Reducing Hospital Readmission in a Skilled Nursing Facility: Utilizing the INTERACT Quality

Improvement Program Tools

Habtamu L Egata

Touro University, Nevada

In partial fulfillment of the requirements for the Doctor of Nursing Practice (DNP)

DNP Project Chair: Dr. Denise Zabriskie

DNP Project Member(s): Dr. Jessica Grimm

DNP Project Mentor: Dr. Emelda Jones

Abstract

Background: Intervention to Reduce Acute Care Transfers (INTERACT) quality improvement program (QIP) tools are recommended evidence-based practice (EBP) in Skilled Nursing Facility (SNF) to reduce unnecessary hospital readmission.

Objective: To reduce the rate of preventable hospital readmissions within 30 days after hospital discharge in SNF through implementation of INTERACT QIP

Methodology: Nursing staff (RNs, LPNs, and CNAs) were trained on application of core INTERACT QIP tools (advance care planning, communication, acute transfer review).These tools were applied mostly during admission, management of change of conditions and transfer of residents integrating into the day-to-day nursing practice. A retrospective chart review on three core tools (n=47) were performed to evaluate the rate of staff compliance with implementation of INTERACT QIP tools. Finally, a two tailed Fisher exact test of independence were used to compare the pre & post intervention rates.

Results: The mean for fully compliant charts were only 17(29.8 %); 95% CI [0.1953-0.4266]. However, a two tailed Fisher exact test of independence showed a difference between the pre and postintervention hospital readmission rates, P=0.003: 95% CI.

Conclusion: Despite the relationship between pre and post intervention rates, no evidence showed effective utilization of INTERACT QIP tools and its subsequent effect on readmission rates. Identifying and controlling situational factors that potentially affect staff engagement and leadership support is a key measure to succeed in quality improvement efforts in SNF.

Reducing Hospital Readmission in a Skilled Nursing Facility: Utilizing the INTERACT Quality

Improvement Program

Literature and a series of documents indicate that, in association with financial expenses

and increased risk of patient complications, unnecessary hospital readmissions from Skilled

Nursing Facility (SNF) has been a center of attention for Medicare. A systematic review of

documents suggested that 20-25% of total patients discharged to SNF are estimated to be

readmitted to the hospital in 30 days, which increased to nearly 20% from 2004-2006 with 90%

of these readmissions being unplanned (Mileski et al., 2017). Nevertheless, the national average

for all-cause hospital readmissions within 30 days, from 2007 through 2011 was rated to be 19%,

which almost remained the same throughout the period (Gerhardt et al., 2013).

Another quality improvement initiative deemed to be effective evidence-based practice in

reducing readmission from SNF is the Intervention to Reduce Acute Care Transfer

(INTERACT), a model that was originally introduced in 2009, and later scaled up to a quality

improvement program (Ouslander, Bonner, Henderson, & Shutes, 2014; Ouslander et al., 2016;

Mileski et al., 2017). Therefore, this Doctor of Nursing Practice (DNP) project aims at

effectively implementing the INTERACT quality improvement program (QIP) to reduce

preventable hospital readmission from SNF within 30 days of discharge.

Background

In order to control the cost of hospital readmissions by linking the Centers for Medicare

and Medicaid Services (CMS) reimbursement to the quality of care, Hospital Readmissions

Reduction Program (HRRP) was established in 2015, under section 3025 of the Affordable Care

Act. The HRRP is a value-based purchasing program (VBPP) that reduces reimbursements for

hospitals for excess readmissions. Similarly, under the IMPACT Act, VBPP for SNF is being

implemented through the Patient Driven Payment Model (PDPM). This new payment system for SNF is based on the resident's functional status instead of number of items of care provided to the resident (Centers for Medicare and Medicaid Services [CMS], 2016). In PDPM, according to CMS, there are three quality domains by which SNF performance is evaluated: (a) functional status, (b) skin integrity, and (c) incidence of major falls. Under the IMPACT Act, SNFs are required to reduce 30-day hospital readmissions and perform public quality reporting to share the Medicare savings for better performance or get penalized with a two to three percent deduction from their prospective payment system (PPS) for poor performance.

However, according to CMS (2011), service delivery in post-acute care remains not well defined; assessment instruments used across all settings do not reflect quality and are not of the same standard. This absence of a smooth flow of patient information and optimal care transitions leads to increased hospital readmissions within 30 days (Rask, Hodge, & Kluge, 2017). Studies conclude that poor-quality services in SNF are the main contributing factors to the increased rate of hospital readmissions and improving quality of care has significantly reduced unnecessary readmissions from SNF (Kripalani et al., 2014; Carter et al., 2015; Burke et al., 2016; Feigenbaum et al., 2012; Glette et al., 2018). As noted in the systematic review of literature, the description of poor quality of care refers to ineffective care coordination in the process of care transition; poor communication among providers including physicians, nurses and other care givers; ineffective care planning that establishes ways of early identification and management of change in clinical conditions at the SNF level (Feigenbaum et al., 2012).

Best practices indicated that implementation of the INTERACT quality improvement program, has significantly reduced potentially preventable hospital readmissions from SNF (Roxanne et al., 2012). The INTERACT QIP is comprised of four main tools that are used in key

areas of quality improvement in the SNF: 1) Communication tools 2) Advanced care planning tools 3) Decision support tools, and 4) Quality improvement tools. These main components of the program have subdivided tools under each category that are the key instruments to improve early identification and management of clinical conditions, improved communication, and coordination of care transition to address the most frequent causes of readmission.

Problem Statement

Readmitting patients from SNFs to hospital is costly and leads to increased risk for complications for frail residents. Prevention of hospital readmission is a national priority (Feigenbaum et al., 2012; AHRQ, 12; McHugh & Ma, 2013). Besides increasing economic burden on the health care system, hospital readmission is disruptive to patients and their families exposing them to possible hospital acquired infections and health complications (Ouslander, Bonner, Henderson, & Shutes, 2014).

Reducing hospital readmission 30 days after discharge is cost saving for Medicare as it decreases readmission related costs. As a reward for reducing readmission by increasing quality, Medicare will share the money with SNFs and hospitals in the form of payment for service (CMS, 2016). However, beyond loosing such incentives, SNFs with a high rate of admission will be penalized up to three percent of their prospective payment, based on the case mix and risk adjusted calculation (CMS, 2016., & Meliske et al., 2017). By this rule, the host facility with a 17% rate of all-cause unadjusted readmission, slightly above the national average, is not performing well in terms of quality measures. This indicates that the host facility has a major challenge in reducing hospital readmission and other quality improvement issues implicitly affecting the fiscal performances as well.

Purpose Statement

The overall purpose of this DNP project is to provide improved cost-effective quality patient care in the SNF setting as measured by reduced rate of hospital readmissions within 30 days after discharge from the hospital. Beyond the purpose of reducing the rate of readmission, the goal of this DNP project is three-fold. First, to address the challenges of the host facility in terms of implementation of best practices in the delivery of patient care. Second, improve competency of frontline health care professionals through providing training at the point of care that connects evidences with practice. Third, over all introduce the application of evidence-based practices into the nursing process to be used in problem solving endeavors.

Project Question

Can nursing staff in SNF (P) reduce the rate of preventable hospital readmissions (O) by implementing INTERACT QIP (I), as compared to without implementing the program (C), within a four-week time period (T)?

Project Objectives

The overarching aim is to reduce hospital readmission rates from a SNF within 30 days of hospital discharge. Other specific objectives include:

1. Provide in-service training for nursing staff regarding INTERACT QIP tools to incorporate into nursing process/workflow.
2. Evaluate staff compliance with implementation of the INTERACT QIP by performing a chart audit.
3. Evaluate readmission rate one-month pre-implementation 4 weeks after implementation via the SNF matrix.

Search Methods

Touro University library and nursing databases were accessed in search of literature related to hospital readmission, quality improvement and reducing readmission in SNF. Cumulative Index of Nursing and Allied Health Literature (CINAHL) and PubMed databases were used to search for articles. Key words such as "hospital readmission in post-acute care," "reducing hospital readmission," "quality improvement in SNF," "care transition and hospital readmission," and other similar words were used to find articles for the literature review.

From hundreds of articles obtained through such a general search, 30 articles with direct relevance to the project topic were selected. Articles from the reference lists were also further searched and ten additional articles with relevant information to the topic were included, totaling 40 articles altogether. Exclusion criteria such as articles published before five years, themes of the articles not related to readmission, non-Medicare patient population and other qualities that are not directly germane to the topic were used to narrow down the selection to 30 articles. Specific inclusion criteria for article selection includes years of publication less than five years, Medicare patient population in SNF, related topic to readmission, and similar other attributes of articles that deemed germane to the thematic area were used as inclusion criteria.

Impact of Hospital Readmission

Significantly adding to Medicare spending, the rate of hospital readmissions among the older population has risen over the last decades (Horney, Capp, Boxer, & Burke, 2017; Mileski et al., 2017). Government agencies such as the Department of Health and Human Services (DHHS), are seriously concerned about the financial impact of preventable hospital readmission on health services. The thought is, if unchecked, the federal Medicare fund could run bankrupt in the next few years (Institute for Health Care Improvement [IHI], 2007). CMS has designed and implemented a VBP in the form of HRRP for SNF as one of the strategies to

reduce Medicare spending. In this proposal for VBP hospitals and Post-Acute Care (PAC)

facilities will share the savings made by reducing length of stay (LOS) and reduced

readmission with CMS. These conditional financial incentives both for hospitals and SNF are a

positive reward for reducing hospital readmission within 30 days. Failure to reduce

readmission would also result in a penalty of up to three percent deduction from the fee for

service payment.

Quality of Care

Apart from its financial cost, hospital readmissions from PAC facilities including SNF

are associated with high mortality rate and patient complications, which results from inadequate

process of care transition and compromised quality of care in inpatient rehab facilities (Burke et

al., 2016). For example, 22% of patients suffer adverse events during their PAC stay, whereas

60% of the adverse events were potentially preventable with improved care processes (Burke et

al., 2016). Patient factors, such as clinical conditions and demographic characteristics, have also

been identified as a contributing reason of readmission (Rask, Hodge, & Kluge, 2017). Similarly,

recently conducted studies found that potentially avoidable factors such as poor quality of care,

poor communication, substandard care transition, and poor SNF leadership commitment are

problems that contributed to increased readmissions (Ouslander, Bonner, Henderson, & Shutes,

2014; Burk et al., 2016**).**

However, the national readmission rate is still high; approximately 16% -20% of

Medicare beneficiaries discharged from hospitals are expected to be readmitted within 30 days

(CMS, 2019; Malcom et al., 2019). While more than 25% of all readmissions from PAC

readmitted within the first week of their discharge, 23% of all readmissions from SNF are rated

potentially preventable (Horney, Capp, Boxer, & Burke, 2017).

The overall impact of the quality improvement approaches indicated in the literature suggests that various quality improvement initiatives have shown a significant reduction in hospital readmission of Medicare patients from SNF (Li, Carmaker, Lin, Kuo, & Ottenbacher, 2018; Smith, English, Naidoo, & Whitman, 2019). For example, in recent studies on the effectiveness of the measures for unplanned readmission in 30 days post discharge from inpatient rehabilitation facilities show that risk-standardized all-cause national readmission rate is reduced to 15.9% (Shameer et al., 2017; Malcolm, Middleton, Haas, Ottenbacher, & Graham 2019).

Tools and Strategies

Researchers and technical experts have developed quality improvement tools that can be used to reduce hospital readmissions. For example, the Project Re-Engineering Discharge process, known as project RED, and project Better Outcomes for Older adults through Safe Transitions (BOOST) were developed to improve transitional care through improved hospital discharge process and safe transition to reduce the hospital readmission rate (Kripalani, Theobald, Anctil, & Vasilevskis, 2014).

Back in 2009, Intervention to Reduce Acute Care Transfer (INTERACT) quality improvement tools were introduced in three SNFs as a pilot project by Georgia Medical Care foundation. By using the INTERACT quality improvement tool, the project was able to reduce potentially avoidable hospitalizations from 77 to 49, a 36% reduction (Ouslander et al., 2009). In same year, a multistate approach known as State Action on Avoidable Rehospitalizations initiative (STAAR), showed an improvement in the delivery of care that avoided rehospitalization (Carter et al., 2015). By implementing INTERACT QIP tools in many SNFs, thereafter, experts have been able to address the most frequent causes of readmissions (Ouslander et al., 2014).

Contributing Factors

Rigorous systematic literature review has also identified contributing facility factors such as: lack of early identification and management of clinical conditions, poor communication, and substandard coordination of care transition (Lamb, Tappen, Diaz, Herndon, & Ouslander, 2011; Ouslander. J., Bonner. A., Henderson. L., & Shutes. J 2014; Ouslander, et al., 2016). Therefore, implementation of the INTERACT QIP allows for control of avoidable factors to potentially prevent readmissions (Ouslander et al., 2014).

Review of Study Methods

Upon reviewing the study methodologies in the discussed literature, the emerging themes are relevant to this DNP project. The literature discussed included randomized controlled trials, meta-analysis of randomized controlled trials, retrospective and observational studies, mixed-methods comparative studies, multi-centered cross-sectional studies, integrative reviews, systematic review of peer-reviewed research studies, retrospective cohort studies, exploratory qualitative studies, and interventional trials. These methods are relevant to the aim of the studies performed and are relevant to this DNP project. These study methods are relevant to this DNP project because they are reliable and valid since all produce the same results of decreased door-to-provider time, LOS with subsequent reduction of Emergency Department (ED) overcrowding, and increased patient safety and satisfaction. The evidence obtained through these methods will be translated to the practice site during the DNP project for a successful result.

In the literature review conducted, earlier studies that evaluated preventability of readmission described medical diagnosis and adverse events after discharge as the main cause of readmission (Wal Raven et al., 2011). In a retrospective cohort study conducted between 2002 and 2006, physicians evaluated preventability of readmission by using a standardized method of

review. Of the 4812 patients discharged to the community from 11 hospitals, 649 (13.5%) had

been readmitted. This was mostly due to adverse events after discharge. Out of the total

readmission, approximately less than 20%, or 1 in 5, of the readmissions were potentially

preventable (Walraven et al., 2011).

Despite its usefulness in terms of indicating trends of readmissions in general, the study

lacks relevance to predict preventability of readmission from SNF to hospital within 30 days

after discharge because of: 1) time of readmission after discharge, which was more than 30 days

2) patients were discharged directly to the community, not to SNF before readmission, and 3) the

study was among the general patient population, not specific to Medicare beneficiaries.

Another perspective cohort study performed using structured root-cause analyses (RCA)

on a sample of readmissions from a participating SNF to the index hospital showed that a

significant percentage of readmissions from SNF to the hospital was potentially preventable. In

this study, hospital, and SNF-based staff (nurses and physicians) participated in the RCA and

concluded that 30% and 13.3% from the total readmissions was potentially preventable

according to hospital and SNF staff evaluation, respectively (Vasilevskis et al., 2017). The RCA

identified readmission factors that varied between settings. Diagnostic-related problems were the

main factor in the hospital setting and problems with management of changes in conditions as

the main avoidable factor in SNF.

In similar studies, besides interviewing physicians, nurses, and family caregivers to

assess related factors and preventability of hospital readmissions, 537 charts were reviewed

using a structured case series method. From all cases assessed, 250 (47%) were potentially

preventable. Out of these, 55 (11%) were completely preventable, whereas 195 (36%) were

moderately or slightly preventable. In 143 (57%) cases, care during index hospital stay prior to

discharge was the main factor for readmission; whereas discharge process (168 or 67% of cases) and follow up care (197 or 79% of cases) were other factors affecting potentially preventable 30-day readmissions (Feigenbaum et al., 2012). This case series study provided recommendations for improved care transition, advance care planning and follow up with providers, early identification, and management of changes in conditions, and palliative care to reduce readmissions within 30 days after discharge. Even though it did not separately evaluate SNF patients, the study identifies contributing factors to readmission that apply to all patients, including those discharged to SNF, regardless of their destination.

Other studies conducted using systematic review reveal that hospital readmissions are associated with individual patient factors (demographic, clinical diagnosis and comorbidities, and other similar characteristics) and facility factors (organizational, care process, staffing and other characteristics). Identifying those factors and addressing them through quality improvement has been a promising intervention to reduce readmission (Joo et al., 2015). Similarly, using linear regression calculation with estimating equations, 30-day readmission rates among 14,666 SNFs in the United States were examined from 2011 through 2015. Findings indicated a significant downward trajectory in adjusted 30-day readmission rates over time, with implementation of hospital readmission reduction programs in SNF (Smith et al., 2019). Other studies conducted using Medicare data on fee-for-service Medicare beneficiaries discharged to SNF also reveals that hospital readmission is significantly associated with SNF staff performance (Neuman, Wirtalla, Werner, 2014).

Significance to the Nursing Profession

The literature review reveals that reducing hospital readmission is now a national mandate that requires hospitals and PAC facilities to achieve as one of their quality measures.

Multifaceted interventions provided during admission, pre-discharge, and post-discharge have resulted in a reduction in readmission (Dizan & Reiking, 2017). Through implementation of evidence-based practice recommendations that allow control over such avoidable factors, the potentially preventable hospital readmissions have significantly reduced (Tena-Nelson., 2012).

As indicated in several studies and regulations, CMS has shifted towards value-based purchasing programs, both in hospitals and SNFs. This requires nurses and other providers to develop and apply necessary knowledge and skills to meet the quality measures in health care. The benefits of implementation of evidence-based practices and quality improvement interventions for the nursing profession is the reflection of how nursing is responding to the needs and problems in health services. As a member of health care leaders, nursing professionals, especially those with advanced education, are expected to play a leading role in quality improvement activities. This puts nursing as a profession in the forefront of problem solving through connecting evidence with practice. From this perspective, this project will address the quality issues prevailing in SNF in terms of reducing preventable readmissions.

Theoretical Framework

Nursing practice has been continuously evolving through the application of different theories developed within the profession and integrated into the profession from different disciplines. After a thorough review of the literature, the Donabedian conceptual framework is selected to guide the implementation of INTERACT QIP in this DNP project. In Donabedian's model, the central idea is the three concepts of structure, process, and outcome. These concepts are inseparable metrics for measuring quality of care (Kunkel, Rosenqvist, We sterling, 2007; Gardner, G., Gardner, A., & O'Connell, J. 2014), See Appendix A.

Historical Development of the Theory

Avedis Donabedian, a public health pioneer and a professor at the University of Michigan, proposed his triad concept of structure, process, and outcome. He used this triad to evaluate the quality of health care. Back in the early 1960s, prior to the use of electronic medical records, Donabedian was puzzled about how to measure quality beyond medical records and clinical encounters. Donabedian attempted to examine how socioeconomic factors impact the structure and process of care, which in turn directly impacts the outcome (Ayanian & Markel, 2016). In his classic article "Evaluating the Quality of Medical Care," Donabedian articulated the relationship between structure, process, and outcome, and how they all interdependently affect the quality of care (Donabedian, 1966). Acknowledged as a great idea, Berwick & Fox (2016), reiterated that Donabedian model has remained an influential concept in the entire field of quality measurement in the health care.

Application to Current Practice

Literature review reveals that in current practice, Donabedian has provided a foundation for research, quality improvement interventions, and evaluation of health care quality. For example, the Donabedian model provided a foundation for the Institute of Medicine (IOM) report entitled *Medicare: A Strategy for Quality Assurance* (as cited by Ayanian & Markel, 2016). In this report, the IOM defined quality of care based on Donabedian's concept of quality, as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." Quality assurance organizations such as the National Quality Forum (NQF) and other organizations measure the quality of process and outcome in their quality assessment practices. In the late 1980s, The Joint Committee for Accreditation of Healthcare Organizations (JCAHO) used concepts articulated by Avedis Donabedian for accreditation standards. Since then, many

government agencies such as Agency for Healthcare Research and Quality (AHRQ) have been

guided by the Donabedian concepts of structure process and outcome to frame quality initiatives

and health care service research (Ayanian & Markel, 2016; Kobayashi, Takemura & Kanda,

2011; Naranjo, & Visawantha, 2011).

Even though there have been several attempts to create a comprehensive model to

conceptualize aspects of quality in its entirety, the Donabedian model has remained outstanding

in terms of relevance and usefulness in guiding quality improvement endeavors over several

decades (Naranjo et al., 2011). In current practices, the Donabedian model of structure, process,

and outcome has successfully been applied to evaluate and/or improve quality of health care

through nursing services (Kobayashi et al., 2011; Gardner et al., 2014).

Major Tenets

The main idea of Donabedian's conceptual framework is that a well-designed

organizational structure establishes an effective process of care, which is also the key element of

quality care that yields the desired outcome. In the Donabedian model, the concepts of structure,

process, and outcome are the organizing ideas central to measuring and improving quality

(Berwick & Fox, 2016).

Structure

Structure is defined as a physical and qualified human resource necessary for operating

an organizational system in which the process of care takes place (Naranjo et al., 2011; Ayania,

2016; Kunkel et al., 2007; Brewick et al., 2016). The physical component of structure is

comprised of material resources that are necessary to ease the process of care and patient

feelings. For example, the facility's building and its layout of patient rooms, its cleanliness and

serenity, safety hazards, other material resources such as: number of licensed beds, quality of

medical equipment, and other necessary supplies for patient care are some of the physical elements of structure.

The other important element of structure is the human resources that operate administrative and technical practices through the implementation of organizational policies and professional competencies as required (Ayania, 2016). Therefore, the social elements of structure include staff members and the system of interaction that define the social environment of an organization. Donabedian believed that the social-cultural practices in the health care system either "enhances" or "detracts" the quality of care because, unlike commercial products, health care is a sacred human service that is grounded in moral and scientific values (Gardner et al., 2014; Berwick et al., 2016). When defining the social component of structure, Donabedian emphasizes organizational practices and staff competence in terms of knowledge, skills, and attitude as a critical factor for delivering quality care (Ananiyan et al., 2011; Berwick et al., 2016).

Process

Process is the second dimension of Donabedian's model that is defined as the actual delivery of services that impacts organizational or patient care outcome (Naranjo et al., 2011). In this case, a process is described as a flow of core activities in patient care. These activities include patient assessment, development of care plans, execution of such plans within technical guidelines, organizational policies, and scientific recommendations (Kobayashi et al., 2011; Gardner et al., 2014). Therefore, 'process' essentially includes the acts of patient care as it occurs through interactions between care providers and the patient/family or care providers themselves depending on structural efficiencies or capacity to provide support for the implementation of such processes.

The other aspect of process is the delineation of roles and responsibilities of care based on professional qualifications and competencies of the caregivers. According to Donabedian's perspective, a well-organized process avoids role confusion, reduces errors, maximizes safety, and increases responsibility and accountability for standards of care (Naranjo et al., 2011). This means that improved process allows for practitioners and organizations to deliver quality services that meet the expectation of the customer and improves patient satisfaction.

Outcome

Outcome is the third dimension of the Donabedian framework that can also be defined as the ultimate product of the other two dimensions, structure, and process (Voyce, Gouveia, Medinas, Santos, & Ferreira, 2015). In the Donabedian views, outcome is conceptualized as the final result that is produced from the antecedents of structure and process of the health care delivery system (Naranjo et al., 2011). In other words, the Donabedian model put a great emphasis on the valuable measure of both structure and process, linking their values to the outcome to indicate the quality of care.

The Donabedian conceptual model describes the linear relationship existing between structure, process, and outcome as inseparable concepts of quality where a structural deficit impedes the process leading to poor outcomes (Naranjo et al., 2011; Gardner et al., 2014). Even though the outcome is the ultimate quality indicator, which can be expressed in terms of health improvement or organizational performance, quality improvement will not be successfully achieved without measuring and improving structure and process as well (Ananiyan et al., 2011).

<p style="text-align:center;">**Application to the DNP Project**</p>

Studies show that understanding the requirements for establishing effective structure and process that allows implementation of nursing service innovation is a foundation for improved

clinical outcomes (Naranjo et al., 2011; Gardner et al., 2014; Brewick et al., 2016; Ayanian et al., 2016). Therefore, in this project, each component of INTERACT QIP, which is evidence-based, will be applied in practice to improve elements of structure and process of nursing services in a way that leads to decreased hospital readmission as an outcome.

Structure

Structure is **t**he first step in implementing the INTERACT QIP and starts with identifying structural strengths and barriers that exist at the project site. To reduce hospital readmission, practitioners should identify avoidable barriers and how the adoption of INTERACT affects the QI efforts (Popejoy et al., 2019). At the project site, the administrator of the facility is the executive in charge of administrative decisions under the direction of a corporate office. The Medical Director and the director of nursing collaboratively work together in managing the clinical operation. "Avoidable structural barriers" are those related to staff competency or functional/organizational system in service delivery. The facility utilizes an electronic medical record, called a "point-click" which is also amenably designed to integrate INTERACT tools. Therefore, the project lead will capitalize on the existing technological system and other resources of the project site to improve identified structural deficiencies and to implement the INTERACT QIP.

Process

The second step in implementing the INTERACT QIP is integrating all the program components into the routine nursing practice. For example, "advanced care planning" is one of the INTERACT tools that is used to establish a baseline for clinical status of residents upon admission. Utilizing advanced care planning tools on a daily basis helps to understand a complex clinical situation the resident may experience and plan interventions to address the problem. The

INTERACT tools also assist with tracking changes of conditions by comparing subjective or objective findings against the baseline assessment (Ouslander et al., 2009; Yangping, Phippis, Reiman, Debra, & Parker, 2012).

Likewise, "care path," is a step-by-step INTERACT protocol that should be constantly and correctly used by registered nurses for reevaluation of residents when there is a change in condition. This tool will assist the nurse in effectively identifying the cause and manage the resident's condition at the facility level. In this regard, a communication tool is the other key component of the INTERACT QIP, which guides nursing staff to effectively communicate with providers to facilitate timely and effective management of the patients change in condition (Ouslander et al., 2014). The communication tool also assists to improve documentation of clinical information and track transfers to the acute care facilities. Therefore, through utilization of the components of the INTERACT QIP, the nursing staff will improve their competency and the process of care delivery thus, improving resident outcomes.

The assumption is that while providing education to introduce the INTERACT tools, avoidable structural barriers should also be addressed. According to Donabedian's views, increasing technical skills, knowledge, or attitudes required to implement a quality improvement process begins with improving the structure. Therefore, staff education and follow-up in the application of the INTERACT tools for process improvement is linked to improved outcomes.

Outcome

Outcome, as described in the tenets of the Donabedian model, is the result of structure and process. Despite its usage as a final measure of quality improvement interventions, outcome cannot separately be achieved without measuring and improving the structure and process of care (Yangping., Phippis., Reiman., Carr., & Parker, 2012). Studies also show that structure and

process have a strong correlation and the quality of care process is enhanced by supportive structural elements to produce outcomes (Kunkel et al., 2007; Ayanian et al., 2016). Therefore, this DNP project lead will be guided by the Donabedian model to evaluate and improve the entire structure and process of nursing practice to achieve the desired outcome, which is a reduced rate of hospital readmission.

<div style="text-align:center">Project Design</div>

Quality improvement is a process of evaluating work process/activities to identify and address the cause of variations in outcomes and monitor practice in a cyclic or continuous manner to maintain a desired outcome (Raines, Deborah, 2012). Recently, a value-based sentiment has been a major driving force in health care services influencing decisions towards improved outcomes as a measure of quality (Stelson, Hille, Eseounu, & Doolen, 2017). In this DNP quality improvement project, the project lead will implement interventions to reduce hospital readmission from SNF. To achieve this goal, the project designed focuses on ways that reduce the high rate of hospital readmission by targeting structure and process of care to improve the outcome.

In studying the cause and effect relationship, the presumed cause of the effect is termed as independent variable whereas the presumed effect itself is a dependent variable (Flannelly, & Jankowski, 2014). In this DNP project, INTERACT QIP tools are independent variables that create structures to effect changes on the rate of hospital readmission (outcome), which is the dependent variable. A proper application of INTERACT QIP tools which is required to effect changes is a dependent variable. The success of INTERACT QIP in reducing readmission rate largely depends on how effectively we can utilize the program tool (Ouslander et al., 2011).

Therefore, the correct application of INTERACT QIP tools which is dependent variable is also the metrics for staff compliance.

Setting, Population of Interest, Stakeholders, & Recruitment Methods

Project Settings

The host facility is one of the 56 sister covenant care facilities throughout the nation that was established in 1994 in the Las Vegas area as a Skilled Nursing Facility (SNF). Owned and operated by a corporation, the facility can accommodate 148 patients at a time. The facility participates in Medicare and Medicaid, accepting largely elderly patients for post-acute rehabilitation (rehab) and long-term care. This project will be implemented in the rehab unit due to two measure reasons: 1) the project focuses on readmission rates within 30 days after hospital discharge in which case rehab patients are highly likely to return to the hospital, 2) the limited scope of the project. However, the project lead has full permission from the facility's leadership to conduct the project in any unit of the facility (See Appendix B)

Population of Interest

The population of interest in this project include members of the nursing staff, particularly registered nurses (RNs) and the Licensed Practical Nurses (LPNs), and the Certified Nurse Assistants (CNAs) that are providing direct patient care. The inclusion criterion is the involvement of the staff in direct patient care in rehab unit. Accordingly, administrative staff nurses such as director and assistant director of nursing and nurses working in long term other than rehab unit are excluded. By this criteria staff included are charge nurse, RNs, LPNs and CNAs that are working full time and part time in rehab unit and the director of staff development. There is no monetary incentive for participation except the psychological satisfaction from participating in quality improvement efforts.

Stakeholder

A strong leadership support and stakeholder's involvement is very crucial for its

successful implementation of quality improvement efforts (Talisman et al., 2014). Specially, the

mid-level leadership team members are proven to play a crucial role in mediating between the

higher managers and the front-line staff during implementation of the quality improvement

program (Pannick, Sevdalis, & Athanasiou., 2016).

The project lead will diligently work together with the stakeholders such as the DON &

ADON, staff development & infection control coordinators to achieve a quality improvement

objective in this project. Therefore, the project lead will engage these stakeholders in project

designing and implementation, provide update on the project progression and involve them in

problem solving activities incase removal of barriers is required. The project lead will also work

indirectly with beneficiaries of the project such as the patient and their families to promote a

positive image of the project.

Methods of Recruiting Participants

As part of a unit wise practice change in the rehab unit, participation of the staff members

in the project activity is mandatory. However, the participation is neither a condition of

employment nor in return for any form of benefit. Therefore, by using a convenience sampling

the project lead engage all RNs, LPNS and CNAs that are working on the rehab floor in all the

three shifts will be recruited for this project. At the implementation phase of the project a

maximum of 30 patient charts will be retrospectively audited for proper utilization of

INTERACT QIP tools. The chart audit will only be done on those patients that were admitted

during the four weeks of intervention or implementation period to concurrently evaluate the

proper application of the project tools.

INTERACT QIP Tools/Instrumentation

In conjunction with motivation and incentives to reduce hospitalization from SNF, proper application of INTERACT QIP implementation tools was significantly associated with a reduced all-cause avoidable rehospitalization (Huckfeldt et al., 2018). By integrating into the routine nursing process, this DNP project will utilize INTERACT QIP tools to guide essential activities of the project including data collection to evaluate the work process and its outcome. These tools were originally developed by Dr. Ouslander in 2009 to support nursing staff in SNF by providing a guideline for a systematic assessment and management of symptoms (Ouslander et al., 2009). Currently these tools are available for public consumption on the producer's website https://pathway-interact.com/, from where the project lead retrieved it for use in this project.

Quality Improvement Tool

The quality improvement tool for review of acute transfer is used for root cause analysis in evaluation of patient transfers from SNF. This tool combines many other tools and is designed in such a way that allows for capturing vital information in the process of quality improvement intervention. Therefore, the very purpose of this tool is to: 1) analyze reasons for transfer and tracing risk factors for rehospitalizations, 2) describe acute changes including clinical and non-clinical factors that contributed to the transfer, 3) describe the actions taken to evaluate and manage the changes prior to transfer, and 4) evaluate the transfer process and opportunities for improvement   (see Appendix C)

Stop and Watch Tool

This is a simple form used to gather information about resident's conditions from anyone that notices any changes or has a concern about a resident (see Appendix D). Staff members providing a direct care specially CNAs will be trained in how to use this form to trace changes

and report to licensed staff. Other staff members such as respiratory and rehabilitation techs,

dietary and other non-clinical staff members can inform CNAs or licensed clinicians of any

changes or concerns about a resident. This tool can also be posted at every corner where visible

to family members, visitors, or anybody to remind them of the importance of reporting any

changes or concerns about residents to CNAs or licensed clinical staff. A licensed nurse that

receives a report through this tool will acknowledge it in writing by signing and documenting

resident's information, the type of change reported, and the immediate action taken.

Admission Rate Tracking Tool

According to CMS, all-cause 30 days hospital readmission measure is a risk-standardized

readmission rate which is calculated as the ratio of the actual (observed) count of readmissions in

relation to the risk-adjusted (expected) count. The very purpose of this tool is to collect data

every time a resident transferred to hospital or readmitted. The data entered into the computer

system will be used to calculate readmission rate in the computer system that is built in the host

facility electronic medica record, which is also the same as INTERACT QIP readmission

tracking tool (see Appendix E).

Chart Audit Tool

This tool is developed by the project lead to track provider compliance with application

of INTERACT QIP tools in the process of the quality improvement intervention. By analyzing

the information obtained through chart audit provider compliance with application of the

INTERACT QIP tools will be evaluated. The project lead will rate the accuracy or proper

application of the INTERACT tools as: 1) Completely/ Correctly applied/documented, 2)

incomplete/partially applied with missing items, 3) incorrectly applied or not applied at all.

Rating the application of the tools will allow for measuring staff competence or compliance in proper utilization of INTERACT tools for quality improvement (see Appendix F)

Educational Plan

Staff training on utilization of INTERACT QIP tools will be delivered in four sessions, two for RNs/LPNs and two for CNAs separately, as specified in the project implementation timeline below. The training of licensed nursing staff focuses on basic concepts of INTERACT tools and its application into a daily care process. Unlicensed nursing staff such as CNAs will be trained on how to use stop and watch early warning sign to report changes in condition. The overall education plan is to help participating nursing staff understand and properly utilize the INTERACT tools as recommended in this quality improvement project. Therefore, the overall staff training put a greater emphasis on application of INTERACT tools in care planning, clinical evaluation of changes and managing symptoms to avoid unnecessary patient transfer to hospitals. As such communication tools and clinical decision support guidelines will be discussed according to INTERACT QIP implementation guideline; participants will be provided with copies of each tool and guideline (see the attached ppt presentation)

Data Collection Procedures

The overall data collection procedure is a step wise process that allows for capturing relevant information to the project variables that are important to measure the project objectives. Accordingly, information related to pre and post intervention rate of admission will be gathered by using hospital readmission tracking tool. The preintervention data or the number of patients transferred to hospitals within one month prior to intervention will be collected. Once staff training is complete and the INTERACT QIP is initiated, a maximum of 50 charts of newly admitted patients will retrospectively be audited throughout the four weeks of implementation

period. The purpose of performing the chart audits is to measure staff compliance with the
INTERACT QIP. Performing the audit retrospectively during the implementation phase will
provide a formative evaluation to determine if remedial education is required.

Finally, post intervention data or the number of patients transferred to hospitals within
four weeks following the start of application of INTERACT tools will be collected by using
hospital transfer tracking matrix. As such, the overall data collection procedure is designed to
collect specific information that helps to measure the degree of staff compliance with application
of INTREACT tools and the pre and post intervention hospital readmission rate.

Project Implementation Timeline

This DNP project starts, back in November 2019, with identifying hospital readmission
as a problem of quality in the SNF. The project lead has performed literature reviews to
examine the magnitude of this problem at national and regional levels. In identifying this gap, a
series of critical appraisals for evidences and search for best practices have been conducted. As
specified in its objectives, this DNP quality improvement project attempts to reduce the rate of
hospital readmission in SNF through implementing the INTERACT QIP. This intervention
includes strengthening host facility staff competence to enable them to improve the process and
quality of care through applying evidence based INTERACT QIP tools. Licensed nurses and
unlicensed clinical staff recruited for this intervention will be trained on how to implement the
program tools integrating into the daily process of care.

Parts of this project proposal including deciding the type of quality intervention,
identifying the host facility, and obtaining legal permission from its administration has been
finalized from November 2019 through March 2020.The remaining parts of the project
proposal that includes choosing the population of interest and recruitment methods,

interventions details and measuring outcomes, data collection instruments and analysis methods

have been completed from Aril 2020 through June 2020. Approval for implementation will be

granted in June 2020. Once approval is obtained, the implementation of the project will

commence the first full week of July 2020. Details of project implementation activities are

provided in Table 1.

Table 1

Project Implementation Timeline, July 2020 – August 2020

Week/Date	Activity
Week1: July 6-July 11	✓ Participants will be communicated with through email regarding date, time, and location reminders for educational sessions -**Complete** ✓ All the project tools and training materials are ready and copied -**Complete** ✓ Pre-implementation data, the rate of hospital readmission in June (four weeks prior to intervention) will be collected -**Complete** All the training sessions will be completed in the first week -**Complete** * **Morning session** (2 sessions) ✓ 630-7000: RN& LPNs (night shift with morning shift together) ✓ 600-6300: CNAs (night shift with morning shift) * **Afternoon session (2 sessions)** ✓ 1730-1800: RN& LPNs (Night & Morning shift staff) ✓ 1400-1430: CNAs (swing shift staff)
	• Monitor implementation of INTERACT tools into routine nursing activities starting the first day of week 2 (Complete)

Week 2 - week 5 (July 13- Aug 7)	• Retrospective chart review /audit on admitted residents between 11th of July2020 through 7th of August 2020 (Complete) • Monitor all the project activities and provide support for staff as required. Complete • Begin data collection and analysis of results (Complete)
Week 6-8 week (Aug17- Aug 28)	• Complete data analysis and interpretation of results- Complete • Complete compilation of the project document -in progress • Complete all the project work and submission of the project • Make appointment to disseminate project results to stakeholders.

Ethics and Human Subjects Protection

According to the statement of TUN policy described in the DNP project handbook, this quality improvement project should be exempt from IRB review. However, a project determination form will be completed and submitted to the project team for review, which will ultimately determine if the project methodology warrants a full IRB review. Nevertheless, even exempt studies such as the one that involves a review of medical record accessing Protected Health Information (PHI) can be subject to the HIPAA rules. In this DNP project, the purpose of the chart audit is only to review the documentation of interventions executed to evaluate how the recommended INTERACT tools were precisely and consistently utilized throughout the care process. Audited charts will be identified by assigning a unique number that is only known to the project lead, and no PHI will be retrieved or recorded into chart audit tools. The project lead determines if the documentation in the audited chart complies with the quality intervention program requirements or not by using the rating scale on the chart audit tool.

Literature states that overseeing a quality improvement project is important to ensure that

patient safety is not compromised, and the ethical approach is maintained throughout the quality

improvement interventions (Taylor, Pronovost, Faden, Kass, & Sugarman, 2010). Since the host

facility as an institution has the full authority to monitor this DNP quality improvement project,

IRB review will be unnecessary (De Jong, van Zwieten, & Willems.,2013).Therefore, by all

accounts, this DNP project is compliant with ethical requirements to carry out the quality

improvement intervention in collaboration with the host facility itself. Participants are the host

facility staff who collaborate with the project lead to conduct the project activities integrating

into their routine responsibilities. The project lead will assign a unique number to all the

participants to provide anonymity. Only the project lead knows the numbers that correspond to

the participants only for the purpose of identification in the process of directing interventions,

analyzing, and reporting activities and outcomes of the project.

Plan for Data Analysis

In relation to the project objectives the data analysis plan is to measure specifically two

areas of the project outcomes. The data collected via chart audit over the four weeks of

implementation will be analyzed specifically to evaluate the staff compliance with the use of the

INTERACT QIP tools. A statistical method for this analysis will be a descriptive statistic (the %

of use) with 95% confidence interval. The Fisher's exact test is the statistical test used to analyze

changes in the rate of hospital readmission one-month preintervention and post intervention.

The Fisher's exact test will test the hypothesis whether the readmission rate would be the

same before and after intervention. The assumption of Fischer's exact test of independence is that

if the null hypothesis is true, as determined by the probability rules for possible outcomes, there

would be no difference between pre and post intervention rate of readmission (Connelly, 2016).

This means that the null hypothesis will be rejected if the pre and post intervention rate of readmissions is not the same as indicated by the P- value of less than 0.05. The probability value of a test will determine if the variation was significant, meaning the probability of the variation was greater than chance (Connelly, 2016)

Significance/Implications for Nursing

The implication of this project is multidimensional in terms of its contribution to nursing profession, the project site, and the quality of life of the patients. The nursing scholarship of application is the real collaboration between the academics of nursing and practitioners in the community to bring about practice changes through innovation (Limoges, Acorn, & Osborne., 2015). As it examines how activities of nursing service can change the quality of patient care, this DNP project contributes to a scholarship of application of nursing practice. This means that it contributes to the advancement of nursing practice by synthesizing knowledge from research and disseminates the outcomes with recommendation depending on the result.

As a result of increasing financial cost related to hospital readmission, the federal regulations demand SNFs to reduce 30 days hospital readmissions as indicated by rate of readmission (CMS.,2016). Several studies have revealed that the INTERACT QIP has significantly reduced hospital readmission in SNF. For example, (Huckfeldt et al., 2018), reported that a greater reduction in all-cause hospital readmission was significantly associated with proper use of core INTERACT QIP tools in quality improvement interventions in SNF and PAC. Therefore, beyond improving quality of care of patients in SNF, implementation of this DNP project has a financial implication for the project site. If successfully implemented, it improves the revenue of host facility by reducing hospital readmission, which is tied to Patient

Driven Payment Methods (PDPM), the new Payment system that requires SNF to score a lower

rate of readmission to get paid well.

<div align="center">

Analysis

</div>

As explained earlier in the project plan, the overarching objective of this DNP project

was to improve the quality of care through application of INTERACT QIP tools by integrating

them into the daily care process. By using a binomial test or test of proportion, the data collected

through the chart audit was analyzed to measure the level of compliance with implementation of

the proposed core INTERACT QIP tools. At the same time, the data collected on hospital

readmission rates of pre and post interventions were also analyzed by using the Fisher exact test

of independence. As such, the changes in rate of admissions before and after intervention was

eventually evaluated in relation to the application of the INTERACT QIP tools.

Chart Audit

Advanced care planning. According to INTERACT QIP (2019)**,** the advanced care

planning (ACP) tool is recommended to be effectively used when patients are admitted to the

facility to identify the patient's potential risks and actual problems. This evaluation is performed

to establish a base line for measuring changes, and to set clear goals and strategies for care

management. here was a total of 48 patient admissions conducted during the implementation

period. The project lead audited 39 charts for ACP. Out of 39 charts only 9 (23%) of them were

fully compliant with the appropriate INTERACT QIP tools, whereas 30(77%) of the charts were

only partially compliant. The project lead was unable to audit 100% of new patient admissions

due to a variety of limitations.

*Change of condition***.** To evaluate how the participants, have managed patient condition

changes, a total of nine charts were audited for the proper application of review of acute transfer

and communication tools. In this report unfortunately all of the residents that had experienced

change of condition during implementation period were transferred to hospital. As such, from

the nine charts audited for proper use of communication tools, 5(55.5%) were fully compliant

with utilizing the appropriate INTERACT QIP tools and 4(45.5%) partially compliant. Similarly,

a review of nine charts for acute transfer review tools showed that 3(33.3%) were fully adherent

and 6(66.7%) were partially compliant. Considering the total number of audits performed for

each tool, the mean for fully compliant charts accounts for only 17(29.8 %) with 95% CI

[0.1953-0.4266]; whereas, the mean for partially compliant charts accounts for 40(70.18 %) with
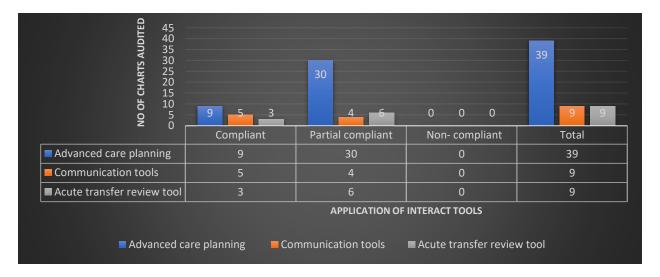
95% CI [0.574-0.8047].

	Compliant	Partial compliant	Non- compliant	Total
Advanced care planning	9	30	0	39
Communication tools	5	4	0	9
Acute transfer review tool	3	6	0	9

APPLICATION OF INTERACT TOOLS

Figure 1. Chart Audit Scores for Compliance with Application of Core INTERACT QIP Tools
Note: The mean percentage for compliant charts with application of INTERACT tools was 30 % with 95% CI and mean for partially compliant chart was 70 % with 95% CI for alpha value of 0.05.

Interpretation

In an attempt to answer the project question, the alternative hypothesis assumed that

nursing staff of the host facility would reduce the hospital readmission rate by effectively using

the INTERACT tools as compared to without using it. However, the analysis of retrospective

chart audit indicates the application of those selected core tools has not been satisfactory. The

chart audit showed the mean compliance rate of nursing staff with application of the

recommended core INTERACT tools was only17(29.8 %) with 95% CI [0.1953-0.4266]

Hospital Readmission Rate

Analysis of   hospital readmission rates shows the risk adjusted actual readmission rate

for the preintervention period was 6.3 % of the 119.5 population of residents. However, the

predicted rate of readmission within same preintervention period was 21.1 %. Likewise, the

actual post intervention readmission rate was 8.6 % of 122 population of residents, and the

predicted rate for this same period was 21%. In both cases the average population of residents

was calculated by taking the summation of number of resident populations at the beginning and

end of periods divided by two, as portrayed in Table 1.

Table 1: *Fisher Exact Test of Independence*

	With application (R1)	Without application (R2)	Total
Pre-implementation (G1)	0	6	6
Post implementation (G2)	8	0	8
Total	8	6	14

Note. A *two-sided Fisher's exact test shows that* the preintervention and post intervention readmission rates were not the same (p=0.003); which is statistically significant to reject the null hypothesis.

To determine if there is a relationship between the pre and post intervention rates of

readmission with application of INTERACT tools (R1) and without application of the tools (R2),

a 2x2 contingency table of Fisher exact test of independence has been used. In the row, G1

represents pre-implementation group or pre application of INTERACT tools, and G2 represents

post-implementation group or post application of the tools, whereas in the column R2 & R1

represent pre and post intervention rates, respectively. By using statistical calculator, the test

result was statistically significant to reject he null hypothesis [P<0.05; CI 95 %]

Interpretation of the intervention out come

As explained above, the P-value of the Fisher exact test of probability with alpha value of 0.05 means that the pre and post intervention results was not the same. Meaning that the p-value is statistically significant to reject the null hypothesis, which assumes that there would be no difference between pre and post intervention rates of readmission. However, a comparison of pre- and post-intervention rates shows that observed changes in rate of readmission was in a negative direction. This means that if not counterproductive, this negative direction is not indicative of positive effect of application of INTERACT tools on changes in rate of readmission. Despite the relationship, the application of the tools did not produce a desired effect on rates of hospital readmission for so many possible reasons.

The result of data analysis from retrospective chart audit and the comparison of changes in hospital readmission rates before and after the project intervention concludes the test of the two assumptions in this project. The first test proves the application of INTERACT tools were not satisfactorily complied as evidenced by analysis of data from the chart audit. The second test evidently show the application of the project tools had no positive impact on post intervention hospital readmission rate. In both cases the result of data analysis critically tested the two assumptions of the project that was originally formulated to answer the project question through addressing the project objectives.

<div align="center">

Discussion of Findings

</div>

The design and implementation of this DNP project assumed that proper utilization of INTERACT QIP tools will improve the quality of care in a SNF to reduce hospital readmission rates (Ouslander et al., 2014). To translate this concept into practice, the project lead has trained the frontline nursing staff in how to use INTERACT QIP tools as integrated into the daily

nursing practices. The provision of staff training and education was guided by the Donabedian conceptual framework as a means to improving the structure and process of care in order to improve the outcome (Berwick & Fox, 2016). Within this conceptual framework, application of INTERACT tools and rate of hospital readmission are the key variables that have been used to measure the project objectives in-terms of structure, process, and outcome.

The application of INTERACT tools is conceptually related to improving the structure and process of care as antecedent of improved outcome (Naranjo et al., 2011; Voyce et al 2015). Therefore, the purpose of rating staff compliance with application of the project tools was basically to measure the changes made in structure and process of care aiming at improving outcome of care in the host facility. However, the analysis of data collected through the chart audit indicates that the mean for compliant charts were only 17(29.8 %) with 95% CI [0.1953-0.4266]. This implies that there have been little changes to structure and process of care to achieve the desired outcome, which is a reduction in hospital readmission rate.

The hospital admission rate measures the final outcome of the project, which was assumed to be resulting from the application of the INTERACT tools. But, a comparison of pre- and post-intervention rates indicated no positive outcome in terms of reducing hospital readmission. Nevertheless, the two tailed Fisher exact test of independence showed that there was a difference between the pre and postintervention hospital readmission rates, P=0.003; 95% CI, which is statistically significant to reject the null hypothesis.

A previous study on this program shows that a reduced rate of hospital readmission can only be expected with a proper implementation of INTERACT tools with a control of avoidable factors (Ouslander, et al 2014). During this project implementation, the current COVID phenomenon was a major unavoidable factor that has significantly disrupted the normal working

environment negatively affecting the overall project implementation. Adding to the natural stress that can be caused by the fear of contracting the infection itself, it appears that the host facility was overwhelmed by the negative effect of increasing absenteeism, staff turnover and the frequently changing new guidelines in response to the pandemic. Several studies show that organizational readiness and leadership support are strongly associated with a successful implementation of practice change in nursing home (Yoo et al 2019; Chisholm et al 2018; Meehan et al, 2015). Unfortunately, since handling the COVID-19 induced crisis was a priority for the leadership, addressing all other issues related to quality improvement was very untimely for the host facility's leaders that negatively impacted the result of this project.

Significance

Regardless of its outcome the significance of this project is twofold in terms of introducing implementation of evidence-based nursing practices and the need for providing continuous leadership support to achieve and sustain a standardized quality of care in the host facility. Quality improvement in the SNF has remained the most challenging task related to poor leadership commitment, and utilization of evidence-based practices (Ouslander, Bonner, Henderson, & Shutes, 2014; Burk et al., 2016). As a result of this DNP project, the host facility leadership will have an opportunity to explore areas of challenges by identifying potential strength and weaknesses to develop strategies for continuous quality improvement. The importance of this project for nursing staff includes raising awareness of utilization of evidences and guidelines in daily nursing practices facilitating for the culture of safety and evidence-based practice (EBP) beyond quality improvement. A continuous application of the project tools will help in early identification and management of risks to mitigate rehospitalization in SNF.

Limitations

INTERACT QIP Tools

One of the major limitations of this project was the application of bulky nature of INTERACT QIP tools itself. The vast number of subdivided tools under each core tool and related different formats were cumbersome to include in the design of the project due to the scope of the project. Even though efforts were made to incorporate every necessary piece of information into the core tools, during the implementation period this found to be causing extra time, increased pressure on the front-line staff creating unnecessary delay in the entire care process. So, the requirement to understand and utilize multiple pieces of tools, which is also the part and parcel of one of the core tools in some way makes INTERACT QIP tools bulkier and cumbersome.

Timeframe

The other major limitation was related to the short time period for the project implementation. Effective application of all INTERACT QIP tools requires continuous evaluation and learning from the process itself over time for improvement and proper application of the tools (Ouslander, 2009). However, due to limited time period allocated for staff training, implementation, data collection, and analysis; this project was designed for the implementation of only few core-INTERACT tools (advanced care planning, communication and acute transfer review tools). Therefore, the shortage of time has limited the number of tools that could have been used over time, and the collection of adequate volume of data for analysis and interpretation of the effects of the project tools on outcome.

Leadership Engagement

Another peculiar situation to this DNP project was the current COVID-19 pandemic that limited the adaptability of the project tools in many different ways ranging from limiting staff

engagement and leadership support. The assumption is that increased absenteeism and staff turnover related to this pandemic have created extra workload that negatively impacted staff morality, engagement, and subsequently limiting the implementation of EBP. In previous studies the strength of evidence and its adaptability in terms of cost and relative advantage to the host facility has been identified as important factors for implementation of EBP in SNF (Palmer, 2019). The relative advantage of implementing this project was less important as compared with responding to the COVID phenomenon that forced the host facility to divert resources and leadership efforts to dealing with the pandemic. A similar study in evaluation of challenges of leadership and staff engagement with quality issues in nursing home has indicated that limited resources and incentivization were a major barrier to quality improvement (Dixon-Woods, McNicol, & Martin, 2012). This informs that future quality improvement endeavors in SNF need to focus on addressing these identified barriers in addition to addressing the methodological limitations identified in this project.

Dissemination

Disseminating information on the key procedural steps used during the implementation and evaluation processes of this project will be useful for future quality improvement in the host facility or any other SNF. Also, the recommendations given for addressing the limitations and the challenges of this project will assist in the continuity of the quality improvement efforts, which is already underway in the host facility. Therefore, by using a PowerPoint slide show, the project lead will disseminate vital information to inform the host facility and its associates long-term care facilities through the corporate office. The identified project limitations and challenges of implementing the project tools will be the focus of dissemination for future quality improvement endeavor in nursing homes.

The project lead will also conduct a virtual presentation on the project to faculties, and students of Touro University. For further dissemination into a public sphere a print media will be used to disseminate the summarized project into a poster form or the power point slide show through the internet. In an attempt to reach out to the target population in the wider community, the project lead has submitted application to Nevada Health Care Association (NVHCA) to provide virtual presentation on annual education convention to be held on October 21st, 2020. NVHCA is a nonprofit organization supporting 30 Assisted living facilities and 50 SNFs throughout Nevada to assist in addressing issues relevant to quality of resident care. Finally, an unabridged full version of the project script will be submitted to the Doctor of Nursing Practice Project Repository so that interested researchers, practitioners, or students will have access to this quality improvement, DNP capstone project.

Reference

Ayanian, J. Z., & Markel, H. (2016). Donabedian's lasting framework for health care quality.

   The New England Journal of Medicine, 375(3), 205-207. doi:

   http://dx.doi.org/10.1056/NEJMp1605101

Berwick, D., & Fox, D. M. (2016). "Evaluating the Quality of Medical Care": Donabedian's

   Classic Article 50 Years Later. *The Milbank quarterly*, *94*(2), 237–241.

   doi:10.1111/1468-0009.12189

Best, M., & Neuhauser, D. (2004). Avedis Donabedian: father of quality assurance and poet.

   Quality & safety in health care, *13*(6), 472–473. doi:10.1136/qhc.13.6.472

Braithwaite, J., Herkes, J., Ludlow, K., Testa, L., & Lamprell, G. (2017). Association between

   organisational and workplace cultures, and patient outcomes: Systematic review. *BMJ*

   Open, 7(11) doi: http://dx.doi.org/10.1136/bmjopen-2017-017708

Burke, E., Whitfield, E., Hittle, D., Min, S., Levy, C., Prochazka, A., Ginde, A. (2015;2016;).

   Hospital readmission from post-acute care facilities: Risk factors, timing, and outcomes.

   Journal of the American Medical Directors Association, 17(3), 249-255.

   doi:10.1016/j.jamda.2015.11.005

Chisholm, L., Zhang, N. J., Hyer, K., Pradhan, R., Unruh, L., & Lin, F. C. (2018). Culture

   Change in Nursing Homes: What Is the Role of Nursing Home Resources? *Inquiry: a*

   journal of medical care organization, provision, and financing, *55*, 46958018787043.

   https://doi.org/10.1177/0046958018787043

Chih-Ying (Cynthia) Li., Amol Karmarkar., Yu-Li Lin., Yong-Fang Kuo., Kenneth Ottenbacher

   (2018). Evaluating the Impact of Hospital Readmissions Reduction Program on

   Readmission Rates. https://doi.org/10.1016/j.apmr.2018.07.275

Connelly, L. M. (2016). Fisher's exact test. *Medsurg Nursing, 25*(1), 58-58,61. Retrieved from

https://search.proquest.com/docview/1765639150?accountid=28843

Daniel & Chase (2018). A national health account perspective: A framework for understanding

health care financing. 3, 37(3): 498-503. DOI:10.1377/hlthaff.2017.1629

De Jong, J. P., van Zwieten, M., C.B., & Willems, D. L. (2013). Research monitoring by US

medical institutions to protect human subjects: Compliance or quality improvement?

Journal of Medical Ethics, 39(4), 236. doi:http://dx.doi.org/10.1136/medethics-2011-

100434

Dixon-Woods, M., McNicol, S., & Martin, G. (2012). Ten challenges in improving quality in

healthcare: Lessons from the health foundation's programme evaluations and relevant

literature. *BMJ Quality & Safety, 21*(10), 876-884. doi:10.1136/bmjqs-2011-000760

Dizan L. & Reiking C. (2017). Reducing readmissions: Nurse-driven Interventions in the

transition of care from hospital. *Worldviews on evidence-based nursing*; 14:6, 432–439. 4

Donabedian, A. (1997). The quality of care. how can it be assessed? 1988. *Archives of Pathology

& Laboratory Medicine, 121*(11), 1145.

Donabedian, A. (2005). Evaluating the quality of medical care. 1966. *The Milbank quarterly*,

83(4), 691–729. https://doi.org/10.1111/j.1468-0009.2005.00397.x

Ewigman, Vella & Jessica (2018). Implementing evidence-based interventions to prevent

readmissions in the real world. *Journal of General Internal Medicine*; 33(5): 578–580.

DOI: 10.1007/s11606-018-4351-8

Feigenbaum P., Neuwirth E., Trowbridge L., Teplitsky S., Barnes CA., Fireman E., Dorman J.,

Bellows J. 2012). Factors contributing to all-cause 30-day readmissions: a structured case

series across 18 hospitals.

Flannelly, K. J., Flannelly, L. T., & Jankowski, K. R. (2014). Independent, dependent, and other variables in healthcare and chaplaincy research. *Journal of health care chaplaincy*, *20*(4), 161–170. https://doi.org/10.1080/08854726.2014.959374

Gardner, G., Gardner, A., & O'Connell, J. (2014). Using the donabedian framework to examine the quality and safety of nursing service innovation. *Journal of Clinical Nursing, 23*(1-2), 145-155. doi:10.1111/jocn.12146

Gerhardt. G., Yemane, A., Hickman, P., Oelschlaeger, A., Rollins, E., & Brennan, N. (2013). Medicare readmission rates showed meaningful decline in 2012. *Medicare & Medicaid research review*, *3*(2), mmrr.003.02. b01. doi:10.5600/mmrr.003.02. b01

Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: Interviews and focus groups. *British Dental Journal, 204*(6), 291-5. doi:http://dx.doi.org/10.1038/bdj.2008.192

Glette, M. K., Røise, O., Kringeland, T., Churruca, K., Braithwaite, J., & Wiig, S. (2018). Nursing home leaders' and nurses' experiences of resources, staffing and competence levels and the relation to hospital readmissions - a case study. *BMC health services research*, *18*(1), 955. doi:10.1186/s12913-018-3769-3

Greysen S.R., Stijacic Cenzer I., Auerbach A.D., & Covinsky K.E. (2015). Functional Impairment and Hospital Readmission in Medicare Seniors. *JAMA Intern Med.* 175(4):559–565. doi:https://doi.org/10.1001/jamainternmed.2014.7756

Gupta, S., Zengul, F. D., Davlyatov, G. K., & Weech-Maldonado, R. (2019). Reduction in Hospitals' Readmission Rates: Role of Hospital-Based Skilled Nursing Facilities. *Inquiry: a journal of medical care organization, provision and financing*, *56*, 46958018817994. doi:10.1177/0046958018817994

Horney, C., Capp, R., Boxer, R., & Burke, R. E. (2017). Factors associated with early

   readmission among patients discharged to Post-Acute care facilities. *Journal of the*

   American Geriatrics Society, 65(6), 1199-1205. doi:10.1111/jgs.14758

Huckfeldt, P. J., Kane, R. L., Yang, Z., Engstrom, G., Tappen, R., Rojido, C., Newman, D.,

   Reyes, B., & Ouslander, J. G. (2018). Degree of Implementation of the Interventions to

   Reduce Acute Care Transfers (INTERACT) Quality Improvement Program Associated

   with Number of Hospitalizations. *Journal of the American Geriatrics Society*, *66*(9),

   1830–1837. https://doi.org/10.1111/jgs.15476

Institute for Health Care Improvement (IHI, 2007).The triple aim: Optimizing health, care and

   cost Retrieved from http://www.ihi.org/engage/initiatives/TripleAim/Documents/pdf

Institute of Medicine (2011). The future of nursing: Leading change, advancing health.

   Washington DC: National Academies Press.

Jones, T. L. (2016). Outcome measurement in nursing: Imperatives, ideals, history, and

   challenges. *Online Journal of Issues in Nursing, 21*(2), 1.

   doi:10.3912/OJIN.Vol21No02Man01

Kobayashi, H., Takemura, Y., & Kanda, K. (2011). Patient perception of nursing service quality;

   an applied model of Donabedian's structure-process-outcome approach theory.

   Scandinavian Journal of Caring Sciences, *25*(3), 419–425.

   https://doi.org/10.1111/j.1471-6712.2010.00836.x

Kripalani, S., Theobald, C. N., Anctil, B., & Vasilevskis, E. E. (2014). Reducing hospital

   readmission rates: current strategies and future directions. *Annual review of medicine*, *65*,

   471–485. doi:10.1146/annurev-med-022613-090415

Kunkel, S., Rosenqvist, U., Westerling, R. (2007). The structure of quality systems is important

       to the process and outcome, an empirical study of 386 hospital departments in Sweden.

Limoges, J., Acorn, S., & Osborne, M. (2015). The scholarship of application: Recognizing and

       promoting nurses' contribution to knowledge development. *The Journal of Continuing*

       Education in Nursing, 46(2), 77-82. doi:http://dx.doi.org/10.3928/00220124-20151217

Retrieved 01/19/2020 from https://www.ncbi.nlm.nih.gov/pubmed/17620113

Malcolm, M.P., Middleton, A., Haas, A., Ottenbacher, J., & Graham, J. (2019). Variation in

       facility-level rates of all-Cause and potentially preventable 30-Day hospital readmissions

       among Medicare fee-for-service beneficiaries after discharge from post-acute inpatient

       rehabilitation. *JAMA Netw Open.* 2019;2(12):e1917559.

       doi:https://doi.org/10.1001/jamanetworkopen.2019.17559

McHugh, M. & Ma, C. (2013). Hospital nursing and 30-day readmissions among Medicare

       patients with heart failure, acute myocardial infarction, and pneumonia. *The Journal of*

       nursing administration, *43*(10 Suppl), S11–S18. doi: 10.1097/01.NNA.0000435146.

       46961.d1

Medicare Payment Advisory Commission. (2016). A data book: Health care spending and the

       Medicare program. Retrieved from http://www.medpac. gov/docs/default-source/data-

       book/june2016-data-book-health-care-spending-and-themedicare-program.pdf

Meehan, T. P., Sr, Qazi, D. J., Van Hoof, T. J., Ho, S. Y., Eckenrode, S., Spenard, A., Pandolfi,

       M., Johnson, F., & Quetti, D. (2015). Process Evaluation of a Quality Improvement

       Project to Decrease Hospital Readmissions From Skilled Nursing Facilities. *Journal of*

       the American Medical Directors Association, *16*(8), 648–653.

       https://doi.org/10.1016/j.jamda.2015.02.015

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

Naranjo, L. L. S. & Viswanatha Kaimal, P. (2011). Applying Donabedian's theory as a

      framework for bariatric surgery accreditation. *Bariatric Nursing and Surgical Patient*

Ouslander JG., Perloe M., Givens JH., Kluge L., Rutland T, & Lamb G.(2009). Reducing

      potentially avoidable hospitalizations of nursing home residents: results of a pilot quality

      improvement project. J Am Med Dir Assoc.10(9):644-52. doi:

      10.1016/j.jamda.2009.07.001

Ouslander, J., Bonner, A., Henderson, L., & Shutes, J .(2014) Interventions to Reduce Acute

      Care Transfers (INTERACT) Quality Improvement Program: An Overview for medical

      directors and primary care clinicians in long term care. *Journal of the American Medical*

      Directors Association, 15(3), P. 162-170,

Palmer, J. A., Parker, V. A., Mor, V., Volandes, A. E., Barre, L. R., Belanger, E., . . . Mitchell, S.

      L. (2019). Barriers and facilitators to implementing a pragmatic trial to improve advance

      care planning in the nursing home setting. *BMC Health Services Research, 19*(1), 527-12.

      doi:10.1186/s12913-019-4309-5

Pannick, S., Sevdalis, N., & Athanasiou, T. (2016). Beyond clinical engagement: A pragmatic

      model for quality improvement interventions, aligning clinical and managerial priorities.

      BMJ Quality & Safety, 25(9), 716. doi: http://dx.doi.org/10.1136/bmjqs-2015-004453

Popejoy, L., Vogelsmeier, A., Alexander, G., Galambos, C., Crecelius, C., & Rantz, M. (2019).

      Analyzing hospital transfers using INTERACT acute care transfer tools: Lessons from

MOQI. *Journal of the American Geriatrics Society, 67*(9), 1953-1959.

doi:10.1111/jgs.15996

Rask, K, J., Hodge, J., & Kluge, L. (2017). Impacts of contextual factors on interventions to

reduce acute care transfers: Implementation and reducing hospital readmission rates.

Journal of the American Medical Directors Association 8(11). 991.e11-991.e15

Rogers E. (1962). Diffusion of innovations tells how, why, and at what rate new ideas and

technologies spread through cultures. Retrieved from diffusionofinnovations.weebly.com

Smith, T., English, M., Naidoo, J., & Whitman, V. (2019). The hospital readmissions reduction

program's impact on readmissions from skilled nursing facilities. *Journal of Healthcare

Management, 64*(3), 186-196. doi: http://dx.doi.org/10.1097/JHM-D-18-00035

Stelson, P., Hille, J., Eseonu, C., & Doolen, T. (2017). What drives continuous improvement

project success in healthcare? *International Journal of Health Care Quality Assurance,

30*(1), 43-57. doi:http://dx.doi.org/10.1108/IJHCQA-03-2016-0035

Talsma, A., McLaughlin, M., Bathish, M., Sirihorachai, R., & Kuttner, R. (2014). The Quality,

Implementation, and Evaluation Model: A Clinical Practice Model for Sustainable

Interventions. *Western journal of nursing research*, *36*(7), 929–946.

https://doi.org/10.1177/0193945914537121

Taylor, H. A., Pronovost, P. J., Faden, R. R., Kass, N. E., & Sugarman, J. (2010). The ethical

review of health care quality improvement initiatives: findings from the field. *Issue brief

(Commonwealth Fund)*, *95*, 1–12.

Tena-Nelson. R., Santos. K., Weingast. E., Amrhein, S., Ouslander. J., & Boockvar. K, (2012).

Reducing potentially preventable hospital transfers: Results from a thirty-nursing home

collaborative. *Journal of the American Medical Directors Association, 13*(7), 651-656.

doi: 10.1016/j.jamda.2012.06.011

Voyce, J., Gouveia, M. J. B., Medinas, Santos, A. S., & Ferreira, R. (2015). A Donabedian

model of the quality of nursing care from nurses' perspectives in a portuguese hospital: A

pilot study. *Journal of Nursing Measurement, 23*(3), 474-484. doi:

http://dx.doi.org/10.1891/1061-3749.23.3.474

Yangping, Y., Phippis. A., Reiman. S., Carr. D, & Parker. R, (2012). Implementing INTERACT

(intervention to reduce avoidable acute care transfer) distance learning curriculum to

reduce avoidable acute care transfer and improve the quality of care in a skilled nursing

facility. *Journal of the American Medical Directors Association, 13*(3), B15-B15. doi:

10.1016/j.jamda.2011.12.006

Yoo, J. W., Jabeen, S., Bajwa, T., Kim, S. J., Leander, D., Hasan, L. Khan, A. (2015). Hospital

readmission of skilled nursing facility residents: A systematic review. *Research in

Gerontological Nursing, 8*(3), 148-156. doi:

Appendix A

The Donabedian Conceptual framework

Structure	Process	Outcome
Settings in which activities of care takes place (organizational resources & charactersitics)	Activities of care & treatment; prevention; rehab; education	The end result of process of care; favourable or adverse changes attributed to health care services
INTERACT QIP toos	Application of INTERACT QIP tools	Hospital Readmission rate

Appendix B
Project site agreement letter

Appendix C
Quality Improvement Review Tool
Use this tool to review transfers of residents to an emergency department or for direct admission to the hospital. The goal is to understand the reasons for the transfer and identify potential opportunities to improve identification and management of changes in resident status and reduce avoidable acute care transfers.
 PLEASE COMPLETE EACH SECTION
Section 1: BACKGROUND INFORMATION

Resident's Last Name   First Name   Age   Unit/Room #

Date of <u>most recent</u> admission to nursing home:_____/_____/_____

Resident hospitalized in the past year☐   No☐   Yes   **If yes**, list dates and reasons below:

Resident status at time of transfer: Long stay_____Short stay_____Payer_____
 Section 2: TRANSFER INFORMATION
Date of transfer: _____Day of week_____Time of transfer
_____:_AM/PM
Nurse involved in transfer: _____Sent by 911? Yes_____No_____
MD/NP authorizing transfer_____ Primary Physician____Covering Physicians_____
What symptoms or signs prompted the transfer?   Yes_____   No _____

 If yes – what was the admitting diagnosis:

 _____ _____

 _____

 What happened on the day of the transfer?
(Briefly describe the clinical scenario *ON THE DAY of the transfer* - u*se SBAR for reference*)

_____
_____
_____
_____
What was the resident's code status at the time of transfer: Full code _____
DNR_____Other_____
 Section 3: WHAT HAPPENED BEFORE THE TRANSFER?
Based on review the nurse's notes, progress notes, and talking to staff that cared for

resident in the few days prior to the transfer, **CHECK YES OR NO FOR EACH ITEM**

	YES	NO
Change in condition or new symptoms?		
Change in behavior?		
Change in mental status?		
Change in vital signs?		
Change in overall functional status or mobility?		
Change in continence?		
Change in appetite/po intake?		
Were there one or more falls?		
Change in participation in rehab (if applicable)		
Did family mention a concern about a change in condition?		
Any medication changes?		
Abnormal lab values reported?		

What actions were taken before the transfer? (CHECK ALL THAT APPLY)

Stop & Watch tool completed by nursing assistant

SBAR completed (MD or NP:_____Called_____Not Called)

Care Path used (Which one?_____

_____☐_____)Physician onsite

evaluation_____   Nurse Practitioner/PA onsite

evaluation_____

Discussion with family about change in

condition Intravenous fluids initiated

Lab tests done   Xrays   EKG/rhythm strip   Other tests (describe)

_____

Medications   given   (describe)_____   (please   describe)

_____

What factors affected the transfer decision? (CHECK ALL THAT APPLY)

Medical instability (e.g. unstable vital signs, change in mental status, etc.) Describe:

_____

MD/NP/PA insisted (authorized transfer before or regardless of data provided)

MD/NP/PA unavailable/did not return call   MD/NP/PA was unfamiliar

with resident Advance directives (eg. DNR, DNH not documented or not

complete)

Family issues (e.g., family insisted or family in conflict)

Stat   test   or   Xray   not   available   in   facility   (spec

_____

_____

Treatment option/equipment not available in facility (Nurse not familiar with

resident (new to resident or unit, agency nurse)

Other (specify):

Section 4: CONSIDER - COULD THIS TRANSFER HAVE BEEN AVOIDED?

In reviewing the events that occurred up to a few days before the transfer, were there opportunities to prevent or anticipate the immediate reason for the transfer? For example:

- The resident was transferred due to an infection (e.g. pneumonia or UTI). Consider: Did the resident have a change in functional status or appetite that could have provided a clue to earlier diagnosis?
- The resident fell and had a head laceration that led to the transfer. Consider: Were there signs of gait or balance changes that may have increased his risk for falls? Could fall precautions or some other intervention have possibly prevented the fall?
- Could the evaluation or treatment provided in the emergency room or hospital have been safely provided in your nursing home? Consider: were there other circumstances that contributed to the transfer that might have been addressed earlier, prior to the onset of an acute situation? (for example, resident or family preferences about hospital transfers or advance directives; family insistence on transfer)

BASED ON YOUR REVIEW OF THE DATA ABOUT THIS TRANSFER, COULD THIS TRANSFER
HAVE BEEN AVOIDED? <u>Please check one option:</u>   Yes_____Possibly_____ No_____

If yes or possibly, what were your major reasons for this determination (CHECK ALL THAT APPLY)

ϒ   There were opportunities to prevent or anticipate the immediate reason for the transfer by earlier identification and management of a change in status
ϒ   The resident could have been cared for here if the provider had been available or returned calls earlier
ϒ   The MD may have kept the resident here with further discussion or additional information.
ϒ   The resident might have chosen to stay here with an earlier discussion about advance directives or the possibility of need to be transferred to the hospital
ϒ   Family members might have chosen for the resident to stay here with an earlier discussion about the possibility of need to be transferred to the hospital.
ϒ   The resident could have been cared for safely if the necessary tests or procedures (e.g. continuous

IV) were available to be done here (Specify):_____
    Other (Please write in) _____

ACTION PLAN TO ADDRESS REASON(S) FOR POTENTIALLY AVOIDABLE TRANSFER
What actions might be taken in your facility to improve the identification and management of changes in resident status based on this
transfer?_____

Stop and Watch
Early Warning Tool

INTERACT
Version 4.0 Tool

If you have identified a change while caring for or observing a resident/patient, 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 Seems different than usual

T Talks or communicates less

O Overall needs more help

P Pain – new or worsening; Participated less in activities

a Ate less

n No bowel movement in 3 days; or diarrhea

d Drank less

W Weight change; swollen legs or feet

A Agitated or nervous more than usual

T Tired, weak, confused, or drowsy

C Change in skin color or condition

H 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

Appendix E
Hospital Readmission Rate Tracking Tool

Admitted from (Hospital)	Clinicians Name	Residents/ Patients Name	Medicare Insurance Plan
A1	C1	R1	P1
A2	C2	R2	P2
A3	C3	R3	P3
A4	C4	R4	P4
A5	C5	R5	P5
.	.	.	.
.	.	.	.

Status at Time of Admission from Hospital			
	Post-Acute Care	Chronic Long-Term Care (non-Medicare)	All Residents
Number of Residents with Hospital Discharge This Month	0	0	0

30-Day Readmission Rate percent of those readmitted to hospital within 30 days of the date of discharge from hospital			
	Post-Acute Care	Chronic Long-Term Care (non-Medicare)	All Residents
Resident Days This Month Your ADC x the number of days in the month			
Hospital Admission Rate per 1000 resident days			
Rate of Transfers to ER Only per 1000 resident days			
Rate of Transfers Resulting in Observation Stay per 1000 resident days			

Numerators and Denominators

Status at Time of Admission from Hospital			
	Post-Acute Care	Chronic Long-Term Care (non-Medicare)	All Residents
Number of Residents with Hospital Discharge This Month			
Number of residents readmitted to hospital within 30 days of the date of discharge from hospital			
Purpose of Stay at Time of Transfer to Hospital			
	Post-Acute Care	Chronic Long-Term Care (non-Medicare)	All Residents
Resident Days This Month: Average Daily Census (ADC) x the number of days in the month	n/a	n/a	n/a

Number of Transfers* **Resulting in Inpatient** **Admission to the Hospital**	**n/a**	**n/a**	**n/a**
Number of Transfers* **Resulting in Emergency** **Department Visit Only**	**n/a**	**n/a**	**n/a**
Number of Transfers* **Resulting in** **Observation Stay**	**n/a**	**n/a**	**n/a**

Appendix F

Chart Audit Tool

S/N	Type of INTERACT QIP tools used	Rate of Compliance			
		1=correctly applied	2=partially applied	3=incorrect or not applied	Total
1					
2					
3					
7	**Total**				

Appendix G

INTERACT QIP tools implementation guideline