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Enhancing The Self-Efficacy Of Nurses In The Reduction Of Potentially Avoidable Nursing Home To Hospital Transfers

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TITLE OF THE STUDY:
ENHANCING THE SELF-EFFICACY OF NURSES
IN THE REDUCTION OF POTENTIALLY AVOIDABLE
NURSING HOME TO HOSPITAL TRANSFERS

Submitted to the Faculty
Yale University School of Nursing

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Nursing Practice

Marjorie E. Tapia

May 18, 2020

This DNP Project is accepted in partial fulfillment of the requirements for the degree Doctor of Nursing Practice.

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Andrée de Lisser DNP, APRN, PMHCNS-BC

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Date

Signed: _Marjorie Papin_

March, 2020

Enhancing the Self-Efficacy of Nurses

In the Reduction of Potentially Avoidable Nursing Home to Hospital Transfers

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Yale University School of Nursing

Advisor: Andrée de Lisser DNP, APRN, PMHCNS-BC

Acknowledgements

Table of Contents

Abstract

Nursing home hospitalizations are classified as potentially avoidable when they do not improve quality of life or change the course of illness. These hospitalizations are costly, disruptive and detrimental to the quality of nursing home care. Nurses maintain the interconnection amongst the key stakeholders involved in the decision to hospitalize and are integral to the efforts employed in reducing potentially avoidable transfers. The purpose of this project is to enhance the self-efficacy of long-term care nurses with respect to reducing potentially avoidable nursing home hospitalizations, utilizing an expert validated educational module. A review of the literature on potentially avoidable nursing home hospitalizations was completed. Bandura's concept of self-efficacy was used to guide the development of the educational module. An on-line educational module was designed utilizing both audio and visual material. A panel of subject matter experts validated the curriculum. The palliative care self-efficacy scale was used to measure participant self-efficacy and advanced directives were measured to determine impact on nursing practice. Based on the results, it is deduced that this educational intervention enhanced the self-efficacy of the participating nurses and potentially increased the number of documented facility advanced directives. This educational module has the potential to enhance the self-efficacy of long-term care nurses with respect to reducing potentially avoidable hospitalizations. The next steps of this project include measuring potentially avoidable transfers pre and post intervention.

Keywords: *Potentially avoidable transfers, Nursing Homes, Geriatrics, Nursing Self-Efficacy, Long-Term Care*

CHAPTER 1

Statement of the Problem

In 2012, the Centers for Medicare and Medicaid Services (CMS) launched an initiative to reduce potentially avoidable hospitalizations among nursing home (NH) residents (Centers for Medicare and Medicaid Services, 2012). The initiative concluded in 2016 and revealed that evidenced-based interventions focused on advanced care planning, nursing education, and medication management, reduced potentially avoidable NH hospitalizations by 17% across 143 facilities and furthermore yielded a 99% probability of Medicare spending reduction (Gaines, 2017). Hospitalizations from NHs are classified as avoidable when they do not improve quality of life or change the course of illness. They are costly, disruptive and detrimental to the quality of NH care. While the CMS initiative validated several evidenced-based strategies for reducing potentially avoidable hospitalizations, challenges were identified in the implementation and sustainability of the proposed interventions, specifically as they pertain to nursing practice. In response to the identified challenges of previously tested interventions, it is proposed that utilizing an educational intervention that aims to increase the self-efficacy of long-term care (LTC) nurses will support the skill-set necessary to reduce potentially avoidable NH hospital transfers.

The Significance of Addressing the Problem

Avoidable hospitalization of NH residents is defined as a transfer that does not improve quality of life, change the course of illness, is in contradiction with advanced directives or involves a preventable and treatable clinical condition (Saliba et al., 2000). These hospitalizations are frequent, costly, and indicative of poor NH quality. Avoidable hospitalizations account for approximately 40% of NH to hospital transfers and place NH

residents a great risk for adverse events and gaps in care (D. C. Grabowski, O'Malley, &

Barhydt, 2007).

Potential Outcomes

Individuals residing in NHs who experience avoidable hospitalizations are at increased

risk of functional and cognitive decline (Kirsebom, Hedström, Wadensten, & Pöder, 2014). Their

routine is disrupted, their mobility restricted and their environment altered. As a result, they are

prone to episodes of confusion and are at risk for injury. Receiving care from clinicians

unfamiliar with their baseline, NH residents become vulnerable to gaps in care. Inadequate

exchange of information between facilities, medication errors and iatrogenic infections threaten

their already complex clinical needs.

In addition to the potential physical impact to the NH resident, there is significant cost

incurred with an avoidable hospital event. Mor, Intrator, Feng, and Grabowski (2010) suggest

that in 2006 Medicare spent $3.39 billion dollars on potentially avoidable NH hospitalizations. In

strategizing appropriate stewardship of Medicare spending, it is of utmost importance to consider

the financial burden of avoidable hospitalizations coupled with the direct impact on resident care.

CHAPTER 2

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Literature Review and Synthesis

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Literature Review

The review of the literature focused on several key aspects of avoidable hospital transfers. The databases utilized were CINAHL, PubMed and Scopus. The search combined the key terms, "avoidable", "inappropriate", "unnecessary", "hospitalization", "transfer", "nursing home", "long-term care facility", and "skilled nursing facility". The search yielded a robust body of literature (N=248). Full text articles were reviewed for relevance (N=179). The literature was further assessed for eligibility. Studies including assisted living facilities, community dwelling older adults, short-stay residents, literature reviews, commentaries and non-English publications were excluded. Studies included in the literature review consisted of peer-reviewed articles, published in the past 10 years and primarily focused on potentially avoidable hospitalizations (N=36). The studies were further categorized into three separate matrices with a focus on the characteristics of avoidable hospital transfers, the decision to hospitalize and evidenced based interventions.

Avoidable hospital transfers. Several studies (N=8) included in the literature describe the scope, characteristics and risk factors associated with potentially avoidable hospital transfers. Across all studies, potentially avoidable hospitalizations were identified utilizing disease codes associated with ambulatory care sensitive conditions (ACS). ACS conditions are conditions for which hospital admission, complications or severe disease could have been prevented with timely and effective outpatient treatment (Purdy, Griffin, Salisbury, & Sharp, 2009). The Agency for Healthcare Research and Quality utilize ACS conditions as a means of identifying quality of care outside of the hospital setting (AHRQ, 2002). These conditions include angina, asthma,

cellulitis, chronic obstructive pulmonary disease, heart failure, dehydration, diabetes, gastroenteritis, epilepsy, hypertension, hypo/hyperglycemia, urinary tract infection, bacterial pneumonia, and ear, nose and throat infection (Becker, Boaz, Andel, Gum, & Papadopoulos, 2010; Mathew, Young, & Shrestha, 2012; McAndrew, Grabowski, Dangi, & Young, 2016; Ouslander et al., 2010; Perrin et al., 2017; Spector, Limcangco, Williams, Rhodes, & Hurd, 2013; Xing, Mukamel, & Temkin-Greener, 2013). Several studies supplemented the above with NH relevant ACS conditions: Clostridium difficile, constipation, weight loss, nutritional deficiencies, sepsis, chest pain, fever, pressure ulcers, falls, altered mental status, fractures, iatrogenic drug effects, inadequate treatment, suboptimal palliative treatment and psychosis (Ouslander et al., 2010; Perrin et al., 2017; Spector et al., 2013; Xing et al., 2013).

In the studies reviewed, potentially avoidable hospitalizations accounted for 18% to 67% of the measured transfers. For example, Xing et al. (2013) in examining the incidence of and variations in potentially avoidable hospitalization, noted that 48% of hospitalizations occurring in 2007 across the United States might have been prevented. This is compared to Becker et al. (2010) who in examining the relationship between ACS hospitalizations and resident/facility characteristics, found that in 647 Florida NHs, over three years, 18.2% of the hospitalizations were for ACS conditions and therefore deemed potentially avoidable.

In several studies, facilities with the highest rates of avoidable hospitalizations were for-profit NHs (Becker et al., 2010; Spector et al., 2013; Xing et al., 2013). Facilities with more Registered Nurse (RN) hours, higher skilled staff, ongoing training and access to laboratory services were more likely to have lower rates of avoidable transfers as compared to facilities with fewer RNs, minimal training and limited access to laboratory services (Mathew et al., 2012; Ouslander et al., 2010; Spector et al., 2013; Xing et al., 2013). The presence of an on-site

ordering provider such as a physician, nurse practitioner (NP) or physician assistant (PA) also

was related to less occurrence of avoidable transfer (Ouslander et al., 2010; Xing et al., 2013).

The literature was consistent with identifying poly-pharmacy and severe activity of daily living

(ADL) dysfunction as significantly increasing the likelihood of transfer (Mathew et al., 2012;

Perrin et al., 2017; Spector et al., 2013). Furthermore, Spector et al. (2013), in determining the

relationship between clinical risk factors and state policy variables, noted the impact of state bed-

hold policies and Medicaid reimbursement rates. In their study, the risk for avoidable

hospitalizations increased for states with restrictive Medicaid reimbursement and generous bed-

hold policies. Age remained an inconsistent factor in determining risk of avoidable transfer.

The decision to hospitalize. In the studies reviewed (N=12), the decision to transfer is

described as complex as it integrates the dynamics between nursing staff, resident, family, and

ordering provider. Overall, several studies demonstrate that the nurse's preference is to treat in

place and avoid hospitalization (Arendts, Popescu, Howting, Quine, & Howard, 2015; Tappen et

al., 2014) and yet, barriers exist that prevent nurses from acting on best practice. Nurses see

themselves as negotiators between resident, family and ordering provider and acknowledge their

role in shifting the practice of avoidable transfers (Abrahamson, Mueller, Davila, & Arling,

2014). According to Lamb, Tappen, Diaz, Herndon, and Ouslander (2011). Nurses know that

avoidable transfers occur when early symptoms are missed, advanced care planning is not in

place, and goals of care are not clarified. Concurrently, nurses acknowledge that gaps in

communication, fear of litigation and lack of resources are barriers preventing them from

actualizing their role in the reduction of avoidable transfers (Abrahamson et al., 2014; Cohen,

Knobf, & Fried, 2017a; Lamb et al., 2011; McDermott, Coppin, Little, & Leydon, 2012;

Stephens et al., 2015). The literature further suggests that efforts to close the gap in nursing skill

set, provide ongoing education, empower nursing expertise, and improve communication

between nurse, family and ordering provider are essential to cultivating the nurse's role in

reducing avoidable hospital transfers (Abrahamson et al., 2014; Kada, Janig, Likar, Cernic, &

Pinter, 2017; Lamb et al., 2011; McDermott et al., 2012; Palan Lopez, Mitchell, & Givens, 2017;

Shanley et al., 2011).

Of the eight studies included in this matrix, six cited the family and resident's lack of

confidence in the NH as a deciding factor in the decision to transfer to the hospital (Abrahamson

et al., 2014; Arendts et al., 2015; Cohen et al., 2017a; Mann, Goff, Colon-Cartagena,

Bellantonio, & Rothberg, 2013; Shanley et al., 2011; Stephens et al., 2015). The literature

suggests that many families and proxies are not aware of the resources available at NHs to treat

in place. In a qualitative study of the decision to transfer NH residents, Cohen et al. (2017a)

explores the family's perception of the NH. The study indicates that families view NHs as

custodial settings rather than medical facilities equipped to respond to complex clinical needs.

Families perceive that NH care is inferior when compared to the hospital setting. They are not

aware of the facility's capacity to perform diagnostic tests, provide intravenous (IV) therapy,

access ordering providers or closely monitor the resident. Additionally, the literature describes

the struggle families experience when responding to end of life issues and changes in condition

(Mann et al., 2013; Stephens et al., 2015). Families may have a poor understanding of the

resident's diagnosis since their opportunity to discuss advanced care plans or goals of care is

limited (Mann et al., 2013). And while families may not feel prepared to respond to deteriorating

conditions, they often react with the decision to transfer in the hopes of "doing something" in

the moment of crisis. (Arendts et al., 2015; Cohen et al., 2017a; Shanley et al., 2011; Stephens et

al., 2015; Tappen et al., 2014).

In regards to advanced care planning, several studies highlight the importance of clear, well-documented advanced care planning and goals of care (McDermott et al., 2012; Shanley et al., 2011). Advanced care planning is a broad term used to describe an individual's wishes pertaining to medical treatment in the event they lose the capacity to speak for themselves. Advanced care planning may cover issues around life sustaining treatment, expectations of care in response to life-limiting illness and preference for treatment in place. These wishes are documented in a variety of ways depending upon geographic location. Many states utilize a version of the Providers Orders for Life Sustaining Treatment (POLST) form or the Medical Orders for Life Sustaining Treatment (MOLST). These are directives that are transferable across care settings and serve as both Do Not Resuscitate (DNR) and Do Not Intubate (DNI) orders should the individual choose to designate this preference. Advanced care plans such as a Do Not Hospitalize (DNH) order is acknowledged in the literature as useful in setting clear guidelines and directing staff on how to respond to deterioration, however, the literature further points to its inconsistent use and ambiguity in interpretation (Cohen, Knobf, & Fried, 2017b).

The literature identifies ordering providers, namely physicians, nurse practitioners and physician assistants, as key stakeholders in the decision to hospitalize NH residents. The studies show that these ordering providers oftentimes act out of response to family preference and fear of litigation (McDermott et al., 2012; Palan Lopez et al., 2017). If families pressure for a hospitalization, many physicians feel compelled to do so and fail to challenge the family regardless of their clinical perspective or the family's unrealistic expectations. Furthermore, if communication from the nursing staff on goals of care or symptom presentation is inadequate, many physicians opt to order a transfer rather than attempt to treat in place, as they feel insecure about the facility's capacity for managing the resident (McDermott et al., 2012). Several studies

point to the risk of hospitalization associated with on-call or covering ordering providers (Abrahamson et al., 2014; Shanley et al., 2011). As Abrahamson et al. (2014) suggests, ordering providers who are unfamiliar with the NH, its staff or the resident's baseline are more likely to make the decision to hospitalize.

      Interventions. Review of the literature yielded several studies (N=16) that explored interventions aimed at reducing the occurrence of avoidable hospital transfers from NHs. Several of these studies were funded by the Center for Medicare and Medicaid Innovation (CMMI). The studies included in this review described the strategies of the Interventions to Reduce Acute Care Transfer (INTERACT) toolkit, the Missouri Quality Initiative (MOQI) project, telemedicine initiatives, the Optimizing Patient Transfers Improving Medical quality and Improving Symptoms: Transforming Institutional Care (OPTIMISTIC) model, and the Care Aligned Program (CAP).

      INTERACT. The INTERACT toolkit is a quality improvement initiative designed by CMS to improve communication, identification and evaluation of resident change in status. The toolkit consists of leadership education, 4 to 6 hour NH staff education, and communication tools. The communication tools include STOP and WATCH to assist Certified Nursing Assistants (CNAs) in identifying and reporting changes in condition, Situation Background Assessment and Recommendation (SBAR) to guide evaluation and documentation, change in condition file cards, resident transfer forms, care path cards to guide treatment and advanced care planning tools (Ouslander & Berenson, 2011). The literature points to variation in the degree of INTERACTs effectiveness in the reduction of avoidable transfers. While some studies cited that overall hospitalization was decreased by 11% to 50% from baseline (Huckfeldt et al., 2018; Ouslander et al., 2011; Ouslander et al., 2009b; Ye, Phippis, Reiman, Carr, & Parker, 2012),

others noted no statistically significant change in all-cause hospitalization or avoidable hospitalization with INTERACT implementation (Kane et al., 2017; Tena-Nelson et al., 2012).

MOQI. The MOQI project is designed to measure the benefit of a full-time NP and support team in the NH. This model provides a support team for transitions, end of life issues and also integrates elements of the INTERACT toolkit. Of the studies reviewed, implementation of the MOQI resulted in a 30% reduction of all cause hospitalization and reached the project goal of achieving a 1.1 rate of hospital transfers per 1000 days (Marilyn J. Rantz et al., 2014; M. J. Rantz et al., 2015; M. J. Rantz et al., 2017).

Tele-health. Several studies described telemedicine initiatives that introduced videoconferencing with high definition cameras into NHs. If a resident experienced a change in condition, the nurse would initiate the teleconference connecting the resident to a service call center equipped with RNs, NPs and a physician (Hofmeyer et al., 2016). Of the studies reviewed, there was variation in its effectiveness. For Grabowski and O'Malley (2014), utilizing telemedicine did not yield statistically significant changes in hospitalizations. However in a study by Toh et al. (2015), hospitalizations were reduced by 33% from baseline.

OPTIMISTIC. The OPTIMISTIC model utilizes full-time RNs and NPs to address resident change in condition and engage in quality improvement efforts. In this model, a non-staff RN and NP are present within the facility to implement the intervention. The NPs coordinate with the RNs and compliment the care of the primary care providers. INTERACT tools are utilized in this model as well as collaborative care reviews and an end-of-life education curriculum. In a root cause analysis, Unroe et al. (2015) found that 28% of the transfers occurring during the pilot were evaluated as avoidable. There was no baseline comparison provided.

CAP program. Most recently, Avery and Avery (2019) piloted the CAP program which involves engaging NH leadership in the reduction of avoidable hospitalizations. The program increases awareness of at risk residents through rounds, morning start-up meetings and corporate support calls. The study has not yielded measurable results as of yet.

Several limitations and barriers were identified in the implementation of interventions to reduce avoidable hospitalizations. In several studies, the perception of additional work, lack of financial incentives, competing priorities, high staff turnover, changes in leadership, staff resistance, scarce resources, and the magnitude of change required, impacted the interventions effectiveness (Kane et al., 2017; Ouslander et al., 2011; Ouslander et al., 2009b; Tappen et al., 2017; Tena-Nelson et al., 2012; Unroe et al., 2015). For both the INTERACT toolkit, NP models and telemedicine, cost was a perceived barrier. Tena-Nelson et al. (2012) noted the cost of implementation, training and staff time associated with utilizing the INTERACT program while Hofmeyer et al. (2016) explored the cost of securing facility resources to support the technology required for telemedicine initiatives.

Synthesis of the Literature

Avoidable hospitalizations are well represented in recent literature. This is likely due to the CMS 2012 initiative to reduce avoidable hospitalizations in NHs utilizing evidence-based clinical interventions. The genesis of this initiative was CMS research finding that 45% of hospitalizations for Medicare and Medicaid enrollees in LTC facilities could have been avoided (CMS, 2019). In review of the literature, several key themes emerged: scope and severity of issue, financial drivers, the nursing role, communication gaps and the limitations of current interventions.

The evidence supports the assumption that avoidable hospitalization of NH residents is an issue of quality that impacts NHs nationwide. By identifying avoidable hospitalizations through the lens of ACS conditions, it is clear that many NHs are utilizing hospitals as a means of providing evaluation and diagnosis rather than utilizing its own resources to evaluate and treat in place. Those at greatest risk for avoidable hospitalizations are NH residents with poor functional status, shorter life expectancy and greater clinical complexity.

Financial implications in the current NH reimbursement model offer little incentive to treat NH residents in place. The predominant payer source for long-term care services is Medicaid. In contrast, Medicare provides short-term payment for an increase in level of NH care, specifically, a NH re-admission post three-day hospital stay. Therefore, there is greater financial incentive to transfer residents out to the hospital for evaluation and treatment, as it is less costly for the facility and yields higher reimbursement (Mor et al., 2010). Furthermore, as demonstrated in Spector et al. (2013), Medicaid reimbursement rates and bed-hold policies present additional challenges to the efforts in reducing avoidable hospital transfers. States with restrictive Medicaid reimbursement as well as States with bed-hold policies authorizing uninterrupted reimbursement to the NH during a hospitalization, further incentivize hospital transfers regardless of its impact to the well being of the resident.

While the literature points to the multiple factors at work in the decision to transfer, nursing is at its center. Nurses truly are the "boundary-spanners" as described by Abrahamson et al. (2014). In the NH, it is the nurse who communicates with the resident or family on a daily basis, engages in conversation on goals of care, voices his or her expertise in caring for critically ill residents, collaborates with ordering providers and advocates for the necessary resources to treat in place. Throughout the literature, trust was articulated as a needed element in the care of

NH residents: trust on behalf of the family and trust of the ordering provider. It is the nurse who cultivates trust with all involved in the care of this vulnerable population.

Communication connects key stakeholders involved in the decision to transfer. The dynamic of communication occurs between resident, family, ordering provider and nurse. Comprehensive communication is essential to the building of trust between ordering provider, family, resident, and NH yet, throughout the literature, it showed up as a missing element or area of needed improvement. As the literature suggests, many decisions to transfer are driven by the fear that NHs do not have the capacity to manage deteriorating patients. Communication is key in asserting the capability of the NH and nurses in delivering high quality care for older adults. It furthermore assists families in their efforts to understand and cope with the declining status of their loved one.

Limitations in strategies to reduce potentially avoidable hospitalizations were addressed in the review of the literature. Interventions that increased nursing workload, interfered with patient care, were costly or involved external personnel were not sustainable in the face of competing facility priorities. It can be deduced that a sustainable and replicable intervention is one that has the capacity to be well integrated into the facility culture, accessible to nursing staff and remain cost effective. Nurses are at the center of the dynamic between key stakeholders. Therefore, the nursing role should be the central focus of the efforts to reduce avoidable hospital transfers. An intervention that empowers the nursing role and increases the nurse's self-efficacy to respond to the complexity of potentially avoidable hospitalizations would have significant impact in addressing this issue of quality in LTC.

Organizational Description and Analysis

Mercy Center Nursing Unit

Mercy Center Nursing Unit, Inc. is a not-for-profit long-term care facility sponsored by the Sisters of Mercy of the Americas. Mercy Center Nursing Unit is comprised of a fifty-nine-bed licensed skilled nursing facility and a ninety-two-bed personal care assisted living facility (Mercy Center, 2018). For this DNP project, the skilled nursing facility will be the focus of the organizational description. Mercy Center skilled nursing facility provides care for both sub-acute short stay and long-term care residents. The original intent of the organization was to meet the needs of the aging Sisters of Mercy, however presently the facility is open to any persons in need of skilled care (Mercy Center, 2018).

Geographic location and demographics. Mercy Center is in Dallas, Pennsylvania and predominantly serves members of this geographic location. Dallas Township is in Luzerne County, a mountainous region of northeastern Pennsylvania. The Dallas population is estimated to be 8,994 residents, 97.9% white, and 22% over the age of sixty-five (United States Census, 2010). There are currently three skilled nursing facilities in Dallas and 24 skilled nursing facilities in Luzerne County (Senior Homes, 2018). The closest hospital is Wilkes-Barre General Hospital, located ten miles from Mercy Center.

Sponsorship, mission, and values. Mercy Center is a sponsored work of the Sisters of Mercy of the Americas, an international community of vowed Roman Catholic religious women committed to envisioning a just world with a special concern for the underserved, sick and uneducated (Sisters of Mercy, 2018). In line with its sponsorship, Mercy Center defines itself as a community of healing and hospitality, which enriches the daily lives of those entrusted to its care (Mercy Center, 2018). Its core values of human dignity, the sacredness of life, excellence, compassion and mercy hospitality enables the organization to respond to the needs of their residents.

Leadership. The facility building is owned by the Sisters of Mercy of the Americas, Mid-Atlantic Community with corporate offices located in Philadelphia, Pennsylvania. The leadership team, which is comprised of five Sisters of Mercy, appoints the members of the Mercy Center board of trustees. The board consists of eight members, four of which are Sisters of Mercy and all of whom possess a variety of experience in the clinical, business and legal field. The function of the board is solely fiduciary and mission-driven. The Licensed Nursing Home Administrator (LNHA) who is also an RN oversees the daily operations of the facility in collaboration with the Director of Nursing (DON) who oversees the clinical staff.

Quality rating. Mercy Center is considered a top performer in its geographic location with an overall five-star quality rating (Nursing Home Compare, 2019). According to their most recent survey, Mercy Center rated above average in their health inspection, average in staffing, much above average in quality of resident care and zero federal fines or Medicare payment denials (Nursing Home Compare, 2019). Of note, 4.6% of short-stay residents were re-hospitalized after admission as compared with the state average of 20.3% and the national average of 21.1%. Additionally, 4.6% of short-stay residents experienced emergency department visits as compared with the state average of 10% and the national average of 11.9% (Nursing Home Compare, 2019). While data on avoidable hospitalizations are not available at this time, re-hospitalization rates for this facility are notably lower than the national average, indicating that this organization is well equipped with the resources necessary to reduce potentially avoidable hospitalizations for its long-term care residents.

Patient demographics. According to the administrator report (Sweeny, 2017) the resident population is comprised of 30% Sisters of Mercy and 70% lay residents. The resident

payer mix includes 31% private pay/commercial insurance holders, 8% Medicare short-term stay residents and 61% Medicaid long-term care residents.

Resources. Mercy Center employs RNs, LPNs, and CNAs. The average number of RN hours per resident per day is 49 minutes. This exceeds the national average and meets the state RN average (Nursing Home Compare, 2019). The average number of LPN hours per resident per day is 1 hour and 4 minutes and the average number of CNAs per resident per day is 2 hours and 6 minutes. While the LPN hours exceed state and national levels, CNA hours fall slightly below state, and national benchmarks (Nursing Home Compare, 2019) (See Table 1). In addition to its direct clinical staff, Mercy Center employs a full-time social worker, minimum data set coordinator, dietician, and recreational therapy personnel. Mercy Center contracts with Genesis Rehabilitation Services to provide physical therapists, occupational therapists, and speech therapists. A physician visits the facility on a weekly basis and a nurse practitioner sees residents daily for routine care and acute changes in condition (Sweeny, 2017). The board of trustees approves the annual budget every fiscal year. Funding for equipment and renovations are forecasted by the administrator and incorporated into the projected operational budget.

Table 1	Mercy Center	Pennsylvania	National
Average # of RN hrs/resident/day	49 hours	49 hours	41 hours
Average # of LPN hrs/resident/day	1 hr 4 min	51 min	53 min
Average # of CNA hrs/resident/day	2 hrs 6 min	2hrs 10 min	2hrs 19 min

Organizational Analysis

This DNP project proposes to enhance the LTC nurse's self-efficacy in reducing avoidable hospitalizations utilizing a web-based educational curriculum. There are several aspects of Mercy Center's organizational structure that support the implementation of this

project. The sponsorship of the facility is supportive of a culture of excellence, empowerment

and evidence-based practice as evidenced by the mission statement and quality ratings,

specifically their low hospital re-admission rates. The organization is nurse-led and therefore, the

empowerment of nursing will be understood and supported by those in leadership. Furthermore,

implementing change may be less cumbersome at Mercy Center as compared with corporate

chain NHs due to the lack of bureaucracy above the administrator.

Mercy Center's current staffing ratio is a significant barrier to the implementation of this

DNP project. The literature points to limited staffing as a risk factor of avoidable hospitalizations

(Carter & Porell, 2005; Intrator, Zinn, & Mor, 2004; Lamb et al., 2011; Ouslander et al., 2016).

Limited staff and high staff turnover are challenges to sustainable participation in the curriculum.

In a facility the size of Mercy Center, transition is felt in all departments and impacts operations

at every level of care. Mercy Center has recently undergone several administrative transitions

while at the same time implemented new initiatives such as an electronic health record system.

These changes and transitions are expected to present competing priorities for the staff

participating in this DNP project. Furthermore, the financial incentive of a three day hospital stay

may encourage the facility to send residents to the hospital, regardless of the nurse's efforts, as

higher Medicare reimbursement is often desirable for a small, non-for-profit facility as compared

with the cost of care in place.

Theoretical Framework

The theoretical framework supporting this project is Bandura's concept of self-efficacy.

Self-efficacy is the belief that one has the power and confidence to complete a task. It relates to

the person's perceived ability and the belief that one is capable of achieving goals (Bandura,

2018). Self-efficacy plays a significant role in motivation and outcome achievement, it is a

predictor of behaviors and influences the commitment to achieve a behavioral change (Phillips,

Salamonson, & Davidson, 2011). The nurse, by completing an educational curriculum grounded

in eliciting mastery experience and verbal persuasion will enhance their self-efficacy in

responding to the complexity surrounding potentially avoidable hospitalizations.

Description of the Self-Efficacy

Bandura's theory of self-efficacy states that people will only attempt things they believe

they can accomplish and will not attempt things that they believe they will fail (Bandura, 2018).

Therefore, people with a strong self-efficacy believe that they can accomplish a difficult task and

see challenges as opportunities for mastery. The theory acknowledges that self-efficacy is

influenced by four factors: mastery experience, vicarious experience, verbal persuasion, and

somatic and emotional state (Bandura, 2018). One way of enhancing self-efficacy is by mastery

experience, the successful completion of a task. When a task is mastered, the individual

cultivates the belief that they can accomplish a similar task. To develop a strong sense of self-

efficacy through mastery, the difficult and complex task must be attempted and repeated. On the

other hand, vicarious experience is watching someone similar to yourself successfully complete a

task. It essentially evokes the belief, "If they can do it, so can I". Verbal persuasion is when an

individual is verbally persuaded to believe that they can complete a task. They are hyped into

thinking that they can perform or successfully confront a challenge. The physical and emotional

responses that surface due to a perceived success or failure are the influence of the somatic and

emotional state of self-efficacy. These emotions can lead to self-fulfilling prophesy of failure

and prevent an individual from completing a task (Bandura, 2018).

Application of the concept of Self-Efficacy

The literature demonstrates that at the center of the dynamics influencing avoidable hospitalizations is the nurse. The LTC nurse is the first to notice and respond to changes in the resident's condition, communicate with family about goals of care, collaborate with an ordering provider on treatment plans and advocate for the resources necessary to provide quality NH care. Nevertheless, avoidable hospitalizations are complex and are influenced by the ordering provider's perceptions, the family's emotions, resident needs and facility resources. Nurses with strong self-efficacy can respond to these complex situations by leading the conversation on treatment options and goals of care. Nurses with strong self-efficacy will be effective and confident "boundary spanners".

The concept of self-efficacy fits this DNP project, as the educational curriculum will be developed to provide opportunities for mastery and verbal persuasion in reducing potentially avoidable hospitalization. Once the LTC nurse completes the educational curriculum, they will have encountered the delivery of information that is grounded in both case study and opportunities to reflect on personal experience. The participant will have the ability to control the learning experience by reviewing information and completing required modules at their own pace. The educational tool will be focused on the nursing perspective and offer the participant a guide to reflect upon their own experience.

Goals and Aims

The goal of this DNP project is to enhance the self-efficacy of LTC nurses in the reduction of potentially avoidable hospital transfers, utilizing an educational intervention (see diagram 1). Nurses truly are the "boundary-spanners" as described by Abrahamson et al. (2014). They manage dynamics within the facility and with external stakeholders. Nurses, who possess confidence in their capacity to advocate, voice their expertise, utilize their skill-set and facilitate

conversation with resident and family hold great potential in reducing potentially avoidable transfers. This educational tool will aim to empower nurses to use their voice and do so in a way that communicates confidence, cultivates trust and reduces potentially avoidable hospital transfers.

Diagram 1

A web-based curriculum will be developed to educate LTC nurses on potentially avoidable hospitalizations, its impact on quality of life and the dynamics associated with potentially avoidable transfer. The curriculum will empower the nurse to advocate for treatment in place and facilitate conversations on goals of care. In response to the barriers associated with previous interventions in the literature, this intervention will be sustainable, replicable and cost effective.

Several barriers exist in the long-term care setting that threatens the sustainability and replicability of an intervention such as this. These include high staff turnover rates, diverse levels of nurse educational preparation, poor staffing ratios and limited resources. In an effort to remain sustainable and replicable, this intervention will not increase daily workload, introduce new personnel or remove staff from direct care for extended periods of time. The intervention is cost effective and does not require incurring expense for new technology or training. Staff may access the educational tools on any mobile device and for any length of time. The educational tools and activities will be accessible and convenient for clinicians on the go and flexible for a variety of

staff schedules and availability. The proposed intervention is conveniently accessible to all

nursing staff regardless of shift, schedule, educational preparation or facility. The material

covered in the curriculum will speak to the broad topic of avoidable hospitalizations and be

designed to allow for replicability regardless of facility, resident demographics or geographic

location.

Aim 1: Validate curriculum content utilizing an expert panel

Aim 2: Develop and implement an accessible web-based educational tool on avoidable

hospitalizations for LTC nursing staff.

Aim 3: Measure the self-efficacy of nursing staff with respect to treatment in place, advanced

care planning and communication via the palliative care self efficacy scale pre and post

completion of educational curriculum.

Aim 4: Measure the number of documented advanced care plans pre and post intervention.

CHAPTER 3

Methods

This project was conducted at Mercy Center Nursing Unit in Dallas, Pennsylvania. In response to the 2012 CMS initiative to reduce potentially avoidable NH hospitalizations and the anticipated inclusion of potentially avoidable hospitalizations as a measured quality indicator, the Mercy Center administration identified this topic as a necessary focus for nursing education. Prior to the implementation of this project, nursing education was provided in person, at monthly nursing meetings and conducted by the facility nurse educator. Unlike previous interventions to reduce PAHs, this project offered an educational intervention to the nursing staff that did not increase nursing workload, impact direct care or incur additional cost to the facility.

Aim 1: Validate curriculum content utilizing an expert panel

The curriculum was designed based on a systemic review of the literature relating to the occurrence of potentially avoidable nursing home to hospital transfers. An expert panel rating tool was developed with key components of the proposed curriculum categorized under background, decision to transfer and the nursing role. Each component of the curriculum was rated independently for relevance and importance.

Five experts were selected based on their knowledge of potentially avoidable NH hospitalizations and long-term care experience. The professional backgrounds of the experts included a medical director and board chair for a national health system's continuing care division and three researchers who have authored several studies on the subject of potentially avoidable NH hospitalizations. Of the five expert panelists, four are registered nurses and one a physician. Utilizing the tool, experts provided input on the relevance (yes/no) and importance (high/low) of each component. Content with more than 78% agreement was included in the

curriculum and podcast scripts (Lazenby, Dixon, Coviello, McCorkle, 2014). The components of the curriculum and expert rating are included in Table 2. Components in grey were not validated at 78% and therefore were not included in the curriculum.

Table 2: Experts rating of curriculum content

Category	Content	Relevance: Is the category relevant to include?		Importance: Is the category important to include?		Comments/Suggestions
		Yes	No	High	Low	
Background	Definition of Potentially Avoidable Hospitalizations (PAH)	5 (100%)		5 (100%)		• Scale down the list the most common PAH diagnoses
	Significance and Scope of Problem	5 (100%)		5 (100%)		• Quite concerning how high the readmission rates – both SNF
	Identifying PAH	5 (100%)		5 (100%)		
	ACS Conditions	3 (60%)	2 (40%)	2 (40%)	3 (60%)	• Likely redundant. Focus on NH specific
	Nursing Home Specific ACS	5 (100%)		5 (100%)		
	Resident risk factors associated w/ PAH	4 (80%)	1 (20%)	4 (80%)	1 (20%)	
	Facility risk factors associated w/ PAH	4 (80%)	1 (20%)	3 (60%)	2 (50%)	• Nurses may have little control over these factors
	Contributors to PAH	5 (100%)		5 (100%)		
	Communication breakdown	5 (100%)		5 (100%)		• Crucial to include
	Inadequate monitoring	5 (100%)		5 (100%)		• Crucial to include
	Lack of staff resources	5 (100%)		4 (80%)	1 (20%)	• Nurses may have little control and it my frustrate them to hear how staffing decisions are putting resident outcomes at risk
	Failure to elicit goals of care	5 (100%)		5 (100%)		• Crucial to include
	Lack of recognition in acute change in condition	5 (100%)		5 (100%)		
	Outcomes associated with PAH	4 (80%)	1 (20%)	4 (80%)	1 (20%)	
	Impact on resident quality of life	4 (80%)	1 (20%)	4 (80%)	1 (20%)	• They may be surprised
	Resident Testimonials	2 (50%)	3 (60%)	2 (50%)	3 (60%)	
Decision to Transfer	Resident/Family Perspectives	5 (100%)		5 (100%)		• Ensure that the resident and the caregiver(s) are truly knowledgeable about their disease
	Perception of nursing home capacity to treat in place	5 (100%)		5 (100%)		
	Understanding resident disease trajectory	5 (100%)		5 (100%)		• LTC nurse needs to encourage a physician to resident conversation on prognosis so that decisions about end of life care are made with a sense of where the person stands.
	Goals of care/advanced directives	5 (100%)		5 (100%)		
	Physician Perspectives	5 (100%)		5 (100%)		• Nurses truly have to be ready when they call the doctor about a change in condition.
	Communication with nursing staff	5 (100%)		5 (100%)		• It is important to give nurses strategies to communicate with providers, on call providers, etc.
	Knowledge of facility resources to treat in place	5 (100%)		5 (100%)		• Providing nurses with tools and information would be helpful
	On-Call physicians	4 (80%)	1 (20%)	4 (80%)	1 (20%)	
Nursing Role	Communication	5 (100%)		5 (100%)		• The LTC nurse is the person who will most likely be that person to do that education – preferably using a "teach-back" approach.
	SBAR Tool	5 (100%)		5 (100%)		
	Advanced Care Planning	5 (100%)		5 (100%)		• How to communicate effectively in this area would be helpful • If the nurse doesn't do it, there is a good

					chance a meaningful, culturally sensitive, crucial conversation may well not get done for a population that has an exceptionally high one year mortality rate.
Do Not Hospitalize Orders	5 (100%)		5 (100%)		
Goals of Care	5 (100%)		5 (100%)		
Nurse Self-Efficacy	5 (100%)		5 (100%)		
Articulate nursing skill-set	4 (80%)	1 (20%)	4 (80%)	1 (20%)	• Perhaps increasing their skill set in a way that does not shame them for not keeping up skills
Discuss options for treatment plan: hospitalization v. nursing home	5 (100%)		5 (100%)		• Crucial
Answer questions about the dying process	5 (100%)		5 (100%)		
Inform residents and families of support services available in nursing facility	4 (80%)	1 (20%)	4 (80%)	1 (20%)	
Facilitate conversation around goals of care/resident wishes	5 (100%)		5 (100%)		
Articulate resident needs with provider, family and nursing facility	5 (100%)		5 (100%)		
Articulate needed resources w/ nursing facility administration	5 (100%)		5 (100%)		• This is important but only effective if someone listens

Aim 2: Develop and implement an accessible web-based educational tool on avoidable hospitalizations for LTC nursing staff.

Validated content was presented in an online format utilizing the website wix.com. This platform offered password-protected access that allowed for both audio and visual content to be displayed in a user-friendly format. The platform did not require cost to the user and was tailored visually to facilitate ease of use. The website, www.nhhospitalizations.com was developed and contained an introduction and a step by step guide to enroll as a participant and access links to podcasts, media clips, printable summary sheets and a discussion board. The website was accessible on any electronic device including tablets and smart phones.

Material was presented in six separate podcasts that were organized according to topic: Introduction, background, decision-making and the nursing role. All podcast scripts were written and recorded by this author utilizing the application, anchor.fm which was fully integrated into the website design. The podcasts presented information on defining potentially avoidable hospitalizations, NH sensitive ACS conditions, associated risks, contributing factors, family and

provider dynamics, advanced care planning and nursing strategies. All content included both case studies and prompts to bridge content with practice.

Supplemental material was offered to enhance the learning experience. Supplemental material included printable summary sheets of each chapter. This material was designed on canva.com and available for participants to share with colleagues. Short media clips were also created to provide a visual aide for the material. The media clips served as chapter summaries and were created utilizing powtoon.com. A discussion board offered two prompts for participants to either engage in a case study response or reflect on an experience from practice.

Several meetings were conducted with the facility's administration prior to the project launch as a way to establish on-site proficiency with the educational tool. Feedback was offered by the administration and integrated into the website design and educational modules. Feedback included adjusting the discussion board from a mandatory requirement of completion to an optional and voluntary component. Rationale for this change responded to the concern that staff would not be able to respond to discussion prompts on all electronic devices and therefore may impact project participation and completion.

An in-person information session was offered to introduce the project and answer questions about enrollment. Information sessions were held at two separate occasions at nursing staff meetings. A demonstration was provided on logging into the website as well as accessing the material. Flyers were displayed on all units and emails were sent on behalf of administration to encourage participation. The project was presented at each nursing orientation for the duration of three months.

After initial launch, the website was accessible to all RN and LPN facility staff. Once accessing the website, nurses were instructed on the home page to follow seven steps for

completion. Each step contained its own link and prompts. Step one involved member

enrollment and gathered demographic information indicating years of experience, credentials and

professional title. Step two prompted the participant to listen to an introductory podcast. Step

three required the completion of the pre-intervention palliative care self-efficacy survey

administered via Qualtrics and delivered in a four point Likert Scale format. Step four offered the

link to all podcast chapters and once the participant completed all six podcasts, they were

prompted to continue to step five where they were presented with two options for discussion

posts. Step six linked the supplemental material and step seven prompted the completion of the

post-intervention palliative care self-efficacy survey and final questionnaire. Once enrolled,

participants received reminder emails every two days that encouraged completion and offered

assistance if needed. After completing all seven steps, the participant received a certificate of

completion.

Aim 3: Measure the self-efficacy of nursing staff with respect to treatment in place,

advanced care planning and communication via the palliative care self efficacy scale pre

and post completion of educational curriculum.

Self-efficacy with respect to treatment in place, advanced care planning and

communication was measured utilizing the palliative care self-efficacy scale. The palliative care

self-efficacy scale is a twelve-item scale focusing on the perceived capabilities to manage

common aspects of end of life care (see Appendix A). Using structured closed ended question

format, this scale focuses on both the psychosocial support and symptom management required

in palliative care. While end of life care is not the particular focus of this DNP project, the items

included in the palliative care self efficacy scale are transferable to the skills necessary for

advanced care planning, communication with family, and symptom management associated with

many ACS conditions. The scale was supplemented with one additional question on perceived

capability in discussing nursing assessment with ordering provider. This scale demonstrates both

good validity and reliability amongst nurses and care assistants in LTC facilities (Phillips et al.,

2011). The palliative care self-efficacy scale was completed pre and post completion of the

educational module.

Aim 4: Measure the number of documented advanced care plans pre and post intervention.

One week prior to project implementation, the facility administration generated a report

indicating the number of residents with documented advanced directives and type of advanced

directives utilized. The same report was generated one month after completion of project

implementation.

Ethical Considerations

No ethical issues were identified during the planning or implementation phases of this QI

project. Resident identifiers were removed from all reports. Participation in the project was

optional for facility staff and there were no conflicts of interest noted.

Chapter 4

Results

Aim 1: Validate curriculum content utilizing an expert panel

The expert panel reviewed each of the 37 components of the educational curriculum on potentially avoidable hospitalizations. The curriculum was divided into three sections: background, decision to transfer and the nursing role. In the background domain, 9 of the 16 components were validated at 100 percent for both relevance and importance, 4 of the 16 were validated at 80 percent for relevance and importance and 3 of the 16 components were not validated above the 78 percent benchmark and therefore not included in the curriculum. The excluded components of this domain included ACS conditions not specific to NH residents, facility risk factors and resident testimonials. In the decision to transfer domain, 7 of the 8 components were validated at 100 percent and 1 of the 8 components was validated at 80 percent resulting in the inclusion of all components listed within this domain. In the nursing role domain, 11 of the 13 components were validated at 100 percent and 2 of the 13 components were validated at 80 percent resulting in the inclusion of all components listed within this domain.

Aim 2: Develop and implement an accessible web-based educational tool on avoidable hospitalizations for LTC nursing staff.

Twenty-seven nurses enrolled as participants in the project within the first two months of its implementation. Of the twenty-seven, 74% (N=20) completed all required components of the educational module, which included pre and post surveys, podcasts and final questionnaire. Of those completing the module, 60% (N= 12) were RNs and 40% (N=8) were LPNs. The participants were asked upon enrollment to indicate their years of professional experience. 80% (N=16) of participants indicated more than ten years of nursing experience, 15% (N=3) indicated

five to ten years of nursing experience and 5% (N=1) indicated less than five years of nursing

experience. On average, participants took two days to complete the module in its entirety. Of the

participants, 50% required reminder emails to encourage completion and only 10% (N=2)

completed the optional discussion board responses.

Aim 3: Measure the self-efficacy of nursing staff with respect to treatment in place,

advanced care planning and communication via the palliative care self efficacy scale pre

and post completion of educational curriculum.

Pre and post intervention data was collected from the palliative care self-efficacy survey

responses. The responses were analyzed to determine if the educational intervention improved

the self-efficacy of the participating nurses. A paired t test was used to measure the significance

at the 5% alpha level by individual question (Table 3). For questions 2-8, and 12-14, the p-values

fell below the .05 significance level, rejecting the null hypothesis and concluding that the true

mean post-assessment scores were significantly higher than the pre-assessment scores. For

questions 9 - 11, the results were not significant at the .05 alpha level, concluding that the

educational intervention was not necessarily effective for enhancing self-efficacy for these two

questions specifically. The overall mean difference between pre and post test scores was also

analyzed utilizing a paired t test (Table 4). The overall results of this paired t-test show a very

small p-value, much smaller than alpha at .05, and so it is concluded that the mean difference

between the pre- and post- scores is greater than 0, meaning the post-assessment scores were

significantly higher than the pre-assessment scores. Therefore, based on these results it can be

concluded that this educational intervention enhanced the self-efficacy of the participating

nurses.

Table 3: Pre and post response per question
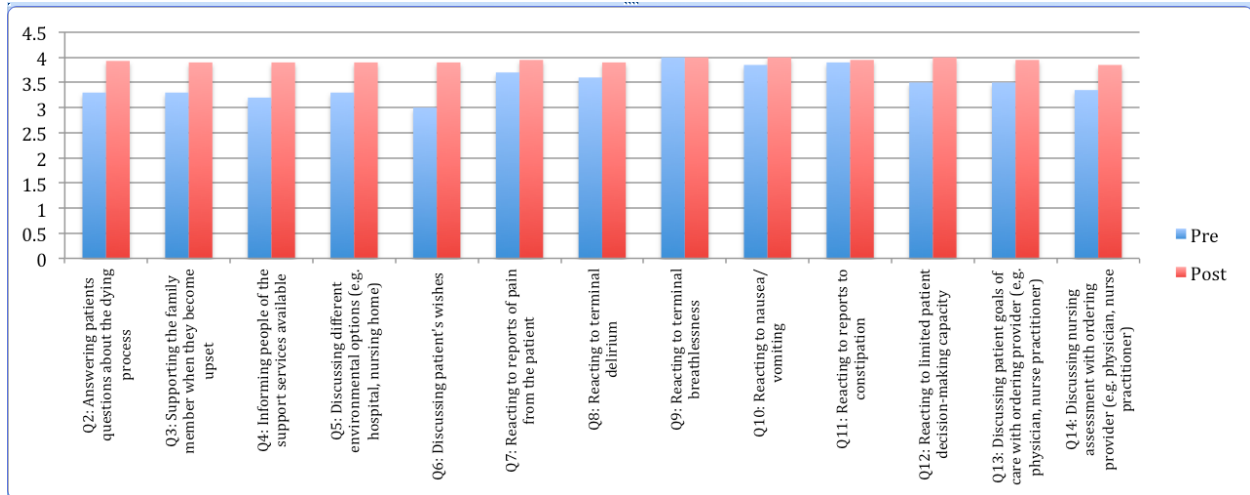
Table 4: Overall Pre and Post Test Scores
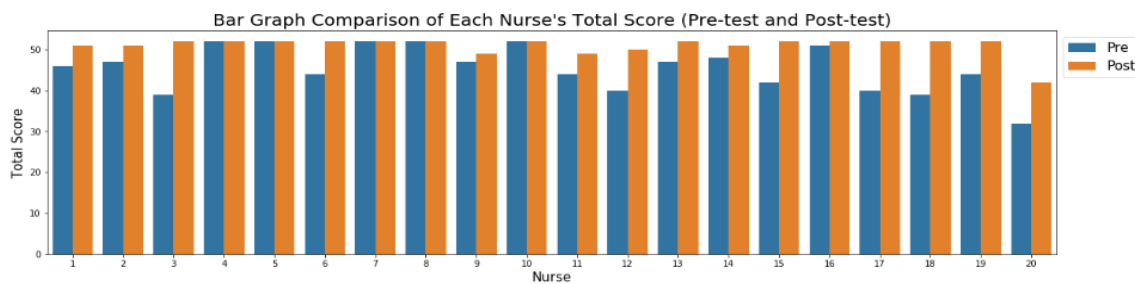
Participants completed a final questionnaire at the end of the module that assessed their satisfaction with the learning experience (Table 5). Analysis of this data indicates an overall positive response to the learning module and platform. The majority of participants "strongly agreed" or "agreed" that the learning experience was user friendly, influential to nursing practice, enhanced understanding of potentially avoidable hospitalizations and increased confidence. While the majority of participants strongly agreed that the podcasts were helpful to their learning experience, only 40% agreed that the supplemental material was helpful and 25% found the discussion boards useful.

Table 5: Final Questionnaire Response

	Strongly Disagree	Disagree	Somewhat Disagree	Neither	Somewhat Agree	Agree	Strongly Agree
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
The learning experience was user friendly	0	0	0	0	0	6 (30)	14 (70)
This nursing experience influenced my nursing practice	0	0	0	0	0	7 (35)	13 (65)
I have gained a greater understanding of potentially avoidable hospitalizations for nursing home residents	0	0	0	0	0	7 (35)	13 (65)
I am more confident with the material presented	0	0	0	0	0	7 (35)	13 (65)
I found the podcasts helpful to my learning experience	0	0	0	0	0	6 (30)	14 (70)
I found the supplemental material helpful	0	0	0	0	3 (15)	9 (45)	8 (40)
I found the optional discussion boards useful to my learning experience	0	0	0	0	6 (30)	9 (45)	5 (25)

Aim 4: Measure the number of documented advanced care plans pre and post intervention.

One week prior to the implementation of the project, a report was generated by the

facility administration, indicating the number and type of advanced directives documented for

the skilled nursing facility. The same report was generated one month after the implementation

of the project. Table 6 summarizes the data collected from both reports. Mercy Center utilizes

the Pennsylvania Orders for Life Sustaining Treatment (POLST) as standard advanced directive

documentation. Of the fifty-one residents prior to the intervention, 84% had a documented

POLST form. POLST forms offer the resident options to choose their preference for medical

intervention. Pre-Intervention, 12% of residents indicated their wish for an attempted

resuscitation, 73% opted for no attempt at resuscitation, 59% selected the preference for no

hospital transfer, and 16% of the total census did not have a documented advanced directive at

the time the report was generated.

One month after the project implementation was complete, the facility census increased

by five residents. The report did not indicate how many new admissions were included in the

total census number. The post intervention report indicated an increase in documented POLST

forms to 93%. There was also an increase in POLST forms indicating the preference for no

attempt at resuscitation (88%) and no hospital transfer (65%). The number of residents opting for

attempted resuscitation stayed relatively the same at 11% and the total number of residents with

no documented advanced directives (7%) reduced by more than half.

Table 6: Advanced Directives Pre and Post Intervention

	Advanced Directives: Pre-Intervention N (% of total census)	Advanced Directives: Post-Intervention N (% of total census)
	Census: 51	*Census: 55*
POLST Forms	43 (84)	51 (93)
Full Code	6 (12)	6 (11)
DNR	37 (73)	45 (88)
DNH	30 (59)	36 (65)
No Advanced Directive	8 (16)	4 (7)

Chapter 5

Discussion

The aim of this DNP project was to enhance the self-efficacy of long-term care nurses in the reduction of potentially avoidable nursing home hospitalizations utilizing an expert-validated educational intervention. Self-efficacy was measured by comparing the palliative care self-efficacy survey, pre and post project implementation. Additionally, advanced directives pre and post implementation were measured as a means to assess the project's impact on nursing practice, specifically advanced care planning.

Previous research on interventions aimed at reducing potentially avoidable hospitalizations noted that barriers to intervention sustainability included increasing nursing workload, competing facility priorities and time away from direct care (Kane et al., 2017; Ouslander et al., 2011; Ouslander et al., 2009b; Tappen et al., 2017; Tena-Nelson et al., 2012; Unroe et al., 2015). This project offered an online educational module that allowed the nurse to complete at their own pace and in their own timeframe. Participating in this project did not negatively impact patient care nor did it require the facility to utilize external resources to address this issue of quality care. Compared to traditional nursing home in-services, which are conducted in person during the nurse's shift, this project offered the nurse an opportunity to guide the learning experience with a variety of learning tools and a flexible time frame. Participants in this project found the educational module user-friendly and the podcast delivery useful to their learning experience. On average, participants completed the module within two days of enrolling, demonstrating that this module allowed for a fluid engagement with the material without impacting the successful completion of the program in a timely manner.

Several studies in the literature review noted the importance of the nursing role in navigating the dynamics between resident, family and ordering provider in the effort to reduce potentially avoidable NH hospitalizations (Abrahamson et al, 2014). This project supports that nursing education has the capacity to enhance the self-efficacy of nurses in this regard. The results support that nurses completing the module had increased self-efficacy in communicating with family, resident and ordering provider. Furthermore, it demonstrated that nurses showed increased self-confidence in facilitating resident goals of care and managing symptoms of terminal illness.

The literature demonstrated that advanced care planning was essential to documenting resident wishes as they pertain to hospitalization (McDermott et al., 2012; Shanley et al., 2011). Despite Mercy Center being a top performer in documented advanced directives (as compared to other skilled nursing facilities), after the nursing staff participated in this project, the number of documented advanced directives increased, as did the number of documented do not hospitalize orders. While it cannot be confirmed that nursing had a direct impact on this change, it is likely that after completing this module, nurses increased their engagement in discussing advanced directives with residents and families.

Limitations

Several limitations are identified in the implementation of this project. First, implementing at a small non-for-profit facility presented challenges in obtaining participants. Mercy Center is currently understaffed and utilizing agency nurses that are not often engaged in facility specific quality improvement projects. Implementing in a larger facility would have offered the opportunity to increase the sample size of participants. Second, this project was

implemented in a facility with competing demands such as a new electronic health record and a

change in administration. Given this facility context, the implementation timeline did not allow

for allocating administration time to encourage participation in the project. Third, the majority of

participants were RNs with more than ten years of nursing experience. This cohort of

participants is not reflective of most skilled nursing facilities that utilize mostly an LPN

workforce. Introducing this project in a facility that is more reflective of the long-term care

workforce would further strengthen the results. Lastly, the discussion boards were changed from

a mandatory to an optional component of the intervention due to concerns that this requirement

may deter participation. As a result, very few participants completed this portion of the module.

Eliminating discussion boards also eliminated the opportunity for participants to engage with

each other and demonstrate reflective learning.

Conclusions

The CMS 2012 initiative to reduce potentially avoidable hospitalizations among NH

residents launched a nationwide attempt to address this issue utilizing replicable and sustainable

evidence-based practices. These initiatives demonstrated variation in efficacy due to several

barriers: varying degree of facility motivation, scarce resources, instability of NH leadership, NP

recruitment difficulties, difference between facility culture and model, family demands,

physician resistance, staff turnover, competing NH priorities and additional workload (Kane et

al., 2017; Ouslander et al., 2009a). This project strengthened nurse self-efficacy in responding to

potentially avoidable NH hospitalizations and furthermore may have increased the number of

documented advanced directives in the facility. This project remained sensitive to facility

culture, and encouraged staff buy-in and motivation. The use of an on-line web-based platform

was accessible and allowed the nurse to guide their educational experience. Overall, the nurses participating in this project offered positive feedback on the modules' ease of use, impact on practice and teaching style.

This project demonstrated the impact of nursing education on the effort to reduce potentially avoidable NH hospitalizations, therefore improving the quality of NH care. While challenges were identified, the work of this project should be continued and replicated in facilities with diverse workforce demographics. Significant consideration should be given to measuring the number of potentially avoidable hospitalizations pre and post intervention. While this was originally an aim of this project, the given time frame did not allow for the opportunity to both implement and measure results while also allowing time for change to occur within the facility.

Nurses maintain the interconnection amongst the key stakeholders in the decision to hospitalize a NH resident. This project supports an intervention that enhances the nurse's self-efficacy in their efforts to reduce potentially avoidable hospitalizations. This project demonstrates that education does not have to occur in the traditional sense to be effective. An educational intervention, such as the one presented in this project, has the potential to enhance the quality of care for NH residents with minimal impact to facility expenditure and direct patient care. The project outcomes, enhanced self-efficacy and increased advanced directives, provide the evidence to further explore the impact of accessible and creative nurse education on quality measures in long-term care.

Appendix A

Palliative care confidence

Please rate your degree of confidence with the following patient / family interactions and patient management topics, by ticking the relevant box below

1 = Need further basic instruction	2 = Confident to perform with close supervision / coaching
3 = Confident to perform with minimal consultation	4 = Confident to perform independently

No	Patient/family interactions and clinical management	1	2	3	4
1	Answering patients questions about the dying process				
2	Supporting the patient or family member when they become upset				
3	Informing people of the support services available				
4	Discussing different environmental options (eg hospital, home, family)				
5	Discussing patient's wishes for after their death				
6	Answering queries about the effects of certain medications				
7	Reacting to reports of pain from the patient				
8	Reacting to and coping with terminal delirium				
9	Reacting to and coping with terminal dyspnoea (breathlessness)				
10	Reacting to and coping with nausea / vomiting				
11	Reacting to and coping with reports of constipation				
12	Reacting to and coping with limited patient decision-making capacity				

Glossary

Advanced directives: A statement of resident preferences and goals of care around end of life needs.

Ambulatory Care Sensitive (ACS) Conditions: conditions for which timely and effective outpatient care can decrease risk of hospitalization

Change in condition: deterioration or decline from baseline resident condition related to end stage disease trajectory or acute illness.

Direct care providers: Nursing staff and certified nursing assistants who assist residents in medication management and performance of activities of daily living.

Do Not Hospitalize (DNH) orders: A medical order, which states a resident's wish to decline hospitalization. DNH orders may be captured as a written order or designated on a formal form.

Healthcare Proxy: an individual designated by the resident to speak for them and state patient preferences in the event the resident is unable to speak for himself or herself.

Intervention to reduce avoidable hospital transfers (INTERACT): A model designed to reduce avoidable hospital transfers by integrating advanced care planning, an advanced practice nurse and staff education.

Missouri Quality Improvement (MOQI): A model designed to reduce avoidable hospital transfers by integrating advanced care planning, an advanced practice nurse and staff education.

Medical orders for life sustaining treatment (MOLST): An advanced directive and medical order designating the resident's wishes on artificial nutrition and hydration, resuscitation and intubation and treatment in place. A physician or advanced practice nurse signs the order.

Provider order for life sustain treatment (POLST): An advanced directive and medical order

designating the resident's wishes on artificial nutrition and hydration, resuscitation and

intubation and treatment in place. A physician or advanced practice nurse signs the order.

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