives, frameworks that I utilized to guide the project, nature of the problem, assumptions, scope, limitations, and the significance of the clinical problem.

Background

Currently at the local regional hospital, patients are admitted primarily through the emergency department (ED); however, there are other groups who are admitted for elective procedures directly from physician offices or from same-day surgical outpatient centers. As with

any other admission procedure at the organization, any person presenting to the ED with COPD

exacerbations is given a basic treatment management regime, and then reassessed to determine if

they will be discharged or admitted to the facility. When admitted to the local hospital, the

patients are usually sent to the intensive care unit (ICU) directly from the ED, or to one of two

medical-surgical units. After admission to the medical-surgical unit, the primary admitting

physician has 24 hours to visit with the patient and perform a medication reconciliation of the

patient's home medication to determine if they need to be continued or placed on hold. The

patient's medications are subsequently reconciled at discharge to review which one to restart,

and identify any new medications that will be added to their home medication regimen evaluate

outcomes. In addition, practices among physicians in managing patients diagnosed with COPD

depend upon the physicians' background and familiarization with that particular patient. There

are no order sets or COPD admitting orders to expedite care practices at the organization.

Furthermore, there are no system processes such as alerts to the case management team or the

discharge planner that could facilitate early mobilization of care transition processes that flag

these individuals as high risk for early readmission.

Problem Statement

The CMS reported the national average of all cause readmission rates at 19.3%

(Fidahussein et al., 2014). The early readmission rates at the local regional hospital, where I

implemented the DNP project involving patients with COPD averaged approximately 20%,

which is above the national average of 19.4% (Elixhauser, Au, & Podulka, 2011). Data collected

retrospectively from previous admissions, during the calendar year of 2014 and based on

quarterly reports, reflected fluctuating readmission rates for early readmissions for patients

diagnosed with COPD. For the third and fourth quarters of calendar year 2013, the organizational goal of decreasing patients diagnosed with COPD readmission rate by 1% was not met. The 2014 third quarter all-cause readmission rate for patients diagnosed with COPD was 21.05%, and for the fourth quarter, the readmission rate was even higher at 30.77%, as compared to the 2013 third quarter rate of 20.83%, and fourth quarter rate of 15.63%. In 2015, first quarter early readmission rates for patients diagnosed with COPD is 15.5%, and for the second quarter, the rate is 17.39% for the second. Though these numbers may reflect a decline in the overall early readmission rate of patients with COPD, the trend in the statistical data shows that by the third and fourth quarters, readmission rates tend to climb, resulting in an overall annual failure of the organizational goal of a 1% reduction. Although some readmissions of patients diagnosed with COPD may not be avoidable, those that are usually avoidable are related to poor coordination of care, the quality of care patients receive, lack of a timely post discharge follow-up with a primary care physician, and the overall failure to recognize those patients that are at an increased risk for acute exacerbations (Centers for Healthcare Quality and Payment Reform, 2013; Fidahussein et al., 2014; & GOLD, 2015).

For the years 2003 and 2004, 22.6% of Medicare beneficiaries admitted to the hospital for COPD compliance were readmitted within 30-days (Elixhauser, Au, & Podulka, 2011). Thirty-day readmission rates for Medicare patients nationally whose principal diagnosis was COPD was reported at 7.1%, whereas the rate of 30-day readmission for any diagnosis including COPD was 17. 3% (Elixhauser, Au, & Podulka, 2011). Costs were reported to be significantly higher for readmissions than for initial stays; the average cost of COPD was reported at $8,400, which is 18% higher than the cost of the initial stay of $7,100 (Elixhauser, Au, & Podulka,

2011). In addition, patients diagnosed with COPD readmission rates were 50% higher than

patients without COPD (Elixhauser, Au, & Podulka, 2011). The costs related to the management

of patients readmitted early with a diagnosis of COPD were $10,900 (Elixhauser, Au, &

Podulka, 2011), and the cause diagnosis costs for patients diagnosed with COPD were $11, 100

(Elixhauser, Au, & Podulka, 2011). To add to these costs, in 2014 the CMS expanded the

Hospital Readmission Reduction Program (HRRP) to include COPD exacerbations and imposed

financial penalties as high as 3% by 2015 for hospitals whose patients diagnosed with COPD

have greater than expected all-cause readmissions (Krishnan, Gussin, Prieto-Centurion, Sullivan,

Zaidi, & Thomashow, 2015). The local regional hospital where the DNP project was

implemented, services rural Southwest populations who are Medicare recipients, and will be

greatly affected by CMS HRRP. As a result, to avoid the penalties instituted by CMS HRRP

program, early readmission rates management has become a major organizational quality

improvement project directed at developing a better understanding as to how the hospital can

improve outcomes, the quality of care provided, and decrease costs by addressing early

readmission rates, thereby better serving the community needs.

Purpose

The purpose of the project was to analyze the organization system processes of admission

and discharge transition care of patients diagnosed with COPD. My goal was to identify the

discrepancies between the organizations' policies concerning patient admission and discharge

management as compared to the clinical practice evidence by providers. Clinical processes in the

medical management, discharge transition care utilizing case management and the organizations'

discharge planner, and follow-up practice by the organization were evaluated against current

evidence based best practice recommendations and guidelines for variances or similarities.

Development of a clinical process map was then utilized to streamline the current practices at the

organization to identify existing clinical gaps, as well as the areas for improvement. As a quality

improvement project, examination of the clinical process inputs such as ED management and

follow-up, admission management, and discharge follow-up care, along with inpatient-outpatient

facility/provider communications were also evaluated for improvement needs to facilitate the

organization's goal of reducing early readmission rates for patients diagnosed with COPD to

15%.

Practice Focused Question and Objectives

I used the project questions to focus on whether there was a relationship between the

organization current workflow inputs and outputs and that of current evidenced-based practice

recommendations. The first question was: Does the implemented system of target discharge and

follow-up coordination for patients diagnosed with COPD at the organization differ from that of

best practices recommendations? The second question was: Does implementing a system of

target discharges and follow-up coordination with the clinician reduce readmission rates by 5%

in the patient with COPD within a 3-month period? The project objective was to evaluate the

outcomes in which a system of targeted discharge planning and follow-up coordination with

clinicians will have on reducing patients diagnosed with COPD early readmissions.

The overall aim of the project was to identify strategic management processes that could

result in reducing 30-day readmission rates for patients diagnosed with COPD. There were three

main primary objectives for the quality improvement initiative. The first objective of my DNP

project focused on me examining the organization's current clinician and providers' clinical

management practices regime such as patient-centered education sessions, self-management treatment plan, a follow-up plan from a post-discharge coordinator for patients diagnosed with COPD in the ED from admission to post-discharge. I Examination of examined the clinical practices of clinicians and providers' by performing retrospective chart audits to evaluate the clinical practice management of patients diagnosed with COPD. In addition, I assessed care management processes such as standardized oral and inhaled medications, screening, and the discharge transition care processes, as well as reviewed all current clinical policies which addressed the management of patients diagnosed with COPD in order to compare them against current evidence guideline and recommendations geared toward collaborative transition discharge care for consistency.

The second objective included development of a lean map of the organization clinical workflow process inputs and outputs discovered from the assessment of the admission, treatment, and discharge care of patients diagnosed with COPD. Lean mapping of clinical workflow processes can stimulate evaluation of the process by highlighting areas in which practice gaps exist and or duplication of processes are being performed (Hopen, 2016). As a result, insight to future quality improvement in reducing early readmission rates in patients diagnosed with COPD. Quality improvement begins with a closer examination of the organization current policy and procedures related to patient management in the ED and evaluation for consistency with bedside practices (HCIP, 2015).

In achieving the third objective of the DNP project, I compared the organizational system workflow processes of admission, treatment, and discharge transition to that of current evidence-based practice recommendations and guidelines. My goal was to identify discrepancies and

variations in the existing practices as compared to the evidence-based practice recommendations and guidelines over a three-month period. By identifying clinical care gaps in the organization providers current care practice management of patients diagnosed with COPD, this as acted as guide to help identified clinical recommendations that can assist the organization in meeting their strategic planning goal of reducing early readmission rates in patients diagnosed with COPD by 1% as set for the year 2017, and currently for 2019.

Frameworks for the Project

The conceptual model for the DNP project was based on the chronic care model (CCM) in which caring for people in an acute care setting focuses on a population-base need and creates a patient-centered, supportive evidence-based duality relationship between the patient, the providers, the community, and the health care systems (Coleman, Austin, Brach, & Wagner, 2009). The CCM was based on the assumption that improvement in care requires an approach that incorporates patient, provider, and system level interventions. Designed as an organizing framework for improving chronic illness care, it offered a multifaceted approach geared toward improving clinical outcomes for individual patients with chronic health problems, and or for the population of patients in the sense of practice improvements (Nici & ZuWallack, 2012). Successful change to any system requires a plan that will be able to redesign the care experienced within each of the various CCM systems. The six model systems include self-management support, clinical information systems, delivery system redesign, decision support, healthcare organization, and community resources (Nici & ZuWallack, 2012).

Nature of the Project

 The methodology that I used for this DNP project was a retrospective electronic chart review of the transitional care management, medication management, care coordination, patient education and self-management skill development, discharge planning, and post discharge follow-up and care of patients diagnosed with COPD. The retrospective chart review was conducted over a 3-month period using a cohort group of patients diagnosed with COPD with early 30-day readmission post recent index hospitalization. Increases in early 30-day avoidable readmission rates in patients diagnosed with COPD are a problem at the local southwest regional hospital. The prospective review of the organization current clinical policies and procedures I conducted, along with a review of current evidence-based guidelines and recommendation of care practices related to reducing readmission rates was carried out under the management of a multidisciplinary team-based approach. The multidisciplinary team which included various members of the organization patient care management team, i.e. clinical bedside nurses, Respiratory therapist, clinical pharmacist, medical provider, home health nurse, QI officer, the CNO, ED social worker and nurse manager, nurse navigator; was then able to use the clinical findings from the retrospective and prospective assessment of the organization's overall state of managing patients diagnosed with COPD to create a process map, which helped inform key leaders on where the clinical gaps existed in managing these patients. Additionally, clinical stakeholders in the future can use the findings and apply evidence-based knowledge to recommend and develop specific transition care programs with interventional strategies to reduce the readmission rates. The possibility exists to reduce early avoidable readmission rates by targeting specific patients and implementing a system of targeted care practices. The details of the methodology are discussed further in section three of the paper.

Definitions

The following terms used in the proposed project are:

Affordable Care Act: The Patient Protection and Affordable Care Act (PPACA) commonly known as Affordable Care Act (ACA) is a United States Federal statute signed into law by President Obama on March 23, 2010 that requiring hospitals and primary physicians to improve their practices financially, technologically, and clinically to drive better health outcomes, lower costs, and improve their methods of distribution and accessibility (U.S. Department of Health and Human Services (HHS), 2015).

Avoidable Readmissions: Potentially avoidable rate of hospital readmission within 30 days of a previous discharge with a hospital discharge primary diagnosis of one of the same potentially avoidable conditions (U.S. Department of Health and Human Services (HHS), 2015).

Centers for Medicaid and Medicare Services (CMS): The Centers for Medicaid and Medicare services is a federal part of the U. S. Department of Health and Humans Services (HHS) whose aim is to coordinate resources and best practices for overall program improvement by delivering the Medicare Programs and working in collaboration with state agencies to administer Medicaid, and other programs such as State children health insurance program (SCHIP), health insurance portability standards, and administering various other healthcare standards from Health Insurance Portability and Accountability Act (1996), and quality standards in long-term care agencies and clinical laboratories (CMS, 2016).

Hospital Readmission Reduction Program (HRRP): Section 3025 of the Affordable Care Act added section 1886(q) to the Social Security Act that began October 1, 2012, which requires

CMS to reduce payments to IPPS hospitals with excess readmissions, effective for discharges (CMS, 2016).

Quality of Care: The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Agency for Healthcare Research and Quality, 2015)

Quality of Life: Quality of life (QOL) is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life (Centers for Disease Prevention and Control (CDC), 2016).

Readmission: An admission to a subsection (d) hospital within 30 days of a discharge from the same or another subsection (d) hospital (DHS/CMS, 2015).

Stakeholders: Stakeholders are a those who have an interest in the organization, processes, system structure, clinical related issued; They are patients, family members, nurses, providers, payers, and the community who can either affect or are affected by the overall dynamic nature of the problem (Merriam-Webster Dictionary, 2016).

Transition of Care: The movement of a patient from one setting of care (hospital, ambulatory primary care practice, ambulatory specialty care practice, long-term care, home health, rehabilitation facility) to another (CMS, 2015).

Transitional Care Model: A model developed by Dr. Mary Naylor and a multidisciplinary team group which emphasizes identification of patients' health goals, coordination and continuity of care throughout acute episodes of illness, development of a rationale, streamlined plan of care to prevent future hospitalizations, and preparation of the patient and family caregivers to implement this care plan with that of the patient/caregiver at the

center of the planning, coordination and development (Penn State Nursing Science, 2014).

Hospital Value-based Program: A CMS initiative that rewards acute-care hospitals with incentive payments for the quality of care they provide to Medicare beneficiaries (DHS/CMS, 2015).

Assumptions

There were several assumptions during this project. My first assumption was that high quality care includes evidence-based intervention implementations, patient and caregiver education programs geared toward development of self-management skills. Secondly, a well-coordinated transition of care from the hospital to community/outpatient resources can aid in reducing hospital readmissions. My third assumption was reducing hospital readmissions for patients with COPD would benefit and increase the quality of life of these patients while not harming the overall patient health status and or outcomes. My fourth assumption assumed that identification of the care gaps within the organization system structures and processes, as well as screening patients with COPD for factors that increase their risk for readmission, assist providers and the health care organization in targeting patients who are both potential candidates with risk for early readmissions and willing to participate. Lastly, the fifth assumption was that target candidate would be willing to participate in the screening processes.

Scope and Delimitations

A major delimitation of the project was that the findings could be generalized to the local southwest region area where the hospital is located, instead to other areas outside of this region. Another delimitation was that the sample population utilized only included Medicare patients over the age of 40-years old. In addition, there were no consideration to patients' discharge

dispositions such as being discharge to home, home with home care or skilled nursing facility, and any other type of outpatient setting of similar standings.

Limitations

There were several limitations in the project. The first limitation of the project noted is that the improvement initiative I utilized used a retrospective cohort design and no results from patient follow-up were tested. Another limitation was that the timeframe for the project was over a 3-month period. As a result, the study findings only offer a snapshot of the clinical problem, which was dependent on the conditions occurring during the project implementation time frame of the project. A third limitation of the project was that the targeted population of patients with COPD who had early readmissions was limited to those covered under Medicare at the local southwest regional hospital in Oklahoma. Patients with COPD that were private pay or uninsured were not included in the targeted population, which further limited the generalizability of the project.

Significance

Hospitalization accounts for approximately one-third of the total $2 trillion spent on health care in the United States (Institute for Healthcare Improvement, 2014), which is equivalent to 31% of total health care expenditures (Boutwell & Hwu, 2009). Unfortunately, many patients with COPD who are discharged from an inpatient hospital stay find themselves readmitted within 30 days of that stay. Medicare patients' inpatient stays accounts for approximately 37% of spending, of which early readmissions accounts for the majority of that cost (AHRQ, 2015). Medicare patients discharged from the hospital have an 18% readmission rate within 30-days which accounts for $15 billion in healthcare spending (AHRQ, 2015).

Though many hospital admissions are necessary and unavoidable, the rate of avoidable hospital readmission for patients who return soon after discharge can be improved by improving discharge planning and inpatient to outpatient transition processes.

Several factors influence the result and outcome of the patient with COPD's management and understanding the impact these factors have on patients' quality of life, morale, and overall healthcare and readmission is crucial for healthcare organizations. During care transition, gaps in communication between inpatient, outpatient, and provider to patient can and do occur. Patients with COPD spend the majority of their day-to-day activities managing their disease, and coaching these patients to develop strong self-management skills to perform disease-specific medical regimen at home is necessary. Healthcare providers managing these individuals should not just focus on pharmaceutical therapy and inpatient hospital stay, but that of their transition process to improve quality of life, decrease COPD mortality, and control health care expenditures.

Nurses can help patients with COPD improve their inpatient and outpatient discharge transition by being vigilant advocates for a multidisciplinary team approach and coaching patients with developing strong self-management skills (Benzo et al., 2016, Boutwell & Hwu, 2009). Development of an understanding of patients' socio-demographic such as family support, ability to afford medications, presence of a primary care provider, and clinical correlates such as having the presence of multiple comorbidities to manage can affect patients with COPD's ability to effectively manage their disease outside of the inpatient setting. Developing that understanding can facilitate healthcare organizations and providers to implement optimal interventions of care that can facilitate the reduction of avoidable hospital readmission. The

process of communication within the hospital and between inpatient and outpatient facilities and providers needs to improve, along with strong transition of care practices.

By employing best practices during care transition, hospitals can begin to reduce preventable readmissions, improve patient abilities to better self-manage their disease thereby improving their quality of life and overall health outcome (Boutwell & Hwu, 2009). It is also imperative for organizations and clinical providers to have an understanding that many of the readmissions that are avoidable have missed opportunities to better coordinate patient care and early identification can be resourceful. The influence of disease, comorbidities, patient age, caregiver support, and quality of care received during hospitalization also affect readmission in these patients making these factors to address during COPD management. The analysis and synthesis of any facilitators or barriers in preventing early 30-day readmission of patients diagnosed with COPD can provide the organization with an understanding of the factors and variables that influence the readmission rates in the COPD patient population they care for. Once a clinical picture of any facilitators or barriers within the organization processes and clinician practices in managing COPD patients were identified, evidence-based strategies that target those barriers can be highlighted. By identifying EBP strategies proven to be effective in reducing readmission rates, providers can then target these practices to use to develop guidance for the health care organization administrators with similar concerns and various stakeholders to develop and implement interventional strategies that contribute in redefining innovative ways in improving quality of service. Any health care practices and policies created can thus thereby aid in optimizing health outcomes in patients such as decrease readmission rates in COPD patients and similar populations.

Reduction of Gaps

The project findings can now be used to help assist the hospital administrator and various stakeholders at the local regional hospital by identifying COPD patients at risk for avoidable readmissions, as well as identifying various system processes and structures that act as facilitators or barriers toward transitioning of care from inpatient to outpatient settings. Preliminary analysis of the literature suggested that the majority of Medicare readmissions are for medical services, and provide unique opportunities for health care organizations, providers, policy makers and payers to decrease avoidable readmission rates (RWJF, 2013 & Krishnan et al., 2015). Increasingly, some of the readmissions are avoidable and indicate poor quality of care and or that of omission of opportunities to properly coordinate care (AHRQ, 2014). Multiple factors that the project highlighted contribute to avoidable readmissions include poor quality of care, lack of communication between different providers and inpatient/outpatient settings, and lack of available system resources such as care coordination and information exchange between inpatient facilities and community-based settings.

The findings of this project may also enhance care quality and the development of a support system that allows for purposeful transitions of care of patients with COPD from the organization. The results adds to the knowledge base of the organization as to where the major opportunities for improvements in care are, and thereby increase the optimizations of the organization care services and processes to streamline the outputs generated in caring for the COPD patient population. The Centers for Medicaid and Medicare (CMS) have intensified its initiatives surrounding readmissions rates, and as of 2015 financial penalties for hospitals with higher than normal readmissions are as high as 3% (CMS, 2015).

The Hospital Readmission Reduction Program (HRRP) and major related regulatory agencies are increasingly holding hospitals and health care providers accountable for patients at discharge. Addressing early 30-day readmission rates in patients diagnosed with COPD can help health care organizations seeking to employ evidence-based practice to improve their quality care within and between care settings with innovative low-cost high-result interventions. Prieto-Centurion, Ramey, Gussin, Nyenhuis, Joo, Bracken, Didomenico, Godwin, Jaffe, Kalhan Pickard, Pittendrigh, Schatz, Sullivan, Thomashow, Williams, & Krishnan (2014) reported that nearly 20% of Medicare hospitalized patients are readmitted within 30-days post-discharge, and up to three-quarter of readmissions are avoidable (Robert Wood Johnson Foundation, 2013), and the Medicare Payment Advisory Committee (MedPAC, 2015) has reported that 75% or 4.4 million of the hospitalization are preventable and can be held to the 3% penalty. In the face of limited budgets and value-based programs, the health care organizations are now more than ever motivated to improve care, decrease readmissions and cut costs while delivering quality service with optimal outcomes for the patient population with COPD.

Implications for Social Change

The project would assisted in identifying system processes that required streamlining and development in order to impact service quality and optimize outcomes related to the patient with COPD's quality of life, readmissions, and health care cost. Implementation of this quality improvement project that examined gaps between what was being done and what needed to be done assisted in meeting the project goal as well as that of the organization by identifying areas where improvement needs to be made. In addition, the identification of workflow duplication or omitted workflow processes that can decrease redundancy and increase streamlining of any

evidence-based processes were identified to better organize and enhance outcomes and improve quality while reducing waste.

Improving transitions of care and care interfaces between the providers and care setting, as well as improving patient education to increase the self-management efficacy of COPD, can assist in reducing those readmissions that are preventable. Self-management is seen as a key disease management strategy to help patients and caregivers in developing the essential skills necessary to properly manage COPD at home (Agency for Healthcare Research and Quality, 2014). As a multisystem disease management strategy, interventions developed to manage COPD should incorporate a multifaceted collaborative team-based approach. Interventions to manage COPD patients needs to include developing an understanding of related factors such as socio-demographic, economics, and clinical correlates that are both facilitators and barriers to the successful transition of care of COPD patients from inpatient to outpatient care settings.

The management of patients diagnosed with COPD's discharge care if coordinated between inpatient and outpatient health care teams in a transitional process can help in reducing health care spending. Aligning services to avoid duplication of processes can reduce health care resources waste; the omission of any necessary needs identified, and highlights any processes for improvement (Fidahussein et al., 2014). Best practice methods identified that transition care that is both timely and involves open communication between inpatient teams and outpatient teams can contribute significantly to reducing early readmission rates, as well as health care costs related to managing patients diagnosed with COPD. One such area is the development of COPD care practices bundles in which provider level interventions that includes medication ordering, patient education, and consults, can increase adherence to best clinical practice guidelines. Some

identified best-practice practices include medication reconciliation driven by pharmacists, patient –centered education, arranging follow-up visits with ambulatory care providers, provision of discharge care summaries and or plans to enhance communications between inpatient and outpatient teams (Krishnan et. al., 2015).

Summary

The early readmission rate for patients diagnosed with COPD continues to be an ongoing problem for the local southwest regional hospital. Implementation of this quality improvement project that evaluated the organization current clinical practices and care management methods against that of current EBP recommendation served as a means to help guide future recommendations in obtaining the organization strategic planning goal of decreasing the early readmission rates in the population by 1%. The evidence-based concept of the CCM was used to help understand patients at risk for avoidable readmissions, as well as identify various system processes and structures that acted as facilitators or barriers toward transitioning of care from inpatient to outpatient. The framework of the transitional care model was used to help guide and enhance understanding of how well the organizations care quality and the development of a support system allows for purposeful transitions of care of these patients diagnosed with COPD from the organization to outpatient resources in a timely manner. Development of a multifaceted team-based approach strategic interventions amongst health care organizations, patients, and outpatient resources have a key role in helping patients successfully and efficiently self- manage their chronic illnesses thereby reducing early readmission rates. Having a strong transitional discharge program for patients diagnosed with COPD from admission to post-discharge can result in optimal clinical and quality of life outcomes. The overall project initiative can impact

social change by decreasing early readmissions rates among patients diagnosed COPD, improve

health care costs, and healthcare quality of life by identifying key areas in which care can be

improved.

Section 2: Review of Literature and Theoretical/Conceptual Framework

Introduction

The purpose of the DNP project was to examine the hospital management of patients diagnosed with COPD from admission to post discharge and to examine whether comprehensive hospital-based transitional care interventions has the potential to reduce early readmissions in patients diagnosed with COPD. Exacerbations of COPD are known to be associated with concurrent disorders thereby requiring a complex health management regimen (Elixhauser, Au, & Podulka, 2011). Additional support for interdisciplinary rounding and planning in the timely engagement of these patients has shown to have positive outcomes on patient transitions; however, there are reports that less than 50% of these patients receive the evidence-based care recommended (Elixhauser, Au, & Podulka, 2011; Fidahussein et. al, 2014; & GOLD, 2015). As a result, evidence-based care transitions require a multidisciplinary team approach and management, and as such, any discharge transition care interventions developed for these patients require a team-based approach.

While many hospitals have responded by implementing various interventions to reduce early 30-day readmissions to the increasing rate of early avoidable 30-day readmission rates in patients with COPD, there are still many unproven and unsuccessful strategies/models Krishnan et al., 2015). As a result, opportunities exist for understanding how effective those target-specific discharge transition care practice interventions are, and whether any identifiable practice strategies such as patient coaching, follow-up visit, care coordination post discharge, and so on can be used in a population specific group for early readmission rate reduction. Moreover, the literature I reviewed for this project consistently support that no one intervention from those

interventions previously discussed as being solely effective, but used collectively, can garner a more significant outcome. Section 2 includes a discussion of the literature search strategy, conceptual model, frameworks, literature review related to the methods, and background and context.

Search Strategy

I conducted a literature search using the scholarly databases of Google Scholar, Cochrane Library database, OVID Technologies, EBSCO host, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, Agency for Healthcare Research and Quality (AHRQ) National Clearinghouse, PubMed, Medline, and ProQuest. The key search terms included: *COPD, COPD exacerbation management. COPD readmission, transition care management, risk factors, hospitalizations reduction programs, pulmonary rehabilitation, pharmacy reconciliation, acute exacerbation, home care services, telemedicine, discharge care, hospital readmission, follow-up visit, follow-up phone calls,* and *care collaboration.* Boolean operators I used to streamline my literature search process were AND, OR to combine and or exclude several keywords in the literature search which allowed for a more focused approach to limit results further. In addition, some of the cited references came from the literature reviewed during my literature review process and Medline Plus article review. Keywords combined were *COPD, readmission, transition of discharge care, pulmonary rehabilitation,* and *follow-up phone calls.* I found over 17,000 articles related to strategies reducing COPD early readmission rates between the years 2010 to 2016 to maintain publication currency and practice relevancy. I selected a total of 17 articles for inclusion in the project. Three of the articles I selected focused on collaboration and management of discharge transition care of patients diagnosed with COPD.

The other 14 articles I selected for inclusion into my DNP project, the authors elaborated and discussed various practice management strategies specific to targeting inpatient, outpatient, and post discharge rehabilitation care of patients with COPD.

Concept Models and Theories

Chronic disease management is a national concern in the United States as there is an increased incidence of chronic disease that requires effective management at both the individual and population health levels (Barr, Robinson, Marin-Link, Underhill, Dotts, Ravensdale, & Salivaras, 2003). The Chronic Care Model (CCM) is a structured framework designed to aid in improving chronic illness as in the case of patients diagnosed with COPD at several levels. Components of the CCM involve timely management of specific components through collaborative multidisciplinary team approach (Barr et al., 2003). Within the CCM, Barr et al. (2003) identified specific elements key to model at the individual patient level which emphasize self-management support for patients/family-caregivers, timely delivery system design development as in the case of transitional discharge processes, and the inclusion of decision support and clinical information system orchestration in time-sensitive service delivery. Furthermore, the CCM design facilitates successful system changes that can redesign care within each area of the model elements by recreating and structuring new interventional strategies that will work in cohesion with acute processes that can effectively decrease avoidable early readmissions in patients diagnosed with COPD (Barr et al., 2003).
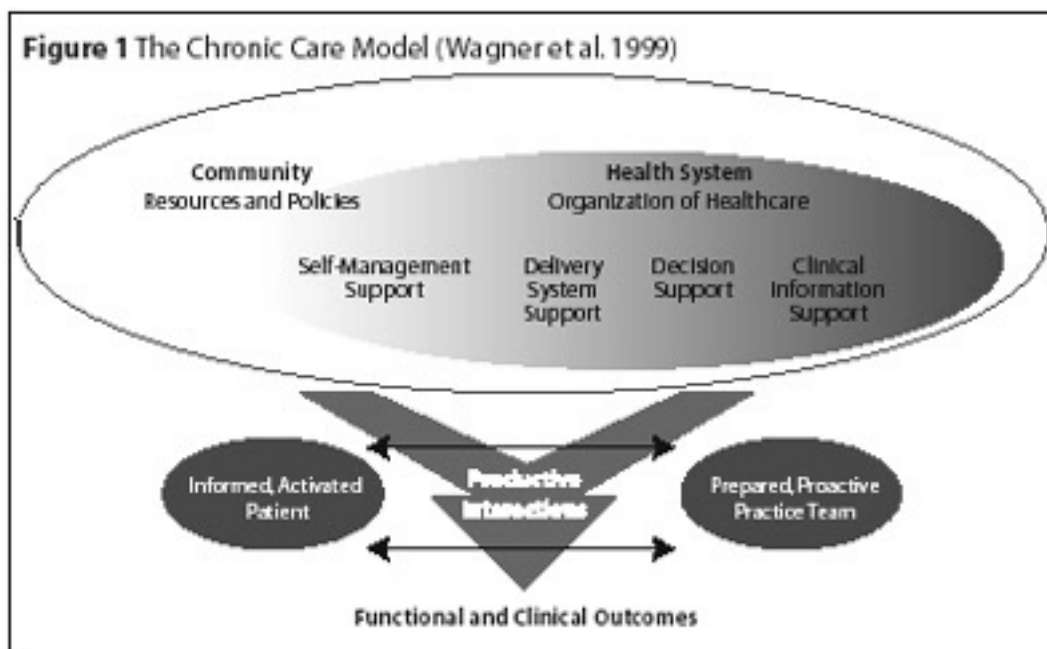
Figure 1: Sample figure caption of the CCM. Barr et al., (2003).

As the conceptual model I utilized for the project, Barr et al., (2003) CCM provided the

framework that allowed me to created an organizational system which facilitated high quality

care by attaining senior leader support, promotion of effective improvement strategies aimed at a

comprehensive COPD care management change. In addition, when I was able to highlight

community-based services available, I was then able to assist the organization EBP

multidisciplinary team in identifying how to mobilize community-based resources to meet

patient care needs and form partnerships with these organizations to develop interventions that

filled in gaps in needed patient care services based on specific patient care needs. Within in the

CCM, the self-management processes focused on bringing together key members of a

multidisciplinary team to identify and align interventional strategies that can be used to empower

and prepare patients and their family/caregivers in successfully managing their health.

Discharge transition to home and self-management of symptoms is a critical moment in which fragmentation of care can easily occur (Barr et al., 2003). The design of the CCM goal was to help users of this model focus on delivery system design in order to facilitate care provider teams in defining roles, goals, and distribution of tasks amongst team members (Barr et al., 2003). Any clinicians and providers within an organization that choses to develop targeted admission, and discharge care practices, along with care coordination, will need to develop targeted care practices that are specific to patient population need so as to incorporate individualized patient goals and allow the organization health system to streamline available resources to better manage outcomes and preserve costs (Scott, 2010). Building and evaluating decision support systems, such as alerts in the electronic health record (EHR) that can link care teams together in a timely manner, is just as imperative. It is important for organizations to have PI processes in place that allow for on-going patient tracking and monitoring, identification of needed targeted discharge planning and care to ensure ongoing management and up-to-date practice performance based upon clinical needs (AHRQ, 2014). The data I collected during the implementation of my DNP project such as where clinical care practices of providers and clinicians varied from EBP recommendations and guidelines, provided the healthcare team with an opportunity to perform on-going monitoring of the its current practice performance and care system.

Frameworks

I chose the transitional care model (TCM) as the best model to address early 30-day readmission rates in patients diagnosed with COPD. The TCM was developed by Dr, Mary Naylor and her team on the assumption that fragmentation in care of older adults with dynamic

needs during transitioning from the acute care setting to an outpatient setting, required preparation of both patients and their family caregivers in order to effectively sustain and manage changes in the patient dynamic health with multiple chronic conditions (Naylor, Brooten, Campbell, Maislin, McCauley, & Schwartz, 2004). The TCM focuses on individualized, multidisciplinary evidence-based clinical protocols that prevent decline and reduce readmission for an extended period anywhere from admission to several months post-discharge (Naylor et al., 2004). The TCM structure emphasized the provision of comprehensive care management practices during hospital planning and home follow-up for chronic ill at risk older adults (Naylor, Brooten, Jones, Lavizzo-Mourey, Mezey, & Pauley, 1994). As a result of the comprehensive nature of the TCM, I selected the model as the ideal framework on which my DNP project was based. The key components of the model are patient and family care-giver education, patient and family care-giver health issue management and prevention of further decline in health, medication reconciliation and management, and transitional care from inpatient acute care setting to outpatient setting (Naylor et al.,1994).

In the first element of patient and family understanding, Naylor et al. (2003) noted that patients and their families are given a great deal of information throughout their hospitalization (Naylor et al., 1994). Most of the information received by patients and their families is forgotten or needs reinforcement at discharge. In the TCM, a key focus is individualized patient and family-caregiver understanding development through a patient-centered care plan development through admission and at discharge. The aim in this component is to ensure that during inpatient management, and at post-discharge follow-ups, patients and their family-caregivers truly

understand the discharge information and effectively manage their health care regimen on an outpatient basis by creation of a patient-centered care plan for discharge

The second component of the TCM involves ensuring the patient understands their discharge instructions and can effectively manage their health care regimen pot-discharge (Naylor et al., 2004). The primary focus of this component making sure inpatient teaching and training knowledge retention is attained by way of follow-up visits with patients and or their family-caregivers (Naylor, Brooten, Campbell et al., 1999). Many studies support follow-up within the first 24 to 48 hours of discharge, and at several times over a month to 3-month period (Gil et al., 2013). Follow-up visits in the sense of either phone calls, teleconference, or home visits can help patients and their family-caregivers develop systems for managing their own care effectively and achieving their goals by reinforcing learning and addressing concerns or developing issues before they become a problem. The TCM nurse can help the patient maintain their realistic plan of care with self-efficacious strategies to ensure reaching positive health outcomes that is aimed at preventing future acute care events (Naylor et al., 1999).

Medication management and reconciliation is necessary for patients with chronic illnesses because medication regimen plays a vital role in the management of their symptoms (Gil et al., 2013). When managing and teaching patients and their family-caregivers how to effectively manage their medication regimen, Naylor et al. (2004) TCM key element, and Gil et al. (2013) calls for reviewing patient medication plan among health care team members such as physicians, pharmacists, and even case management (Gil et al., 2013 & Naylor et al., 2004). The goal in the medication management component is to reduce the overall number of medications and provide an opportunity to eliminate any medication unsafe interactions and contradictions

(Gil et al., 2013 & Naylor et al., 2004). Furthermore, medication management and self-management skill development will also help key care team members identify any patient medication education and teaching that is necessary (Gil et al., 2013). The key interventional strategic outcomes of the medication management and reconciliation process is to ensure that patients are receiving the correct medication and doses; that it is documented in their chart, and reflected in their discharge medication instructions and communicated with outpatient team members (Gil et al., 2013). The aim of the transitional care follow-up team is to assess whether the patient and/or his/her family-caregiver system involved in the patient's medication regimen, has the ability and system to maintain adequate supplies in place, and can effectively manage the medication regimen as prescribed (Naylor et al., 2004 & Naylor et al., 1994). In addition, suggestions for improvement or concerns related to the patient medication regimen or needed changes as related to the ability to afford medications, prescription coverage, and or formulary restrictions can be discussed in medication management component of the TCM program.

In the final component of the TCM, the focus is on ensuring timely discharge transition (Naylor et al., 2004). To prevent any fragmentation in care from inpatient to outpatient care management, a key intervention of the TCM entails aligning patients and or their family-caregivers with essential resources necessary to prevent a decline in their quality of health and avoid readmission (Naylor et al., 2004). Furthermore, a broad emphasis is placed on key strategies, such as developing the necessary knowledge and skills of the patient and his/her family-caregivers to successfully manage his/her health care regimen for his/her chronic illness post discharge. Continuity of patient care in the TCM is envisioned by ensuring communication with providers across the care spectrum and provider follow-up with patients (Naylor et al.,

2004). In addition to ensuring patient commitment to their self-management goals, bridging outpatient services may strengthen their self-efficacious attempts and community resources with patients and or their family-caregivers as needed (Naylor et al., 2004).

Literature Review Related to the Methods

Reduction of Early 30-day Readmission Rates

To effectively prevent early readmissions in patients diagnosed with COPD, better collaboration between hospitals and community-based providers, as well as the use of comprehensive evidence-based interventions are needed to ensure continuity of care after discharge (Linden & Butterworth, 2014). Linden and Butterworth (2014) recommended a comprehensive component set found in transitional care models that focuses on pre-discharge, post-discharge, and bridging components. Pre-discharge components include patient education, discharge planning, medication reconciliation, and follow-up appointment scheduling. The post-discharge component set includes timely follow-up phone calls and availability of a patient hotline. The third component termed bridging includes a transitional and or health coach, and patient-centered discharge instructions (Linden & Butterworth, 2014). Linden and Butterworth (2014) study supported the project by identifying that incorporating a multidisciplinary team-based approach which utilizes a multimodal interventional strategy in the management of patients diagnosed with COPD can decrease fragmentation in care, encourage timely transition of care, thereby decreasing the risk for early avoidable 30-day readmission.

It is the belief that patient-centered care coordination that incorporates multimodal intervention strategies in care transitions between facilities using a multidisciplinary care team-based approach can improve discharge transition and reduce the risk of early readmission in

patients diagnosed with COPD (Scott, 2010). Health care providers that coordinate with other care providers can significantly impact the outcome of patient discharge transition and risk of early readmissions (AHRQ, 2014, and Ohta, Mola, Rosenfeld, and Ford, 2016). The patient outcomes improve by way of improving the quality of care transition and communications across settings from inpatient to outpatient community-based settings and provider-to-provider communication (Linden & Butterworth, 2014).

Moreover, improved healthcare quality of life of the patient is achieved by orchestrating and following a patient-centered plan of care that anticipates and addresses patient specific needs, functional status, and establishes shared accountability and integration of communities, health care systems and reduce the health care disparities (CMS Quality Strategy Overview, 2016). The Agency for Healthcare Quality and Research (AHRQ) (2014) recommends that measures of transition for chronically ill patients should encompass complete written discharge instructions, communications about discharge information, and median hospital 30-day risk-standardized readmission rate. Successful strategies for reducing the risk of early readmission encompasses initial interventions to prevent complications and address exacerbation of chronic illness conditions in patients diagnosed with COPD (AHRQ, 2014). The AHRQ (2014) also recommends provision of comprehensive patient-centered discharge planning, use of in-person care management interventions, decision support, and provider education to manage patients diagnosed with COPD. Since COPD is a complex disorder, any interventional strategy will need to be dynamic in nature. The AHRQ (2014) delineates that health care organizations should actively gather and manage all patients' medical information for ongoing monitoring and evaluation for performance importance. Moreover, AHRQ (2014) recommends utilizing a

process of providing timely health information exchange as specific strategies aimed at reducing early readmission rates in patients diagnosed with COPD.

Linden and Butterworth (2014) evaluated the effectiveness of hospital-based comprehensive evidence-based strategic interventional components in reducing 30- and 90-day readmission rates in patients with chronic illness compared to usual care. The study was implemented at two community-based hospitals in patients diagnosed with Congestive Heart Failure (CHF) or COPD. Using a parallel-group stratified, randomized controlled trial, a total of 512 participants were selected. For interventional purposes, the methodology included a 90-day hospital-based transition care program with endpoints around 30- and 90-days all cause readmissions. Secondary measures applied to the study methodology included all-cause emergency department (ED) visits and mortality. There was no statistical difference between the usual care group and interventional groups with 30- and 90-day readmission rates. It was concluded that in order for community-based hospitals to address avoidable readmissions, better collaboration between hospitals and community-based providers in support of a comprehensive EB interventional component is necessary for continuity of care for discharging patients. The findings of this study supported the DNP project by adding specific interventional strategies common to transitional discharge care process as a care-based model to reduce 30-day avoidable readmissions. The EB multicomponent interventional care practices surrounded collaboration between the local county hospital and community-based providers, as well as community resources, post-discharge follow-up planning and appointment setting, and timely and continuous care for patients after discharge to help reduce early avoidable readmission rates.

Significance of a Multidisciplinary Team-Based Approach in Discharge Planning

Use of a multidisciplinary team-based approach in orchestrating discharge transition planning has proven to be effective in reducing the risk of early readmission in chronically ill patients. In the analysis of four evidence–based studies by the National COPD Foundation 2013 summit (Krishnan, Gussin, Prieto-Centurion, Sullivan, Zaidi, & Thomashow, 2015), it was concluded that four key interventional strategies should be included in programs designed to reduce hospital readmission for patients with COPD (Krishnan et al., 2015). Key recommendations included that the programs should have specific recommendations on how to promote COPD self-management skills training for patients and their caregivers; care plans should address the co-existing disorders common to patients diagnosed with COPD during and after hospitalization; adverse events should be evaluated when implementing interventional strategies, and a collaborative and cooperative strategy should be developed to connect groups engaged in developing, monitoring, and implementing programs to reduce hospital readmissions in COPD and other conditions (Krishnan et al., 2015). The findings from the summit support the DNP project because they offered specific strategic program interventions related to transition care program development for managing and promoting COPD self-management skills training for patients and caregivers, and ways to reduce hospital readmissions in COPD based upon EB programs identified.

In a retrospective cross-sectional design Gil, Mikaitis, Shier, Johnson, and Sims (2013) evaluated the impact of a transitional care program that included a pharmacist driven medication history and discharge medication review, and a social worker following patients during admission and post-discharge effects on reducing 30-day, all-cause readmission rates. The researchers found that 10% of the intervention group was readmitted to the hospital within 30

days of discharge as compared to the control group who had a readmission rate of 30% (Gil et al., 2013). The study revealed that a combined pharmacist and social worker transition care program led to a significant reduction in 30-day, all-cause readmission to the hospital. The study supported the DNP project because it showed that medication management and patient self-skill development is a strategic intervention technique that can reduce readmissions.

Addressing the Gap in Effectively Reducing 30-day Readmission

Reducing the rate of avoidable hospital readmissions requires health care organizations and providers to develop a thorough understanding of the clinical causes of readmission and needs of the patients (AHRQ, 2014). Despite the evidence available to support reducing readmission rates, many organizations remain unclear on how best to approach the problem. Many studies (AHRQ, 2014; Gil et al., 2013; & Krishnan et al., 2015) have inconsistencies in their recommendations because these studies leave little room for translation because of their singular nature and lack of generalizability of the findings. The organization in which the DNP project will take place will need to review a variety of evidence-based interventional care practices and recommendations and develop a transitional care program that is specific to their organization and target population. As such, the DNP project was supported by the literature review because it showed that preemptively planning for patients' discharge needs and early interventional practices, such as risk assessment, patient education, self-management skill development, and post-discharge follow-up, reduced early readmission rates.

Ohta, Mola, Rosenfeld, and Ford (2016) study aim was to facilitate improvement in care processes for patient risk assessment and early discharge planning. A questionnaire was administered to participants of the care manager pre-admission discharge planning evaluation

team one to four weeks before their admission for an elective procedure. The findings revealed that the number of pre-admission discharge plans that matched the actual discharge disposition increased from 62% to 82%, patient satisfaction scores increased from 50% to 60% for an overall 20% increase from 2013 through 2014, and patients discharged directly to home rather than a skilled or rehabilitation facility increased from 42% to 66%. It was concluded that the ability to predict readmission risk and length-of-stay for elective orthopedic/cardiovascular patients allowed providers to implement pre-discharge planning necessary for producing quality outcomes and continuum-based care needs. Evaluation of patient utilization and readmission risk promptly is possible and can positively impact the quality and safety, and cost of transitions of care (Ohta et al., 2014). The results of this study supported the DNP project because it showed that identifying target patients and potential areas for improvement in care practices and at discharge, can help organizations compensate for anticipated patient needs thereby decreasing early readmission rates.

From 2007 through 2011, the national 30-day, all-cause, hospital readmission rate averaged 19 percent, and during the calendar year 2012, the readmission rate averaged 18.4 percent (Gerhardt, Hickman, Oelschlaeger, Rollins & Brennan, 2013). Readmission rates at hospitals participating in transitional care programs have shown to be lower than those that are not. Scott (2010) stresses that a discharge process that lacks adequate patient management, education, handoff care, communication exchange, post-discharge follow-up, and other deficiencies can and do contribute to increasing readmissions. Interventional strategies designed to reduce readmission should include multi-component interventions aimed at high-risk

populations with flexible variables that can be influenced by the inclusion of pre- and post-discharge elements effective in reducing readmissions (Scott, 2010).

The United States Department of Health and Humans Services (DHS) (2011) suggested that readmissions are the result of a variety of factors that include the lack of care coordination and effective transitions of care. In 2011, the DHS analyzed whether utilizing a plan-do-check-act (PDCA) method to implement a team-based approach addressed the needs of patients in a complex system. The findings showed a 30% reduction in 30-day readmission rates from the implemented transition care program practices. The conclusion drawn from the study findings supported utilization of multidisciplinary team approach as a strategic interventional practice for program planning, development and evaluation. Multidisciplinary teams can formulate and develop transition care process plans. These plans should include identifying high-risk individuals, nurturing and development of self-management skills, and the creation of timely coordination of care across the continuum of care. Moreover, the identification and implementation of adequate post-hospitalization follow-ups, community-based resources, and the recognition and implementation of an action plan to combat potential barriers should also be included (DHS, 2011). The study supported the DNP project by adding additional information to support care coordination by use of multidisciplinary team approach, and implementation of a strong transitional care program with a targeted system and care processes for patients diagnosed with COPD.

Significance of Multicomponent Interventional Strategies

Shu, Hsu, Lin, Wang, Lin, and Ko (2011) investigated the effects of a transitional care program (TCP) on discharge outcomes using a sample of 303 subjects in a Taiwanese hospital.

The TCP interventional strategies care practices consisted of disease-specific care plans, telephone monitoring, hotline counseling, and referral to a hospital operated clinic. The results revealed a 15% 30-day readmission rate post discharge in patients enrolled in the TCP as compared to 25% 30-day readmission rates for those patients who received the usual care (Shu et al., 2011). The researchers concluded that transition care programs with care practices such as disease-specific care, telephone monitoring, hotline counseling, and a referral to a hospital-operated clinic does reduce rates of post-discharge readmission and death. The results of this study supported the DNP project by highlighting the significant role multicomponent discharge TCPs that are organization specific and disease-specific have on reducing the early avoidable readmission rates in patients diagnosed with COPD. Because chronic illness management does not end with hospitalization, and a large component of the management of a chronic illness is spent outside of an acute-care setting. Thus, having post-discharge transition care processes are imperative.

Voss, Gardner, Baier, Butterfield, Lehrman, and Gravenstein (2011) conducted a quasi-experimental prospective cohort study aimed at comparing the odds of 30-day readmissions in Medicare patients. The study intervention consisted of pairing coaching data with Medicare claims and enrollment data to compare the odds of 30-day readmission rates from 2009 to 2010 using 257 subjects. The coaching interventional strategies included patient empowerment in self-management skills in managing their health and engaging communication effectively with their providers administered over a period of 30 days post discharge. The study revealed a 12.8% 30-day post-discharge readmission rate in patients in the TCP as compared to 20% in patients who did not receive the transitional care program intervention. Moreover, interventional practices that

focused on encouraging patients and or their family/caregivers to take on active roles during care transitions illustrated significant decrease readmission rate by 36% in the interventional group when compared to the external control (Voss et al., 2011). Voss et al. (2011) concluded that because patients are given a lot of information throughout hospitalization and at discharge, most of the information is forgotten shortly after leaving the hospital. Therefore, during each of the transition coaching interactions, the clinical team member can reinforce the information taught throughout hospitalization at discharge and reaffirm teach back with post-discharge follow-up. The results of the study supported the DNP project by adding further clarity and new information in strengthening patient education and development of their self-management skills to promote efficacy in the management of their health care regimen post discharge. Furthermore, providers can use the patient's health record information and understanding of signs and symptoms of worsening conditions to effectively manage the risks of readmissions, thereby optimizing outcomes (Voss et al., 2011).

Verhaegh, MacNeil-Vroomen, Eslami, Geerlings, de Rooji, & Buurman (2014) conducted a meta-analysis to evaluate if transitional care programs aimed at improving transition would reduce readmission rates in the short (30 days or less), intermediate (31–180 days), and long terms (181–365 days). The study methodology consisted of assessing twenty-six randomized controlled trials with a total of 7,932 participants from 1980 to 2013. The findings demonstrated a reduction in all-cause readmission rates by 5% reduction in intermediate readmission rates and a 13% reduction in long-term readmission rates. Transitional care interventions with high-intensity interventions, such as multicomponent and targeted at specific variables, reduced the 30-day readmission rate by 5%, intermediate readmission rate by 7%, and

long-term readmission rate by 13% (Verhaegh et al., 2014). Voss et al. (2014) concluded that in order to affect 30-day readmission rates in chronically ill patients, transitional care interventions need to have high-intensity interventions that include, but not limited to, care coordination by a nurse, communication between the hospital and primary care provider, and a home visit within three days of discharge. The findings supported the DNP project because it showed that a transitional care program with target specific interventions implemented at strategic times across various settings in managing patients could significantly reduce readmission rates. Since it is noted that most patients are vulnerable in the first week post discharge, follow-up management within three days care coordination, and collaborating with outpatient providers are necessary.

Scott (2010) asserts that many discharge interventions are singular in nature. As a result, the outcomes noted from the usual singular interventional practices that are one-size-fit-all have various outcomes requiring increased focus on implementing and evaluating multicomponent interventions targeted high-risk populations. Transitional discharge care processes with multicomponent intervention strategies should include, but not be limited to, the development and implementation of multidisciplinary teams daily rounding (Scott, 210). Multicomponent care processes needs to begin with and include transitional discharge strategies that begin at prehospitalization, during hospitalization, and post-discharge interventions to be successful (Scott, 2010). Additionally, transition care interventional strategies should also encompass discharge planning protocols, educational interventions and self-management approaches; discharge coordination, collaboration with primary care and hospitalists, and general clinicians in the discharge process, as well as ensuring timely implementation of each process (Scott, 2010). Discharge transition care should not end upon discharge, but should continue with timely post-

discharge home visits and or telephone follow-up calls, in addition to community-based care coordination and access to primary care services, and or nurse-led intermediate care units (Scott, 2010).

A systemic review of evidence surrounding transitional care for chronically ill adults was conducted by Naylor, Aiken, Kurtzman, Olds, and Hirschman (2011) to synthesize how the information informs clinicians in implementing the suggested interventional strategies. The purpose of the study was to examine the impact transitional care interventions within health care reform have on reducing readmissions. A total of 1,396 participants with an average age of 64.7 years were selected in the twenty-one randomized clinical trials studies. The findings revealed successful interventions such as assigning a nurse as the clinical manager or leader of care, and including in-person home visits to discharged patients had positive effects on measures related to hospital readmissions. The results reflected positive outcomes surrounding health outcomes, quality of life, patient satisfaction or perception of care, resource use (including readmissions), and costs (Naylor et al., 2011). Further analysis of the studies that focused on all-cause readmissions, time to first readmission, or length of readmission stay revealed reductions in all-cause readmissions through at least thirty days after discharge, in addition to positive long-term effects in all-cause readmissions through six months or twelve months following the index hospital (Naylor et al., 2011). In one study accounting for costs of hospital readmissions, emergency department visits, unscheduled physician visits, visiting nurses and other health care personnel, and intervention costs, a mean total cost savings of nearly $3,000 per Medicare beneficiary at six months and $ 5,000 at twelve months were seen (Naylor et al. (2011). Naylor et al. (2011) concluded that implementing transitional care programs, which encourages

organizations or providers to incorporate very effective interventions such as the Community-Based Care Transitions Program and Medicare, shared savings and payment bundling experiments could significantly reduce readmission rates. The results supported the DNP project proposed by adding new information in developing a transitional care program that implements transitional care interventions, which include community-based resource incorporation, and follow-up services that benefit the organization in attaining their strategic management goal of reducing early avoidable readmission rates in patients diagnosed with COPD. The TCI can impact high-risk, chronically ill patients by allowing health care organizations target specific patient populations and streamline resources to achieve optimal outcomes.

To improve quality and reduce costs, the Affordable Care Act (ACA) (2010) provisions included financial incentives, which affect the amount of reimbursement an organization would receive for care. The ACA bases quality of care provided on provider and health care organization 30-day readmission rates. As a result, health care organizations are attempting to improve discharge transition care by instituting transitional care programs help decrease fragmentation of care during discharge. Transition care programs are some of the most effective strategies, and can help health care providers and organizations address the clinical gaps seen at discharge transition. Agencies such as the AHRQ (2014) and the National Quality Forum (NQF), along with the COPD Foundation, the National Institute of Health, and CMS, support transition care for its innovation and effectiveness in demonstrating a significant reduction in early readmission rates as well as improving the quality of care patients receive. Collectively, many governmental and private entities capitalize on transitional care as a way to achieve health care goals and improve patient outcomes. Multicomponent discharge transition care will depend on

future findings and key stakeholders' willingness to embrace proven evidence-based findings surrounding transitional discharge care efficacy in reducing readmission rates and improving patient outcomes (Naylor et al., 2011; Scott, 2010; & Verhaegh et al., 2014). The study findings supported the DNP project by adding additional interventional care practices such as patient self-management skill development and education, medication management post discharge, utilization of outpatient community ran entities in addition to transitional care program development in the efficacy of decreasing early 30-day readmission rates.

Background and Context

The local southwest regional hospital was a 138-bed facility accredited by the Joint Commission (JC), and recognized as a premiere hospital for medical excellence, advanced technology, and a high level of patient satisfaction (Local southwest regional hospital, 2016). As a charitable not-for-profit, non-stock hospital, primary funding for the hospital comes from private and local business sources in the communities serviced. The hospital provides a variety of inpatient medical, surgical, cardiac, cancer treatment, and outpatient treatment services through enhanced service, with personalized care, information and leading technology (Local Southwest Regional Hospital, 2016). The primary mission of the local facility was to provide compassionate and exceptional health care while improving the community's health through care that has an uncompromising approach to quality and patient safety (Local southwest regional hospital, 2016).

Currently, the organization reported early 30-day readmission rates in patients diagnosed with COPD at 20% in 2015 and 2016. As a result, one of the current strategic planning goals was to reduce early readmission rates by 1%, with an overall aim to achieve an early readmission rate

of 15% as compared to the current standing of 20%. It is estimated that the cost of unplanned

readmissions is $12-$44 billion per year (Verhaegh et al., 2014). There is a growing focus on

healthcare organizations to reorganize the discharge process to reduce avoidable readmissions,

and improve the quality of care patients receive as well as health care costs. With the

implementation of the ACA (2010), which focuses on promoting patients' safety and quality

care, the local regional southwest hospital is in a position to make discharge transition targeting

early readmission a priority.

It is one of the doctorally prepared nurse's role to integrate nursing science with

knowledge from empirical evidence and use science-based theories and concepts to guide inquiry

into determining the root causes and significances of health and health care delivery problem

(AACN, 2006). In turn, the DNP student is able to develop and evaluate new practice approaches

based on nursing theories and theories from other disciplines to improve outcomes (AACN,

2006). Moreover, my role in the QI team was as the change leader to facilitate the

multidisciplinary team to describe advanced strategies to enhance clinical care practices that

could reduce early 30-day readmission rates, thereby achieving the organizational strategic

planning goal of a 1% reduction in the early readmission rates of patients diagnosed COPD. As

the DNP project leader of the multidisciplinary team, I was able to guide several discussions

during team collaboration that addressed the problem. In addition, I was responsible for and

perform data retrieval from multiple sources, such as electronic medical records (EMRs), one-to-

one staff interviews, and reviewing of national database sites such as CMS and NQF. The aim of

the data retrieval and literature review was to help identify gaps existing between what was being

currently practiced by the organization clinicians versus what is recommended as best practices.

As a change agent who is a member of the organization QI team, and also an outsider looking in, I was able to ask questions and highlight trends occurring during the QI project that were not visible to key stakeholders who were actively involved in the organization. My involvement was solely on a voluntary basis and educational perspective, as well as an informative role for the organization, as far as creating transparency of the information that was generated from the study that truly reflect the cause of the problem.

Summary

The literature review showed that there is no single intervention alone that works to reduce early 30-day readmission rates in patients diagnosed with COPD. However, there is strong evidence that several factors can facilitate gaps in transition of care from inpatient to other care settings during discharge that lead to a significant rate of early readmission rates. The breakdown in communication between care providers, communications modalities between inpatient to outpatient settings, along with proper patient education, medication management, self-management skill development, and preparation of patients and or family caregiver for discharge management of their health remains a major factor that impacts readmission in COPD patients. Inefficient care that is not patient-centered and timely contributes to a poor care management and care coordination program that may have devastating effects on health care quality of life and economic consequences. Development of a strong multidisciplinary care team that utilizes a transitional care management program to facilitate management of patients diagnosed with COPD can focus interventional care strategies on a broad set of health care activities to positively affect patient outcomes and economic benefits. Utilization of the TCM under the management of a multidisciplinary care team approach can create patient-centered care

interventions tailored to patients' and their family caregiver needs, and ensure continuity of care

at discharge that is timely and on-going to decrease the risk of early readmissions.

Section 3: Collection and Analysis of Evidence

Introduction

The local southwest regional hospital was experiencing a high amount of all-cause 30-day readmission rates in patients diagnosed with COPD. Because the ACA (2010) led to the CMS applying as much as a 3% reimbursement penalty for all Medicare patients in health care organizations with higher than normal avoidable 30-day readmissions post-discharge, the local organization, as many other health care organizations and providers, had set a strategic planning goal to reduce the rate of 30-day readmissions by 1%. The purpose of this DNP project was to assess whether a system of targeted discharge processes led by a multidisciplinary care team can significantly decrease the rate of avoidable early 30-day readmission rates in patients diagnosed with COPD. The literature showed that organizations with transitional care programs with multicomponent interventional practices led by a multidisciplinary team decrease the rate of 30-day readmissions (AHRQ, 2014, Krishnan et al., 2015, & Scott, 2010). Section 3 discussed the project design, population and sampling, protection of human rights, data collection, data analysis, and the evaluation plan used as part of the evidence-based practice initiative to improve all-cause 30-day readmissions in patients diagnosed with COPD.

Project Design

The quality improvement project I conducted focused on the current state of the local southwest regional hospital in providing quality care for patients diagnosed with COPD. The ability of the organization to decrease early avoidable 30-day readmission rates depended on several factors. Initially, the multidisciplinary project team had to ascertain the root causes of the problem and identified the clinical gaps in their clinicians' and providers' care practices.

Secondly, the multidisciplinary team had to clearly identify patients within the organization diagnosed with COPD that were at risk for early avoidable 30-day readmissions. The team had to identify and highlight changeable factors that placed those patients at risk for early readmission, such as co-morbidities, access to care/primary care providers, socioeconomic status, poorly developed self-management skills, medication error risks, and home care assistance support post discharge for a period of time such as 30 days to 6 months. Lastly, the multidisciplinary team had to identify internal and external resources available to them, as well as any evidence-based practice recommendations and guidelines aimed at decreasing early readmissions rates suitable to the organization and the population in need. As a result, clinicians were then able to streamline resources and assets to create a system of targeted discharge processes.

As the leader of the DNP project, I was able to utilize a three-step process to address the clinical problem. I conducted a retrospective electronic chart audit to assess the current clinical practice of the organization care providers for those patients diagnosed with COPD with early 30-day readmission for the calendar year 2014. During the audit I examined patient co-morbidities, demographics, admission and discharge process, medication management and reconciliation, patient education, self-skill management, care coordination, discharge disposition, follow-up appointment setting, handoff communication, and follow-up call. In addition to the electronic chart audit, I reviewed the organization clinical policies and procedures on admission, discharge, medication management, care coordination, and follow-up care for the patient diagnosed with COPD to assess for consistency in practice and allowed for a comparison with that of current EBP recommendations and guidelines care practices. To highlight how the workflow related to admissions, discharges, medication management, discharge transition,

follow-up care, inpatient provider to outpatient provider handoff, and patient self-management skill produces the outcomes that were being seen, I created a process map was depicting the current workflow inputs and outcomes outflows that allowed visualization of clinical gap(s) and showcased areas where improvement could be achieved within the organization clinician and providers care practices. In an effort to address the second objective, if a system of implemented target discharges and follow-up coordination with the clinician reduce readmission rates by 1% in the patient with COPD within a 3-month period, the team performed a comparison analysis of both the clinical and literature review findings. I lead the multidisciplinary team in assessing the clinical findings from the chart audit and reviewing the literature review for clinical gaps, similarity in patient care management, and overall outcomes. As a result, and as anticipated, the multidisciplinary team and I were able to determine a system of targeted transition discharge intervention care practices that can reduce the organization 30-day readmission rates in patients diagnosed with COPD.

Population and Sampling

I used a convenience sample of 17 participants for the calendar year (CY) 2015 for the DNP project. The number of participants I chose was based on the reported number of patients diagnosed with COPD flagged as having early 30-day readmissions post index hospitalization for a diagnosis of COPD for the first and second quarters of CY 2015 on the organization Medicare data reporting in the national data repository system. The local southwestern regional hospital services a local community of approximately 23,000 citizens in the city, and 43,000 around the county. The organization was a not-for-profit community hospital with national accreditation and a total of 138-bed inpatient beds. The population sample was based on a cohort group of patients

diagnosed with COPD, reported as having an early all-cause 30-day readmission rate post-discharge for the CY 2015 (CMS Medisolv Data Repository, 2015). Press Ganey is a nationally recognized health care consulting group that provides patient experience measurements, performance analysis, and strategic advisory solutions to healthcare institutions across the United States (Press Ganey, 2017). The study inclusion criteria included patients diagnosed with COPD who were aged 40-years and older, recently discharged from the local southwest regional hospital within 30-days before index admission for the CY 2015 and readmitted to the DNP site. The study exclusion criterion included all patients falling outside of the inclusionary criteria.

Protection of Human Rights

The DNP project was implemented only after I received approval from the Walden University's Internal Review Board (IRB), WU approval # 06-01-18-0373693. All patient information collected was deidentified secured according to the local southwest regional hospital and the Health Insurance Probability and Accountability Act (HIPAA) requirements to prevent a breach of confidentiality. All information and electronic data were maintained under the local southwest regional hospital secured patient information storage methods. The electronic data were stored on a password-protected computer that was secured in a private office. Only the organization encrypted email and electronic search approved sites was used to transmit patient data within the organization. There was no direct patient contact since the project consisted of me conducting retrospective and prospective review of data, thereby making it unnecessary to retrieved informed consent.

<div align="center">**Data Collection**</div>

Retrospective data collected were from the period January 1, 2015 through June 30, 2015. Data collection for the DNP project consisted of several discharge transition care processes. The specific discharge transition processes identified as needed target management process included patient medication reconciliation at admission and discharge. In addition, discharge plan of care with specific patient disease management and medication management regimen were identified. Other care strategies seen as necessary to reduce readmission rates in patients with COPD were self-management coaching for patients and their family-caregivers, presence of a discharge referral, follow-up appointment setting prior to discharge, and assessment of the patient need for referrals, and or post-discharge community resource prior to discharge. Key post-hospitalization practices identified were post-discharge follow-up call within 72 hours of discharge, follow-up visit within 2 weeks of discharge, and the process of timely and prompt handoff communication between inpatient providers and outpatient provider teams. On a quarterly basis, the organization received National Quality Report on the number of patients diagnosed with COPD who were readmitted within 30 days of discharge. The information is stored and compiled for review by the QI team in their data repository called Medisolv. The data from Medisolv are catalogued by diagnosis, medical record/account number, patient age and date of birth, sex, date of initial admission, discharge, discharge disposition, length of stay, and patient date of readmission. The data acquired by the organization QI officer from Medisolv and the data nurse retrieval specialist from the retrospective cohort chart audits was used to compare to the organization current required system of target admission, patient management, and discharge transition care processes to that of current evidence-based practice recommendations and guidelines. The data I acquired during the project implementation was subsequently used to assess the organization system of

target discharge process over a 3-month period during quarters one and two of the calendar year 2015. The purpose of the retrospective data collection was to provide the project initiate with information that allowed for care mapping of the institution current clinicians and providers patient management and discharge process that lead to higher than average early 30-day readmissions. In addition, I was able to use the same data to highlight key strategies that was incorporated to bridge existing gaps in the providers and clinicians current care practices.

Before receiving the information gathered from the retrospective cohort electronic chart audits, the QI office and data nurse retrieval specialist deidentified the information and identify it as COPD Readmission Reduction Electronic Chart audit. The information was then provided to me on an encrypted Universal Serial Bus (USB) drive. The USB drive was stored in a locked filing cabinet in a locked office only accessible to the QI officer, the nurse data retrieval specialist, and me. I utilized an Excel document to manage the data and stored the information on a USB drive.

The implementation of the DNP project required 8 weeks. The set period began as an initial biweekly, then monthly, multidisciplinary team meeting that aided in establishing a precise understanding of each discipline's involvement with caring for patients diagnosed with COPD, and mapping of the organization care practices and outcomes achieved from admission to 30-days post-discharge. I informed key administrative leaders, department managers, and clinicians were of the project initiative and goal and became actively involved with the project. The administrative leaders and department managers were responsible for ensuring that a representative was identified and present for each of the multidisciplinary team meetings. Before the set meeting periods, each representative was emailed the meeting agenda via the

organization's intranet, which allowed for the acquisition of department information in preparation for representing the department. The meeting agenda defined what each topic of mapping the organization's system of target discharged care processes were, and a clarification of any areas of practices that are not spelled out during each of the four sessions. The organization system of targeted care practices involved with admitting, managing, and discharging patients diagnosed with COPD were the focus of each of the meetings that provided a visual presentation of the organization's current system of care transition processes and outcomes from the workflow.

When an identified representative from the organization department was not able attend one of the meetings, the unit department manager designated a sit-in representative who was able to participate in the workflow process mapping of the area's clinical practices and outcomes. In order to keep record of who attended the EBP team meetings, the organization team secretary, and myself took attendance of all committee members. The organization had a nursing administration conference room where the multidisciplinary team meetings occur. At the start of each of the organization COPD readmission rate reduction team meeting, team members and myself addressed previous meeting minutes issues tabled for later or follow-up, and we also identified topics related to core strategy mapping needs, and any follow-up to previous tabled, and or clarified core strategies and outcomes. Handouts were given on information regarding current evidence-based practice requirements, the organization's current needs regarding the system of target admission, discharge, and post-discharge management of patients diagnosed with COPD. At the final session (the fourth meeting), a temporary display of the organization clinicians and providers current workflow inputs of the organization's current system of

discharge care transitions, as compared to current evidence-based recommendation key strategies in effectively providing discharge transition for patients diagnosed with COPD was displayed.

At the end of the scheduled multidisciplinary team meetings, the team and I were able to build a care map with complete care practice process and outcomes of the organization system of target discharge care practices transition process was generated. Subsequently, I performed a cross-analysis of the organization's system of care transition discharge process and that of current evidence-based practice recommendations and guidelines over a 2-week period. The information I gathered during my project implementation, I used to define existing clinical gaps between the organization current system of care practices and that of current evidence-based recommendations that contributed to the current rate of early avoidable 30-day readmission in patients diagnosed with COPD. I then analyzed the differences in patient management care coordination and discharge transition care practices between the organization clinicians and providers to that of current evidence-based practice recommendations. By defining the clinical gaps in care practices surrounding effectively transitioning patients from acute care to outpatient care, I was able to identify the organization-specific system of targeted care practices for admission, inpatient management, and discharge care for patients diagnosed with COPD. The data were collected from the multidisciplinary team meetings and the cross-analysis of the core discharge care management strategies was stored on the same USB drive as the information received from the QI officer and nurse data retrieval specialist. The USB drive was stored in a locked filing cabinet in a locked office to which only I had access. The data I obtained from attending the multidisciplinary team meetings and the cross-analysis of key strategies involved with discharge care management were then entered on the Excel document. I was then able to

identify organization-specific system of targeted care discharge processes that reduce

readmission rates by 1%.

The proposed DNP project initiative at the time of implementation primarily surrounded

retrospective data retrieval from an in-depth electronic health record chart audit. The

retrospective data came from the multidisciplinary team meetings clarification of questions

surrounding clinicians and providers practices, and review of existing institutional policies and

procedures. The policies and procedures were that of COPD patient ED management, inpatient

management, discharge processes, and post-discharge handoff care and patient management. The

data was then used for cross-analysis comparison against current evidence-based practice to help

highlight existing gaps between current institutional practices and that of what is recommended.

In turn, the findings from the DNP project helped strengthen the proposed organization-specific

interventional strategies geared toward decreasing the rate of early 30-day readmission rates in

patients diagnosed with COPD.

Instruments

AHRQ (2016) Tool 3: Hospital Inventory Tool (HIT)

To assess the organization's current practice of managing the overall care and transition

process of patients diagnosed with COPD, the AHRQ (2016) tool 3: Hospital Inventory Tool

(HIT) will be used (Appendix A). Tool 3: HIT was adapted and developed to fit the needs of the

DNP site to review several organizational resources. The resources that tool 3: HIT allowed

users to review the organization's administrative, clinical, health information technology, care

coordination, and readily available and utilization of community resources and entities by the

organization for readmission reduction efforts. According to the AHRQ, the tool helps the user

of the instrument perform a comprehensive inventory of readmission reduction activity and related organizational and operational assets across departments, service lines, and units within the hospital (AHRQ, 2016).

AHRQ (2016) Tool 10: Discharge Process Checklist

The AHRQ Tool 10: Discharge Process Checklist (Appendix B) was modified in addition to tool 3 to develop an organization-specific discharge process checklist. The discharge process checklist provided a guide to specific discharge interventions elements that CMS has seen as necessary to provide transition care for the Medicare and Medicaid patient for successful transition across settings (AHRQ, 2016). Tool 10 is a guide which organizations reviewing their current intervention strategies surrounding discharge transition can use to streamline and update existing care transition processes and/or identify whether any new processes or practices need to be implemented (AHRQ, 2016) to provide quality care surrounding discharge transition care. Key elements identified within tool 10 that were incorporated in the modified organization-specific checklist are identification and management of patient comorbidities; provision of patient/family-caregivers brief description of care, list of all follow-up diagnostic testing and appointments; and effective linkage of social needs and behaviors with outpatient services. Patient identification and post-discharge management of patients with high risk for readmission will also be incorporated as an updated strategy to facilitate timely transition of care practices interventions.

Organization-Specific Transition Care Checklist

A modified checklist specific to the organization was developed with an Excel document titled Transition Care Checklist (Appendix C). The tool incorporated key transitional care

elements from AHRQ (2016) tool 3: Health Information Technology and Tool 10: Discharge

transition checklist as discussed above. The transition care checklist utilized was a guide to

streamline the electronic medical record cross-analysis of the organization current transition care

practices against that of current evidence-based practice guidelines. The key elements of the

modified checklist developed on the Excel form identify key time-periods with time-sensitive

interventions to be orchestrated. The three time periods were during admission, at discharge, and

post-discharge planning. Key transition care elements analyzed were patient comorbidities for

high-risk assessment, presence of a primary-care physician, medication management and

reconciliation, patient education and self-skill management, discharged care plan development,

follow-up appointment at discharge, follow-up phone call, and discharge disposition. The

checklist help to identify and target key strategies that could reduce early 30-day avoidable

readmission rates in patients diagnosed with COPD. Additional strategies incorporated into the

checklist were those of patient risk assessment screening and care tailoring based upon the risk

assessment; utilization of health information management and technology to prompt care

coordination; providing "teach back" education to patients/family-caregiver education;

medication management for patients and provider/pharmacist driven medication reconciliation;

warm handoff communication between inpatient care teams and that of the patient outpatient-

based care team; follow-up appointments, visit; and evaluation of community-based resources

that can enhance patient transition to self-management of their disorder.

Reliability and Validity

Validity and reliability of the modified transition care checklist (Appendix C) was

maintained through the previously used and repeated positive outcomes reflected in other

programs utilizing AHRQ (2016) whole-person transition care guide tools 3 and 10. In a study

conducted by Blue Shield of California Foundation (BSCF) to advance care and integration so as

to cut hospital costs and reduce readmission, the BSCF implemented a portfolio design tool from

AHRQ whole-person transition care guide to prompt for readmission-reduction teams to expand

progress in at least three broad domains. They were able to improve standard care for Medicaid

patients, collaborate with partners, and provide enhanced services for high-risk patients to better

improve transition care practices. Results from utilizing the tools from AHRQ whole-person

transition care resulted in evidence-based strategies to support care transitions and improve care

coordination for more than 14,000 patients over 15 months with a success achieved resulted in

significant hospital readmission reduction among adult Medicaid patients and significant hospital

costs. One of four clinics involved in the project reported reduction of readmission rate of 9

percent from 13 percent, and an estimated savings of nearly $2.2 million over an 18 month

periods at one of the four clinics within (BSCF: AHRQ, 2016). A second clinic reported

readmission reduction of 6 percent from 29 percent, with a 70 percent patient satisfaction report

for the program. There was no Cronbach coefficient alpha reported in the impact case study,

however, there were repeated outcomes in the study led by nine community health center clinic

teams pursuing goals of National Quality Strategy's three board aims for better health care,

improved population health, and reduced costs (Blue Shield of California Foundation: AHRQ,

2016). Even Though there were no coefficient factors noted in this study, the large number of

repeated outcomes attested to the reliability and validity of the AHRQ whole-person care

transition tool.

Data Analysis

Descriptive statistics of the retrospective and prospective data was used to analyze the presence of high-risk comorbidities, presence of ED visits prior to index readmission, follow-up appointment set-up and within 7-10 days of discharge, presence of inhaler use teaching with teach back, smoking-cessation education, medication management completed with education, discharge care plan utilized, follow-up call within 72 hours of discharge, and number of discharges to home and skilled nursing facility, and timely communication between inpatient organization and outpatient providers. Descriptive statistics are used to provide a summary of the population and measures used to describe the sample population (Terry, 2015). The goal for comparison was set at 100% for all discharging patients diagnosed with COPD. Since the DNP project initiative did not assess a second cohort group against the project population, the analysis was based on identifying factors related to the increased risk of fragmented care. The factors that have been shown to increase the rate of readmissions are poor patient self-skill management, medication mismanagement errors, delayed communication between inpatient and outpatient providers, lack of timely handoff, failure to follow-up on patients for a period of time, i.e. 30 days after discharge, and early identification and targeting of high-risk patients at admission.

Evaluation Plan

I initially evaluated my DNP project findings by having small huddles with the organization's Chief Nursing Officer (CNO) and QI officer on Tuesdays and Wednesdays. The review I conducted included an extensive examination of the organization national readmission trends collected for CY 2015, identification and creation of a multidisciplinary team who were subsequently involved in orchestrating the project initiative, and I also previewed of all instruments and data retrieved throughout the process. Once the COPD readmission rate

reduction team was developed and the meetings were implemented by the organization key leaders and team members, the team met at a set time monthly, with the option for ad-hoc meetings if an unplanned situation or concern arises, to discuss the team goals, achievements, needs, all department goals, services provided, outcome trends, and development of the process map to highlight clinical gaps and identify strategic interventional care practices that are needed.

The Team and I used the process of mapping current clinical care practice workflow inputs and outputs to create a visual representation of the organization's clinical practices by providers and the available resources for utilization in discharge transition planning to show how they affect the service outcomes (Figure 2). Process mapping allows a clear understanding of a clinical problem by displaying the steps, events, and process of operation that makes-up care coordination which helps characterize the functional relationships between workflow input and outputs (Hopen, 2016). Major components generic to a process map includes the inputs, outputs, and the steps in the process of illustrating how the flow of work and interactions of the organization, and its departments affect the outcomes (Figure 3). Process maps help the user uncover waste and deliver expectations related to creating a solution to a problem by addressing the root cause (Hopen, 2016).
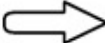
Common Process Mapping Symbols	
Symbol Associated With the Process' Flow	**Description and Usage**
Connector Line	Connects any two steps and shows the path or direction of the process
Terminal Activity	Indicates where the process starts and stops; there may be multiple starts and/or stops in a particular process
Activity	Describes the actual work task that occurs at that point in the process; it generally is best to include only one task in each activity symbol so that specific failure points can be identified more easily
Decision	Displays a question that has several optional answers/flows that lead away from the diamond; answers can be a simple "yes" or "no" or specifically described choices, and they are labeled on the connector lines
Delay	Identifies when the process comes to a temporary halt until and what has to happen before the process resumes
Transport	Describes when something is transferred from one place to another, describing the item, its origin, and its destination
Storage	Indicates when something goes into storage for some period of time; it contains a brief description of what is stored and for how long
Inspection	Shows that something needs to be reviewed, tested, audited or inspected
Control	Describes that a process characteristic must be measured and compared to specifications or used with a control chart
Page Connectors	Indicates when the process map takes up more than one page; the two connectors contain matching letters as identification markers at the end of one page and the beginning of the next page

Figure 2. Sample figure caption of Common Process Map Symbols. Hopen (2016).

Symbol Associated With Process' Inputs and Outputs	Description and Usage
Document	Indicates that a written document is prepared or used at that step of the process; the name of the document appears in the symbol
Form	Designates that a paper or electronic form is used in this step
Database	Shows that a database is associated with this step
Input or Output	Lists any inputs to or outputs from the process that are not represented better by one of the previous symbols in this section

Figure 3. Sample caption of Process map inputs and outputs symbols. Hopen (2016).

Summary

The purpose of the DNP project was to identify whether a system of a targeted discharge care process can help reduce 30-day readmission rates in patients diagnosed with COPD. The literature supported early identification and targeting of high-risk patients, engaging patients in an active role in their care, patient education and self-skill management development, medication management and reconciliation, follow-up call and care for a period of 30 days post discharge, and timely handoffs and communication amongst providers across settings in reducing early 30-day readmission rates. The project initiative used a retrospective chart audit review and prospective review of the organization clinical policies and procedures, clinical care practices of clinicians and providers, and current evidence-practice practices to identify clinical gaps contributing to the organization problem and identify a series of targeted care transition care processes that could reduce the early readmission rates at the organization. The population sample was obtained from a cohort group of patients identified by Press Ganey, a national database site, as having early 30-day readmission to the organization after a recent discharge. The information I collected was synthesized using descriptive statistics in order to identify

current trends and clinical gaps facilitating the clinical problem. The data was then disseminated in the format of a process map for visualization of the series of care process and outcomes, and then a brief summarization of the project initiate findings to key stakeholders. The project was enacted only after I received approval from Walden University's IRB was received.

Section 4: Findings and Recommendations

Introduction

The local southwest regional hospital where I carried out the DNP project was experiencing an increased number of early avoidable 30-day readmission rates for patients diagnosed with COPD. The local Southwest Regional Hospital, the study site for this project, identified decreasing reduction of early avoidable 30-day readmission rates in patients diagnosed with COPD as one of its strategic planning goals. As part of the strategic planning goals, the organization planned and implemented a COPD readmission rate reduction multidisciplinary team outside of my project to collect and analyze data, and investigate evidence-based strategies that could improve care practices and in turn influence patient outcomes by reducing the organization readmission rate by 1%. The purpose of this quality improvement project was to assess whether a system of targeted discharge processes led by a multidisciplinary care team can significantly decrease the rate of avoidable early 30-day readmission rates in patients diagnosed with COPD. In Section 4, I will provide a summary of the project findings based upon literature review, policy exploration, clinical practices of clinicians and providers, implications of findings, recommendations based upon identified gaps and current guidelines and regulations, and identified strengths and limitations of this project.

Summary of Findings

My goal for the project was to identify strategic management processes that could result in reducing 30-day readmission rates for patients diagnosed with COPD. The practice-focused questions were: Does the implemented system of target discharge and follow-up coordination for patients diagnosed with COPD at the organization differ from that of best practices

recommendations, and does the implemented system of target discharge and follow-up coordination for patients diagnosed with COPD at the organization differ from that of best practices recommendations, and does implementing a system of target discharges and follow-up coordination with the clinician reduce readmission rates by 5% in the patient with COPD within a 3-month period?

The first objective was to examine the organization's current clinician and providers' clinical management practices regime such as patient-centered education sessions, self-management treatment plan exacerbations, a follow-up plan from a post-discharge coordinator for patients diagnosed with COPD in the ED from admission to post-discharge. The second objective of the project was to perform a lean mapping of the organization clinical workflow process inputs and outputs discovered from assessment of the admission, treatment, and discharge care of patients diagnosed with COPD. The third objective was to compare the organizational system workflow processes of admission, treatment, and discharge transition to that of current evidence-based practice recommendations and guidelines. I collected, aggregated, and analyzed the findings of this project using descriptive statistics to determine if a system of targeted discharges and follow-up coordination with clinicians could reduce readmission rates by 1% when implemented by a multidisciplinary team in a timely manner.

Objective 1: Examine the organization's current clinician and providers' clinical management practices regime such as patient-centered education sessions, self-management treatment plan exacerbations, a follow-up plan from a post-discharge coordinator for patients diagnosed with COPD in the ED from admission to post-discharge.

The organization's QI project addressing decreasing avoidable 30-day readmission rates in patients diagnosed with COPD was currently ongoing during the initiation and implementation of the DNP project. Initially, I conducted a comprehensive review of the organization's admission and discharge policies and procedures and clinician practices. The results of the comprehensive review of the organization's policies and procedures and clinician practices showed 100% clinician compliance with the organization current admission and discharge practice requirements. However, when the organization's current target-specific admission and discharge processes were compared to that of evidence-based practice recommendations and guidelines, there were noted clinical gaps. The admission and discharge care practices utilized within the organization were general care practices used for all patients admitted to the organization, as well as used during general discharge processes. As a result, the care practice for admission and discharge did not specifically target key areas of transition of care needs to ensure the successful transition from admission to post discharge (Table 1). Clinical practices that can be used to target various patient discharge transition needs should include pharmacist-led medication reconciliation, patient/family caregiver self-management coaching and training. Moreover, clinicians and providers can target patients before they are at risk for readmission by providing additional clinical care practices such as follow-up phone calls within 24 hours of discharge, and/or visits within 24 to 72 hours of discharge, utilization of detailed comprehensive discharge care plans with patient/family caregiver involvement, and or routine referral to outpatient and or community-based consults. Outpatient-based resources and consults can consist of services like pulmonary rehabilitation, home health services, setting of follow-up primary care

physician appointments, and or community health clinics were mostly non-existent within the

clinicians' practices.

Table 1

Discharge Transition Target-Specific Care Practices

	Yes	No	Percentage Met	Percentage Not Met
Follow-up/Call Visit	0	17	0	100
Pharmacist/Physician-Led Medication Reconciliation	17	0	100	0
Comprehensive COPD Target-Specific D/C Plan	0	17	0	100
Self-Management Training	0	17	0	100
F/U Appointment Set	1	16	5.88	94.12
Outpatient/Community-Based Consult	7	10	41.17	58.82

Evidence has shown there is an increased risk for readmission in patients with multiple

comorbidities, which are associated with increased length of stay during their index admission

and poor transitions from acute care facilities to post-discharge (Ohta et al., 2016). Organizations

should identify those patients who are at risk for readmission and create target-specific care

practice strategies that identify and align these patients with care teams to ensure a successful

discharge transition. I utilized a *t*-test independent one sample for means to assess the association

between increased length of stay and the presence of multiple comorbidities (Table 2). When

carried out by researchers, independent one sample mean *t*-test is used to find evidence that a

significant difference exists between the two independent categorical groups. The data show that

the mean test for patient length of stay was 5.078 and the mean test for the multiple

comorbidities was 8.769, signifying a positive relationship between the number of comorbidities

and patient length of stay during hospitalization. A positive relationship was demonstrated as the

increased number of comorbidities in patients similarly reflected the highly likelihood of an

increased length of stay for the same patients diagnosed with COPD. Therefore, organizations

that can identify patients diagnosed with COPD who are at risk for avoidable 30-dayreadmission

can target those patients' needs early in the admission process.

Table 2

Independent Sample t- test for Means

	Length of Stay	**Number of Comorbidities**
Mean	5.078	8.769
Variance	97.563	142.776

Objective 2: Perform a lean mapping of the organization clinical workflow process inputs and outputs discovered from the assessment of the admission, treatment, and discharge care of patients diagnosed with COPD.

After careful identification of the organizational systems of care practices of clinicians

for admissions and discharges, I created a lean map was developed to identify the current

workflow and outcomes noted as results of those practices. The process map summarizes

existing clinical practices related to admissions and discharges of patients with COPD at the

organization (Figure 4).

Emergency Department

Patient visits Emergency Department for care → **Patient assessed: History & Physical Laboratory and other diagnostic studies performed** → **Patient admitted**

Transfer Orders written; inpatient Medical Doctor notified

Yes → **Patient transferred to inpatient unit**

No ↓

Patient given discharge instructions and told to follow-up with Primary Care Provider

Inpatient Unit

Patient assessed/ admitted to unit → **Medication Information Collected by Nurse/Reconciled by admitting Physician/Clinician** → **Patient Discharge** → **Patient given home discharge information and Medication list/instructions to follow-up with Primary Care Provider; discharge Information faxed to primary care provider**

Orders written, inpatient consults Case management

Figure 4. DNP site initiate clinician current workflow for patients diagnosed with COPD

In the process of developing a clinical process map mapping the local southwest regional hospital clinicians' and practitioners' care practices related to admitting and discharging patients with COPD, I was able to demonstrate that there were in fact poor discharge transition care practices being conducted that did not specifically target patients with complex care needs, such as patients with COPD. When a visual representation of the organization clinical workflow

inputs and outputs were mapped on the lean process map, I was able to recognize and portray

where missed opportunities to alert and mobilize care teams existed in the organization clinicians

and providers current discharge care process. Missed opportunities that are highlighted consist of

the lack of a transitional care nurse navigator, case manager, discharge planner, clinical

pharmacist and/or respiratory therapist to maximize patient outcomes. Two more areas were

highlighted as missed opportunities at the local regional hospital as missed opportunities to

positively impact patient transition care. Those areas were the failure to incorporate timely

notification of primary care physicians of patients discharge and the existence of non-specific

generalized discharge care plans implemented for patients with more specialized complex health

care needs. A major area in which I noted the clinicians and providers at the local southwest

regional hospital would be able to target patient for effective discharge transition was patient and

family-caregiver self-management training. The training for patients at the hospital consisted of a

brief discussion giving an overview of the patient diagnosis and medications on the day of

discharge. In order for discharge transition care practices provided by the local southwest

regional hospital care providers to be target-specific, the training should begin at the time of

patient admission, and tailored to specific patient needs discovered with the admission screening

process. Self-management training provided to patients and family-caregivers will need to

include patient/family-caregiver self-management of their medications; how to monitor if their

current state of health deviating from norm for them, and what to do in the event that occurs.

Moreover, patient self-management training and coaching should have a detail how-to-develop

and the incorporate an emergency action plan, and the identification of support resources for

patient/family caregiver. The goal of a self-management plan is to help patients and their family

caregivers effectively manage their chronic illness upon discharge. Substituting such plans of care with basic medication education and a brief overview on COPD and discharge care instructions as the organization currently does, only adds to increasing missed opportunities to successfully transition patient care post discharge. Follow–up care for patients diagnosed with COPD who are recently discharged need to be completed in a timely manner. There were no follow-up visits or call for this patient population, which presented as another missed opportunity to successfully transition care. As a time-sensitive transitional care strategy, timely follow-up services, such as a home visit or telephone call within 72-hours of discharge, has been shown to be an effective target-specific strategy in reducing the risk of early 30-readmission rates (Naylor et al., 1999).

Objective 3: Compare the organizational system workflow processes of admission, treatment, and discharge transition to that of current evidence-based practice recommendations and guidelines.

I used the TCM as a framework to guide the DNP project as a framework to understand the organizational current patient care strategies in managing patients with COPD during admission and at discharge, and identify current evidence-based guidelines and recommendations in order to recognize clinical practice gaps in clinician care practices. Communication and coordination of patient care during transition of care are evidence-based strategies that may reduce avoidable early 30-day readmission rates in patients diagnosed with COPD. Studies found that patients who receive target-specific time-sensitive care strategies are less likely to experience early readmissions (AHRQ, 2015, & Linden & Butterworth, 2014).

They were several key target-specific care practices identified within the TCM. The first strategy required providers and clinicians utilizing the framework as a guide to effective transition discharge care to aim to early on in the admission/treatment process identify and recognition patients who are high risk for readmission. Another key interventional strategy noted in TCM was effective medication management is to have pharmacist –led medication reconciliation at discharge. In addition to performing medication reconciliation or patient medication, another strategy embedded in the TCM is the process of nurse –led patient coaching/self-management training. In addition, the TCM emphasizes specific strategies such as ensuring patients are scheduled timely follow-up care with the patient's primary care practitioner/physician ahead of discharge. Care providers in an organization such as the local southwest regional hospital where I carried out my DNP project, that are trying to reduce early avoidable 30-day readmission rates would need to incorporate proven and effective strategies from the TCM such as early communication between inpatient and outpatient care teams during patient transition across care settings to ensure continuity of care.

Patients discharged from the organization would also benefit positively by having the added clinical practice of a nurse led telephone and/or nurse visit as early as within 72 hours of discharge, and over a period of time post discharge to positively influence their readmission rate within 30-days of recent discharge. Figure 4 illustrates what the organization clinician workflow would look like once evidence-based practice practices are incorporated into practice to decrease the rate of early readmission of patients diagnosed with COPD.
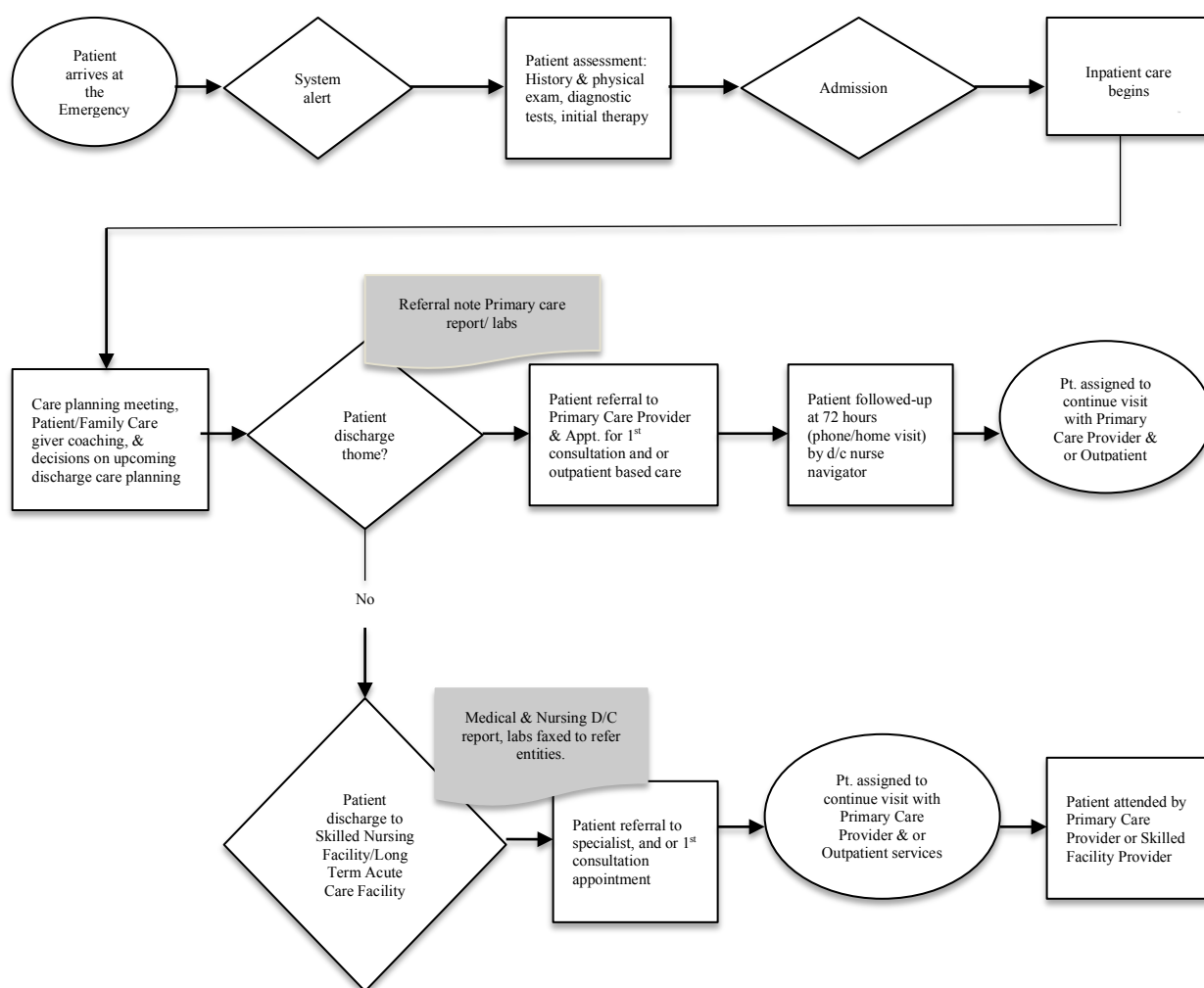
Figure 5. Recommended EBP workflow for successful transition of patients diagnosed with COPD

Once patients begin the triage process in the ED, based upon newly implemented screening processes to identify patients who are at risk for early readmission, a system alert will be triggered. The triggering of the system alert by care providers in the ED will initiate the mobilization of specific COPD readmission reduction care team members. Once the patient is evaluated by the ED provider and admitted, the COPD Readmission Rate Reduction team will initiate the inpatient care strategies. Inpatient care practice strategies that care providers will be

tasked with would include early identification of discharge needs and mobilization of patient-specific outpatient-based resources that could include, but are not limited to the need for home health nurse follow-up post discharge, medication management, selection and referral to an outpatient-based primary care provider in the patient absence of having a primary care provider, who were identified at admission during their risk screening process. Discharge planning at the health care provider level would now entail a detailed plan with patient coaching/self-management training surrounding medication management, routine self-management of their COPD, and the creation and development of self-efficacious skills to prepare for unforeseen events. Once the patient is identified for discharge and depending on the proposed discharge disposition, outpatient resources and primary care providers will be incorporated into the discharge planning. Referrals will be made ahead of time along with planning for timely handoff of care to the outpatient team. All follow-up appointments will be set ahead of time. Within 24 - 72 hours of discharge a nurse-led follow-up phone call and or calls will be initiated to reinforce discharge information with patient/family caregivers, and ensure contact with outpatient–based resources have been mobilized as planned.

Findings and Implications

Implementation of this quality improvement project through the examination of the organization clinicians current care practices for the patient diagnosed with COPD during admission and discharge, surrounding discharge transition resulted in the identification of several areas within the organization admission and discharge care transition practices by clinicians that did not target the complex needs of patients diagnosed with COPD. Previous studies in the QI project reflected that identification of high-risk patients early in the admission process might

encourage the use of interventions targeting those at potentially greater risks for readmission, which can lead to better outcomes (Ohta et al., 2016). Clinicians at the local regional hospital need to develop target-specific clinical practices that focus on the early identification of patients who are at risk for readmission. In doing so, care providers caring for patients diagnosed with COPD who are at increased risk for early readmission, ensure these patients are identified and targeted for a more intensive and purposeful transition of care process at the organization. Providers can perform closer monitoring of these patients care at admission, during hospitalization, and for a period of time post-discharge, as well as identify specific discharge care needs of these patients/family-caregivers ahead of discharge to begin mobilizing outpatient-based resources identified earlier.

A second implication for the care practice changes of the care providers at the local regional hospital is that in targeting these patients and identifying specific discharge needs of these patients early in the admission process, providers will be able to mobilize the necessary resources the patients would need to ensure successful transition from acute care to post-discharge. Multivariable factors such as co-existing disorders, socioeconomic status, increased length of stay, and premature discharge may contribute to hospital readmissions, strategies to reduce hospital early readmissions need to account for these factors during and after discharge (Prieto-Centurion et al., 2013). Many of these variables existed in all of the patient population charts reviewed at the DNP project site initiative. If the local regional hospital care providers adopts and implement clinical care practices such as the early identification and targeting of patients diagnosed with COPD who are at risk for early avoidable 30-day readmission, the

clinicians would more likely be able to move toward their strategic planning goal of reducing the rate of readmissions of that patient group.

Another practice implication for the care providers at the local southwest regional hospital is the initiation of a transition care management at admission instead of just before the patient is identified for discharge. Any target-specific care strategies developed and implemented by care providers at the local southwest regional hospital, would need to come from a place where patients and or their family caregivers are involved throughout the entire process. Care practices implemented at the organization should include a detailed patient specific discharge plan that includes, but is not limited to, the specific patient discharge needs identified early on at admission. In addition, the discharge care plan should include patient/family caregiver coaching on their complex medication routine, self-care management of their chronic illnesses, and developing self-efficacy skills in patients that allows them to both identify and create an emergency plan of action for unforeseen events. Collaboration between hospitals and community-based providers would ensure continuity of care (Linden & Butterworth, 2014). In the case of the local regional hospital, the implication for practice would entail the discharge team coordinator, preferably the discharge nurse navigator reaching out to patient primary care providers before discharge, and immediately upon discharge to ensure care is handed off in a timely manner to facilitate collaboration across settings. The local regional organization would need to perform at a minimum, follow-up phone calls with patients within the first 24-hours of discharge, and again at 72-hours of discharge. Clinicians and providers who carry out the practice of following up with patients recently discharged from their care would identify, target, and intervene with the patients who need reinforcement of the discharge

information, and/or mobilization of additional outpatient resources. Kripalani et al., (2014) identified several multicomponent target-specific care practices aimed specifically ensuring effective transitioning, such as beginning early planning for discharge by coaching patients on self-management skills related to effectively managing their COPD diagnosis, safely managing their complex medication routine, and having the skills necessary as well as developing an action plan as to what to do in the event an unforeseen issued should arise. The local regional hospital care providers would need to begin medication management and teaching before discharge rather than at discharge, and the patient education process has to be more than the current generic one-size-fit all COPD education given at discharge. Patient education would need to focus on specific identified patient care needs, and the patient specific health care regimen for management of their disorder. The medication reconciliation process would need to increase to more than the standard reconciliation process conducted by the patient-admitting physician at admission and then at discharge. The Addition of an added component of a clinical pharmacist review of all patient medications prior to patient discharge would only strengthen the process of preparing patients to self-manage their illness. Patient coaching should also be added, and it should begin at admission instead of at discharge, and encompass self-management of medications, medication routine, and health care regimen. Patient appointments need to be scheduled within 2-weeks prior to discharge, and the results of diagnostic studies need to be communicated to the patient's primary care providers ahead of the follow-up appointment, preferably prior to discharge. Linden and Butterworth (2014) noted that multicomponent interventions that are target-specific and implemented in a timed, positively affect readmission rates depending on the number of components implemented, and it based on their findings that

the researchers finding further supports my DNP project. It is recommended that the organization

nurses and providers redesign the way they are facilitating patient discharge by creating and

implementing a strong multifaceted transition discharge care program from admission to a period

of post discharge to effectively decrease early 30-day readmission rates in patients diagnosed

with COPD (AHRQ, 2014).

In addition, health coaching, an important strategy that health care organizations can use

to decrease readmission rates, is not utilized the providers at the local regional hospital. By

motivating patients, providers at the local regional hospital can take advantage of patients' and

their families' eagerness to change their health care quality of life, and supporting patients with

COPD and their family-caregivers self-efficacy ability to effectively care for themselves at

home, health coaching targets multiple factors that contribute to readmissions (Benzo et al.,

2016). Nurses who act as health coaches provide patient support by encouraging and facilitating

adherence to medication, patient/family caregiver involvement in activities, development of

collaborative plans that patients take ownership for, how to respond to COPD exacerbations, and

most importantly, facilitate coordination of care between patients, providers, and community-

based entities.

Prieto-Centurion (2014) acknowledges that programs that aim to reduce hospital

readmission should include efforts to promote the patient's self-management skills specific to

COPD. Skills identified as appropriate for care providers to incorporate into their care practices

were appropriate use of medications, smoking cessation, inhaler use, supplemental oxygen use,

and pulmonary rehabilitation (Prieto-Centurion et al., 2014). The findings from Prieto-Centurion

(2014) study further support the DNP project findings in two ways. The first is, the researchers

study findings reflected that any transition care discharge practice processes implemented by

care providers at the organizational level in the future would need to be target-specific, patient-

centered, and disease-specific for patients diagnosed with COPD. Secondly, the care practice

interventions would have to incorporate specific patient self-management training and

preparation for home management of COPD exacerbations and medication management, which

are two areas often responsible for early-avoidable 30-day readmissions for patients diagnosed

with COPD.

Chronic Obstructive Pulmonary Disease is a complex disorder to manage. It would take

the orchestration of various multifaceted tasks by a multidisciplinary team to facilitate the

effective management and transition of patients diagnosed with COPD across settings. Care

practices utilized in in discharge transition care planning by providers needs to include

multicomponent strategies that have provider-level interventions, and engage hospital-based

multidisciplinary quality improvement teams (Prieto-Centurion et al., 2014). Development of a

multidisciplinary approach addresses a vast range of clinical and psychosocial issues that may

and can arise at discharge (Gil et at., 2013). Use of a multidisciplinary team to assist in effective

discharge transition care management increases the opportunity to prevent early readmission

rates by integrating community-based entities or care navigation specialists to prevent

fragmentation of care and ensure transition is continuous. Appropriate interventions

implemented by multidisciplinary care teams can further overcome barriers to effective care

transitions among COPD patients. The process of deploying nurse discharge advocates, having a

clinical pharmacist evaluate patient medication prior to discharge, and utilizing social services to

manage patient care within the organization and mobilizing out-patient resources are strategies

effective in overcoming barriers to successful patient transition post-discharge (Gil et al., 2013).

The main goal of transitional interventions is to prevent repeated and avoidable readmissions;

negative health outcomes post-discharge, and overall improve patient health care quality of life.

High-intensity interventions which include care coordination by a nurse, communication

between primary care provider and hospitals, and a follow-up contact with patients post

discharge are more likely to facilitate successful transition of care across settings (Veraegh et al.,

2011). The findings from Gil et al. (2013) solidifies the findings from the DNP project by

confirming that to be successful in preventing early avoidable 30-day readmissions in patients

diagnosed with COPD, the local organization in which the DNP project was conducted will need

to develop a strong transition care program that includes multifaceted multicomponent strategies

led by a multidisciplinary team.

Implications

Practice

Nurses are in a pivotal position to affect change in patient care and facilitate

improvement in the quality of care patients received. As the providers who spend most of the

time with patients and their families, it will be their responsibilities to ensure that patients receive

high-intensity self-management training and develop the skills necessary for caring for

themselves post-discharge. Transition care interventions also target chronically ill patient that are

at risk for poor outcomes along with their family members who by default often become their

caregivers post-discharge. Since early readmission is seen as a link between the quality of care

patients received prior to discharge and appropriate transitioning of patients at discharge, any

strategies developed will need to focus on reducing readmission rates, beginning at admission

and continuing after discharge. With the implantation of ACA and CMS hospital readmission reduction programs which impact health care organization reimbursement based upon care quality, clinical and providers will need to change the way patients are prepared for and transition across settings in health care. As such, identifying key factors at the DNP project site that are directly linked to the higher than average early 30-day readmission rates in patients diagnosed with COPD, will facilitate the organization first step in moving toward a solution in meeting their strategic planning goal of decreasing early readmission rates in patients diagnosed with COPD by 1%. It is imperative that strategies implemented come from data that supports and inform the organization readmission and reduction strategies (AHRQ, 2016). In addition, multicomponent interventions needs to target at high-risk populations and should include pre- and post-discharge elements (Scott, 2010). These recommendations supports the DNP project premise that in reducing readmissions single-component interventions that fail to encompass the hospital–community collaboration are less likely to target readmission reduction, and such strategies geared toward readmission rate reduction needs to be multifaceted and target-specific.

Social Change

The completed QI project facilitated the organization clinicians' and the DNP student's ability to readily identify patient admission, management, and discharge system processes within the organization that required streamlining in order to target specific patients' needs for those patients diagnosed with COPD to facilitate successful transition across settings. In order to impact the quality of service the organization is providing for patients diagnosed with COPD, the organization's stakeholders will need to develop a transition care program that can identify patients at risk for early readmission early on in the process. In addition, the organization would

need to create care management practices that are both target- and disease-specific for patients

diagnosed with COPD. Change will have to come in form of realigning how patients are

monitored and screened prior to and at admission, how multidisciplinary teams are mobilized,

and what steps are taken post-discharge to ensure timely handoff of care and patient/family

caregiver success with self-managing their chronic illness. Readmission prevention as a mainstay

focus of health care quality requires early discharge planning that maintains safe hospital

transition (Ohta et al., 2016). Discharge risk assessment that is both timely and predictive of

readmission and length of stay in advance of admission can facilitate discharge planning that is

crucial to optimizing outcomes (Ohta et al., 2016). The AHRQ (2016) emphasizes that transition

care practices aimed at reducing readmission rates needs to be multifaceted and data informed

strategies. Many of the patients seen with increase readmission rates are Medicaid patients, and

many of them have similar social, clinical, and behavior needs (AHRQ 2016) that needs to be

addressed in an strategy implemented in order to successfully target and reduce readmission

rates. These studies support the social change notion that the local regional organization needs to

create changes that are both target- and disease-specific for patients diagnosed with COPD.

Policy

Policy change will be in the form of redesigning how the organization expects patients to

be monitored and cared for during hospitalization and post discharge. Patients diagnosed with

COPD who are at risk for early readmission will need to be identified early in the admission

process. The information generated from risk identification will need to be used to target these

patients and mobilize multidisciplinary teams that will implement bridging care strategies that

will follow the patients from admission to a period after discharge to facilitate successful

transition across care settings. In general, policy at the organization will need to encompass evidence-based practice guidelines and recommendations that have proven to reduce early-avoidable readmissions rates and thereby impact overall patient outcomes. The AHRQ (2016) emphasizes that practices implemented at healthcare organizations aimed at reducing readmission rates, will not only need to be data informed, but multifaceted in that they target a variety of needs in the population they are to be used in. In addition to targeting patients clinical, behavioral health, and social service, agencies will need to include resources beyond that of their facility to success in patient discharge transition. Highlighted resources by AHRQ (2016) are that of transitional care services by interdisciplinary teams, to include community health workers, navigators, social workers, pharmacists, nurse care managers, and providers.

Recommendations

Based upon the project findings, it is the recommendation of the DNP student that the organization conduct an overhaul of their care practices for patients diagnosed with COPD. The process should first begin with identifying key stakeholders that play a role in managing patients diagnosed with COPD. Secondly, there should be a development of a screening process that identifies patients diagnosed with COPD who are at risk for early avoidable readmission rates and the factors that place them at risk for early readmission. By doing so, the organization can target these patients early in the care process, either at ED visits or during admission to begin high-intensity transition care practices such as patient self-management training, identification and alignment of community-base and outpatient care based upon identified patient needs to facilitate successful transition at discharge. Third, the organization needs to create disease-specific patient coaching and self-management training programs for patients specifically with

chronic illnesses such as COPD, and incorporate discharge care plans that are patient-centered and created based on the patient it is being used on, rather than the generalized computer generated care plan based upon a set of care actions completed as they currently used. The organization also has a home health affiliate, and this added resource could be used to facilitate patient follow-up after discharge. Whether it is a follow-up phone call or visit, by following the patient for a period after discharge, the home health nurse can act as the patient resource to intercept possible barriers encounter after discharge that can lead to early-readmission and or failed patient transition across settings. In order to successfully reduce readmission rates for patients being discharged home, interventions with multicomponent rather than a single component needs to be utilized (Kripalani et al., 2014). Kripalani et al. (2014) noted that interventions such as patient needs assessment, medication reconciliation, patient education, arrangement of timely outpatient appointments and the provision of timely follow-up phone calls were directly associated with reducing readmission rates when patients are discharged, and this directly supports the DNP project call for the local organization institution of a multicomponent interventional strategy that is target-specific.

<div align="center">**Strengths and Limitations of the Project**</div>

Strengths

A major strength of this QI project was that it helped inform the organization on the true nature of the clinical problem surrounding early 30-day readmission rates in patients diagnosed with COPD. Previously, the organization only knew that they had a higher than average readmission rate in patients diagnosed with COPD. Utilization of a workflow map to create a visual representation of the local organization clinicians clinical care practices for discharge

transition and the effects it was generating revealed several significant things. The first was the

reaffirmation the organization truly has clinical practice gaps, and as a result, many of the

readmissions rates seen in patients diagnosed with COPD can be avoided. Furthermore, the

population in which the care practice is being implemented in share a common trend of qualities

that increases their risk for readmission, but no clinical practices in the organization current

workflow process allows for clinicians to identify and target these patients early on in their care.

In addition, the overall clinical practice practices mapped in the clinical map though successful

in many other patient population, they lack the specificity to the COPD patient population, and

that in of itself magnifies the clinical practice gaps that directly facilitates the higher than

average readmission rates seen in patients diagnosed with COPD at the local regional hospital.

The overall results of the project revealed that the organization admission and discharge

strategies as it exists does not truly target patients diagnosed with COPD, and or focuses on

successfully transitioning their care across settings, and needs strengthening in some areas, and

incorporation of target-specific multicomponent strategies to successfully reduce readmission

rates in patients diagnosed with COPD. Boutwell and Hwu (2009) support the project

recommendation of having target-specific multicomponent strategies to decrease readmission

rates. Boutwell and Hwu (2009) expressed that strategies such as enhanced communication

between inpatient and outpatient care teams, and enhanced patient education and self-

management training, along with coordination of patient care during the post-discharge period

were effective strategies in decreasing readmission rates. In addition, the addition of early

follow-care and extending resources to patients through a multidisciplinary team approach over a

period of time increase the success of reducing readmission than any single interventional strategies.

A second strength of the project is the ability to inform change across the hospital setting, not only for patients diagnosed with COPD, but that of patients with other chronic illnesses that also experience premature readmission. Premature readmission is something experienced by other major chronic illnesses such as heart failure, coronary bypass graft patients, total knee replacement, and many others. All of these patient groups are target areas for which major policy change from health care payers and monitoring bodies are currently focusing attention on the quality of care health care. The Centers for Medicare and Medicaid Services Hospital readmission reduction program is value-based purchasing program with a goal aimed at improving hospital care quality by reducing payments to hospitals with excess readmissions (CMS, 2016). Six conditions currently included in the program at the time of the DNP project initiation were acute myocardial infarction, COPD, heart failure, pneumonia, and coronary artery bypass graft surgery. The CMS assess penalties on hospitals extending services to Medicare patients based on the hospital's performance relative to that of other hospitals with similar proportion of patients who are dually eligible for Medicare and full-benefit Medicaid (CMS, 2016). As result of the DNP project, the organization will be able to implement change from a body of knowledge that affects key care delivery areas such as readmission rates, health care cost, patient outcomes, and overall quality of care by implementing care practices riddled in evidential support. Boutwell and Hwu (2009), and the AHRD (2014) support the project findings by highlighting the significance of having multicomponent strategies that are driven by supporting evidences in the efficacy of successfully reducing readmission rates.

Limitations

The findings from the DNP project are limited to only patients who were seen at the DNP project site. The patient population included patients age 40-years and older, Medicare payee, who had an index admission for CY 2015 first and second quarters. There was no comparison made between other patients admitted during the same period of time diagnosed with COPD who were not Medicare payee and or younger than 40-years of age. In addition, demographic data collected only consisted of sex, age, marital status, however, no comparison was made between demographic group variances for their effect on patient risk for readmissions. The results of the project were important because they showed that the lack of a strong transitional care program that is multicomponent and delivered by a multidisciplinary team could negatively influence patient outcomes when it comes to reducing early avoidable 30-day readmission rates in patients diagnosed with COPD (AHRQ, 2014; Boutwell and Hwu, 2009).

Summary

The purpose of the DNP project was to analyze the organization system processes of admission and discharge transition care of patients diagnosed with COPD. The objectives of the my DNP project were to examine the current clinicians' and providers' management practices surrounding admission, management, and discharge process so as to lean map the system workflow inputs and outputs that facilitated increased early avoidable 30-day readmission rates in patients diagnosed with COPD; and compare them to that of current evidence-based practice guidelines and recommendations to identify clinical gaps in care practices. The analysis revealed that the organization currently lacks discharge transition care practices specific to patients needs to patients diagnosed with COPD that ensures an effective transition of care across settings. As a

consequence, there were missed opportunities to identify and target patients at risk for early readmissions, and strong self-management training and coaching for patients and family caregivers, and follow-up care practices were non-existent for the study patient population.

The findings of the project support the need for an admission screening process for the identification and targeting of patients diagnosed with COPD who are at risk for early avoidable readmission. In addition, generating and implementing target-specific care practices that have multicomponent strategies such as patient education, pharmacy- led medication reconciliation, identification of patient care needs early on in the admission process to align and set-in place discharge care plans that mobilizes and community-based and outpatient care resources, and providing follow-up care that can strengthen the likelihood of reducing early readmission rates. The major strength of the project was the identification of specific factors at the organization that are contributing to higher than average readmission rates in patients diagnosed with COPD such as a lack of a transition care program specific to the patient population of the study. Limitation of the study consisted of the study focus only Medicare patients age 40-years and older, CY 2015 first and second quarters, and that of the DNP project site organization that may limit the findings generalizability.

Section 5: Dissemination Plan

Introduction

In performing the DNP project at the local regional hospital, I found that there were

clinical practices in place that are utilized for patient discharge planning and transition. However,

they were generic computer-generated practices cued by data entry based on answering

generalized questions. As a result, the discharge plans and practices outputted were one-size-

fits-all, and not specific to patient care needs described by me in my general findings to the

multidisciplinary team at the local regional hospital throughout my project implementation. The

resulting one-size-fits-all generic care practices lacked patient specificity care practices aimed at

targeting patient-centered care. As a result of lacking specificity, the practices of care providers

at the local regional hospital provided any opportunity for clinical care practice gaps. The

clinical care gaps seen during my project implementation included the recognition of omissions

in care opportunities to identify patients who have specific clinical, behavioral health, and social

care needs. A major area identified as a barrier to the local regional hospital care providers being

able to provide successful discharge transition care to patients diagnosed with COPD was

inability to identify specific patient care discharge needs. Discharge care needs often seen were

that of community-based resources financial, and health care management needs for the post-

discharge period. When target-specific implementation strategies such as first identifying

specific patient care needs and targeting these patients early in the admission process, the local

regional hospital can mobilize an interdisciplinary team and develop and incorporate a discharge-

specific plan with resources that are target-specific to the patient in a timely manner. The

evaluated outcomes from my DNP project are data that can be linked to specific care strategies

that have been proven to be effective in successfully reducing readmission rates in patients

diagnosed with COPD and other chronic illnesses.

I plan to disseminate the information by way of an oral presentation with the visual

support of a PowerPoint presentation at the organization level. The intended target audience is

the organization key nurse administrator, quality improvement officer/clinical nurse specialist,

upper nursing management, nurse educators, chief medical officer, and the clinical practice

council members. Because they are the gatekeepers of the organization practice improvement

team, I will make the request to them to share this information with their organization and

clinical practice teams, as well as any other stakeholders with a vested interest in the information

generated in the project.

Dissemination of the information would further quality improvement achievements in the

organization by generating further interest among the organization members to perform their

own review of their current clinical practices, and how they are currently adding to the increase

in readmission rates in patients diagnosed with COPD. The local regional organization

completion of their own COPD readmission reduction assessment by their own clinicians will

facilitate buy-in from clinicians seeking to improve their clinical practice practices to optimize

the quality of care they are delivering to their clients.

Another strategy for disseminating the project findings is via the intranet site for the

employees. The intranet is an ideal medium to disseminate this information, as the target

audience would be the organization clinicians and practitioners who are key stakeholders who

have a vested interest in improving their clinical practice and optimizing patient care quality

being delivered at the current organization. A PowerPoint presentation of the overall DNP

project process and findings will be the ideal method for sharing the information with all the

organization key stakeholders. Intranet email would be sent to all employees to alert them to the

availability and location of the PowerPoint presentation.

Analysis of Self

As Scholar

As a scholar, my goal throughout this project was to influence positive clinical practice

practices through information and evidence support that both enhance practice knowledge and

self-efficacy skill sets. Scholarly practice should always be a dual purpose that includes both

scholarly growth and purpose driven. Throughout my experience with the DNP program and the

project, I have evolved to appreciate the essence of evaluating one's self and how the evaluation

influences current choices and practices selected. The DNP program goal is to prepare nurse

scholars by focusing on practice to prepare nurse experts in their field by focusing heavily on

practices that are both innovative and evidence-based (AACN, 2006). Through the

implementation of my project and planned dissemination of the project findings, I have grown

from being a skilled clinical nurse specialist practitioner, to that of a skilled scholar in several

areas.

I have grown in the ability to perform systems thinking, interprofessional collaboration,

clinical scholarship, analytical methods for evidenced-based practice, and advanced nursing

practice (AACN, 2006). I have had the opportunity to contribute to the review of several clinical

system processes surrounding direct care practices, as well as synthesizing and disseminating the

findings from those reviews. I was able to be a part of the process of introducing evidence-based

data driven strategies that directly influenced the findings from those reviews. I was able to put

into practice training projects that targeted clinician practices with readily available resources

that generated improve care delivery, and witness the successful implementation of these

practices, and the positive outcomes they generated. I assisted bedside nurses to implement

clinical practices that facilitated both self-efficacious skills development, and knowledge

improvement, and identity future strategies that can be utilized to address other clinical concerns.

A future aim for this project would be to encourage the organization's key leadership to

perform their own review of the current clinical care practices surrounding discharge transition

care and how it affects the outcomes surrounding readmission rates within the organization. An

organization led assessment of their current state of meeting the strategic planning goal of

decreasing the rate of early avoidable 30-day readmission rates in patients diagnosed with COPD

would allow for a more detailed review of the organization clinical practice practices utilized in

discharge care transition planning, as well as create buy-in from all spheres of influence involved

with the project.

As Practitioner

The clinical nurse specialist prepared nurse is prepared to embody clinical nursing

expertise in diagnosing, treating, preventing, remediating, or alleviating illness and promoting

health (National Association of Clinical Nurse Specialists (NACNS), 2004). Though I am not

certified as a CNS, I am prepared at the master's educational level to function in the role of a

CNS. As an advanced practitioner within the DNP program, I have worked toward attaining the

mastery in the application of science into nursing practice and the translation of my clinical

expertise into nursing care to influence nursing care, clinician practices, and optimize health

outcomes as expected of the roles of the CNS (NACNS, 2004). I have worked with the clinical

nursing staff in creating education projects aimed at targeting bedside nursing care practices and improving patient outcomes. I have worked with key clinical managers to identify clinical and organization policies that indirectly influence clinical practices and outcomes across the board. In doing so, as a practitioner, I have grown in my ability to design innovative evidence-based interventions to influence the practices of nurses, patients, and that of organization key leaders and other clinicians.

As a practitioner, my improved comprehension of organizational and system improvements has led me to be one of an excellent project manager. As a manager in my role as an advance practice nurse, I was able to successfully integrate the acquisition of scientific knowledge to design and create new interventions that positively impact patient care outcomes and optimize clinical practices, which are key essentials for a DNP nurse (AACN, 2006). I have strengthened my ability to influence healthcare system environments to support practice excellence and continue scholarly drives to stay current in practice and knowledge acquisition several ways. In staying true to the role of the APN nurse working collaboratively, I have learned to recognize and value dissimilar professional perspectives (Zaccagnini & White, 2011). In doing so, I have learned to recognize and respect overlapping team member roles, while encouraging shared decision-making and understanding leadership goals (Zaccagnini & White, 2011) to successfully meet both patient and clinical needs. Overall, in keeping with the DNP essentials in the process of obtaining my doctoral education as an APN, I have achieved the foundational basis of the DNP educational program. I have gained the enhanced knowledge to use science-based theories and concepts to aid in determining significant health and health care delivery problems (AACN, 2006). As an APN functioning in the role of a manager, I am now

able to inspire visions that are shared, excel in my communication with various groups of people, own proficiency in any tasks handed to me, and overall plan, execute, and close a task created and implemented.

As Developer

My abilities to critically assess clinical issues that affect health care delivery quality, costs, and patient outcomes and identify, develop, and orchestrate investigation into clinical practices issues were very limited before I began my doctoral education process. However, I have learned to use key fundamental skill sets received in my master's education preparation and years of clinical practice to grow my ability to perform system thinking and working collaboratively with multiple team members successfully. I have learned that creating a strong professional relationship and communicating consistently and effectively with a multidisciplinary team are key strategies to success on any project. I have learned that to be open to suggestions, to acknowledge and take into account the ideas and points of view of each team member on a project team builds a strong team rapport. By being open minded and conscious of how each team member role interacted with the care processes being evaluated, I was able identifying key member strengths and weaknesses. I was then able to align each team member strengths with appropriate project goals assigned to them. As a result, this practice strategy ensured my success in orchestrating a project, and achieving outcomes. A key strategy I found to be effective in being able to work in system thinking and creating projects that are valuable across all spheres were to identify that everyone is aware and share the same belief that there is really a concern and the problem needs to be addressed. As a DNP nurse, it is part of the competency requirement to ensure accountability for quality of health care delivery. Terry

(2015) notes that by being able to develop and evaluate patient care delivery approach while incorporating scientific knowledge, one can ensure accountability for quality health care delivery. Through the use of advance communication skills and processes to lead quality improvement initiatives that facilitate interdisciplinary collaboration (AACN, 2006), the DNP nurse is able to facilitate change and positive outcomes.

As a developer, I have grown in my ability to be able identify key people to involve in a clinical base project once a problem is identified and an investigation is warranted to address the issue. I have learned through identification of key stakeholders involved with clinical issues that a clinical project team can be easily identified. As a developer, I am now aware how preparation and planning is a vital role to ensuring success in any project. In planning ahead for the DNP project, I set my project goal to be one of that of the organization. By identifying the key resources I would need to orchestrate an investigation into the project. I was then able to gain organizational buy-in and support to conduct my DNP project. The local regional organization had set the COPD readmission rate reduction as one of its strategic planning goals, and as such, I aligned my DNP project to align with the organization goal. I learned that being part of the organization COPD Readmission Rates Reduction Multidisciplinary Team, I was able to be involved with the organization examination into the clinical problem of the higher than average early 30-day readmission rates in patients diagnosed with COPD. By doing so, I was able to work with a large multidisciplinary team during my DNP project and did not have to utilize any more resources that were already limited. Overall as a developer, I am now able to create successful teams, problem solve successfully, develop and orchestrate cost-sensitive strategies, identify projected project costs and how to keep on track with the costs, as well as manage the

expectation of any team created and that of an organization all while completing a successful project. As an agent for quality improvement, I was able to evaluate the organization patient care delivery approaches and develop strategies specific to patient population to meet both current and future anticipated needs of the patient population. As key to being an effective change agent, one must be able to asses the way care is delivered so as to develop strategies that are specific to population needs (Terry, 2015).

What Does This Project Mean for Future Professional Development

I have developed a newfound appreciation for accepting change and addressing clinical issues full on. I am more adept to assess clinical issues and utilize scientific inquiry to guide my approach to investigating an issue, developing an action plan to create strategies to target findings related to clinical issues, and evaluating the outcomes seen from any strategies implemented. As a DNP prepared nurse, Terry (2015) noted that accurate evaluation of health care policies generally occur through interprofessional collaboration, and as such I have grown to appreciate the effective strategy of working with multiple disciplines in the field of health care. As my professional role continues to grow and develop, I intend to continue to work on developing effective communication and collaborative skills so as to positively affect change and work collaboratively with various healthcare professions.

Having the ability to work with other members of a health care team as well as embodying effective leadership skills, such as working in the role of a manager and developer, will only ensure success as a change agent for quality improvement. Terry (2015) noted that the hallmark of the doctoral education is scholarly research. As change agents, APNs work within teams collaboratively to affect change and achieve crucial outcomes. In doing so, having the

necessary skill set of effective communicator and collaborator influences the opportunity for success. In my future career endeavors, I plan on using the application of scientific knowledge in the resolution of clinical issues and applying knowledge to do several things. I plan on continuing my aim of translating research into my clinical practice and that of other nurses that I am charged to lead. I plan to continue to evaluate my own practice and that of any organization I am involved with in ability to improve health care practice delivery and improve outcomes for patients, clinicians, and the organization as a whole. I plan to continue to work on my scholarly writing to continue to add to the body of knowledge available to the nursing profession. I hope to continue to strengthen the profession place in providing evidence-based practice guidance in the delivery of quality health care services.

Summary

The quality of care delivered to patients diagnosed with COPD by health care agencies and providers are often evaluated by the rate of early 30-day avoidable readmission rates seen in those patients. Although many health care agencies utilize standardized discharge care planning processes, agencies such as the local regional hospital continue to experience higher than average early readmission rates in patients diagnosed with COPD. The QI project helped the organization stakeholders understand the state of the clinical problem, and identified key factors that facilitated the increased number of readmission rates. Furthermore, the project findings assisted in identifying patient-specific target implementation strategies specific to the organization and its' patient population that could readily decrease the higher than average early 30-day readmission rates in patients' diagnosed with COPD. The project findings reflected that any target-specific strategies implemented by the organization in the future needs to be

multicomponent and patient-specific. Any target-specific implementation strategies implemented in the future at the local regional organization would steadfastly need to include early identification of patients at risk for early readmission and identification of specific patient social, clinical, and behavioral needs at admission to positively affect discharge transition of patients diagnosed with COPD. Subsequently, once those patients are identified and their needs are recognized, a strong patient coaching and patient-centered self-management preparation will be needed from admission to a period of time post discharge to successfully provide patient transition from acute care to post-discharge and prevent early 30-day readmission post discharge. I will disseminate the project findings to key stakeholders within the organization utilizing a PowerPoint Presentation format, in addition to sharing the findings with that of key members involved with the direct care and management at clinical management meetings, of patients diagnosed with COPD. Intent to further disseminate the project findings by submitting a manuscript to the journal *Clinical Nurse Specialist* to add to the body of knowledge surrounding decreasing readmission rates in patients diagnosed with COPD. One of the main purposes of the journal of *CNS* is to disseminate outcomes from APNs practice and highlight the contributions that APNs make in advancing health care, policy, and overall global practice changes. I have grown as a scholar during the experience of my DNP education and project by learning to challenge myself to think outside of the box by questioning why something is the way it is. I have learned to think openly and listen to others healthcare disciplines' perspectives through collaboration and consultation to understand how workflow processes impact other processes. Overall, as a scholar, I have developed my ability to critically assess clinical problems, review

research findings, and translate empirical evidence-based findings into clinical practice to

positively influence outcomes.

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Appendix A: AHRQ (2016) tool 3: Hospital Inventory Tool (HIT)

You probably have multiple types of readmission reduction activities underway at your hospital. You probably also have access to "assets" relevant to a robust readmission reduction effort. An inventory of readmission reduction efforts will reveal the administrative, clinical, health information technology, and other organizational assets already in place. Once you know what efforts and assets already exist, you can consider whether they are optimally aligned and coordinated. The inventory will also serve as an implicit gap-analysis of activities or assets not currently in place. You may identify the need to implement new practices as part of this process.

READMISSION ACTIVITY/ASSET	FOR WHICH PATIENTS?
ADMINISTRATIVE ACTIVITIES/ASSETS	
❑ Specified readmission reduction aim	
❑ Executive/board-level support and champion	
❑ Readmission data analysis (internally derived or externally provided)	
❑ Monthly readmission rate tracking (internally derived or externally provided)	
❑ Periodic readmission case reviews and root cause analysis	
❑ Readmission activity implementation measurement and feedback (PDSA, audits, etc.)	
❑ Provider or unit performance measurement with feedback (audit, bonus, feedback, data, etc.)	
❑ Other:	
HEALTH INFORMATION TECHNOLOGY ASSETS	
❑ Readmission flag	
❑ Automated ID of patients with readmission risk factors/high risk of readmission	
❑ Automated consults for patients with high-risk features (social work, palliative care, etc.)	
❑ Automated notification of admission sent to primary care provider	
❑ Electronic workflow prompts to support multistep transitional care processes over time	
❑ Automated appointment reminders (via phone, email, text, portal, or mail)	
❑ Other:	
TRANSITIONAL CARE DELIVERY IMPROVEMENTS	
❑ Assess "whole-person" or other clinical readmission risk	
❑ Identify the "learner" or care plan partner to include in education and discharge planning	
❑ Use clinical pharmacists to enhance medication optimization, education, reconciliation	
❑ Use "teach-back" to improve patient/caregiver understanding of information	
❑ Schedule followup appointments prior to discharge	
❑ Conduct warm handoffs to postacute and/or community "receivers"	
❑ Conduct postdischarge followup calls (for patient satisfaction or followup purposes)	
❑ Other:	
CARE MANAGEMENT ASSETS	
❑ Accountable care organization or other risk-based contract care management	
❑ Bundled payment episode management	
❑ Disease-specific enhanced navigation or care management (heart failure, cancer, HIV, etc.)	
❑ High-risk transitional care management (30-day transitional care services)	
❑ Other:	
CROSS-CONTINUUM PROCESS IMPROVEMENT COLLABORATIONS WITH:	
❑ Skilled nursing facilities	
❑ Medicaid managed care plans	
❑ Community support service agencies	
❑ Behavioral health providers	
❑ Other:	

Appendix B: AHRQ Tool 10: Discharge Checklist

Hospitals Must Provide the Following…	Details per CMS 2013 Surveyor Guidance* and 2015 Proposed Rule Documents[†]	Status
1. A discharge plan for all inpatients and observation patients	As specified in the November 2015 proposed Discharge Planning COPs.[†]	❑
2. A brief reason for hospitalization and principal diagnosis	Many patients do not know why they were in the hospital.	❑
3. A brief description of hospital course of treatment	Many patients do not know what was done for them in the hospital.	❑
4. The patient's condition at discharge	Include cognitive function.* Include functional status.* Include social support structure.*	❑
5. Specifically address comorbid behavioral health conditions	Include plan for followup care for behavioral health conditions.[†]	❑
6. A medication list—an actual list of medications, *not* a referral to the list in the medical record*	Identify changes made during the patient's hospitalization.*	❑
7. A list of allergies	Food allergies.* Drug allergies and drug intolerances.*	❑
8. Pending test results	When the results are expected.* How to obtain the test results.*	❑
9. A copy of the patient's advance directive	Applicable when the patient is being transferred to another facility.*	❑
10. A brief description of care instructions	Customized instructions for self-care.* Consistent with the training provided to patient and caregiver.*	❑
11. Effective linkage of patients to posthospital clinical, behavioral, and social services	The hospital must demonstrate knowledge of capabilities of postacute and community providers, including Medicaid providers and social service providers.*[†]	❑
12. Data for patients/caregivers to facilitate a data-informed choice of postacute providers	As per the Improving Medicare Past Acute Transformation (IMPACT) Act of 2014.[†]	❑
13. A list of all followup appointments scheduled prior to discharge	This list should include provider name, date, and time.*	❑
14. Transmittal of discharge summary within 48 hours of discharge	Transmit or make available the discharge summary to community providers within 48 hours.[†]	❑
15. Followup with patients at high risk of readmission	The proposed COPs do not state how or when to provide followup, allowing flexibility.[†]	❑

Appendix C: Transition Care Checklist

Patient Transition Care Checklist

Readmission Activity	Prtcp A	Prtcp B	Prtcp C	Prtcp D	Prtcp E
DURING HOSPITALZATION	**Y/N**	**Y/N**	**Y/N**	**Y/N**	**Y/N**
Risk Screen Assess Pt./Taylor Care					
Communicate w PCP/Home Care, etc.					
Home Medication Reconciliation w PCP/Pharmacist (admit & at D/C)					
Use "teach back" educate Pt./Family-caregiver about dx, care, self-management					
Interdisciplinary/Multidisciplinary Team Use (i.e. Rehabilitation CM, Social Service Consults, etc)					
Technology to prompt care/Coordinate care across care teams					
Data for patients/caregivers to facilitate a data-informed choice of post acute providers					
AT DISCHARGE					
Implement Comprehensive D/C Planning					
Reinforce "teach back" education for Pt./Family-caregiver about dx, care, self-management					
Schedule/Prepare F/U appointment (appt. set for w/I 7 days of D/C)					
Ensure Pt./Family-caregiver Medication Regimen Self-management					
Facilitate D/C to outpatient care (detailed D/C instructions/partnership with Care team w/I 48 hrs. D/C)					
POST-DISCHARGE					
F/U phone-call within 24-48 hrs. D/C					
Prompt Patient Self-Management of Care					
Conduct Home-visit w/I 2-weeks D/C					
Establish Community Network for Pt./Family-caregiver support					
Use Personal HIM Record to manage information					
OUTCOME FINDINGS (#)					
PERCENTAGE					

Complete and return to PI officer. All data must be inclusive to receive a score of yes (Y). If not, a score of no (N) is applied.