

Early Recognition of Declining Residents in a Long-Term Care Facility

Megan Kirschner

Touro University, Nevada

In partial fulfillment of the requirements for the

Doctor of Nursing Practice

DNP Project Chair: Dr. Jessica Grimm

DNP Project Member(s): Dr. Denise Zabriskie

Dr. Cathy Dolan, Practicum Mentor

Date of Submission: January 29, 2019

Table of Contents

Abstract.....	3
Introduction and Background.....	4
Problem Statement.....	9
Purpose Statement.....	11
Literature Review.....	12
Theoretical Framework.....	33
Project Design.....	46
Population of Interest and Stakeholders	47
Tools/Instrumentation	50
Data Collection Procedures	52
Implementation and Project Timeline.....	53
Plan for Analysis and Evaluation.....	55
Analysis of Results.....	57
Discussion of Findings.....	59
Significance for Nursing.....	59
Limitations.....	60
Areas for Further Dissemination.....	61
Project Sustainability.....	61
References.....	63
Appendices.....	76

Abstract

Long-term care facilities have a responsibility to ensure that nursing staff have the knowledge, skills and ability to evaluate a resident with a change in condition to determine transfer to a higher level of care. Readmission of a long-term care resident to a higher level of care within 30-days of discharge from acute care negatively impacts resident convalescence and financial reimbursement for services. Principles from Ray's Theory of Bureaucratic Caring support development of a guideline for early recognition of declining residents (ERDR Guideline). The guideline incorporates facility policy with evidence-based evaluation tools supporting staff determination of need for transfer through nursing care processes for a change in resident condition. Facility staff received education including directed use of the guideline compliance with skills validation, leading to appropriate decision-making related to prompt intervention to remain at the facility or resident transfer. Post-implementation findings indicated a 43% decrease in transfers comparing November of 2017 and November of 2018 facility data.

Early Recognition of Declining Residents in a Long-Term Care Facility

Reduction of unnecessary utilization of emergency department services is a critical issue in healthcare. In 2013, the Office of Inspector General (OIG) noted that “more than 825,000 Medicare beneficiaries were admitted from a skilled nursing facility (SNF) to a hospital in 2011” (Mulvany, 2015, p. 32). The term skilled nursing facility is utilized interchangeably with long-term care, acute long-term care, nursing home, and rehabilitation center or hospital. The admissions from the SNF to the hospital, most often through the emergency department, are a poor use of resources that cost healthcare over 1.4 billion dollars annually. Medicare and Medicaid, two government insurance agencies, are the primary insurance for the majority of SNF residents. It is estimated that if unnecessary readmission of the SNF resident to a higher level of care through an emergency department was reduced, that there would be a savings of billions of dollars (Bonner, Tappen, Herndon, & Ouslander, 2014; Ouslander, Bonner, Herndon, & Shutes, 2014). Furthermore, in circumstances where the readmission diagnosis of the SNF resident to the hospital aligns with the same diagnosis within the past 30 days of an acute care hospital discharge, there is little to no reimbursement from Medicare, Medicaid, and many private insurance providers.

The OIG report identified diagnostic categories that could be managed in the SNF (Mulvany, 2015). These include surgical rehabilitation, stable acute medication therapy such as antibiotic or oncologic medication, and re-education training related to untoward events such as a stroke. Additionally, the Centers for Medicare and Medicaid Services (CMS) (2015) have determined of six diagnostic categories that are related to 80% of preventable readmissions from the SNF to a higher level of care. These diagnostic categories include: (a) pneumonia, (b) dehydration, (c) congestive heart failure, (d) urinary tract infection, (e) skin ulcers and cellulitis,

and (f) chronic obstructive pulmonary disease (COPD) and asthma. Pneumonia and urinary tract infection have been identified at the project site SNF as the primary categories of readmission to acute care. SNF residents that are unnecessarily transferred to a higher level of care through the emergency department are at a higher risk for developing (a) confusion, (b) delirium, (c) increased chance for falls, and (d) acquiring hospital associated infections (Hsiao & Hing, 2014). The OIG report continued by indicating that when there is a high quality of care delivered at the SNF, there is a decreased transfer rate for readmission to acute care by four percent (Mulvany, 2015). High quality care includes recognition and intervention of a declining or deteriorating residents' condition that prevent unnecessary transfers. Grant et al. (2016) acknowledges from the hospital perspective the challenges to their emergency services and costs for these preventable admissions.

The Doctor of Nursing Practice (DNP) project addressed the issue of unnecessary transfers to a higher level of care through the emergency department at a 60-bed long-term care facility in suburban Gilbert, Arizona. The project site employs direct resident care staff credentialed as licensed practical nurses (LPN), a few registered nurses (RN), and certified caregivers. The DNP project included implementation of an Early Recognition of Declining Resident (ERDR) guideline, that includes policies, procedures, and validated tools, to improve identification, appropriate assessment, and intervention for the declining or deteriorating resident. The goal of the project was to decrease unnecessary transfers through ERDR implementation which should also decrease lost revenue to the SNF.

Background

Upon a review of the historical and evolving role of the SNF in providing health care in the United States it is noted that the original SNFs were termed nursing homes and began to

provide care in the 1930s. During this time, the elder resident would be admitted and remain in the nursing home until their death. In the 1960s, the role of the SNF began to change with the legislative passage of Title XVIII, which is termed Medicare, and the Title XXIX, termed Medicaid (Meiner, 2015). During the next decade there was tremendous growth of this industry, but abuses were identified leading to criminal charges, inappropriate financial reimbursement, and violation of human rights. Individual states began to enact legislation to regulate SNFs. Improvement occurred in 1987 with the passage of the Omnibus Budget Reconciliation Act (OBRA) which was the first national legislation to support quality of care delivery, quality of life for the residents, and respect for their individual rights (Meiner, 2015). The goal of this act was to make the SNF more “home-like”. The regulation continued by state enforcement until 1990 when the OBRA legislation was paired with the Health Care Financing Administration (HCFA) (2018) that required the SNF to meet both the federal and state regulations to operate.

SNFs are often privately held, may be a part of a larger community for elderly and aging individuals or may serve special functions such as convalescence, rehabilitation, or memory care prior to discharge to home or, in some facilities, remain as long-term residents until death. Most SNFs are licensed for between 100 to 200 resident beds. The Joint Commission (2018) inspects SNF facilities through a voluntary contract offering accreditation of meeting care standards and federal regulations for a period. The states continue to inspect SNFs every 12 to 18 months to ensure that they are meeting the specific state regulations. If violations are discovered, the SNF administrator must respond with an action plan for correction within a designated timeframe set by the state. The transfer and readmission rate for the SNF resident is a component of the accreditation and regulatory review process.

The most recent impact on the SNFs that has changed the level of acuity (severity of illness) of the resident and added some new disease processes was initiated with healthcare reform during the past decade. The healthcare reform started in 2010 with the Affordable Care Act (ACA) that required these changes, impacted private insurance providers, and changed the reimbursement for acute care and SNFs (Maslow & Ouslander, 2012).

Each SNF has a type of resident that they accept to their facility (convalescence, rehabilitation or memory care) but all are bound by criterion that is provided by the CMS related to insurance reimbursement. Medicare and Medicaid require patients be transferred from the acute care facility to a SNF once the criterion is met by the patient or there are no further insurance payments to the acute care facility. The Medicare and Medicaid transfer criteria are based on diagnostic related groups (DRG) that were determined by historical evidence on the required time in acute care to remedy or stabilize the disease process (AHIMA, 2010).

Additionally, CMS has regulations related to insurance reimbursement, that are also used by private-pay insurers, that state that a resident (or any patient) that is discharged from the acute care facility and then readmitted to the acute care facility within 30 days with the same diagnosis, does not have any cost covered by Medicare or Medicaid (GAO Report, 2016).

Neuman, Wattala, and Werner (2014) indicate that one out of every four residents admitted to a SNF becomes a preventable readmission to a higher level of care within the 30-day period.

Thus, the SNFs provide hospitals with a place to transfer their patients based on meeting the transfer criteria. However, based on the CMS criterion, many of these patients that are transferred are not completely rehabilitated or convalesced or capable of managing their own care or knowledge of their disease process (Maslow & Ouslander, 2012). Often the newly arrived SNF resident requires ongoing disease stabilization, continued rehabilitation or to

complete long-term intravenous drug therapy. Residents are evaluated periodically to determine that their length of stay continues to be within the CMS evidence-based timeframe based on diagnosis. This evaluation is completed weekly by a multi-disciplinary team at the project site SNF.

The staff at each SNF work to achieve the treatment goals within the predetermined length of stay upon the resident's arrival from the acute care facility. The staff that carry out the plan of care include RNs, LPNs, and CNAs or caregivers. Each category of employee has a different level of expertise based on their licensure or credential that is required for high quality care delivery. One study noted that facilities with more RNs showed that a higher quality of care was delivered (GAO Report, 2016). However, as the acuity of the resident has elevated, the SNF staff skill set to recognize resident decline or deterioration has not occurred.

SNFs have undergone an evolution from a place to leave an elder to die to a place where patients are transferred after an acute illness to convalesce, rehabilitate, or complete specific intravenous medication treatments, as well as a lifelong residence for those that cannot care for themselves. Transfer from the acute care facility to the SNF and the length of stay at the SNF is determined by standards set by CMS for Medicare and Medicaid insurance recipients and followed by private insurance providers. Extending the length of stay or readmission to a higher level of care once transferred to a lower level of care results in additional cost that is not reimbursed. The continued evolution of the SNF has led to residents with a higher severity of illness than in prior decades where the education and expertise of the staff has not kept pace with the changes. This mismatch between resident acuity and staff skill set has led to unnecessary readmissions from the SNF to the acute care facility through the emergency department and loss of revenue for the acute care facility and the SNF.

Problem Statement

SNF residents that have declining or deteriorating changes in condition are not recognized by the SNF staff leading to an urgent or emergent transfer of the resident to a higher level of care. These transfers are considered unnecessary and have a financial cost for the institutions and well-being of the resident. According to the 2009 National Hospital Ambulatory Medical Care Survey, the United States is comprised of 52% elderly people that are admitted to an acute care facility via the emergency room annually, which comes to 19,818,00 per year (Constantino, Frey, Hall, & Painter, 2013). Although not all admissions come from the SNF, Wang, Shah, Allman, and Kilgore (2011) note that when people arrive to the emergency department from a SNF, the most prominent medical reasons stem from SNF system processes that impact the residents in contracting (a) infections, (b) sepsis, (c) respiratory symptoms, and (d) falls. These issues are preventable and, with systems changes, have been prevented in many cases (Ashcraft & Champion, 2012). Evidence has shown that changes in systems processes lead to high quality of care and the timely recognition and intervention of the declining or deteriorating resident (Burns & Nair, 2014). Additionally, there is a decrease in the risk for falls (Burns & Nair, 2014). Transfers out of a non-acute care facility such as a SNF, to the emergency department results in increased cost for both the hospital and the SNF (Bardsley, Sherlaw-Johnson, & Smith, 2016).

Medicare funds the bulk of health care costs for the SNF residents. In alignment with cost reduction, CMS has implemented a quality initiative that penalizes both the acute care facility and the SNF if a resident is readmitted to the acute care facility for the same diagnosis within 30 days of discharge. The financial implications for readmission are measured annually and may result in 2% or more of the expected Medicare payments being withheld (Munley,

2015). As there are finite resources, the unreimbursed care creates a financial burden on the acute care facility and SNF. Over the span of the annual review, the acute care facility and the SNF can earn back some of the unreimbursed money through improvement in readmission rates (Munley, 2015). Thus, if residents can be recognized prior to an acute situation where a transfer to a higher level of care is required, there is a positive impact on both the acute care facility and SNF (Bardsley, Sherlaw-Johnson, & Smith, 2016).

The project site staff range from one to seven years of experience and without regular clinical-focused continuing education provided. Additionally, the project site does not have a protocol or care guidelines in place to identify early recognition of the declining resident or the expected interventions to complete. The site is not technologically supported with all charting, policies and procedures maintained on one computer that is the master copy and hard copies in a book at the nurse's station.

The director of resident services (DRS), who is the director of nursing, concurred with the literature on the staff skill set, the severity of illness of the residents, and the unnecessary transfers to a higher level of care. The DRS believed that the LPN and RN staff could benefit from specialty education and structured guidance to recognize the declining resident which would lead to a higher quality of care and decrease unnecessary transfers leading to improved organizational revenue over time. The DRS assessed the type of resident that is an unnecessary transfer out to be those with infections and respiratory exacerbation as an initial step in the process improvement (Bindman et al., 2018). The DRS requested that the focus of the project be on acquired and exacerbated infection to reduce loss of funding reimbursement. Additionally, the information from the DRS related to the effect of the transfers on the residents concurred with the literature (Grant et al., 2016).

The project site nursing leadership, the DRS, and administration, the executive director, identified that there is a problem with staff skill set in the recognition of the declining or deteriorating resident that is leading to unnecessary transfers, and loss of revenue. The project site DRS and executive director expressed a desire for staff education related to the implementation of the ERDR guideline.

Purpose Statement

The overarching aim of this DNP project was to improve staff recognition and appropriate interventions for a declining or deteriorating resident, with a focus on acquired or exacerbated infection, which would in turn lead to a decrease in readmissions to a higher level of care and ultimately reduce facility loss of revenue using the ERDR guideline. Morris et al. (2014) discuss the importance of nursing and healthcare staff being able to recognize and intervene for declining patients or residents. Successful recognition and intervention in the early stages of decline, requires involvement of the interdisciplinary team as well as education of nursing and other healthcare staff (Huston & Marquis, 2015). Barriers to implementation of the ERDR guideline identified staff fear or reluctance to change a historical level of practice. The purpose of the project was to improve the quality of care for the long-term care residents through a standardized practice approach that included evaluation of current practice, development of the ERDR guideline, implementation of the guideline at the practice site, and evaluation of the outcome by measuring utilization of emergency medical services and hospital readmission rates. It was expected that through the completion of this process that fewer residents would be transferred out of the practice site to a higher level of care for emergency services (O'Connell, Hawkins, Considine, & Au, 2013).

Project Question

Based in this information, the project question addressing the Population, Intervention, Comparison, and Outcomes (PICO) was as follows: If (P) nursing staff at a long-term care / skilled nursing facility (I) implement the ERDR guideline for recognizing the declining resident (C) compared to current practice without the guideline, (O) will there be a decrease in resident transfers to an acute care facility? The rationale for this project question and proposal was based on a quality improvement initiative with the aim to transform nursing practice for recognition, response, and intervention on behalf of the declining resident and thereby, decrease the transfer to a higher level of care through the utilization of emergency services and readmission rates at the project site. The project was determined to be feasible and was completed within the time frame of the DNP program.

Project Objectives

During this DNP project, the host practice site completed:

1. Review the current data of transfers from the facility to acute care and the rationale for the transfer.
2. Develop and implement the evidence based ERDR guideline.
3. Present the ERDR guideline to the staff through a workshop approach.
4. Assess staff compliance with the ERDR.
5. Evaluate effectiveness of ERDR guidelines by analyzing new data to determine if fewer residents have transferred to an acute care facility after implementation.

Literature Review

A comprehensive literature search was conducted. The primary key words guiding the literature search were: long-term care, skilled nursing facility and SNF, resident / patient decline,

guideline(s), and transfer of care / transfer to higher level of care. Identification of additional key search words included: rehabilitation facility, readmission, rehospitalization, nursing home, readmission rates, Hospital Reduction Readmissions Program, severity of illness, prevention strategies, quality improvement, and nurse-driven protocol. Several online databases were used that included EBSCO, Cumulative Index of Nursing and Allied Health Literature (CINAHL), The Joanna Briggs Institutes, MEDLINE, eJournals, and Cochrane Systematic Reviews. Other sites that were selected included organizations related to readmission reduction such as those affiliated with the government and the American Hospital Association. The exclusion criteria included all pediatrics, community readmission, transfers to higher level of care within the acute care facility or the SNF, and protocols, guidelines and interventions designed specific to the acute care environment. The search criteria were further narrowed to literature presented in English language, adults, and publication within the past five years except for government sites and content areas where more recent literature was not discovered which were limited to the past 10 years. Government reports and studies are noted to be reviewed within a five to ten-year timeframe prior to updates of the content. In an orderly process, each key word in combination with other key words were combined using Boolean operators “and” and “or”. Literature relevance was determined through review of abstracts, research titles, and published references lists; integrated or summary publications were not included. Fifty-one publications were located, with 29 specifically related to the project PICOT question. The level of evidence included two level V, two level VI, one level III, one level II and the remaining publications were level I. Each publication selected was further reviewed for the study population, problem being addressed, type of intervention, findings or outcomes, and recommendations. Themes were identified within the literature as follows: (a) preventable and non-preventable admissions, (b)

readmission risk prediction based on diagnosis and severity of illness, (c) identification of infection and sepsis as primary drivers for readmission to acute care, (d) readmission prevention strategies using tools and protocols, and (e) recognition and prevention of declining or deteriorating residents. The literature review yielded the best evidence to support the proposed DNP project goals by providing information to support the development of the ERDR guideline that includes validated tools to support staff education focused on infection and sepsis related to pneumonia and urinary tract infection identified as the two major diagnostic categories that lead to readmissions of SNF residents to a higher level of care.

Readmissions

According to the government report from the US Department of Health and Human Services, many diagnoses and ailments of the SNF resident can be treated within the SNF when the staff recognize a change in condition leading to a decline or deterioration (as cited in Polniaszek, Walsh, & Wiener, 2011). These are preventable readmission conditions. The conditions identified for possible intervention at the SNF are (a) infections and sepsis (urinary tract, respiratory), (b) heart failure, and (c) dehydration or electrolyte imbalance. Polniaszek et al. (2011), in a comprehensive literature review conducted under government contract, identified three categories of preventable conditions specific to the SNF: (1) lack of high-quality nursing care, (2) lack of providers to support nursing recognition, such as orders to treat pneumonia or other infections, and (3) impending death or futile care. The authors also identified the following areas for prevention and best practices through recommendation of more research and support to: (a) improve staffing, (b) modify healthcare policy, such as Medicare rules, and (c) implement staff education and care-based tools. This information is relevant to this project as it identifies the primary ailments of the residents and the recommendations to support prevention of

readmissions. The limitations of this evidence related to preventable readmissions include lack of identification of resident comorbidities that may contribute to readmission and lack of identification of any diversity that may have skewed or biased the data. The number or percentages of gender, minority, and socioeconomic category was another limitation noted. However, even with these limitations, the rigor of the study designs and the statistical methods provide validity and reliability.

Residents at risk for readmission has been associated with the resident's severity of illness on admission to the SNF (Lago & Littau, 2015). Lago and Littau (2015) completed a 27-month correlational evaluation of adult medicine readmissions to a New York hospital to identify factors impacting readmission. They determined there was a higher risk for readmission for patients based on the severity of their illness with a diagnosis of heart failure, infection, pneumonia, and chronic obstructive pulmonary disease (COPD). The severity of illness score was based on the all patients diagnostic related groups (APR-DRG, 2003) where those patients scoring major or extreme on the scale were at highest readmission risk. The importance of this study is in support of the severity of the illness of the SNF resident prior to admission to the SNF in determining the resident's potential for readmission. The limitations of this evidence for predicting readmission include small sample size and limited geographic area. Additionally, it is noted that the authors failed to identify gender differences and minority inclusion. Notwithstanding these limitations, there was clear rigor in the study design leading to statistical validity and reliability of the outcomes.

Roberts et al. (2015) in a cohort research study focused on patients with COPD found that there was a 9.2% readmission rate within 30 days of transfer from acute care to a SNF. In this study the severity of illness factors that were strongly predictive for readmission were prior

medical admission history for any disease process and use of a respiratory medication. These authors recommended further study to confirm the risk factors for similar populations. This study concurs that the severity of the illness of the SNF resident prior to admission to the SNF will determine the resident's potential for readmission. This is translated to the severity of the patient's condition prior to admission to the SNF is predictive of readmission to the acute care facility. The limitations of this evidence for predicting readmission include small sample size. Additionally, it is noted that the authors failed to identify gender differences and minority inclusion. Notwithstanding these limitations, there was clear rigor in the study design leading to statistical validity and reliability of the outcomes.

In a cohort study of over 27,000 patients, Lavernia, Villa, and Iacobelli (2013) studied readmission rates, discharge disposition and mental health, and cost for readmissions in acute care for patients undergoing hip arthroplasty. These authors used the APR-DRG and severity of illness score discovering that there was a high risk for readmission that aligned with the high level of severity. The readmission rate for this patient group was 7% readmitted within five days when discharged to a SNF. However, the infection rate was 27% for all those readmitted was the most likely condition for all patient's readmissions. The authors acknowledge that readmissions are multivariant and recommend continued study of the factors that lead to readmission. This study supports the project identifying the highest risk for readmission with this population was infection which was also identified as a focus at the practice site. Lavernia, Villa, and Iacobelli (2013) concede that there are many variables related to readmission and these were not all identified. Additionally, it is noted that the authors failed to identify gender differences and minority inclusion. Notwithstanding these limitations, there was clear rigor in the study design leading to statistical validity and reliability of the outcomes.

Kiridly et al. (2014) completed a quantitative study to determine the cost of total hip arthroplasty patients within the first 30 days after surgery noting that Medicare insurance provides one bundled reimbursement for all services for the first 90 days past surgery. This payment is distributed among the various caregivers and facilities. These authors used the APR-DRG severity of illness scoring noting that high scores positively correlated with increased risk for readmission. The readmission rate for this population in this study was 26% readmitted within 30 days from acute care discharge. The primary reason for readmission was infection. This study supports the project focus on infection as a high risk for readmission to a higher level of care. Additionally, it is noted that the authors failed to identify gender differences and minority inclusion. Notwithstanding these limitations, there was clear rigor in the study design leading to statistical validity and reliability of the outcomes.

Wang, Johnson, Robinson, et al. (2016) in a retrospective quantitative study reviewed 6011 readmissions from a total of 55,532 discharges comparing the severity of illness and the APR-DRG scoring in a Texas hospital. These authors noted that the peak day for readmission was seven days post-discharge. The demographic information indicated that African American race, older age, lower socioeconomic status, homeless and single were the population most likely to be readmitted. The authors acknowledged that they were unable to review contributing factors such as follow-up appointments which could bias the data. The limitations of this evidence for predicting readmission includes limited geographic area. Wang, Johnson, Robinson et al. (2016) concede that there are many variables related to readmission and these were not all identified. Notwithstanding these limitations, there was clear rigor in the study design leading to statistical validity and reliability of the outcomes.

Non-preventable readmission. In a controlled randomized study, Ouslander, Naharci, Engstrom et al. (2016) compared the factors present in the SNF regarding preventable versus non-preventable readmissions using root cause analysis over 12 months. These authors identified conditions that were unpreventable in the SNF resident that require the SNF staff to transfer the resident to a higher level of care. The two tools used for resident assessment and disposition was the Interventions to Reduce Acute Care Transfers (INTERACT) stop and watch and quality improvement tools. These researchers discovered that non-preventable readmissions stemmed from (a) examination of the resident by a licensed provider (physician, physician assistant or nurse practitioner), (b) family insisting on readmission, (c) uncontrolled fever, and (d) falls. The findings of this study were 23% of readmissions were preventable and 77% of readmissions were unpreventable. This information is relevant to this project, as the INTERACT tools are included in the ERDR guideline, as it identifies best practices and factors that may not be managed by the staff at the SNF and therefore would not be preventable. Realistic expectations for decreasing SNF readmissions can be established. The limitations of this evidence related to non-preventable readmissions include lack of identification of resident comorbidities that may contribute to readmission and lack of identification of any diversity that may have skewed or biased the data. The number or percentages of gender, minority, and socioeconomic category was another limitation noted. However, even with these limitations, the rigor of the study designs and the statistical methods provide validity and reliability. Nearly one-quarter of SNF resident readmissions to a higher level of care are preventable. Further analysis indicates that the SNF staff recognition of resident decline or deterioration related to infection, heart failure and futility to intervene with impending death would identify residents with potentially preventable readmission conditions.

Additionally, interventions achievable at the practice site include improvement of staffing, education and use of the ERDR guideline with imbedded care-based tools such as the two INTERACT tools, which includes quality improvement and stop and watch (Pathway Health, 2018). Therefore, this literature supports delineation between those SNF residents that have preventable readmission situations and where their situations is unpreventable allowing the project to focus on the preventable readmission situations.

Infection and Sepsis

A retrospective study completed by Prescott, Langa, and Iwashyna (2015) reviewed data of nearly 3,500 Medicare recipients to determine the readmission to an acute care facility with avoidable infection and sepsis. They used a multi-stage probability model of adults over 50 years of age or older that had Medicare insurance claims for their illness. The study subjects indicated, 41.6% of the readmissions were deemed to have been potentially avoidable if there had been identification, intervention, and management of their care at the SNF. The most common origin or location of the sepsis was determined to be urinary tract infection, pneumonia, and aspiration pneumonia. The authors acknowledged that they made assumptions in this study related to the actual preventability of the readmissions. This study is important to this project as it supports that sepsis and other infective processes were highly predictive for readmission to an acute care facility from the SNF. A limitation of the study may be the use retrospective data which may not reflect the current care deliver as there may have been changes in practice in SNF clinical areas. This study substantiates that infection and sepsis were the key drivers for readmission. This literature on infection and sepsis, as primary drivers for readmission, is supported as the primary reason for SNF residents to be readmitted to an acute care facility. The two infections that were identified are pneumonia and urinary tract infection supporting the

project site identified drivers for readmission. Notably this literature supports that infection is a preventable event that can be decreased in the SNF by changes in systems that will positively impact the residents.

In another retrospective study, Segal, Rollins, Hodges, and Roozeboom (2014) evaluated readmission from SNFs across the country by disease, state, setting, and cost. The authors used diagnostic codes that were supported by a panel of experts. The authors found that 26% of all readmissions were preventable, which included pneumonia, dehydration, and urinary tract infections. SNFs were listed as the primary setting where 90% of patients were readmitted. This study found out of 2.3 million readmissions 600,000 were preventable at a cost of \$8,783 for each readmitted patient. It was found the average readmission rate for all 50 states was 133 readmissions per 1,000 discharges. Utah had the lowest readmission rate at 59 readmissions per 1,000 discharges and Mississippi had the highest readmission rate at 197 readmissions per 1,000 discharges. The state of Arizona, where this project site is located, had a range of 97 to 122 readmissions per 1,000 discharges. This study is important to the project as it presents the expected range for readmissions within the state of Arizona, the average cost per readmission, and identifies the primary readmission conditions of the SNF residents. A limitation of the study may be the use of retrospective data which may not reflect the current care deliver as there may have been changes in practice in SNF clinical areas. This study indicated that infection and sepsis were related to 26% of the readmissions. This literature on infection and sepsis as primary drivers for readmission is supported as the primary reason for SNF residents to be readmitted to an acute care facility. The two infections that were identified are pneumonia and urinary tract infection supporting the project site identified drivers for readmission. Notably this literature

supports that infection is a preventable event that can be decreased in the SNF by changes in systems that will positively impact the residents.

Gohil et al. (2015) completed a retrospective cohort study in California on hospital case-mix for all causes for readmission and specifically for infection-related readmissions over the 30-day readmission timeframe. The goal of the study was to help determine effective interventions to reduce the readmission rates. They found 28% of readmissions were infection-related from SNFs. The authors indicated that patients readmitted had comorbidities and lengths of stay in acute care that were five days or longer prior to their discharge to a SNF. The authors recommend that future research focus on how to prevent the infections. This study is important to this project as it reinforces that infection is the primary reason for SNF transfer of a resident to a higher level of care. The limitations of evidence for the primary preventable driver of infection and sepsis was a single geographic area. A limitation of the study may be the use retrospective data which may not reflect the current care deliver as there may have been changes in practice in SNF clinical areas. This study substantiates that infection and sepsis were the key drivers for readmission. This literature on infection and sepsis, as primary drivers for readmission, is supported as the primary reason for SNF residents to be readmitted to an acute care facility. Notably this literature supports that infection is a preventable event that can be decreased in the SNF by changes in systems that will positively impact the residents.

Guerini et al. (2010) in a quantitative study of elderly patients admitted to a rehabilitation ward discovered that there were factors that supported identification of a deteriorating resident. These included: (a) temperature, (b) pulse, (c) respiratory rate, (d) pulse oximetry reading, and (e) blood pressure. The authors noted that changes in these factors were prognosticative for clinical deterioration where of the 133 subjects in the study 26 were transferred to acute care

where 14 died. This equates to 80.5% of the study subjects being stabilized in the facility that did not need to be transferred to a higher level of care. This study was important to the project as it clearly identifies that recognition of changes in clinical factors, that are completed periodically at the SNF, can be predictive of resident decline. The limitations of the evidence on the recognition of declining residents include small sample size, limited geographic area, and unidentified diversity including gender and minorities. Despite the limitations noted, the literature demonstrated rigor, validity and reliability of the findings.

Pneumonia. Casey, Fullerton and Sommerville (2015) in a review of current literature noted that the SNF resident is unlikely to have a clinical presentation that is aligned with current broad signs and symptoms associated with pneumonia. However, they state that a fever and or a functional decline should prompt the staff to evaluate the resident for an infection. Fever is defined as an oral temperature of 100 degrees Fahrenheit or 37.8 degrees Celsius. Functional status changes include changes in the following: mobility, eating habits, cooperation, confusion, incontinence, and falling. The authors also note that in review of four random controlled trials that SNF residents that had received the pneumonia vaccination were 43% less likely to develop a secondary pneumonia related to influenza. The limitations of the evidence on the recognition of declining residents include small sample size, limited geographic area, and unidentified diversity including gender and minorities. Despite the limitations noted, the literature demonstrated rigor, validity and reliability of the findings. A best practice indicated in these findings includes measuring for changes in vital signs that include temperature, pulse, respirations that are associated with a decline in function are indicative of potential pneumonia.

Lawrence and Pravikoff (2017) in a published clinical guideline indicate that often the bacteria that causes pneumonia is found in the stomach, so they recommend positioning patients

to prevent aspiration and introduction of the organisms into the lungs. The limitations of the evidence related to prevention of resident decline included correlation of research literature to conclude, interventions that is effectively expert opinion which may have bias, lack of validity and reliability depending on the evidence reviewed by the authors. Despite the significant limitations identified, the information substantiates best professional standards for infection control while identifying some specific resident issues that should be considered or monitored by the SNF staff. This information was important to this project as strategies identified can be used at the project site as best practices for preventive measures against pneumonia and UTI, while incorporating examples for staff to utilize in application of the ERDR guideline.

Metersky and Prasad (2018) in an evidence-based overview of pneumonia support vaccination, smoking reduction as it is associated with pneumonia, and good nutrition with use of supplements if needed. Additionally, they recommend monitoring residents for anemia, reduce or eliminate the use of antacids and proton pump inhibitors, and keep residents that appear ill away from other residents. Other things that can be done is education of staff on infection prevention, and disinfecting equipment and devices. The limitations of the evidence related to prevention of resident decline included correlation of research literature to conclude, interventions that is effectively expert opinion which may have bias, lack of validity and reliability depending on the evidence reviewed by the authors. Despite the significant limitations identified, the information substantiates best professional standards for infection control while identifying some specific resident issues that should be considered or monitored by the SNF staff. This information was important to this project as strategies identified can be used at the project site as best practices for preventive measures against pneumonia and UTI, while incorporating examples for staff to utilize in application of the ERDR guideline.

Urinary Tract Infection. Girard et al. (2017) in a retrospective study over three years evaluated residents and dates of catheter placement if noted in the chart. They discovered that 4% of patients had developed urinary tract infections (UTI). The characteristics of these patients included female gender, immunosuppressed, history of urinary retention, high post-void bladder urine volumes, and history of UTI. This study had limitations of small sample size and limited geographic area. Despite the limitations noted, the literature demonstrated rigor, validity, and reliability of the findings. A synthesis of the findings indicates that UTIs are discovered most often in residents with urinary bladder catheters or recently removed catheters, female gender, immunosuppression, history of urinary retention and UTI, and high post-void urine volumes.

Mody et al. (2017) in a two-year 48-state quantitative cohort study implemented a set of care delivery guidelines that recommend careful monitoring of urine volume and incontinence. There were no other recommendations for residents without indwelling catheters. Mody et al. (2017) has limiting factors related to geographic area and diversity including gender and minority subjects. Despite the significant limitations identified, the information substantiates best professional standards for infection control while identifying some specific resident issues that should be considered or monitored by the SNF staff. This information was important to this project as strategies identified can be used at the project site as best practices for preventive measures against pneumonia and UTI, while incorporating examples for staff to utilize in application of the ERDR guideline.

Buhr, Genoa, and White (2011) completed a literature review and determined that many UTIs in long-term care facilities are asymptomatic and do not require treatment. Currently there is no accurate method to determine the difference between asymptomatic and those that are symptomatic and do require treatment. The authors identify communication barriers,

comorbidities and chronic genitourinary complaints in this population as increasing the difficulty in determining when to treat or not. However, the authors do state that there is some evidence to suggest using cranberry products and for women to use vaginal estrogen as prevention options. The limitations of the evidence related to prevention of resident decline included correlation of research literature to conclude, interventions that is effectively expert opinion which may have bias, lack of validity and reliability depending on the evidence reviewed by the authors. Despite the significant limitations identified, the information substantiates best professional standards for infection control while identifying some specific resident issues that should be considered or monitored by the SNF staff. This information was important to this project as strategies identified can be used at the project site as best practices on preventive measures against pneumonia and UTI, while incorporating examples for staff to utilize in application of the ERDR guideline.

Prevention Strategies

Prescott et al. (2015) in their quantitative multi-stage probability study identified that nursing assessment and intervention at the SNF would decrease or avoid the readmission to an acute care facility. Casserly et al. (2011) in a prospective cohort study completed in the emergency department, used a protocol to impact the timely identification of infection and sepsis. The results of this study indicated that with the use of the nurse-driven protocol, such as the ERDR guideline, when required, antibiotic therapy was instituted 24 minutes sooner than prior to the protocol intervention. These researchers noted with the protocol, the communication between staff and providers was improved and care delivery at the appropriate level was initiated seamlessly. However, they also noted that the utilization of the protocol was not consistent and although some of the variables improved none were statistically significant at the time of

publication. This study supports the use of a nurse-driven protocol, such as the ERDR guideline, where implementation is through nurse-identified features of a patient's presentation to ensure timely intervention. The limitations of evidence related to the use of tools and guidelines as readmission prevention strategies include small sample size and limited geographical area of the studies. Additionally, identification of diversity including gender and minorities was missing. Even with these limitations, all study findings provided rigor, validity, and reliability. This literature supported that initiation of a nurse-driven protocol, such as the ERDR guideline, can lead to recognition with intervention for patients in a structured care environment. This literature was important to the project as it supports the best practice that supports the use of a guideline, such as the ERDR guideline, can be effective in improving staff skill sets for identification of a change of condition.

In a quantitative study Coates, Villareal, Gordanier, and Pomernakci (2015) identified professional scope of practice for the RNs and the interventions that they could independently initiate when sepsis indicators were present in the acute care patient. The licensed provider needed to confirm the sepsis and order the antibiotic; the nurse would recognize the signs of sepsis, administer 500 milliliters of saline solution, and complete point-of-care testing for blood cultures and lactic acid. The authors did not indicate how the RN completed the recognition of sepsis. The data for the results of implementation of the protocol were significant for improvement in times from identification to initiating treatment. While this study was based in an acute care setting, it deals with a nurse-driven protocol, such as the ERDR guideline, for recognition of sepsis that was successful. The authors recommended additional research on use of protocols for sepsis identification. This was important information for this project as one of the goals is nurse recognition of a declining patient and infection and sepsis is one of two

categories of illness that has resulted in most of transfers to a higher level of care at the project SNF. The limitations of evidence related to the use of tools and guidelines as readmission prevention strategies include small sample size and limited geographical area of the studies. Additionally, identification of diversity including gender and minorities was missing. Even with these limitations, all study findings provided rigor, validity, and reliability. The use of tools and guidelines to assist nursing staff with recognition and intervention selection for a declining patient or resident. This literature was important to the project as it supports the best practice that reinforces that the use of a guideline, such as the ERDR guideline, can be effective in improving staff skill sets for identification of a change of condition.

In a quality improvement initiative, Hasan and Katona (2015) worked with an interdisciplinary team to create a care map or protocol to improve recognition and treatment management of sepsis. The findings suggested when the tool was used, there was a 47.5% increase in adherence to diagnostic protocols such as blood draws, and a 30.3% increase in the timeliness to treatment with the protocol. This study is important to the project as a leader including those that will implement the protocol in the creation of the protocol may improve adherence to the protocol. Even with these limitations, all study findings provided rigor, validity, and reliability. Although this study was not located in a SNF, the use of nurse-driven protocols, such as the ERDR guideline, may be as effective in the SNF as in acute care. This literature was important to the project as it supports the best practice that supports the use of a guideline can be effective in improving staff skill sets for identification of a change of condition.

Giuliano, Lucado, and Staul (2011) completed a pre/posttest non-randomized study of acute care patients using a clinical documentation support system that advised the nursing staff when one or more critical factors were present in a patient's medical record. Staff were alerted

to evaluate the patient. The implementation of this guideline resulted in a 10.6% improvement in timely interventions for patients. The authors recommend further study to support existing guidelines that have not been validated. The importance of this study is noting that the use of the guideline, such as the ERDR guideline, made a significant difference in treating patients, which was a goal for this project. The limitations of evidence related to the use of tools and guidelines as readmission prevention strategies include small sample size and limited geographical area of the studies. Additionally, identification of diversity including gender and minorities was missing. Even with these limitations, all study findings provided rigor, validity, and reliability. Although this study was not located in a SNF, the use of nurse-driven protocols may be as effective in the SNF as in acute care. The use of tools and guidelines to assist nursing staff with recognition and intervention selection for a declining patient or resident. This literature was important to the project as it supports the best practice that supports the use of a guideline, such as the ERDR guideline, can be effective in improving staff skill sets for identification of a change of condition.

Gyang, Shieh, Forsey, and Maggio (2015) completed an observational pilot study using a sepsis nurse-driven protocol for patient assessment and intervention related to sepsis. The initial findings of the study indicated a 13% improvement in patient sepsis identification and intervention. These researchers recommended the use of a framework for nurses to assess patient risk. This study supports the project demonstrating use of a nurse-driven framework to guide assessment and intervention can lead to recognition of a declining patient. The limitations of evidence related to the use of tools and guidelines as readmission prevention strategies include small sample size and limited geographical area of the studies. Additionally, identification of diversity including gender and minorities was missing. Even with these limitations, all study

findings provided rigor, validity, and reliability. Although this study was not located in a SNF, the use of nurse-driven protocols may be as effective in the SNF as in acute care. The use of tools and guidelines to assist nursing staff with recognition and intervention selection for a declining patient or resident. This literature was important to the project as it supports the best practice that supports the use of a guideline, such as the ERDR guideline, can be effective in improving staff skill sets for identification of a change of condition.

In a comprehensive systematic review, Renom-Guiteras et al. (2014) studied tools for assessing SNF residents for appropriate readmission to acute care. The overview was a discovery that none of the current tools evaluated by this team provided the strength of evidence for recommendation for use. The authors recommend further research. This study was important to this project as it indicates that now there is no “gold standard” for use in long-term care for supporting staff with recognition of the declining resident. Therefore, development of a unique guideline, such as the ERDR guideline, for the project SNF will incorporate these research recommendations. The limitations of evidence related to the use of tools and guidelines as readmission prevention strategies include small sample size and limited geographical area of the studies. Even with these limitations, all study findings provided rigor, validity, and reliability. Although this study was not located in a SNF, the use of nurse-driven protocols may be as effective in the SNF as in acute care. This literature was important to the project as it supports the best practice that supports the use of a guideline, such as the ERDR guideline can be effective in improving staff skill sets for identification of a change of condition.

Similarly, Maslow and Ouslander (2012) created the white paper for the Long-Term Quality Alliance indicating the review of 250 quality measures that are believed to be linked to SNF resident readmissions to acute care. Their findings indicated that often the severity of

illness and resident comorbidities, upon transfer to the SNF, were not considered. However, they also indicated that the unintended transfers to a higher level of care was due to failure in care delivery. This study was important to this project as it identifies the large number quality measures for consideration in SNF resident assessment and supports that improving the care delivery through the education provided to implement the ERDR will be helpful to raising the skill set of the staff. Even with these limitations, all study findings provided rigor, validity, and reliability. The use of tools and guidelines to assist nursing staff with recognition and intervention selection for a declining patient or resident. This literature was important to the project as it supports the best practice that supports the use of a guideline, such as the ERDR guideline, can be effective in improving staff skill sets for identification of a change of condition.

In consideration of creating lasting change within the staff, Low et al. (2015), in a systematic review, noted that planned change strategies were important to ensure lasting improved outcomes for the residents. These authors recommended the use of staff champions supporting the change at all times within the facility. They also identified that measurement of outcomes of the change would be a determination of a change in behavior. The limitations were based on the selected studies for the review that were not geographically diverse and no identification of the demographics of the staff were presented. However, this study supports that a best practice for sustained change is to use staff champions such as those included in this project implementation.

Education was the theme for ensuring change with staff in a primary research paper that measured staff perceptions where goals were achieved (Rantz et al., 2015). These authors discovered that education on the use of tools with implementation support led to achievement of organizational goals. This study is limited to a small sample size and one geographic location.

However, the statistics utilized demonstrate rigor and confidence in the findings. This study supports that best practice is to provide education to staff on the use of tools and also implementation support.

INTERACT Tools: Stop and Watch & Quality Improvement within the ERDR Guideline

A systematic review that analyzed use of the two INTERACT (stop and watch and quality improvement) tools at 25 long-term care facilities noted a 17% decrease in readmissions (Nelson & Pulley, 2015). Additionally, in facilities where the organizational leadership was committed to the use of the INTERACT tools, there was greater acceptance by the staff to consistently use the tool. These authors also noted that use of formal educational activities, such as short frequent classroom education, webinars and videos promote best practice consistency among the staff. Recommendations included use of traditional care models as a method to decrease readmissions. This literature was important to the project as it supports the best practice that supports the use of validated tools, as incorporated into the ERDR guideline, can be effective in improving staff skill sets for identification of a change of condition.

In a large study of over 64 SNFs, Ouslander et al. (2011) completed a quantitative trial study with the two INTERACT tools for assessment of SNF residents. The findings of this study noted that the SNF staff were able to identify nearly one-quarter of the transfers as preventable. The use of these two tools supports resident assessment including more than diagnostic category or disease process. Additionally, a review of five other quantitative research studies that incorporated the two INTERACT tools in their research had similar findings (Abrahamson, Mueller, Davila, & Arling, 2014; The Center for Health Workforce Studies, 2014; Lamb et al., 2011; Ouslander, Lamb, Tappen et al., 2011). Each of these studies showed a positive statistically significant difference in reduction of SNF transfers to a higher level of care with the

implementation of the two INTERACT tools by the SNF staff. The limitations of evidence related to the use of tools and guidelines as readmission prevention strategies include small sample size and limited geographical area of the studies. Even with these limitations, all study findings provided rigor, validity, and reliability. This literature was important to the project as it supports the best practice that supports the use of validated tools that may be incorporated into a guideline can be effective in improving staff skill sets for identification of a change of condition.

Significance and Strength of the Evidence

The literature review encompassed and supported the components of the practicum project by the evidence in each of the areas impacted by the project: (a) preventable and non-preventable admissions, (b) readmission risk prediction based on diagnosis and severity of illness, (c) identification of infection and sepsis as primary drivers for readmission to acute care, (d) readmission prevention strategies using tools and protocols, and (e) recognition and prevention of declining or deteriorating residents. The literature demonstrates that infection and sepsis, as preventable conditions, are the leading causes for SNF resident decline resulting in many unnecessary transfers to acute care facilities which are identified using the two INTERACT tools (Ouslander et al., 2011; Polniaszek, Walsh, & Wiener, 2011). The research also supports the use of chart-based documentation related to the APR-DRG and severity of illness of the resident to identify risk for readmission (Kiridly et al., 2014; Lavernia, Villa, & Iacobelli, 2013; Roberts et al., 2015). The literature also demonstrates that the use of a multi-disciplinary teams supporting nurse-driven protocols, such as the ERDR guideline, that utilize validated tools and guidelines improve recognition, intervention, and lead to a higher quality of care (Casserly et al., 2011; Coates, Villareal, Gordanier, & Pomernakci, 2015). The guidelines ensure timely recognition and intervention when based on evidence compared to the current

practice. Additionally, when staff recognize a declining resident using a guideline with validated tools, treatment can begin at the SNF and the readmission is avoided. The research demonstrates that utilization of timely complete assessment aligned with care guidelines ensure recognition of resident decline. Research supports the use of a guideline, such as the ERDR guideline, with staff champions to assist nursing staff in providing high quality care.

The evidence supports that when SNF nursing staff use a guideline that is evidence-based there will be a decrease in readmissions to acute care and an elevation of the quality of care delivery. The ERDR guideline that imbeds the two INTERACT tools meet these criteria. As indicated staff, the use of a guideline supports acquisition of skills to then demonstrate application of the guideline in practice. This strategy aligns with the DNP project proposal and is supported by the project site leadership (DRS and executive director) where the project coordinator (DNP student) is the nurse leader for the education and practice change through development of the ERDR guideline to decrease SNF resident readmissions.

Theoretical Framework

The purpose for use of a theoretical framework is to ensure there is support and structure for evidence-based projects through defining the project assumptions and critical evaluation (Moran, Burson & Conrad, 2016). The theoretical framework can be thought of as a guide for the DNP project that makes certain there is an interconnectedness between the components of the project (Bemker & Schreiner, 2016; Moran, Burson & Conrad, 2016). Additionally, the theoretical framework is a way to translate research information into application knowledge for use by the healthcare team (White & Dudley-Brown, 2012). The framework moves the project from purpose to clear identification of the variables associated with the project problem. The framework selected for this project is Marilyn Ray's Theory of Bureaucratic Caring (as cited in

Parker & Smith, 2014). The selection of this theory links nursing care with the economics related to the project purpose.

Many frameworks, including Ray's Theory of Bureaucratic Caring, offer a vision and components of the processes related to the framework focus, but does not provide explanations or concrete guidance for project change implementations (Nilson, 2015). Therefore, the addition of an action model to guide the change is "intended to provide support for planning and managing implementation endeavours" (Nilson, 2015, para. 17). Kotter's 8-Step Change Model is a broad, yet a comprehensive guide that supports effective and sustained change (Kotter International, 2015). Additionally, Stragalas (2010) identifies that this model has strong validation based on prior research.

Accordingly, for this DNP project there were two guiding frameworks. Ray's Theory of Bureaucratic Caring (as cited in Parker & Smith, 2014) provided the insights into the components of the project at the skilled nursing facility and Kotter's 8-Step Change Model guiding the project change implementation (Kotter & Cohen, 2002).

Development of Frameworks

Ray's Theory of Bureaucratic Caring. Ray's Theory of Bureaucratic Caring is a middle-range theory that was developed within a clinical setting through qualitative research. Over the past 30 years, this theory has evolved from initially a process of discovery related to organizational culture and the meaning of caring to later identification and incorporation of how these are impacted within a complex organizational system such as a bureaucracy (Parker & Smith, 2014). Marilyn Ray, in her role as a clinical nurse in acute care, realized that most healthcare is received within the framework of a complex system, such as a hospital, where the goals of the system impact the culture and caring ability of the staff. In her doctoral work at the

University of Utah in 1981 she completed the initial research leading to creation of this theory that ensures that there is a balance between the bureaucracy goals and those of the caregivers where all goals should be focused on “facilitating health and well-being” (Parker & Smith, 2014, p. 485). Ray’s research expanded throughout the world advancing the application of the theory to any nursing practice setting (Parker & Smith, 2014). This initial qualitative caring-focused research was then related to complexity science of complex systems (Coffman, 2018; Ray, 1981, 1989, 2001, 2006). The theory has evolved from inception in 1981 (Ray, 1981). Ray (1998) states that “complexity theory is a scientific theory of dynamical systems collectively referred to as the sciences of complexity” (p. 91). Thus, this theory supports nursing practice in a modern economically based and resident outcomes-based healthcare system (Ray & Turkel, 2014).

Major Theory Tenets. Ray’s Theory of Bureaucratic Caring has nine tenets that include: (a) caring, (b) spiritual-ethical caring, (c) education, (d) physical, (e) socio-cultural, (f) legal, (g) technological, (h) economic, and (i) political (Coffman, 2018). Ray believes that “viewing the good” and communication are the central components of the theory where spiritual-ethical caring is integrated with the organizational structures identified as political, economic, educational, legal, technical and socio-cultural. This theory views the care environment as whole or holistically where every tenet impacts all the other tenets yet may also be seen separately from the whole environment (Coffman, 2018).

Ray (2010a, 2010b) has defined caring as an inter-relational process between culture, ethics and spirituality. It is giving of self and doing what is right related to fairness, suffering and justice. Caring is a part of culture: individual culture, organizational culture, national culture, and global culture.

Spiritual-ethical caring involves a compilation of choices, creativity, community, love, and attachment (Ray, 1989, 1997a, 2010a). This tenet means that every person is treated with respect and offered choices about their care.

Education relates to sharing of knowledge, development of programs, and all other types of teaching modalities (Ray, 1981, 1989, 2010c). The education is a form of demonstrating caring for the recipient of the education.

Physical includes all the personal bodily processes and the mental components of each person (Ray, 2001, 2006). This tenet is visualized as an integration between the components that create the whole person.

Social-cultural references the environment of the person, family, and organization (Ray, 1981, 1989, 2001, 2006, 2010a). It encompasses social relationships, communication patterns, involvement, intimacy, and components of structured groups that interact with each other.

Legal relates to policies, procedures, and accountability measures in care delivery (Gibson, 2008; Ray, 1981, 1989, 2010a, 2010b). Additionally, the expected liability and malpractice factors as well as professional responsibilities are a part of this tenet.

Technology includes all medical devices, laboratory, radiological equipment, and pharmaceuticals (Davidson, Ray, & Turkel, 2011; Ray 1987, 1989). Additionally, technology extends to communication devices such as computers and other technology that support and may direct, record or otherwise aid staff and organizations to care for residents.

Economic references insurance, money, finance and budgets with guidelines and stewardship to ensure sound management (Ray, 1981, 1989). It also addresses the allocation of resources such as services (Ray, Turkel & Cohn, 2001; Turkel & Ray, 2000, 2001, 2003).

Political emphasizes the relationship of the power structure between the staff and the organization of those persons in decision-making roles (Ray, 1989, 2010a, 2010b). This also includes negotiation, prestige, privilege, government insurance, private insurance, and other scarce resources (Ray, 1989, 2010a, 2010b).

These tenets are always present and impact each other within the environment. There is no hierarchy among the tenets however, depending on the needs identified, such as resident decline, there is a re-prioritization of focus between the tenets. There are four assumptions that are generated from these tenets that include: nursing, person, health, and environment (Coffman, 2018). It is through these assumptions that this theory is translated into practice.

The assumption of nursing includes relationships, ethical and spiritual caring where justice and compassion are expressed (Coffman, 2018). Additionally, nursing is related to the activities of the nurse caring for the resident within a complex organization; physical and education. The assumption of person involves the cultural and spiritual nature of the resident developing relationships within the complex organization through interaction within the organizational environment (Coffman, 2018). The assumption of health is foundational in meaning-making for the resident and staff where cultural beliefs, values and physical state combine to determine how illness is recognized within the bureaucratic organization (Coffman, 2018). Meaning-making, as learned in childhood and utilized throughout life, is a psychological process whereby people make sense, construe, and understand relationships, life events, and themselves (Mahn, 2012). The assumption of environment embodies the complexities of culture, spirituality, and ecology (Coffman, 2018). It addresses the structure and function of the staff, resident, and leaders within the complex organization as aligned with the economic, legal, political, and technological aspects. The assumption of environment also supports meaning-

making, conflict, and cooperation, and incorporates the social structure of the organization (Coffman, 2018).

Kotter's 8-Step Change Model. John Kotter (1995) completed his doctoral work at Massachusetts Institute of Technology prior to joining the business faculty at Harvard University (Essays, 2013). Kotter devised this change model based on research on organizational failure during efforts at transformations. The purpose of this change model was to ensure organizational change effectiveness and sustainability in the business community. Over time and through additional research, Kotter's 8-Step Change Model has been applied and validated in many industries including healthcare (Kotter International, 2015). For example, Appleby et al. (2006) reported that this model was utilized effectively by the World Health Organization (WHO) to implement multidisciplinary team common nomenclature or language.

Change Steps. The first step of this model is to create a sense of urgency or increase the urgency for change (Kotter, 2002). The goal is for open identification of the problem, that it must be solved, and possibly discussion on how to solve it. Organizationally the projection is to reduce fear and anger at the past and promote the opportunities for the future (Kotter, 2002).

Step two is selection of key stakeholders to create a team with the power and charisma to move the change forward. Key to creation of the team is to build emotional commitment and trust between the members.

The third step is to ensure the vision for the change is comprehensive and not focused on just the organizational goals, but also the goals of the staff. The vision should be compelling where the team can see how the vision can be translated into reality (Kotter, 2002).

Step four is providing time and effective communication to gain staff support for the change (Kotter, 2002). Staff will be able to answer the question, what will this change mean to

me? Attention is paid to everyone to ensure that questions are answered, and that all confusion is alleviated (Kotter, 2002).

The fifth step is through careful planning and action with the appropriate stakeholders and others impacted by the change that barriers are removed. Strategies are in place to promote others support of the vision and ultimate outcome.

Step six identifies and rewards successes on the path of change to build momentum and continued engagement in the process (Kotter, 2002). Small changes must be visible and address concerns expressed in prior steps so that staff see that their needs are being addressed (Kotter, 2002).

The seventh step is maintaining the momentum and engagement by seeking out any new or missed barriers and finding solutions (Kotter, 2002). At times emotional barriers may present and require care to ensure ongoing change transformation (Kotter, 2002).

Step eight is supporting and sustaining the change; making it stick. This step is ensuring that new group norms are imbedded such as in orientation, workflow processes and so forth.

Application to Current Practice

Ray's Theory of Bureaucratic Caring. Johnson (2015) describes the implementation of Ray's Theory of Bureaucratic Caring to a system of care for homebound patients. Using case-based scenarios the author demonstrates how senior patients that transition from acute care to home care have holistic nursing care needs that support the desires of the patient, their current level of health and the environment which are coordinated to support positive outcomes. The author shares how a lack of resources required prioritizing education for the family to learn how to deliver the intravenous medications. In this way, each of the theory tenets was integrated and prioritization between the tenets determined by the patient care needs. Since Ray's Theory of

Bureaucratic Caring identifies that changes in care prioritization occur within complex systems, the care transition is supported through aligning the nursing process and plans of care with patient needs to promote best practice outcomes (Graham, Ivey, & Neuhauser, 2009; Naylor, Aiken, Kurtzman, Olds, & Hirschman, 2011).

Maykut and McKendrick-Calder (2013) demonstrate how application of this theory promotes critical thinking in nursing students. These authors believe that “[c]ompeting values of bureaucracy (economic, political, legal, and technological) and caring (humanistic, social, educational, ethical, and religious/spiritual) currently exist in the healthcare system and both influence the work of nurses” (Maykut & McKendrick-Calder, 2013, p. 32). They used the process of root-cause-analysis to demonstrate how these values affect the caregiver, patient, and organization. Students were able to use evidence-based best practices, thereby improving management of complex patients within a variety of organization settings. Also, it was noted that perceptions of the students indicated that they were better at problem-solving and had a better understanding of the integration and interaction between caregiving and bureaucracy.

Three recent doctoral dissertations used Ray’s Theory of Bureaucratic Caring as the theoretical framework. Lee (2014), in a descriptive-correlational study, applied Ray’s Theory of Bureaucratic Caring discovering a strong alignment between caring related to staff attitudes about patient safety and political issues measured by a job satisfaction survey. Peeler (2015), using a descriptive statistical design, studied staff nurse’s job satisfaction within the complex organization dealing with unexpected issues such as short staffing and change in patient condition. Saifman (2017), in a qualitative interpretive phenomenological study, found one centralized theme (making an impact) and four subthemes (staff satisfaction, validation by the numbers, feedback relationship metrics and success role satisfiers).

Potter and Wilson (2017) applied Ray's Bureaucratic Theory of Caring in a descriptive study, linking staff engagement and resident health outcomes in a SNF. They found that staff improved in their practical and actionable care delivery. These authors noted that even when there were challenges such as short staffing, there continued to be strong process-related outcomes. They concluded that through this theoretical framework applied to their study that there was creation of high-quality and meaningful actions that improved resident health care.

It is evident through these studies that Ray's Bureaucratic Theory of Caring is applicable in various settings. Thus, this theory was affirmed as an excellent guide for the vision and components of this project that requires bridging between staff caring through improved recognition of the declining resident and organizational needs to reduce resident readmissions.

Kotter's 8-Step Change Model. Small et al. (2016) utilized Kotter's 8-Step Change Model to improve patient safety through implementation of bedside report. There were some challenges to the implementation based on staff resistance but 88% of patients reported being very satisfied with the change. The authors report this model was easy to use as a systematic plan for change.

Dolansky, Hitch, Pina, and Boxer (2013) selected Kotter's 8-Step Change Model to improve staff identification of heart failure residents in four skilled nursing facilities. These authors used staff champions, an implementation coach, implementation tools, and physicians to promote the change. The level of success ranged from 17% to 82% where the largest barrier to success was high staff turnover. The authors identified the use of this model was very valuable to their change process.

Mork, Krupp, Hankwitz and Malec (2018) used Kotter's 8-Step Change Model to implement several related initiatives in the intensive care unit in an acute care hospital. They

complemented this model on its ability to support and promote the redesign of care processes and to standardize expectations (Mork et al., 2018).

Three recent research doctoral dissertations used Kotter's 8-Step Change Model (Libby, 2017; Miller, 2017; Olson, 2015; Williams, 2014) and two DNP scholarly projects (Barker, 2015; Olson, 2015) used Kotter's 8-Step Change Model. Each of these research studies and the DNP projects utilized this model in application of changes within healthcare that involved organizational support and staff changes to improve diabetes management (Barker, 2015), identifying perception of institutional effectiveness (Libby, 2017), implementing an electronic medical record (Miller, 2017), prevention of pressure ulcers (Olson, 2015), and establishing disease management programs (Williams, 2014). Each author indicated the appropriateness and value of this model in facilitating the completion of their studies.

Application to Project

Ray's Theory of Bureaucratic Caring. Ray's Theory of Bureaucratic Caring directed the development and implementation of the ERDR guideline by integration of the four assumptions generated from the nine tenets of the theory to promote recognition of the declining resident at the SNF and decrease readmissions to acute care.

The assumption of nursing, includes the tenets of physical and education, pertains to the nursing staff recognition of the declining or deteriorating resident and initiating appropriate interventions. It also pertains to the staff on the ERDR guideline that supports recognition of the declining or deteriorating resident.

The assumption of person includes the tenets of cultural and spiritual-ethical, which incorporates the support of the staff by the DNP project coordinator and staff champions during

the change to best practices. Additionally, it supports the respectful and caring approach to the residents by the staff in completion of their nursing duties.

The assumption of health includes (a) the tenets of physical and socio-cultural, (b) provides the support for the staff with the bureaucratic organization to education themselves on the values and (c) beliefs of the organization toward health and expected practices within the organization. It also provides support for effective communication and feedback, social interaction between the staff and residents and inclusion of family members in care delivery decisions to enhance resident safety and improve quality of care.

The assumption of environment, includes the tenets of legal, technological, economic, and political, pertains to the development, implementation, and ongoing utilization of the ERDR guideline as a means of ensuring high quality care that will decrease costs to the organization. Additionally, it addresses the power of the organizations leadership to determine management of the readmissions through ERDR guideline implementation and mandate staff use of the guideline to achieve organizational goals.

For the nursing staff to embrace the implementation of the ERDR guideline within the SNF as a complex organization, all of the assumptions were included in the process improvement DNP project. As there is no hierarchy in Ray's Theory of Bureaucratic Caring, throughout the process of development, education, implementation, and evaluation of the project, each of the assumptions will take a higher priority than the others. For example, in the ERDR development knowing the key drivers within the project site for readmissions that affect the environment assumption is priority to define organizational needs and staff education needs. As the project progresses the priority shifts toward health and nursing assumptions including communication and physical identification of resident changes in condition through education,

followed by application or use within the SNF. After ERDR guideline introduction to staff was completed the assumption of person becomes priority as the staff champions begin shift-based support of their peers in use of the ERDR guideline with respectful and caring approaches to the residents.

Kotter's 8-Step Change Model. The first step, establishing a sense of urgency, applies through increasing the level of awareness of the issue of readmissions among the staff. Plans included meetings with leadership and staff to promote discussion of the issue.

Step two requires building the team to facilitate, promote and sustain the change. At this point the staff champions were identified on each of the nursing shifts. The champions had materials specific to their role as the support people for the full team.

The third step is the shared vision paired with strategies on how to apply the vision in real-life. At this point the ERDR guideline that imbedded the two INTERACT tools (Stop and Watch and quality improvement) were brought forward with demonstration of how it will help each staff member in their jobs, promote a higher level of care, and decrease readmissions.

Step four is communication with stakeholders and others who may be impacted by the change. The nurse staff champions created posters to place within the facility describing the ERDR guideline. Staff completed orientation sessions in the use of the guideline. There was an energetic kick-off celebration to mark the start of the implementation. Staff had a badge hanger that will remind them of the key components of the ERDR guideline and where to gain more information when they identify a change in resident condition.

The fifth step is planning to overcome barriers that may be present or not originally identified through encouragement of staff to come forward with feedback on the process at this point. Interdisciplinary meetings offered an opportunity to ensure all stakeholders thoughts are

recorded, addressed, and solved. Rounding with individual staff across each shift allowed for individual feedback and problem-solving.

Step six is an opportunity to celebrate the short-term accomplishments. These were identified on a bulletin board where information on both daily and weekly basis, as identified in team meetings, demonstrated resident change of status evaluation and whether interventions or transfer was the most appropriate action. During daily rounding, small successes, and use of the ERDR guidelines were reinforced to ensure changes in behavior are rewarded.

The seventh step is for reviewing all successes up to this point which should be nearing the end of the implementation and moving toward a sustained change in behavior and use of the ERDR guideline. Staff champions shared celebrations on their shifts with the other staff and point out the accomplishments with an emphasis on the points of most importance to the staff group.

Step eight is a comprehensive review of the implementation, the processes that worked well and those that had challenges. There was identification of any new barriers or challenges and solutions. A planned ongoing evaluation of the ERDR guideline and report to the staff with celebrations and opportunities for improvement to ensure sustaining this project past implementation.

Summary

Ray's Theory of Bureaucratic Caring demonstrates the interconnectedness and inter-relatedness of the reality of today's healthcare environment (Parker & Smith, 2014) and Kotter's 8-Step Change Model delineates the sequential actions necessary to ensure implementation of the change. Healthcare organizations exist to care for patients and residents with the expectation of delivering and receiving high quality care. There was organizational support from the DRS and

executive director promoting staff to obtain the skill set to meet the expectation to recognize a declining or deteriorating resident, and thereby reduce readmissions. The utilization of Kotter's 8-Step Change Model ensured that staff vision, engagement, and care delivery behaviors were facilitated, promoted and sustained to improve identification of the declining or deteriorating resident. Thus, Ray's Theory of Bureaucratic Caring and Kotter's 8-Step Change Model supported this DNP project in developing the ERDR guideline to improve resident quality of care and reduce readmissions to a higher level of care.

Project Design

Quality improvement (QI) is "the systematic, data-based monitoring and evaluation of organizational processes with the end goal of continuous improvement" (Houser, 2018, p. 11). QI projects focus on data-based decision-making that is practice-site specific (Houser, 2018). However, Oermann, Turner and Carman (2014) indicate that while a QI project may not be research, the outcomes can be presented to other practice-sites with similar settings and problems (p. 58). The purpose of this project was to implement an Early Recognition of Declining Patient (ERDR) guideline (See Appendix B), that includes policies, procedures and validated tools, to improve identification, appropriate assessment, and intervention for the declining or deteriorating resident (Low et al., 2015; Mileski et al., 2017). The goal of the project was to decrease unnecessary transfers through ERDR guideline implementation which should also decrease lost revenue to the SNF. Thus, the population of interest for this project was the nurses, CNAs, and caregivers at the project site.

This QI project had the goal of reducing unnecessary transfers of long-term care residents to a higher level of care. To determine the effectiveness of the project, specific data was collected and analyzed. The data collected for analysis included (a) chart audit of the ERDR

guideline, and (b) the number of transfers to a higher level of care deemed to be unnecessary with rationale. The analysis of these data determined the level of success of the QI project implementation and effectiveness on impacting the project goal.

The use of Kotter's 8-Step Change Model (Kotter International, 2015) supported advancing the ERDR guideline to identify and intervene during resident decline within the long-term care facility. Accomplishing this goal was be done through presenting the ERDR guideline and their use to the staff. The goal of the project was to decrease unnecessary transfers through ERDR guideline implementation.

Population of Interest and Stakeholders

Population of Interest

The population for this DNP project was the on-site leaders and the direct care-giving staff at the project site which is a long-term care facility. The direct care-giving staff were composed of RNs, LPNs, CNAs, and unlicensed caregivers. The nurses are responsible for determining a change in resident condition but often it is the CNAs and unlicensed caregivers that may first identify a difference in resident activity or compliance with activities of daily living. The nurses used the ERDR guideline which directs evidence-based identification, appropriate assessment, and intervention for the declining or deteriorating resident. Specifically, using the ERDR guideline, nursing staff are directed to the INTERACT Quality Improvement tool and the CNAs and caregivers are directed to the INTERACT Stop and Watch tool (Pathway Health, 2018). All staff are employed by the facility; there are no staffing agency or contract workers employed.

Nurses. All nurses working on all three nursing shifts participated in the project. Currently there are 11 nurses employed, with two open positions which were not filled prior to

project implementation. Five of the nurses are scheduled for the day shift, five nurses are scheduled for the evening shift and three nurses are scheduled for the night shift. At present the two open positions are on the night shift.

CNAs and caregivers. The CNAs and caregivers working on all three shifts participated in the project through inclusion in the orientation to the process change for the nurses and on the use of the ERDR guideline imbedded INTERACT Stop and Watch tool (Pathway Health, 2018). There are six CNAs and/or caregivers on both the day and evening shifts and four CNAs and/or caregivers on the night shift.

The on-site leadership of the project site includes the executive director that oversees all operations and resident outcomes. The executive director relies on the director of resident services (DRS) who is responsible and accountable for all matters related to care delivery to the residents. The DRS completed the letter of approval for this project at this site (Appendix A). All educational materials, policy and procedures, and designation of location and access to all project-related documents, data, and evaluations were approved by the DRS. The executive director and the DRS constitute a population of interest as the leadership team for the facility that is ultimately responsible for resident outcomes and the quality of the nursing staff. The inclusion criteria specify the nurses, CNAs and caregivers as participants. The exclusion criteria specify front desk clerk, dietary and maintenance personnel.

Setting

The project site admits residents that are post-acute care hospitalization, residents that can no longer care for themselves independently in their homes, and those that have changes in mental status that may or may not have been officially diagnosed with dementia or Alzheimer's

disease. The facility has an average of 60 residents but has a capacity to admit up to 100 residents.

Stakeholders

Stakeholders are those “entities in an organization’s environment that play a role in the organization’s health and performance or that are affected by the organization” (Marquis & Huston, 2015, p. 273). Kirchner et al. (2012) identified that for a quality improvement project to be successful that there must be stakeholder support and engagement in the change. The facility leaders, executive director and DRS, play a role and are affected by the QI project as they are responsible for the overall management of the facility, quality of resident care, and expertise of the nurses, CNAs, and caregivers. The leaders enthusiastically supported this QI project and expected that the QI project would reduce unnecessary transfers to a higher level of care and improve resident outcomes.

Recruitment Methods

All nurses, CNAs, and caregivers were included in the ERDR guideline presentation as this was a change in practice and mandated by the facility. Therefore, there was no ability to opt-out of the project as all staff are recruited for the project. All nurses participated with consideration of pending inability to do so for unexpected or planned time away from the facility or if new staff have not completed orientation by the implementation date which may be a limitation of the project.

The DRS selected two nurses from the day and evening shift and one nurse from the night shift to be designated as staff champions. The nurse staff champions received in-depth application and use guidance on their shifts to support the nursing staff in using and completion of the ERDR guideline imbedded INTERACT Quality Improvement tool (Kirchner et al., 2012;

Pathway Health, 2018). There was no specific personal incentive to work toward this QI project other than maintaining a positive performance review with the DRS. The professional incentive for all staff was to improve staff assessment expertise, improve resident outcomes and remain employed at the project site.

Chart audits. Resident chart audits were completed related to the use of the ERDR guideline. Based on historical data for resident transfers to a higher level of care, the goal for the number chart audits was 30. Inclusion for chart audit included all current residents. Exclusion criteria included residents with a current order for ‘do not resuscitate’ in their chart.

All charting at this facility is completed on paper, there is no electronic charting. Therefore, the privacy and confidentiality of the resident charts was based on access, which was restricted to employed staff. Resident charts were secured in the nurse’s station where there is limited access by authorized staff. The DNP student was given approval for chart access and had approval received from the director of resident services to develop a chart audit checklist tool (See Appendix B) aligned with the ERDR guideline. The DNP student completed the chart audit and remove the completed checklist to a secure file in the DRSs locked office.

Tools/Instrumentation

ERDR Guideline

The purpose of the ERDR guideline was to provide policies, procedures, and validated tools, to improve identification, appropriate assessment, and intervention for the declining or deteriorating resident (See Appendix C). The guideline was evaluated by subject matter experts to determine construct validity and project site approval prior to implementation.

INTERACT Assessment Tools. The INTERACT assessment tools, Stop and Watch Early Warning (See Appendix C) and Quality Improvement (See Appendix C), that are

imbedded in the ERDR guideline, are a part of this QI project. In 2010, Ouslander et al. (2014) indicate that the Georgia Medical Care Foundation, a component of the Medicare Quality Improvement Organization, developed the INTERACT tools. Subsequently the Commonwealth Fund supported refinement of the tools and created the implementation toolkit (as cited in Ouslander et al., 2014). The current INTERACT Version 4.0 toolkit recently completed a rigorous evaluation using randomized quality-controlled implementation in over 250 nursing homes through support from the National Institute of Nursing Research of the National Institutes of Health (1R01NR012936). The results of this study continue to confirm the use of this toolkit will reduce unnecessary rehospitalizations of long-term care residents (Ouslander et al., 2016).

INTERACT Version 4.0 Toolkit. The materials for presentation to the staff were provided through the INTERACT Version 4.0 toolkit (Pathway Health, 2018). The presentation dates and times for the staff were pre-planned with the DRS and occurred across all nursing shifts. The presentation was projected onto a white wall using DNP students' equipment, bullet-pointed handouts were provided, and copies of the ERDR guideline. This material was free for use without permission from the organization website (Pathway Health, 2018).

The educational evaluation tool provided in the INTERACT Version 4.0 Toolkit was used to evaluate the education provided. The INTERACT Version 4.0 toolkit was found through the following weblink: <http://www.pathway-interact.com/interact-tools/interact-tools-library/interact-version-4-0-tools-for-nursing-homes/>

Chart Audit Tool. The chart audit tool was created by the DNP student using the key points in the INTERACT tools. The chart audit tool aligns with and matches each of the major sections of the INTERACT tools with the option to select whether the section is completed; present or absent. The chart audit tool was approved by the project team and a statistician.

Data analysis was completed using these validated tools. A statistician from a local private college supported selection, use, and evaluation of data from a statistical point of view.

Data Collection Procedures

Data was collected in two areas: (a) chart audit of the ERDR guideline, and (b) the number of transfers to a higher level of care deemed to be unnecessary with rationale.

Chart Audit

All current resident charts were audited daily for compliance to the ERDR guideline which included appropriate use of the INTERACT Stop and Watch tool and the INTERACT Quality Improvement tool. The charts of residents that were transferred out of the facility and therefore were still accessible. Thus, retrospective chart audits were completed for all residents that were identified with a change in condition that resulted in a transfer to a higher level of care. The chart audit checklist tool aligns with the ERDR guideline (See Appendix C). The chart audit checklist tool was completed using the DNP student's laptop computer and a removable storage device. The removable storage device was kept in the DRS office in a locked cabinet. The chart audits occurred daily (including weekends and holidays) between 0800 and 1200 during weeks two through four of the DNP Project III. The goal of the chart audit was to ensure that staff are following the ERDR guideline. The goal was to audit 30 charts over the implementation period.

Transfers to a Higher Level of Care

The number of residents that were transferred to a higher level of care was tabulated from the retrospective chart audit checklist tool. Each resident chart was assigned a number. The data was collected from the ERDR guideline (See Appendix C). The data was transcribed via the DNP student's personal computer onto an external flash drive. Once the data collect began, the external flash drive was be kept in the locked DRS office. Access to the flash drive was only

available to the DNP student during the project and was destroyed upon project completion. The percentage of residents from pre-intervention and post-intervention was compared to determine the change which is expected to be an improvement in residents managed at the project site.

Implementation and Project Timeline

The evidence-based intervention was implementation of the ERDR guideline to provide policies, procedures, and validated tools, to improve identification, appropriate assessment, and intervention for the declining or deteriorating resident. The total projected time for completion of this project implementation was four weeks. Prior to project approval the policy and procedure for the ERDR guideline was completed, reviewed by subject matter experts (SME), and approved by the DRS at the project site. The ERDR guideline was developed based on literature evidence and project site document format. The ERDR guideline was submitted for review over a two-week period to the SME and DRS with approvals received for use in the project.

Table 1: ERDR Guideline Implementation Timeline

Week/Date	Activity
Week 1 November 7-13, 2018	<ul style="list-style-type: none"> • Recruitment: DRS advises nursing staff and caregivers of initial implementation meeting. • ERDR Education Session Introduction & Tool utilization performed (See Appendix D) • ERDR Champion Education Sessions • ERDR Guideline access, 11.12.2018
Week 2 November 14-20, 2018	<ul style="list-style-type: none"> • Chart audit initiated to collect implementation data; Monitor adherence to protocol; Provide support to participants, as needed; daily between 0800-1200
Week 3 November 21-27, 2018	<ul style="list-style-type: none"> • Chart audit initiated to collect implementation data; Monitor adherence to protocol; Provide support to participants, as needed; daily between 0800-1200
Week 4 November 28-December 4, 2018	<ul style="list-style-type: none"> • Chart audit initiated to collect implementation data; Monitor adherence to protocol; Provide support to participants, as needed; daily between 0800-1200, ending 12.4.2018

The chart audit checklist tool (See Appendix B) was used for the data collection on a computer-based laptop using a flash drive. The flash drive was kept in the DRS locked office during the implementation of the intervention. The goal was to complete 30 chart audits during the implementation period of four weeks. When 30 chart audits were completed, or the 4-week period was completed the project data collection ended. Data analysis and verification with statistician was completed in two weeks. Once compiled, all data, findings, and project outcomes were presented for dissemination to the executive director and the DRS at the project site. Dissemination to the project site occurred between January 7 to January 11, 2019 with the actual date depending on the availability of the executive director and DRS. During week 14, the DNP Project will be presented to nursing faculty.

Ethics and Human Subjects Protection

For all DNP projects the protection of human subjects is of primary importance. Per Touro University-Nevada policy, it was expected that this project would be deemed a quality improvement project that did not require IRB review. The implementation began once approvals had been obtained from Touro University-Nevada DNP program, DNP Project Team Determination: Quality Improvement Project or Research from Touro University-Nevada (See Appendix E). Project approval from project site director of resident services (DRS) had been secured as there is no IRB at this facility (See Appendix A). As this was a project site practice change, the nursing staff and caregivers were mandated to participate in the presentation and application of the ERDR guideline. The presentation dates and times for the staff were pre-planned with the DRS and occurred across all nursing shifts beginning in week 1. The benefit to the staff was improved assessment expertise and remain employed at the project site. There is no

compensation for participation in the project. The project site uses paper-based documentation, therefore, when the ERDR guideline was initiated by the nursing staff, the document was placed in the resident's chart. The charts are in a limited access area for authorized persons only. The DNP student was an authorized person to access the charts to complete chart audits. The chart audit checklist tool (See Appendix B) was used for the data collection on a computer-based laptop using a flash drive. The flash drive was kept in the DRS locked office during the implementation of the intervention. Upon completion of the project the flash drive was destroyed.

Plan for Analysis and Evaluation

The data from the chart audits was analyzed with the assistance of a statistician. The assumption was that use of the ERDR guideline would decrease unnecessary resident transfers to a higher level of care. SPSS was used to determine the statistical significance. The results of the analysis were expected to yield valuable descriptive information which includes mean and median numbers of resident transfers (Pallant, 2013). The data collected includes the before and after ERDR implementation, which was the independent variable and the readmissions to a higher level of care as the dependent variable. The rate of compliance with the ERDR guideline was related to the nursing staff and the rates of transfer to a higher level of care was related to the resident population. All variables of this project were considered to be dichotomous. The use of a percentage frequency distribution expresses the staff response that was fully compliant in completing the guideline or not fully compliant completing the guideline. Data analysis was verified and validated by a statistician.

Significance and Implications for Nursing

The development and implementation of the ERDR guideline was beneficial to the nursing staff and caregivers as it improved their skill set. The skill set was improved through the use of feedback information collected on residents transferred to a higher level of care to provide staff education in areas where gaps are identified. This project supported the nursing profession by demonstrating communication and collaboration across different levels of care and patient acuity that promotes quality and safety. Themes from the literature reviewed were identified as follows: (a) preventable and non-preventable admissions, (b) readmission risk prediction based on diagnosis and severity of illness, (c) identification of infection and sepsis as primary drivers for readmission to acute care, (d) readmission prevention strategies using tools and protocols, and (e) recognition and prevention of declining or deteriorating residents. The information from the use of the quality improvement tool addressed each of the research-related themes. For example, if there was a resident that has declining or deteriorating condition, the nursing staff and caregivers were able to identify this change and apply the ERDR guideline.

Long-term care leaders can implement the guidelines to improve the nursing staff skill set to decrease unnecessary transfers to a higher level of care (Bonner, Tappen, Herndon, & Ouslander, 2014; Ouslander, Bonner, Herndon, & Shutes, 2014). High quality care includes recognition and interventions that prevent unnecessary transfers. A guideline can be developed that is supported by scholarly resources to provide nursing staff with an improved skill set.

Maslow and Ouslander (2012) indicate that the unintended transfers to a higher level of care was due to failure in care delivery. Thus, this DNP project was expected to demonstrate that the application of a guideline that provides policies, procedures and validated tools, to improve identification, appropriate assessment, and intervention for the declining or deteriorating

resident will decrease unnecessary transfers to a higher level of care. Ultimately, there was an improvement in the care delivery to the long-term care residents.

Analysis of Results

After the ERDR Guideline was initiated a total for 42 residents during the four-week project implementation period were identified with a change of condition. The ERDR Guideline was followed correctly by the nurses and the caregivers in all cases. An audit of the resident charts, where an identified change in condition was discovered, found that of the 42 residents, 33 (78.6%) residents were not transferred and nine (21.4%) were transferred to a higher level of care. Eight of the residents transferred to a higher level of care were unavoidable transfers. It was noted that one of the transfers was determined by the nurses to not meet criteria for transfer per the ERDR Guideline, but the family insisted on the transfer. There are no violations of assumptions for the percentages.

Facility data from this same month, November of 2017, noted a total of 16 residents were transferred to a higher-level care. Applying the ERDR Guideline to the November 2017 chart audit, ten of the resident transfers would have been avoidable and six of the resident transfers were unavoidable. In November of 2018, a total of nine residents were transferred to a higher level of care (see Table 1 for comparison). One resident transfer did not meet the ERDR Guideline, but the resident was transferred due to family insistence and eight of the resident transfers were unavoidable. For this time period, there was a reduction of seven (43.8%) residents transferred to a higher level of care after the implementation of the ERDR Guideline. There was a significant percentage reduction in all transfers.

Table 1*One Month Resident Transfer Comparison – November 2017 & November 2018*

Month	November 2017	November 2018
Number Residents Transferred	n = 16	n = 9
Avoidable Resident Transfers	n = 10	n = 1
Unavoidable Resident Transfers	n = 6	n = 8

Applying the EDRP Guideline to the November 2017 resident transfers, six (37.5%) of the resident transfers to a higher level of care were unavoidable and ten (62.5%) of the resident transfers to a higher level of care were avoidable. As noted above there was 100% compliance with the ERDR Guideline by the nurses and caregivers, but there was one resident that was transferred due to insistence of the family. In November of 2018 there were eight (88.9%) residents transferred that were unavoidable with the ERDR Guideline and one (11.1%) resident transferred that that was avoidable with the ERDR Guideline (see Table 2 for compliance). There was a significant reduction in avoidable transfers.

Table 2*Resident Transfers to Higher Level of Care based on ERDR Guideline Compliance*

ERDR Compliance	Audit Status	
	Avoidable/ Transferred	
Unavoidable/Transferred		
November 2017	6 (37.5%)	10 (62.5%)
November 2018	1 (11.1%)	8 (88.9%)

Discussion of Findings

The project intention was to reduce unnecessary or inappropriate readmissions to a higher level of care from the long-term care facility using the ERDR Guideline. The results indicated a 43.8% reduction in transfers in November of 2018 compared to November of 2017 following the implementation of the ERDR Guideline.

There was full staff compliance with the use of the ERDR Guideline throughout the project implementation period. Thus, the results demonstrated a positive relationship between the use of the ERDR Guideline and a reduction in unnecessary or unavoidable transfers, which can be inferred to be an accurate representation of the staff compliance and effective use of the guideline.

The project findings were in alignment with published literature that reports significant reduction in unnecessary transfers to a higher level of care with the INTERACT Tools that are included in the ERDR Guideline. For example, Nelson and Pulley (2015) found a 17% reduction in unnecessary readmissions using just the INTERACT tools without additional guidelines. Therefore, based on the results of the ERDR Guideline intervention, with staff compliance in use of the guideline there will be a reduction in resident readmissions to a higher level of care.

Significance/Implications for Nursing

This project had significance to the facility nurses, facility leadership and the residents as it has shown improved skills of the nurses to recognize and intervene on behalf of a resident demonstrating a change in condition. The facility leadership benefited from this improved skill set as residents receive close evaluation for the changes in condition and are either treated within the scope of the facility services or appropriately transferred to a higher level of care. The

resident benefited from the improved staff skill set due to identification of a change in their condition and appropriate actions taken to support their well-being.

Organizationally, the findings of a 43.8% decrease in resident transfers to a higher level of care, after the implementation of the ERDR Guideline translates into a positive return on the investment. The investment was in staff training and changing of policy to the ERDR Guideline. Based on industry standards, using the ERDR Guideline and avoiding inappropriate transfers to a higher level of care resulted in a cost savings or increase in revenue for the facility (Segal, Rollings, Hodges, & Roozeboom, 2014). The cost per readmission is an average of \$8,783 per resident (Segal et al., 2014), where in November of 2017 this cost for this facility would have been \$52,698 for the transfers that would have been avoided if the ERDR Guideline had been in place. Thus, the November 2018 single resident transfer that was avoidable cost \$8,783. The savings difference between November of 2017 and November of 2018 was \$43,915.

Limitations

This section explores the limitations of the DNP project. The number of chart audits were lower than desired and the time frame for the implementation data collection period was short. Additionally, the depth of the project with a single point of data, transfers to a higher level of care, collected limited the results. Also, the project would have furnished more robust results had it been implemented in several facilities. The selection of statistical methods used for the data analysis precluded identification of significance of the results. Other factors that may have been considered in the project phenomenon include the length of stay prior to change of condition, diagnosis upon admission, and diagnosis on readmission to a higher level of care. Inclusion of the above items would provide a richer and more expansive view of the utilization

of the guideline. However, the timeline for implementation required for this project precluded such data inclusion.

Areas for Further Dissemination

The ERDR Guideline could be disseminated to three other long-term care facilities under the same ownership. The ERDR Guideline can be adjusted for the names of the other facilities and any unique specifics not already addressed. The facility leadership received a presentation with final evaluation of the project for company records. Additionally, the corporate officers received an invitation for a presentation of the findings. The findings of this project will be submitted by March 1, 2019 to be presented as a poster presentation at the AzNA Centennial Convention, September 19-20, 2019 and at the ANA Chapter 30 general membership conference in April (dates to be determined; invitation extended by the chapter president and accepted) as a podium presentation. Additionally, this proposal will be submitted to the DNP repository (Melynk & Fineout-Overholt, 2015).

Project Sustainability

The analysis of the results demonstrates the ERDR Guideline is valuable when implemented and sustained within the organization. The organization has approved the ERDR Guideline as a part of their operating policies, which will continue to ensure that residents are transferred to a higher level of care when their condition indicates it is appropriate. There was 100% compliance with the use of the ERDR Guideline, which infers that it is easy to use as well as effective in readmission reduction. Additionally, the literature correlation between low numbers of unnecessary readmissions and high-level nursing care implies that the use of the ERDR Guideline improves staff and caregiver's skill set. Dissemination of the project results

supports sustainability within the current organization and potentially for adoption at other long-term care facilities.

References

- Appleby, H., & Tempest S. (2006). Using change management theory to implement the international classification of functioning, disability, and health (ICF) in clinical practice. *British Journal of Occupational Therapy*, 69(10), 447-480.
- Abrahamson, K., Mueller, C., Davila, H., & Arling, G. (2014). Nurses as boundary-spanners in reducing avoidable hospitalizations among nursing home residents. *Research in Gerontological Nursing*, 7, 235-243. <http://dx.doi.org/10.3928/19404921-20140519-01>.
- AHIMA. (2010, April). Evolution of DRGs. *Journal of AHIMA*. Retrieved from <http://library.ahima.org/doc?oid=106590>
- Ashcraft, A. S., & Champion, J. D. (2012). Nursing home resident symptomatology triggering transfer: Avoiding unnecessary hospitalizations. *Nursing Research & Practice*, 1-5. doi:10.1155/2012/495103
- Averill, R. F., Goldfield, N., Hughes, J. S., Bonazelli, J., McCullough, E. C. . . . Tang, A. M. (2003). *All Patient Refined Diagnosis Related Groups (APR-DRGs): Version 20.0—Methodology Overview*. Retrieved from <https://www.hcup-us.ahrq.gov/db/nation/nis/APR-DRGsV20MethodologyOverviewandBibliography.pdf>
- Bardsley, M., Sherlaw-Johnson, C., & Smith, P. (2016). Continuous monitoring of emergency admissions of older care home residents to hospital, *Age and Ageing*, 45, 71-77. doi: 10.1093/ageing/afv158
- Barker, K. L. (2015). Telemonitoring to change standard diabetes education and management in a rural healthcare practice. (Doctoral dissertation). Accession No. 3701943.
- Begood, C. (2017). The art of lean Six Sigma in healthcare. *Industrial Management*, 59(6), 22.

- Bemker, M. & Schreiner, B. (2016). *The DNP degree and capstone project: A practical guide*. Lancaster, PA: DEStech Publications.
- Bindman, A., Harrington, C., Hulett, D., Kang, T., Ko, M., & Newcomer, R. (2018). Health care use before and after entering long-term services and supports, *Journal of Applied Gerontology*, 37(1), 26-40. doi: 10.1177/0733464816641393
- Bonner, A., Tappen, R., Herndon, L., & Ouslander, J. (2014). The INTERACT institute: Observations on dissemination of the INTERACT quality improvement program using certified INTERACT trainers. *The Gerontological Society of America*.
<http://dx.10.1093/geront/gnu103>.
- Buhr, G., Genao, L., & White, H. K. (2011). Urinary tract infections in long-term care residents. *Clinics in Geriatric Medicine*, 27(2), 229-239.
- Burns, E. & Nair, S. (2014). New horizons in care home medicine. *Age Ageing*, 43, 2-7.
- Casey, C., Fullerton, M. J., & Somerville, N. (2015). Common questions about pneumonia in nursing home residents. *American Family Physician*, 92(7), 612-620.
- Casserly, B., Baram, M., Walsh, P., Sucov, A., Ward, N. S., & Levy, M. M. (2010). Implementing a collaborative protocol in a sepsis intervention program: Lessons learned. *Critical Care*, 189, 11-19. doi: 10.1007/s00408-101-9266z
- Centers for Medicare and Medicaid Services (CMS). (2015). Skilled nursing facility readmission measure (SNFRM) NQF #2510. Retrieved from <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/Downloads/SNFRM-Technical-Report-3252015.pdf>
- Coates, E., Villarreal, A., Gordanier, C., & Pomernacki, L. (2015). Sepsis power hour: A

- Nursing driven protocol improves timeliness of sepsis care. *Journal of Hospital Medicine, 10*.
- Coffman, S. (2018). Theory of bureaucratic caring. In A. M. Tomey and M. R. Alligood (Eds.). *Nursing theorists and their work* (9th ed.) (pp. 80-97). St. Louis, MO: Mosby/Elsevier.
- Constantino, M. E., Frey, B., Hall, B., & Painter, P. (2013). The influence of a post discharge intervention on reducing hospital readmissions in a Medicare population. *Population Health Management, 16*(5). doi: 10.1089/pop.2012.0084
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Davidson, A. W., Ray, M. A., & Turkel, M. C. (2011). *Nursing, caring, and complexity science: For human-environment well-being*. New York, NY: Springer Publishing.
- Dolansky, M. A., Hitch, J. A., Pina, I. L., & Boxer, R. S. (2013). Improving heart failure disease management in skilled nursing facilities: Lessons learned. *Clinical Nursing Research, 22*(4), 432-447.
- Essays, UK. (2013). Kotter's eight step change management model management essay. Retrieved from <http://www.ukessays.com/essays/management/kotters-eight-stepchange-management-model-management-essay.php?cref=1>.
- Gibson, S. (2008). Legal caring: Preventing re-traumatization of abused children through the caring nursing interview using Roach's six Cs. *International Journal for Human Caring, 12*(4), 32-37.
- Girard, R., Gaujard, S., Pergay, V., Pornon, P., Martin-Gaujard, G., & Bourguignon, L. (2017). Risk factors for urinary tract infections in geriatric hospitals. *Journal of Hospital Infection 97*(1), 74-78.
- Giuliano, K. K., Lecardo, M., & Staul, L. (2011). Impact of protocol watch on compliance with The surviving sepsis campaign. *American Journal of Critical Care, 20*(4), 313-321.

doi: 10.4037/ajcc2011421

Gohil, S. K., Datta, R., Cao, C., Phelan, M. J., Nguyen, V., Rowther, A. A., & Huang, S. S. (2015). Impact of hospital population case-mix, including poverty, on hospital all-cause and infection-related 30-day readmission rates. *Clinical Infectious Diseases, 54*(2).

doi: 10.1093/cid/civ539

Graham, C., Ivey, S., & Neuhauser, L. (2009). From hospital to home: Assessing the transitional care needs of vulnerable seniors. *Gerontologist, 49*(1), 23-33.

doi:10.1093/geront/gnp-005

Grant, P., Hannah, J., Harrison, K. J., McKay, K. I., & Quinn, J. T. (2016). Appropriateness of unscheduled hospital admissions from care homes. *Clinical Medicine, 16*(2), 103-108.

Guerini, F., Frisoni, G. B., Morghen, S., Speciale, S., Bellelli, G., & Trabucchi, M. (2010). Clinical instability as a predictor of negative outcomes among elderly patients admitted to a rehabilitation ward. *Journal of American Medical Directors Association, 11*(6), 443-448.

Gyang, E., Shieh, L., Forsey, L., & Maggio, P. (2015). A nurse-driven screening tool for the early identification of sepsis in an intermediate care unit setting. *Journal of Hospital Medicine, 10*(2), 97-103. doi: 10.1002/jhm.2291

Hasan, Z., & Katona, K. (2015). A hospitalist led quality improvement initiative to improve sepsis care. *Journal of Hospital Medicine, 10*.

Health Care Financing Administration (HCFA). (2018). The Federal Register. Retrieved from <https://www.federalregister.gov/agencies/health-care-finance-administration>

Houser, J. (2018). *Nursing research: Reading, using, and creating evidence* (4th ed.). Burlington, MA: Jones & Bartlett Publishing.

- Hsiao, C. J. & Hing, E. (2014). Emergency department visits and resulting hospitalizations by elderly nursing home residents. *Research on Aging, 36*(2), 207-227. doi: 10.1177/0164027512473488
- Huston, J. C. & Marquis, L. B. (2014). *Leadership roles and management functions in nursing: Theory and application* (8th ed.). Philadelphia, PA: Lippincott Williams & Wilkins
- Johnson, P. V. (2015). Ray's theory of bureaucratic caring: A conceptual framework for APRN primary care providers and the homebound population. *International Journal for Human Caring, 19*(2), 47-44.
- Joint Commission. (2018). Nursing care centers. Retrieved from https://www.jointcommission.org/accreditation/nursing_care_centers.aspx
- Kiridly, D. N., Karkenny, A. J., Huztler, L. H., Slover, J. D., Iorio, R., & Bosco, J. A. (2014). The effect of severity of disease on cost burden of 30-day readmissions following total joint arthroplasty (TJA). *Journal of Arthroplasty, 29*(8), 1545-1547.
- Kirchner, J. E., Parker, L. E., Bonner, L. M., Fickel, J. J., Yano, E. M., & Ritchie, M. J. (2012). Roles of managers, frontline staff and local champions, in implementing quality improvement: Stakeholders' perspectives. *Journal of Evaluation in Clinical Practice, 18*, 63-69. doi: 10.1111/j.1365-2753.2010.01518.x.
- Kotter, J. P. (1995). Leading change: Why transformation efforts fail. *Harvard Business Review, 73*(2), 55-67.
- Kotter, J. P. & Cohen, D. S. (2002). *The heart of change: Real-life stories of how people change their organizations*. Boston, MA: Harvard Business Review Press
- Kotter International. (2015). The 8-step process for leading change. Retrieved from <http://www.kotterinternational.com/the-8-step-process-for-leading-change/>

- Lago, R., & Littau, S. (2015). Evaluating changes in drivers of hospital readmissions at the community level. *Open Journal of Nursing, 5*, 689-696. Retrieved from <http://dx.doi.org/10.4236/ojn.2015.58072>
- Lamb, G., Tappen, R., Diaz, S., Herndon, L., & Ouslander, J. (2011). Avoidability of hospital transfers of nursing home residents: Perspectives of frontline staff. *Journal of American Geriatrics Society, 59*, 1665-1672. <http://dx.doi.org/10.1111/j.1532-5415.2011.03556.x>.
- Lavernia, C. J., Villa, J. M., & Iacobelli, D. A. (2013). Readmission rates in the state of Florida: A reflection of quality? *Clinical Orthopaedics and Related Research, 471*(12), 3856-3862. doi 10.1007/s11999-013-2849-2
- Lee, S. B. (2014). *The relationship between nurse job satisfaction and patient safety*. (Doctoral dissertation). Retrieved from ProQuest. Accession No. 1563250.
- Libby, B. H. (2017). Examining faculty perceptions of community college institutional effectiveness using Kotter's Eight Step Model of Change. (Doctoral dissertation). Retrieved from ProQuest. Accession No. 10638572.
- Low, L., Fletcher, U. J., Goodenough, B., Jeon, Y., Etherton-Ber, C., McAndrew, M., & Beattie, E. (2015). A systematic review of interventions to change staff care practices in order to improve resident outcomes in nursing homes. *Public Library of Science*. <http://dx.doi.org/10.1371/journal.pone.0140711>.
- Mahn, H. (2012). Vygotsky's analysis of children's meaning making processes. *International Journal of Educational Psychology, 1*(12), 100-126. doi: 10.4471/ijep.2012.07
- Maslow, K., & Ouslander, J. (2012). Measurement of potentially preventable hospitalizations. Retrieved from https://interact2.net/docs/publications/LTQA%20PreventableHospitalizations_021512_2.pdf.

- Maykut, C. & McKendrick-Calder, L. (2013). Designing a fourth year baccalaureate nursing course utilizing the lens of the theory of bureaucratic caring and a root cause analysis approach. *International Journal for Human Caring*, 17(3), 29-34.
- Metersky, M. & Prasad, P. (2018). Prevention of hospital-acquired pneumonia. Retrieved from Dynamed Plus. Accession number T909182.
- Mileski, M., Topinka, J.B., Lee, K., Brooks, M., McNeil, C. & Jackson, J. (2017). An investigation of quality improvement initiatives in decreasing the rate of avoidable 30-day, skilled nursing facility-to-hospital readmissions: A systematic review. *Clinical Interventions in Aging*, 12, 213-222. doi: 10.2147/CIA.S123362.
- Miller, S. (2017). Strategies hospital leaders use in implementing electronic medical record systems. (Doctoral dissertation). Accession No. 10255252.
- Mody, L., Greene, M. T., Meddings, J., Krein, S. L., McNamara, S. E. . . . Saint, S. (2017). A national implementation project to prevent catheter associated urinary tract infection in nursing home residents. *JAMA*, 177(8), 1154-1162.
- Molla, M., Warren, D. S., Stewart, S. L., Stocking, J., Johl, H., & Sinigayan, V. (2018). A lean Six Sigma quality improvement project improves timeliness of discharge from the hospital. *The Joint Commission Journal on Quality and Safety*, 44(7), 401-412.
- Mork, A., Krupp, A., Hankwitz, J. & Malec, A. (2018). Using Kotter's change framework to implement and sustain multiple complementary ICU initiatives. *Journal of Nursing Care Quarterly*, 33(1), 38-45.
- Moran, K., Burson, R. & Conrad, D. (2016). *The Doctor of Nursing practice scholarly project: A framework for success* (2nd ed.). Burlington, MA: Bartlett Jones.

- Morris, J. N., Howard, E. P., Steel, K., Shreiber, R., Fries, B. E., Lipsitz, L. A., & Goldman, B. (2014). Predicting risk of hospital and emergency department use for home care elderly persons through a secondary analysis of cross-sectional data. *BMC Health Services Research, 14*, 519. doi: 10.1186/s12913-014-0519-z
- Mulvany, C. (2015). Sooner than you think: Even though Medicare's skilled nursing facility (SNF) readmissions penalty doesn't take effect until FY19, hospitals will see its impact much sooner. *Healthcare Financial Management, 2*, 32.
- Munley, E. (2015). Skilled nursing facilities: CMS issues final rule on 2016 Medicare payment rates. Retrieved from http://www.leadingage.org/SNF_Medicare_Payment_Rule_2016.aspx.
- Naylor, M., Aiken, E., Kurtzman, E., Olds, D., & Hirschman, K. (2011). The importance of transitional care in achieving health reform. *Health Affairs, 30*, 745-754. doi: 10.1377/hlthaff.2011.0041
- Nelson, J. & Pulley, A. (2015). Transitional care can reduce hospital readmissions. *American Nurse Today, 10*(4). Retrieved from <http://www.medscape.com/viewarticle/844301>.
- Neuman, M., Wirtalla, C., & Werner, R. (2014). Association between skilled nursing facility quality indicators and hospital readmission. *JAMA, 312*. <http://dx.doi.org/10.1001/jama.2014.13513>.
- Nilson, P. (2015). Making sense of implementation theories, models and frameworks. *Implementation Science, 10*, 53. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4406164/>
- O'Connell, B., Hawkins, M., Considine, J., & Au, C. (2013). Referrals to hospital emergency departments from residential aged care facilities: Stuck in a time warp. *Contemporary*

- Nurse: A Journal For The Australian Nursing Profession*, 45(2), 228-233.
doi:10.5172/conu.2013.45.2.228
- Olson, B. J. V. (2015). Implementing the AHRQ toolkit for preventing pressure ulcers in a skilled nursing facility. (Doctoral dissertation). Retrieved from ProQuest. Accession No. 3664044.
- Ouslander, J., Bonner, A., Herndon, L., & Shutes, J. (2014). The INTERACT quality improvement program: An overview for medical directors and primary care clinicians in long-term care. *Journal of American Medical Directors Association*, 15, 162-170.
<http://dx.doi.org/10.1016/j.jamda.2013.12.005>.
- Ouslander, J., Lamb, G., Herndon, L., Tappen, R., Perloe, M., & Diaz, S. (2011). Interventions to reduce acute care transfers. Retrieved from <http://interact2.net/staff.html>.
- Ouslander, J., Lamb, G., Tappen, R., Herndon, L., Diaz, S., Roos, B., ... Bonner, A. (2011). Interventions to reduce hospitalizations from nursing homes: Evaluation of the INTERACT II collaborative quality improvement project. *Journal of American Geriatrics Society*, 59, 745-753. <http://dx.doi.org/10.1111/j.1532-5415.2011.03333.x>.
- Ouslander, J. G., Naharci, I., Engstrom, G., Shutes, J., Wolf, D. G. . . . Newman, D. (2016). Lessons learned from root cause analysis of transfers of skilled nursing facility (SNF) patients to acute hospitals: Transfers rated as preventable versus nonpreventable by SNF staff. *Journal of the American Medical Directors Association*, 17, 506-601.
- Pallant, J. (2013). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. (5th ed.). New York: McGraw Hill.
- Parker, M. & Smith, M. (2014). *Nursing theories and nursing practice* (4th ed.). Philadelphia, PA: F. A. Davis.

- Pathway Health. (2018). INTERACT Version 4.0 Tools. Retrieved from <http://www.pathway-interact.com/interact-tools/interact-tools-library/interact-version-4-0-tools-for-nursing-homes/>
- Peeler, M. L. (2015). *Exploration of work environment factors that affect nurse job satisfaction in a hospital setting*. (Doctoral dissertation). Retrieved from ProQuest. Accession No. 10023704.
- Potter, M. A. & Wilson, C. (2017). Applying bureaucratic caring theory and the chronic care model to improve staff and patient self-efficacy. *Nursing Administration Quarterly*, 41(4), 310-320.
- Prescott, H. C., Langa, K. M., & Iwashyna, T. J. (2015). Readmission diagnoses after hospitalization for severe sepsis and other acute medical conditions. *JAMA*, 313(10), 1055-1057.
- Rantz, M., Flesner, M., Franklin, J., Galambos, C., Pudlowski, J., Pritchett, A., . . . Lueckenotte, A. (2015). Better care, better quality. *Journal of Nursing Care Quality*, 30, 290-297
- Ray, M. A. (1981). *A study of caring within the institutional culture*. (Doctoral dissertation). Retrieved from ProQuest. Accession No. 8127787.
- Ray, M. A. (1989). The theory of bureaucratic caring for nursing practice in the organizational culture. *Nursing administration quarterly*, 13(2), 31-42.
- Ray, M. (1997). The ethical theory of existential authenticity: The lived experience of the art of caring in nursing administration. *Canadian Journal of Nursing Research*, 29, 111-126.
- Ray, M. A. (1998). Complexity and nursing science. *Nursing Science Quarterly*, 11, 91-93.
- Ray, M. A. (2001). The theory of bureaucratic caring. In M. Parker (Ed.), *Nursing theories and nursing practice*. Philadelphia, PA: F. A. Davis.

- Ray, M. A. (2006). The theory of bureaucratic caring. In M. Parker (Ed.), *Nursing theories and nursing practice* (2nd ed.). Philadelphia, PA: F. A. Davis.
- Ray, M. (2010a). *Transcultural caring dynamics in nursing and healthcare*. Philadelphia, PA: F.A. Davis.
- Ray, M. (2010b). A study of caring within an institutional culture: The discovery of the theory of bureaucratic caring. Saarbrücken, Germany: Lambert Academic.
- Ray, M. (2010c). Creating caring organizations and cultures through communitarian ethics. *Journal of the World Universities Forum*, 3(5), 41-52.
- Ray, M. A. (2012). Caring connections: Research, practice, education. Symposium conducted at the Hyatt at Bellevue. 33rd International Association for Human Caring Conference. *International Journal of Human Caring*, 6(3), 49-74.
- Ray, M. A. & Turkel, M. C. (2014). Marilyn Anne Ray's Theory of Bureaucratic Caring. In M. Parker and M. Smith (Ed.), *Nursing theories and nursing practice* (4th ed.). Philadelphia, PA: F. A. Davis.
- Ray, M., Turkel, M., & Cohn, J. (2011). Relational caring complexity: The study of caring and complexity in healthcare hospital organizations. In A. Davidson, M. Ray, & M. Turkel (Eds.), *Nursing, caring, and complexity science: For human-environment well-being*. New York, NY: Springer.
- Renom-Guiteras, A., Uhrenfeldt, L., Meyer, G., & Mann, E. (2014). Assessment tools for determining appropriateness of admission to acute care of persons transferred from long-term care facilities: A systematic review. *Biomed Central Geriatrics*, 14. Retrieved from <http://www.biomedcentral.com;1471-2318/14/80>.
- Roberts, M. H., Mapel, D. W., Von Worley, A., & Beene, J. (2015). Clinical factors, including

- all patient refined diagnosis related group severity, as predictors of early rehospitalization after COPD exacerbation. *Drugs in Context*, 4, 1-15.
- Segal, M., Rollins, E., Hodges, K., & Roozeboom, M. (2014). Medicare-Medicaid eligible beneficiaries and potentially avoidable hospitalizations. *Medicare & Medicaid Research Review*, 4(1), E1-E12.
- Small, A., Gist, D., Souza, D., Dalton, J., Magney-Normilus, C., & David, D. (2016). Using Kotter's change model for implementing bedside handoff: A quality improvement project. *Journal of Nursing Care Quarterly*, 31(4), 304-309.
- Stragalas, N. (2010). Improving change implementation: Practical adaptations of Kotter's model. *OD Practitioner*, 42, 1, 31-38.
- The Center for Health Workforce Studies. (2014). Innovations to reduce hospital readmissions and avoidable hospitalizations from nursing homes: Implications for the health workforce. Retrieved from <http://chws.albany.edu/archive/uploads/2014/04/hospitalreadmissions2014.pdf>.
- Saifman, H. P. (2017). *Millennial nurse manager perspectives on their leadership roles in the hospital setting: A phenomenological inquiry*. (Doctoral dissertation). Retrieved from ProQuest. Accession No. 10681701.
- Turkel, M. C. (2007). Dr. Marilyn Ray's theory of bureaucratic caring. *International journal for human caring*, 11(4), 57-70.
- Turkel, M., & Ray, M. (2000). Relational complexity: A theory of the nurse-patient relationship within an economic context. *Nursing Science Quarterly*, 13, 306-313.
- Turkel, M., & Ray, M. (2001). Relational complexity: From grounded theory to instrument development and theoretical testing. *Nursing Science Quarterly*, 14, 281-287.

- Turkel, M., & Ray, M. A. (2003). A process model for policy analysis within the context of political caring. *International Journal for Human Caring*, 7(3), 17-25.
- United States Government Accountability Office (GAO) Report to congressional Requesters. (2016). *Skilled nursing facilities: CMS should improve accessibility and reliability of expenditure data*. Retrieved from <http://eds.a.ebscohost.com.chamberlainuniversity.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=3&sid=43730e30-e0a4-4cd9-a1cf-35af7740ea82%40sessionmgr4009>
- Wang, H., Johnson, C., Robinson, R. D., Nejtck, V. A., Schrader, C. D., Leuck, J.,...Zenarosa, N. R. (2016). Roles of disease severity and post-discharge outpatient visits as predictors of hospital readmissions. *BMC Health Services Research*, 16(564), 1- 10. doi: 10.1186/s12913-016-1814-7
- Wang, H. E., Shah, M. N., Allman, R. M., & Kilgore, M. (2011). Emergency department visits by nursing home residents in the United States. *Journal of Geriatric Society*, 59(10). 1864-1872. doi: 10.1111/j.1532-5415.2011
- White, K. M. & Dudley-Brown, S. (2012). *Translation of evidence into nursing and health care practice*. New York, NY: Springer
- Williams, K. (2014). Evaluating successful disease management programs using Kotter's eight-step change model as a theoretical framework for understanding. (Doctoral dissertation). Accession No. 3648365.

Appendix A: Project Site Approval



06/18/2018

To whomever it may concern,

We hereby give permission to Megan Kirschner to complete her Early Recognition of Declining Residents DNP project at the Silver Creek facility located in Gilbert, AZ.

Sincerely,

A handwritten signature in black ink that reads "Jo Shipman RN, ORS". The signature is fluid and cursive.

Jo Shipman
Director of Resident Services
Silver Creek Inn Memory Care Community
6345 E. Baseline Road | Mesa, Arizona 85206
T: 480.636.1222 | C: 480.276.5024 | F: 480.636.1330

Appendix B: ERDR Guideline Audit Checklist Tool

Directions: Resident charts that have been transferred to the hospital are audited for compliance with the ERDR Guideline to ensure data collection for use in quality improvement for care delivery.

This audit checklist is aligned with the ERDR Guideline. Audit requires use of check boxes to indicate *present* or *absent*.

Resident Identifier: _____ Date: _____ **Present** **Absent**

Change in Resident Status

- INTERACT: Stop and Watch Form
- Nurse identified change

Nurse Assessment or Evaluation

- Nurse Assessment / Evaluation Criteria

Resident Disposition

- Change managed at Silver Creek Inn
- Resident transferred to hospital

INTERACT: Quality Improvement Tool

- Risk Factors for Hospitalization & Readmission
- Acute Change in Condition/ Other r/t Transfer
- Full Vital Signs
- Actions Taken to Evaluate / Manage Change
- Describes Hospital Transfer
- Opportunities for Improvement

Notes: _____

Name & Signature Completing Audit: _____

Appendix C: ERDR Guideline



POLICY / PROCEDURE

•**SUBJECT:** Early Recognition of the Declining Resident Guidelines (ERDR)

•**DATE:**

PURPOSE/INTENT: Provide guidance for nursing personnel to communicate a change in a resident's status leading to an assessment or evaluation of the resident.

The following is to be considered:

- 1) Significance of change in the resident's condition
- 2) Resources available at Silver Creek Inn to address the issue.
- 3) Does the residents change in condition present risk of deterioration or death without transfer?

POLICY: Resident care is the responsibility of all nursing personnel. Nurses are responsible to assess or evaluation residents when there is a noted change in resident status. Nurses and caregivers are to communicate changes in resident status; the caregivers are to advise the nurses; the nurses assess or evaluate and take recommended actions.

PROCEDURE:

- A. Staff Expectations
 - a. Nurses: Nurse receive report from the off-going nurse and make caregiver assignments per nursing staffing / scheduling policy and procedure.
 - i. Identify changes in resident status through rounding, mediation pass, and receipt of an INTERACT: Stop and Watch form
 - ii. All changes in resident status are assessed or evaluate (See Nursing Assessment and Evaluation Criteria Policy and Procedure)
 - b. Caregivers: Nurses complete caregiver assignments with a report on the current resident status related to activities of daily living.
 - i. Caregivers note changes in resident status based on their report.
 - ii. Caregivers identify the change using the INTERACT: Stop and Watch Form
 - iii. Caregivers present the completed form to the nurse on duty.
- B. INTERACT: Stop and Watch form

- a. Caregivers: (See ERDR Guideline Caregiver Decision Tree)
 - i. INTERACT: Stop and Watch forms are provided during resident assignments
 - ii. Complete the form by circling the area identified as a change in resident status
 - iii. Present the form to the nurse on duty
 - b. Nurses: (See ERDR Guideline Nurses Decision Tree)
 - i. Receipt of an INTERACT: Stop and Watch form requires timely assessment or evaluation of the resident
 - ii. Assessment or evaluation determine resident disposition
 - 1. Resident will be cared for at Silver Creek Inn
 - 2. Resident will be transferred to the hospital
 - iii. All residents transferred to the hospital require completion of the INTERACT: Quality Improvement Tool
- C. INTERACT: Quality Improvement Tool
- a. Nurses
 - i. Once the resident has been safely transferred to the care of the paramedics, family notified, and DRS advised, the INTERACT: Quality Improvement Tool is completed.
 - ii. Complete the tool in all sections, responding to each item based on assessment or evaluation and resident chart.
 - iii. Place the INTERACT: Quality Improvement Tool in the front of the resident’s chart.
 - iv. Document the transfer information in the log book.
- D. Administration
- a. Director of Resident Services
 - i. Verification of INTERACT: Quality Improvement Tool audit
 - ii. Compilation of data from the Chart Audit Checklist Tool
 - iii. Report (monthly) with analysis and recommendation to Executive Director
 - b. Executive Director
 - i. Receipt of monthly report on resident transfers
 - ii. Collaboration on process improvement opportunities
 - 1. Adjustment of tool
 - 2. Re-education of nursing personnel

Approved by	Date Approved
DRS:	
Exec. Dir:	

Stop and Watch Early Warning Tool



If you have identified a change while caring for or observing a resident, please **circle** the change and notify a nurse. Either give the nurse a copy of this tool or review it with her/him as soon as you can.

S T O P a n d W A T C H	Seems different than usual
	Talks or communicates less
	Overall needs more help
	Pain – new or worsening; Participated less in activities
	Ate less
	No bowel movement in 3 days; or diarrhea
	Drank less
	Weight change
	Agitated or nervous more than usual
	Tired, weak, confused, or drowsy
	Change in skin color or condition
	Help with walking, transferring, toileting more than usual

Check here if no change noted while monitoring high risk patient

Patient/Resident

Your Name

Reported to *Date and Time (am/pm)*

Nurse Response *Date and Time (am/pm)*

Nurse's Name

©2014 Florida Atlantic University, all rights reserved. This document is available for clinical use, but may not be resold or incorporated in software without permission of Florida Atlantic University.

Source: Ouslander JG, Shutes J. INTERACT [website]. [cited 2016 Feb 10]. Boca Raton (FL): Florida Atlantic University. Available from Internet: <http://interact2.net/index.aspx>

Quality Improvement Tool

For Review of Acute Care Transfers



The INTERACT QI Tool is designed to help your team analyze hospital transfers (*including ER visits, observation stay and admissions*) and identify opportunities to reduce transfers that might be preventable. Complete this tool for each or a representative sample of hospital transfers in order to conduct a root cause analysis and identify common reasons for transfers. Examining trends in these data with the INTERACT QI Summary Tool can help you focus educational and care process improvement activities.

Patient/Resident _____ Age _____

Date of most recent admission to the facility _____ / _____ / _____

Primary goal of admission: Post-acute care Long-stay Others: _____

SECTION 1: Risk Factors for Hospitalization and Readmission

a. Conditions that put the resident at risk for hospital admission or readmission:

- Cancer, on active chemo or radiation therapy Fracture (*Hip*)
- CHF Multiple active diagnoses and/or co-morbidities
- COPD (*e.g. CHF, COPD and Diabetes in the same patient/resident*)
- Dementia Polypharmacy (*e.g. 9 or more medications*)
- Diabetes Surgical complications
- End-stage renal disease

b. Was Patient/Resident hospitalized in the **30 days before their most recent admission to the facility**? No Yes (*list dates and reasons*) (*Other than the one being reviewed in this tool*)

c. Other hospitalizations or emergency department visits in the **past 12 months**? No Yes (*list dates and reasons*) (*Other than the one being reviewed in this tool*)

SECTION 2: Describe the Acute Change in Condition and Other Non-Clinical Factors that Contributed to the Transfer

a. Date the change in condition first noticed _____ / _____ / _____

b. Briefly describe the change in condition and other factor(s) that led to the transfer and then check each item below that applies

c. Vital signs at time of transfer

Temp _____ Pulse _____ Pulse Ox (*if indicated*) _____% on Room Air O₂ (_____)

Respiratory rate _____ BP _____ / _____ Glucose (*diabetics*) _____

(continued on reverse side)

©2014 Florida Atlantic University, all rights reserved. This document is available for clinical use, but may not be resold or incorporated in software without permission of Florida Atlantic University.

(cont'd)

d. Check all that apply

New or Worsening Symptoms or Signs

- Abdominal Pain
- Abnormal vital signs (*low/high BP, high respiratory rate*)
- Altered mental status
- Behavioral symptoms (*e.g. agitation, psychosis*)
- Bleeding (*other than GI*)
- Cardiac arrest
- Chest pain
- Constipation
- Diarrhea
- Edema (*new or worsening*)
- Fall
- Fever
- Food and/or fluid intake (*decreased or unable to eat and/or drink adequate amounts*)
- Function decline (*worsening function and/or mobility*)
- Gastronomy tube blockage or displacement
- GI bleeding
- Hypertension (*uncontrolled*)
- Loss of consciousness (*syncope*)
- Nausea / vomiting
- Pain (*uncontrolled*)
- Respiratory arrest
- Respiratory infection (*bronchitis, pneumonia*)
- Shortness of breath
- Seizure
- Skin wound or ulcer
- Stroke / TIA / CVA
- Trauma (*fall-related or other*)
- Unresponsive
- Urinary incontinence
- Weight loss
- Other (*describe*) _____

Abnormal Labs or Tests Results

- Blood sugar (*high*)
- Blood Sugar (*low*)
- EKG
- Hemoglobin or hematocrit (*low*)
- INR (*high*)
- Kidney function (*BUN, Creatinine*)
- Pulse oximetry (*low oxygen saturation*)
- Urinalysis or urine culture
- White blood cell count (*high*)
- X-ray
- Other (*describe*) _____

Diagnosis or Presumed Diagnosis

- Acute renal failure
- Anemia (*new or worsening*)
- Asthma
- CHF (*congestive heart failure*)
- Cellulitis
- COPD (*chronic obstructive lung disease*)
- DVT (*deep vein thrombosis*)
- Fracture (site: _____)
- Pneumonia
- UTI (*urinary tract infection*)
- Other (*describe*) _____

Other Factors

- Advance directive not in place
- Family and/or resident preference or concerns
- Clinician insisted on transfer despite staff willing to manage in facility
- Other (*describe*) _____

SECTION 3: Describe Action(s) Taken to Evaluate and Manage the Change in Condition Prior to Transfer

a. Briefly describe how the changes in Section 2 were evaluated and managed and check each item that applies

b. Check all that apply

Tools Used

- Stop and Watch
- SBAR
- Care Path(s)
- Change in Condition File Cards
- Transfer Checklist
- Acute Care Transfer Form (*or an equivalent paper or electronic version*)
- Advance Care Planning Tools

Medical Evaluation

- Telephone only
- NP or PA visit
- Physician visit
- Other (*e.g. in a specialist office or while at dialysis*)

Testing

- Blood tests
- EKG
- Urinalysis and/or culture
- Venous doppler
- X-ray
- Other (*describe*) _____

Interventions

- New or change in medication(s)
- IV or subcutaneous fluids
- Increase oral fluids
- Oxygen (*if available*)
- Other (*describe*) _____

Other Structured Tool or Form (*describe*) _____

- c. Were **advance care planning or advance directives** considered in evaluating / managing the change? (e.g. orders for Do Not Resuscitate (DNR), Do Not Intubate (DNI), palliative or hospice care, other such as POLST, MOLST or POST):
- No Yes (check all that apply)

If yes, were the relevant advance directives: Modified as a result of this change in clinical condition/transfer?

Already in place and documented?

New as a result of this change in clinical condition/transfer?

Describe

(continued)

©2014 Florida Atlantic University, all rights reserved.

SECTION 4: Describe the Hospital Transfer

- a. Date of transfer _____ / _____ / _____ Day _____ Time (am/pm) _____
- b. Clinician authorizing transfer: Primary physician Covering physician NP or PA Other (specify)
- c. Outcome of transfer: ED visit only Held for observation Admitted to hospital as inpatient
- Hospital diagnosis(es) (if available)
-
- d. Resident died in ambulance or hospital: No Yes Unknown
- e. **Factors contributing to transfer** (check all that apply and describe)
- Advance directive not in place Clinician insisted on transfer despite staff willing to manage in the facility
- Resident preferred or insisted on transfer Resources to provide care in the facility were not available
- Family members preferred or insisted on transfer Other (describe)
- Discharged from the hospital too soon

SECTION 5: Identify Opportunities for Improvement

- a. In retrospect, does your team think this transfer might have been prevented? No Yes (describe)

If yes, check one or more that apply:

- The new sign, symptom, or other change might have been detected earlier
- Changes in the resident's condition might have been communicated better among facility staff, with physician/NP/PA, or other health care providers
- The condition might have been managed safely in the facility with available resources
- Resources were not available to manage the change in condition safely or effectively despite staff willing to manage in the facility (check all that apply)
- On-site primary care clinician Staffing Lab or other diagnostic tests
- Pharmacy services Other (describe)
-
- Resident and family preferences for hospitalization might have been discussed earlier
- Advance directives and/or palliative or hospice care might have been put in place earlier Discharged from the hospital too soon Other (describe)

b. In retrospect, does your team think this resident might have been transferred sooner? No Yes (if yes, describe)

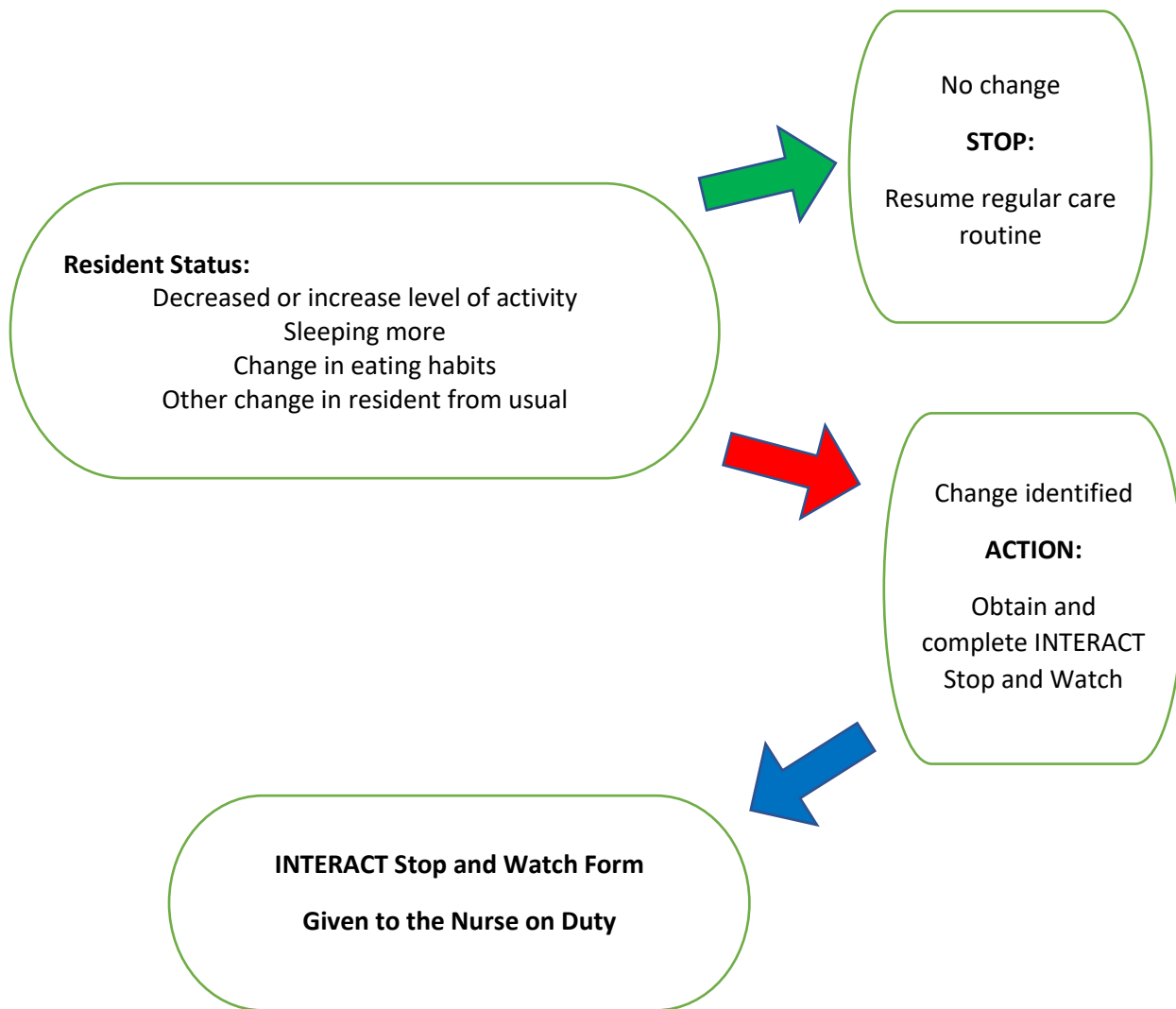
c. After review of how this change in condition was evaluated and managed, has your team identified any opportunities for improvement? No Yes (describe specific changes your team can make in your care processes and related education as a result of this review)

Name of person completing form _____

Date of completion _____ / _____ / _____

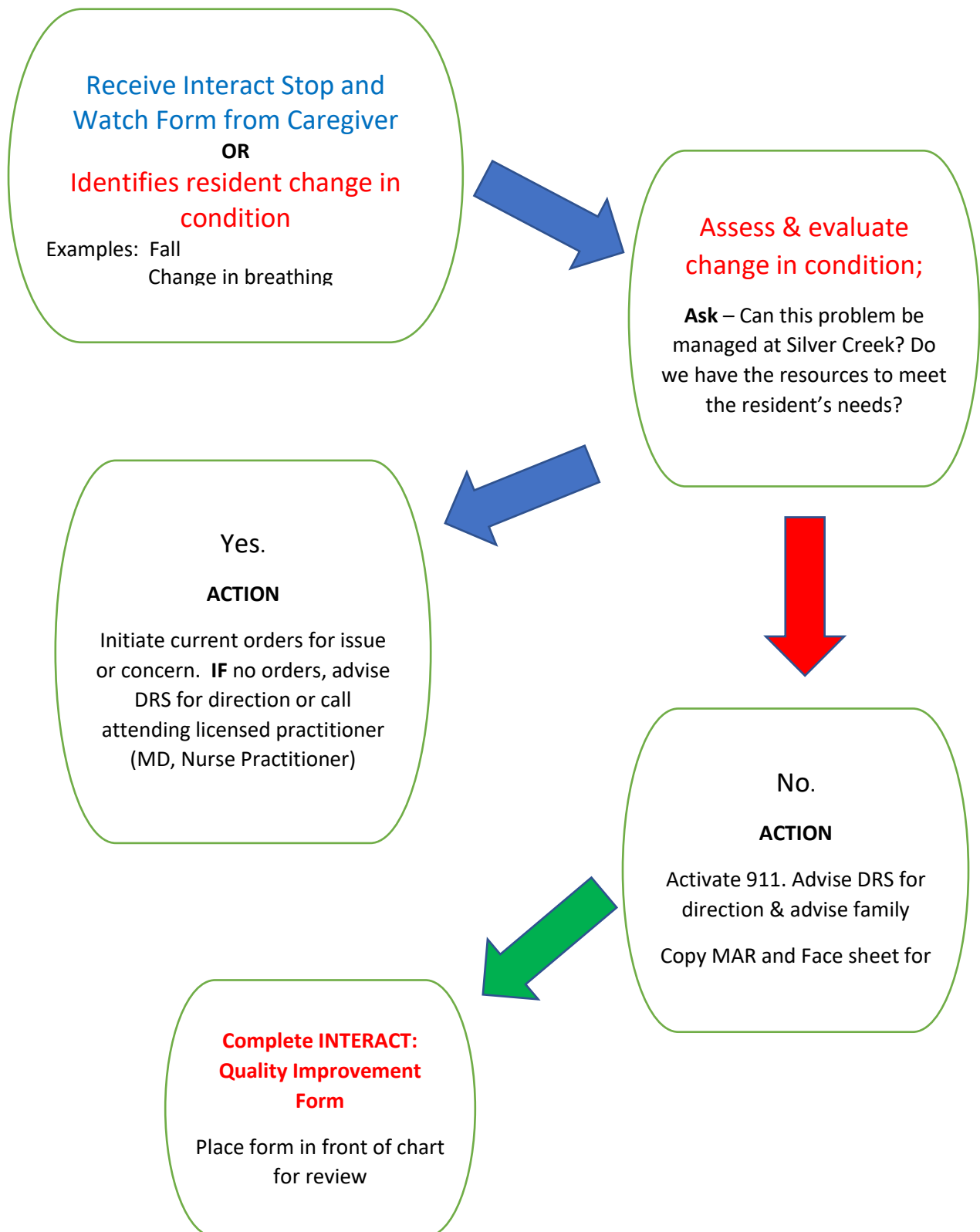
ERDR: Decision Tree for Caregiver

INTERACT: Stop and Watch



ERDR: Decision Tree for Nurses

INTERACT: Quality Improvement Tool



Appendix D: ERDR Guideline Staff Introduction

(Clicking on slide opens the slide show)



ERDP Guideline

Silver Creek Inn