UTILIZING HOME HEALTH SERVICES TO REDUCE HOSPITAL READMISSIONS

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Abstract

Rehospitalizations is a national problem and is not safe for the frail elderly who have ongoing management of multiple chronic conditions. To address rehospitalization rates that were above the state and national average, a quality improvement change in practice was implemented in a midsized home health agency. The objective of this study was to reduce rehospitalization rates by implementing a hospital readmission prevention toolkit that adhere to evidence-based practice strategies applicable to home health clients that have shown to reduce avoidable rehospitalizations. The hospital readmission prevention toolkit will improve client outcomes through education, implementation, and consistent use of a practice change of hospital readmission prevention best practice tools that include: a risk assessment for rehospitalizations, front-loading nurses’ visits, client weekly phone monitoring, and timely documentation. The hospital readmission prevention toolkit was effective in decreasing the home health agency’s rehospitalization rates over a 60 days period by 40%. The study concluded that when properly educated on the home health agency gap in practice, provided with supportive tools, and properly educated on the implementation of evidence-based practice interventions; rehospitalization rates decreased and client communication and collaboration increased improving client outcomes.

Key words: decreasing rehospitalizations, preventing readmissions in home healthcare, best practices for preventing avoidable hospitalizations in home health, unnecessary hospitalizations.
Utilizing Home Health Services to Reduce Hospital Readmissions

The project aimed to reduce hospital readmissions of clients cared for by a midsize home health agency with higher than average readmission rates by providing patient-centered care practices that are timely and adhere to evidence-based practice strategies applicable to this population. The project was a quality improvement change in practice and improved client outcomes through education, implementation, and consistent use of a practice change of readmission prevention best practice tools. This project enhanced the homecare nurses’ knowledge of the agency’s high readmission rates and hospital readmission prevention evidence-based strategies in order to decrease the agency’s high hospital readmission rates.

The home health agency is a midsize agency in South Texas with an average of 75 clients and eight nurses. The average age of the clients are 73 years old; 75% of clients are Hispanic, 25% are white Caucasian, and 96% of clients have Medicare as their primary insurance. Clients are referred to home health services with medical or surgical conditions that require additional medical assistance for example, wound care, medication administration and teaching, or catheter care.

Clinical Significance

One of the most important goals of home healthcare is ensuring that ill, elderly patients receive high quality, personal, and compassionate care. Home healthcare is designed to meet these needs by offering personalized services in the convenience of a patient’s home. Home healthcare provides a wide range of healthcare services in the patient’s home after hospital discharge that promotes healing, education, and provides
more quality of care. Home healthcare provides safety from infections, allows the patients more freedom and independence, is more affordable than inpatient care, provides more patient-centered care, and reduces re-hospitalizations. Hospitalization is not safe for the frail elderly who have ongoing management of multiple chronic conditions. Hospitals put the frail elderly at a high risk of in-hospital nosocomial infections, delirium, and falls (Stuck et al., 2017). Patients that are readmitted into the hospital from homecare services have a high risk of low quality of life and overall higher costs associated with medical care (Umegaki, et al., 2016). Therefore, in high-risk home health clients, will a hospital readmission prevention toolkit decrease hospital readmissions 60 days after hospital discharge?

The clinical problem is significant to the nursing practice due to nurses providing the majority of patient care in home healthcare. The Center for Disease Control and Prevention's (CDC) Potentially Preventable Hospitalizations report (2013) points out that several complications might have been avoided after hospital discharge if the patients had received better home healthcare in the community. In home healthcare, nurses are at the center of providing good quality healthcare. Nurses began with conducting the patient admission and comprehensive assessment. It is imperative that nurses are educated in identify patients that are at high-risk for hospital readmissions and immediately implement evidence-based practices to avoid the risk of any unnecessary complications. Home healthcare nurses develop care plans and patient-centered interventions to improve patient outcomes. It is important for nurses to continually monitor patients consistently, recognize when there is a change in patient
condition and provide healthcare to prevent any health complications and unnecessary hospital readmissions.

**Problem Description**

Rehospitalizations is a national problem with 20% of patients experiencing rehospitalizations within 30 days of hospital discharge (American Hospital Association [AHA], 2011). A priority problem that was identified is hospital readmission rates of clients cared for by this agency. In 2017, the agency’s average hospitalization rate was 52.60% and in 2018 it was 42.40%, which is double the national rate of 24.30% and state rate of 31.60% (Home Health Quality Improvement (HHQI), 2017). Identified in a random 60-day period audit from July to August of 2017, the agency had a 57.1% rehospitalization rate, and 50% of their new patient admissions were rehospitalized. According to the Acute Care Hospitalization (ACH) Monthly Report, the agency’s hospitalization rate was 42.7% during the same two months July and August of 2017 compared to the state rate of 31.3% and the national rate of 24.1% (HHQI, 2017).

A high rehospitalization rate is not good for the quality of care for clients and can also negatively affect the agency’s business and finances. One of the most important goals of home healthcare is ensuring that ill, elderly patients receive high quality, personal, and compassionate care, and avoid unnecessary rehospitalizations. Higher than average hospitalization rates lower the agency’s quality of patient care star rating, which is an indicator of an agency’s performance compared to other agencies in the community (R. Valladares, personal communication, September 13, 2017). The agency’s star rating is a 2 out of a 5 with 5 being the best (Home Health Compare,
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2017). This information is public information available for all future prospect clients, families, and healthcare providers in the community to review when trying to decide which agency they would like to do business with. Poor overall ratings also affect monetary gains of the organization. All Medicare-certified home health agencies are reimbursed per client based on quality performance. The Home Health Value-Based Purchasing (HHVBP) initiative is a payment system directly tied to quality performance. Home health agency’s payments are adjusted upward or downward three to eight percent based on quality of care delivered. One of the measures that affect this score are the agency’s acute care hospitalization rate during the first 60 days of care (Centers for Medicare and Medicaid Services [CMS], 2016). Prospective clients, family, and referring healthcare providers can also look up the agency’s rehospitalization rates on the Home Health Compare public website and decide to stay clear away from an agency with higher than average rehospitalization rates.

**Prior Practice Problem**

Before implementation of the hospital readmission prevention toolkit, the agency did not consistently use a hospital prevention toolkit or implement any evidence-based strategies that are available and have shown to help decrease rehospitalizations despite their high rates. The agency does perform a hospitalization risk assessment (HRA) on every patient but fails to implement evidence-based best practice interventions to prevent rehospitalizations on high-risk patients. The agency administrator admits that the nurses do try and enforce interventions for high-risk patients by scheduling more frequent visits, but no education or information on evidence-based strategies have been
discussed or recommendations on following a particular guideline or toolkit (R. Valladares, personal communication, September 13, 2017).

**Practice Change**

Since 2007, the Centers for Medicare & Medicaid Services’ Home Health Quality Improvement (HHQI) National Campaign have been providing free, evidence-based educational resources, individualized data reports, networking opportunities and assistance for home health and cross-setting providers to reduce avoidable hospitalizations and improve care quality (HHQI, 2017). The cornerstone of the HHQI National Campaign’s educational resources is the Best Practice Intervention Packages (BPIPs) that offer practical applications of quality improvement strategies in simple steps and are designed to be implemented at a self-set pace. HHQI offers a variety of packages covering different topics that are all evidence-based and free for all providers, regardless of setting proving the HRA tool and interventions to be valid and reliable (HHQI, 2017).

The identified gap and outcome measure for this project is prevalence of hospital admissions of patients who are clients of the home health agency. A root cause analysis was performed at the agency using an Ishikawa Fishbone diagram (Appendix B), and process measures were identified (American Society for Quality (ASQ), 2019). A hospital readmission prevention toolkit was developed using interventions from the best practice intervention strategies recommended by HHQI protocol. The interventions that were implemented for all new patient admissions during the project time included using a revised HRA tool, timeliness of patient care documentation, front-loading skilled
nursing (SN) visits, and follow-up practices of weekly phone monitoring. A comprehensive education meeting for all nurses was scheduled during one of the weekly meetings to discuss the new hospital readmission prevention toolkit implementation. All nursing staff was made aware of the ACH report from the HHQI website and discussion took place about the agency’s above average rehospitalization rates compared to the state and national average.

**Intervention one: Timeliness of patient care documentation.** The current policy at the agency states that nursing documentation should be submitted within seven days of the patient’s visit. The current average charting completion times are three weeks, despite the current policy. A 30-day random audit was performed for the month of November 2017, finding only one percent of client charts were completed within seven days according to policy (99% of nurses completed their client charts two to six weeks after the visit occurred breaking agency policy).

**Recommendation and progression from literature.** Delayed entry of patient information can cause delays or errors in medical treatment, and details of the visit can be forgotten by the nurse (Kohle-Ersher, Chatterjee, Osmanbeyoglu, Hochheiser & Bartos, 2012). This leads to poor communication and collaboration among all healthcare providers due to the immediate assessment and pertinent patient information not being available in the patient’s medical records for other healthcare providers to review and follow up (Panozzo, Rossette, & Hess, 2017). Collins, et al. (2013) specifically analyzed the relationship between delayed patient charting by nurses and mortality rates. This study concluded that with statistical significance, delayed patient charting by nurses increased patient mortality prevalence.
Prior to the study, the nurses that did not abide by the policy of charting in their current electronic medical record (EMR) within seven days of the visit were not held accountable by the leadership team. Goeschel (2011) reported a clear relationship between accountability of nurses and safe patient care. Failure to communicate and collaborate with other healthcare team members often contributes to preventable harm. To successfully increase accountability, the leadership team must be clear of what the professional expectations are and maintain consistency in enforcement of the expectations (Rachel, 2012).

Staff had reinforced EMR training offered to them so they could utilize the EMR’s resources that made it easier for them to submit their documentation in a timely matter. Electronic records provides faster record access by multiple users, more comprehensive information, better reporting tools, increased efficiencies in workflow, improved eligibility for reimbursement, improved billing efficiency, and supports pay-for-performances bonus (Hebda & Czar, 2013). EMR helps nurses improve timeliness and collaboration, which improves patient outcomes (Lavin, Harper, & Barr, 2015; Sockolow, Bowles, Adelsberger, Chittams, & Liao, 2014).

**Intervention two: Front-loading visits.** One component that can affect hospitalization rates of patients cared for by home health organizations is risk stratifications. A risk stratification was identified upon admission using the revised HRA. All new patients admitted during the study time that were identified as high-risk had skilled nursing visits front-loaded. Front-loading visits refers to the process of scheduling a higher frequency of skilled visits initially, when the patient is first admitted to the agency. Reimbursement rates are also higher for high-risk patients. This issue is
that high-risk patients are tenuous in medical stability, have more medications, and overall procedures required in their care after hospital discharge. This creates higher odds that the patient will be admitted back to the hospital.

In the months of July and August 2017, the total patient census was 75. Of those patients, 85.71% were categorized as high-risk patients. Of the new patient admissions and resumption of care for those two months, 50% of these patients were readmitted into the hospital within the first 60 days of hospital discharge. Zero percent of these patients that were readmitted into the hospital had integrated front-loading visits. Further analyzing this high-risk population, it was discovered that despite the assigned additional skilled nurse visits, these patients received the same interval visits as low-risk patients through-out the 60-day episode, instead of more frequent visits at the beginning. This practice represents missed opportunities to intervene with the higher risk patient population, possibly preventing admissions to the hospital (Topaz, Trifilio, Maloney, Bar-Bachar, & Bowles, 2018). After hospitalizations, patients usually have new medications, new diagnoses, and follow-up visits must be made with their healthcare provider. All of this is very overwhelming for patients and their families, creating a vulnerability they cannot afford.

**Recommendations and progression from literature.** To address this care discrepancy, front-loading visits were implemented for all high-risk patients identified through the revised HRA tool upon admission to the agency during the project time. The strategy of front-loading visits for high-risk patients lowers the risk for hospitalization (Feltner et al., 2014; Irani, Hirschman, Cacchione, & Bowles, 2018; O’Connor, Hanlon, & Bowles, 2014; O’Connor et al., 2014; Ouslander et al, 2016;
Murtaugh et al., 2016; Stuck et al., 2017). Nurses can assist with making follow-up appointments, instructions, and re-enforce teaching on new medications, diet, and disease process. Patients who reported problems understanding hospital discharge instructions and medication regimen had higher hospital readmission rates (Olsen, Courtemanche, & Hodach, 2016). Auerback et al. (2016) pointed out that patients not knowing who to contact after hospital discharge was one of the factors associated with preventable hospitalizations. An automated assessment within the first 48 to 72 hours of when patients were discharged from the hospital was associated with decreased readmission rates (Olsen et al., 2016). A midsize home health agency reported that their rehospitalization rates decreased by 87% when they implemented a new practice protocol that included front-loading visits (Panozzo et al., 2017). Jones, Bowles, Richard, Boxer, and Masoudi (2017) reported that front-loading visits decreased complications and hospital readmissions in heart failure patients.

**Intervention three: Weekly phone monitoring.** Telehealth is the use of digital technologies to provide medical care and health education. Telehealth includes services of assessment, monitoring, communications, prevention and education. One example of telehealth is phone monitoring. Telehealth can improve health outcome, access to care, and make health care delivery systems more efficient and cost-effective by preventing avoidable emergency room visits and hospitalizations (Sabharwal, 2016; Telehealth Guide, 2014).

Out of the 50% of the agency’s patients that were readmitted into the hospital within 60 days of hospital discharge, 0% had telemonitoring (weekly phone calls) from the agency. Telemonitoring are planned phone calls to the patient and the family
between scheduled in-home visits on a weekly basis to assess, educate, and share
decision-making throughout the episode. Telemonitoring are individualized monitoring
plans depending on the patient’s conditions and diagnosis. Weekly phone monitoring
was performed by a nurse on all new high-risk patients included in the study. The
nurses assessed for any negative findings such as rapid weight gain or blood glucose
changes, reminded patients about their follow up appointments with their physicians,
answered any questions or concerns the patients and their families had concerning their
care, and made any follow up SN visits or phone calls to other healthcare providers as
necessary.

**Recommendations and progression from literature.** A telemonitoring system
for all newly admitted patients can lower hospitalizations rates (Feltner et al., 2014;
Harrison, Auerback, Quinn, Kynoch, & Mourad, 2014; Harrison, Hara, Pope, Young, &
Rula, 2010; HHQI, 2010). Telemonitoring, which includes weekly phone monitoring can
be individualized monitoring plans depending on the patient’s condition and diagnosis.
During the weekly phone monitoring, patients can let the nurse know how they are
feeling to see if a visit needs to be made that day, and they can ask questions about
their medications, diet, or disease process. Nurses can reinforce teaching and remind
the patient/family to call the agency if they have any concerns or if problems arise
(Harrison et al., 2014). Telemonitoring can identify a change in patient’s condition, failed
or lack of equipment, answers patient’s questions about their post hospital discharge
instructions, and any new medications (Auerbach et al., 2016; Black et al., 2014; Soong
et al., 2014).

**Available Knowledge**
One of the main factors that contribute to high-risk home health patients being readmitted into the hospital within 60 days of discharge is the nurses’ failure to implement evidence-based practices that have shown to decrease rehospitalizations and improve patient care. The objective to this study was to bridge the gap in practice and provide the nurses with the knowledge and resources to decrease the agency’s high rehospitalization rates. Unnecessary hospitalizations in the frail elderly can lead to health complications and increase in health care cost. This evidence-based project implemented a hospital readmission prevention toolkit that changed practice by implementing timely documentation, front-loading visits, and weekly phone monitoring. By implementing a new practice change, nursing practice and patient outcomes will be improved, which will enhance care excellence for home health clients.

**Search Methods. Keywords/search phrases.** Several terms were used to support the research regarding improving rehospitalizations best practices. The following keywords and search phrases were used: *decreasing hospitalizations, decreasing rehospitalizations, decreasing readmissions, decreasing unnecessary hospitalizations, decreasing readmission in home healthcare, reasons for readmissions, readmission complications, penalties for readmissions, best practice for decreasing readmissions in home health, documentation improving patient outcomes, accountability for nurses, best practice interventions, front-loading nursing visits, phone monitoring,* and *telemonitoring.*

**Databases used.** A variety of sites were used to conduct research for this project. The databases used were Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PubMed Central, which provided approximately 120 results.
More information was found in several websites that provided home health evidence-based best practices and reports. Due to the focus of care being in home health, the databases did not have a wealth of information. These websites were Institute for Healthcare Improvement, National Guideline Clearing House, Home Health Quality Improvement, and Centers for Medicare and Medicaid (CMS). Google was also used to find scholarly articles not found in the databases.

**Inclusion/exclusion criteria.** Inclusion criteria in this research included full text, English language, published no earlier than 2011, peer reviewed, age groups limited to the geriatric age groups, and concerning nursing practice and interventions that can take place in the home health setting of the clients. This inclusive criterion led to approximately 31 research results worth analyzing. Exclusion criteria were any interventions that can only take place in an acute hospital setting or provided by other health care providers besides nurses.

**Rating of evidence.** The Grading of Recommendation, Assessment, Development, and Evaluation (GRADE) method was used to assess the evidence and strength of the articles and resources for this project. The GRADE system helps the researcher with a systematic way of evaluating articles and information on the quality of the evidence and the strength of the recommendations (Guyatt et al., 2008). A ranking was done based on the quality of evidence included in each article. Randomized controlled groups were ranked higher than observational studies. Literature review studies were ranked based on the high association rate and how it related to the project study. Ranking was also determined on the research based on inconsistency,
Evidence Based Literature Review

**Synthesis of research.** Thirty-six publications were included in this project study that supported the need to decrease hospital readmissions in home healthcare clients by implementing evidence-based practices, such as timely documentation, front-loading visits, and weekly phone-monitoring. Six peer reviewed articles and national websites supported the need to decrease hospital readmissions in high risk clients. Rehospitalizations is a national problem with 20% of patients experiencing rehospitalizations within 30 days of hospital discharge (American Hospital Association [AHA], 2011). Auerbach et al., (2016) discovered the different reasons why clients get readmitted into the hospital and how home healthcare can prevent these instances from happening. Home healthcare can improve quality of care for clients while decreasing the cost of care (Stuck et al., 2017; Umegaki et al., 2016). One of the most important goals of home healthcare is ensuring that ill, elderly patients receive high quality, personal, and compassionate care. Home healthcare is designed to meet these needs by offering personalized services in the convenience of a patient’s home. Home healthcare provides safety from infections, allows the patients more freedom and independence, is more affordable than inpatient care, provides more patient-centered care, and reduces re-hospitalizations. Hospitalization is not safe for the frail elderly who have ongoing management of multiple chronic conditions. Hospitals put the frail elderly at a high risk of in-hospital nosocomial infections, delirium, and falls (Stuck et al., 2017). Patients that are readmitted into the hospital from homecare services have a high risk of
low quality of life and overall higher costs associated with medical care (Umegaki, et al., 2016). The Center for Medicare and Medicaid Services (CMS) websites report on the high cost for clients when they are readmitted into the hospital, and the penalties that the hospitals and home healthcare agencies will have to pay for providing low quality of care. HHQI organization is a website that provides home healthcare agencies with a monthly Acute Care Hospital report and evidence-based intervention packages to help improve client hospital readmission rates. Medicare.gov website reports on home health agency’s star ratings, which is public information to inform the community of the different types of quality of care each agency provides.

One intervention included in the hospital readmission prevention toolkit is requiring timely documentation from all the staff nurses in the agency. The HHQI website and nine articles support how timely documentation improve collaboration and quality of care for clients. Studies show a relationship between timely documentation and improvement in patient’s quality of care (Collins et al., 2013). Electronic records have shown to improve quality of patient care, documentation, and date integrity (Hebda & Czar, 2012). Point of care documentation, which is documentation at the bed side has shown to improve patient outcomes (Kohle-Ersher et al., 2012; Panozzo et al., 2017; & Sabharwal, 2016). Telehealth and EMR are very important in assisting with providing timely documentation and improving patient outcomes (Telligen, 2016). Sockolow et al. (2014) point out how EMR helps nurses improve timeliness and collaboration, which improves patient outcomes. EMR and timely documentation improve patient care and safety by improving the care processes (Lavin et al, 2015). Accountability is very important when changing practice, in order to implement timely...
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documentation and improve quality of care and patient safety (Goeschel, 2011; Rachel, 2012).

The HHQI website and twelve articles support the second intervention of front-loading the SN visits with home healthcare clients. Hospital readmission rates drop precipitously through the first three home health visits (Attaya, 2017). Studies concluded that frontloading SN visits decreased hospital readmissions rates occurring between 15 and 30 days of home health admission. Stretching out the home healthcare visits over the first 30 days is often too late and readmission has already occurred (O’Connor et al., 2014; O’Connor, Hanlon, & Bowles, 2014). Front-loading visits decreased patient’s complications and rehospitalizations (Auerbach, et al., 2016; Olsen et al., 2016; Ouslander et al., 2016; Panozzo et al., 2017). Feltner et al. (2014) studied that front-loading visits reduced hospital readmissions the first 30 days of hospital discharge. Front-loading visits improved patient’s outcomes and reduced rehospitalizations with heart failure patients (Irani et al., 2018; Jones et al., 2017). Timing is very important with heart failure patients and front-loading visits post hospitalizations identified any immediate deterioration (Murtaugh et al., 2017). Murtaugh et al. (2017) recommends one nursing visit on the day of hospital discharge and at least three nursing visits in the first week. Home health interventions within the first 24 hours, for example front-loading visits after hospital discharge is important in order to prevent readmissions (Stuck et al., 2017).

The HHQI website along with eleven more articles supported the last intervention of weekly phone monitoring. A study concluded that clients who received weekly phone monitoring were significantly less likely to be readmitted to the hospital (Auerbach et al.,
Automated phone assessment delivered to patients within 48-72 hours of inpatient discharge and early interventions are associated with decreased hospital readmission rates (Olsen et al., 2016). Phone monitoring allowed nurses to address issues related to complications in patient’s condition or equipment use helping clients with care transition from the hospital (Black et al., 2014). Sabharwal (2016) points out that Telehealth, which is an example of phone monitoring can improve access to care and result in significant cost savings by preventing avoidable emergency room visits and hospitalizations. A structured phone monitoring system supports interventions and reduced heart failure readmission and mortality rates (Feltner et al., 2014). Nurses benefit from using an evidence-based clinical decision support tool to guide them in their decision, supporting the new HRA tool being implemented in the project (Irani et al., 2018; Topaz et al., 2018).

Rationale

A needs assessment was performed at the home healthcare agency utilizing the need chain model (NCM). The NCM measures and evaluates the individuals or organizational needs in order to modify their performance priorities (Shafloot, 2010). A root cause analysis was also performed at the agency using an Ishikawa Fishbone diagram (Appendix B), and process measures were identified. By using these models, three areas were identified that required a change in order to decrease the readmission rate of high-risk home health clients. The three areas that were identified were a performance need, instrumental need, and organizational need.
**Performance Need.** Performance need is the level of performance required in order to meet an organization’s goals (Shafloot, 2010). The nurses at the home health agency were not meeting the national standards of care when providing health care to patients in the agency. The nurses are the first person to interview and perform a comprehensive assessment to all new patients being admitted into the agency that are being discharged from the hospital. The nurses were not implementing evidence-based best practices interventions to prevent rehospitalizations in high-risk patients and were not following agency documentation policy. Nurses must be educated on an evidence-based hospital prevention readmission toolkit, be competent in performing an accurate HRA consistently, and perform follow up practices in order to prevent unnecessary client readmissions. The needs assessment discovered that most patients of the agency called 911 first and were admitted into the hospital prior to calling on the home health nurse for help. This practice led to high hospital readmission rates; double the national and state average, which led to poor quality of patient care.

**Instrumental Need.** Instrumental need refers to an intervention that is required in order to meet an organization’s goals (Shafloot, 2010). Previously the nurses performed an HRA on all new admissions but did not implement consistent interventions in order to prevent unnecessary readmissions. The agency nurses also did not utilize the EMR system to its full potential to help with timely documentation submission according to policy. The implementation and consistent use of an evidence-based hospital readmission prevention tool kit, and re-enforce training on the EMR system will make a practice change that will improve the agency’s high readmission rates.
Organizational Need. Higher than average hospital readmission rates can negatively affect the agency’s business. Having high hospital readmission rates lowers the agency’s patient care star rating, which is an indicator of an agency’s performance compared to other agency’s in the community (R. Valladares, personal communication, September 13, 2017). Currently the agency’s patient care star rating is a 2 out of a 5, with 5 being the best. The agency’s star rating is public information for all future prospect clients and healthcare providers to review. Poor overall agency ratings also negatively impact the agency financially. The agency’s reimbursements by Medicare are adjusted upward or downward three to eight percent based on quality of patient care provided. CMS also penalizes hospitals for readmissions. In order for hospitals to maximize their Medicare reimbursement, partnering with the optimum home health provider is essential.

In analyzing the agency’s needs assessment, it was evident that a practice change was necessary in order to reduce readmission rates for high-risk clients. In collaboration with the agency’s administrators and leadership team, it was concluded that a hospital readmission prevention toolkit would be implemented, and that all nurses would be educated on the proper use of it. Readmission rates were monitored weekly for 60 days to monitor the effective use of the hospital readmission prevention toolkit. Therefore, a change theory framework was decided on.

Framework

The framework best fit for this project is the Lewin’s Change Theory Model. The Lewin Change Theory Model is a three-step process that includes unfreeze, change,
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and freeze. This three-step model provides guidance on how to implement a new process in an established place that has routinely followed the same practices (White and Dudley-Brown, 2012).

**Unfreezing.** The project aimed to reduce hospital readmissions rates of high-risk clients cared for by the home health care agency by providing patient-centered practices that are timely and adhere to evidence-based practices. A root cause analysis was performed, and the three process measures identified were timeliness of patient care documentation, nursing visits were not front-loaded, and follow-up practices of weekly phone calls were not in place. Nurses did not follow the agency policy stating to submit all patient documentation within seven days of the patient’s visit and were not held accountable by the leadership team. Nurses submitted their patient documentation an average of three weeks despite the agency’s policy. An audit was conducted of all new admissions over a set period of time and zero percent of the patient’s had integrated front-loading visits or follow-up practices of weekly phone calls. The audit discovered that patients that were admitted into the hospital did not call the agency nurse first for any help or concerns prior to calling 911. These hospital admissions could have been prevented with the readmission prevention toolkit interventions. Unfreezing these routine practices will help the nurses gain perspective on their day-to-day routine and open up to new ways of providing more patient-centered care. The nurses were educated through training sessions provided by the leadership team to unfreeze these practices and encourage change to decrease hospital readmissions for high-risk clients. The proper education and the stakeholders’ support combatted any resistance by showing the need for change. The stakeholders included: the owner/
administrator, the director of nurses, the nurse manager, staff nurses, and the compliance nurse. After the nurses were aware of the high hospital readmission rates and educated on the best evidence-based practices included in the hospital readmission prevention toolkit, they had a strong understanding of the importance of adhering to the change.

**Change.** The leadership team decided to implement and consistently use the new hospital readmission prevention toolkit and hold nurses accountable for submitting all patient documentation within seven days according to current policy. Nurses were educated on the clear relationship between timely charting and patient safety and were held accountable for following the current policy. Documentation submission was reviewed weekly by the nurse manager, and each nurse was reminded in private if not compliant with charting policy.

Nurses were educated on how to use the revised HRA tool (Appendix C) during the new patient admission process. The revised HRA tool reminds the nurses to implement front-loading nursing visits and schedule weekly follow-up phone calls to all high-risk patients. The agency created a binder that included medical information on all new patients that were admitted during the project time. The binder included a copy of the completed revised HRA tool used, phone monitoring forms (Appendix E), and any communication forms printed from the EMR system. A nurse was assigned to the task of calling each patient weekly during a non-nurse visit day and monitor the client. All nurses were instructed to complete a phone monitoring form if they also called the patient during a non-visit day. The nurses followed an outline of questions to ask the client about their concerns and care and completed a phone monitoring form (Appendix
E). If the client had any questions or concerns, the nurse assisted them over the phone or scheduled a skilled nursing visit promptly. This change in practice will improve hospital readmission rates and improve patient outcomes.

**Freezing.** The implementation and consistent practice of the evidence-based practice hospital readmission prevention toolkit will become the new standard that will decrease hospital readmission rates, improve patient care, and improve the agency's performance. Through education and administrative support, the nurses at the agency will move towards a new normal and improve patient care through a higher level of group performance. The nurses will perform an accurate HRA and implement evidence-based practices to reduce hospital readmission rates for high-risk clients. With the tools and resources provided by the DNP student, the agency will be able to continue to utilize the hospital readmission prevention toolkit successfully, provide educational training sessions, and evaluate the toolkit periodically for adjustments based on the current client population.

**Study Variables**

The dependent variables of this project were the nurses’ ability to accurately and consistently implement the evidence-base practice hospital prevention toolkit. This was evident by submitting patient care documentation according to policy, front-loading visits, and performing weekly monitoring phone calls. The independent variables were the nurses’ amount of participation in the educational training sessions and the implementation of the hospital prevention toolkit.

**Study Assumptions**
The assumptions to this study were that all nurses will attend the educational training sessions and will eagerly want to implement an effective practice change to improve patient care. Other assumptions were that the hospital readmission prevention toolkit and resources were going to be properly used and implemented in all new patient admissions included in the project time frame. The change in practice was assumed to decrease the agency’s hospital readmission rates over a 60 days period.

**Specific Aims**

The project aimed to reduce hospital readmissions during the study time of clients cared for by a midsize home health agency with higher than average readmission rates compared to the state and national rate by providing patient-centered care practices that are timely and adhere to evidence-based practice strategies applicable to this population. The project was a quality improvement change in practice to improve client outcomes through education, implementation, and consistent use of a practice change of readmission prevention best practice tools. The project goals was to improve patient communication and collaboration, and enhance the homecare nurses’ knowledge of the agency’s high readmission rates and hospital readmission prevention evidence-based strategies. These factors will continue to help the agency provide good quality of care to its patients and decrease the agency’s high hospital readmission rates.

**Methods**

**Context**

The study took place at a home health agency in South Texas that provides home healthcare to approximately 75 clients on average. The agency has
approximately eight nurses; three registered nurses (RN) and five licensed vocational nurses (LVN) that provide SN care to clients. Clients admitted are adults with medical or surgical conditions that require additional medical assistance for example, in the form of wound care, medication administration, or catheter care (e.g., central venous catheters, Foley catheters). During the project time, the average age of clients was 73 years of age, 75% of clients were Hispanic, 25% were white Caucasian, and 96% of clients had Medicare as their primary insurance. The most common diagnoses of clients cared for were: cardiac/peripheral vascular conditions (36.98%), diabetes mellitus (27.08%), urinary incontinence or have urinary catheter needs (21.35%), and orthopedic conditions (18.23%). Most clients have more than one diagnoses.

The leadership team was very supportive of the quality improvement change in practice as it reflects the mission, values, and goals of the agency. Higher than average rehospitalization rates reflect poor quality of care provided by the agency and poor patient outcomes. The leadership team consist of the owner/administrator, director of nurses, nurse manager, and nurse consultant, which have a long, strong, working professional relationship and share the same goals of wanting to provide the best evidence-based practices to improve patient outcomes. The owner/administrator is also a nurse making the leadership team all nurses. Nurses that want to be their patient’s advocate and provide the highest level of care following the highest standards of practice. This culture made it very easy to collaborate with the leadership team and implement the change in practice with no barriers to overcome. The nurse consultant had previously recommended front-loading visits, one of the interventions that was implemented in the project study, but this practice was never implemented. The
leadership team was in full agreement that it was time for a practice change to happen to improve the rehospitalization rates. The owner/administrator pointed out that high rehospitalization rates negatively affects the agency financially and its character in the community. Poor overall ratings affects monetary gains of the organization. All Medicare-certified home health agencies are reimbursed per client based on quality performance. The HHVBP initiative is a payment system directly tied to quality performance. Home health agency’s payments are adjusted upward or downward three to eight percent based on quality of care delivered. One of the measures that affect this score are the agency’s acute care hospitalization rate during the first 60 days of care (Centers for Medicare and Medicaid Services [CMS], 2016). Prospective clients, family, and referring healthcare providers can also look up the agency’s rehospitalization rates on the Home Health Compare public website and decide to stay clear away from an agency with higher that average rehospitalization rates. The leadership team was very motivated to hear about the most up-to-date evidence-base research and to provide an educational comprehensive training to the staff. This project showed to improve patient communication and collaboration, enhanced the homecare nurses’ knowledge of the agency’s high readmission rates and hospital readmission prevention evidence-based strategies, which decreased rehospitalization rates and improved patient outcomes. The agency’s financial and community reputation should also improve in the future with less reimbursement penalties by CMS for delivering poor quality of care and the community noticing better scores on the Home Health Compare website. Better quality of care scores for the agency might also increase referral business. These factors were
unable to monitor at the time of the study due to the short project time, but can be evaluated by the leadership team in the immediate future.

Interventions

The project’s design was a quality improvement practice change aimed at improving patient outcomes by reducing high-risk patient’s hospital readmission rates in home healthcare. The agency’s rehospitalizations rate at the end of the project time will be compared with the 50% rehospitalization rate that was analyzed prior to the project time from the needs assessment. This was figured out by dividing the number of patients readmitted into the hospital within 60 days by the total number of patients discharged from the hospital and admitted into the agency. The interventions included a comprehensive education plan that made the nurses aware of the agency’s higher than average rehospitalizations rates and the proper use and implementation of the evidence-based hospital readmission prevention toolkit.

The inclusive criteria for the participants that were included in the study were all new admitted home health clients discharged from the hospital or skilled nursing facility within 60 days that were classified as high-risk for hospitalization according to the revised HRA tool during the project time. Nurses performed an HRA with all new clients admitted into the agency. If the patient found to have had at least five of the high-risk variables included in the HRA tool, the patient was considered high-risk for hospitalization. Some examples in the HRA tool that classifies a client for being high-risk are: being discharged from a hospital or skilled nursing facility within the past 12 months, history of falls, lives alone, more than two secondary diagnoses, requires help
with managing medications, and confusion. Exclusive criteria were all new admitted clients that were not discharged from a hospital, emergency room, or skilled nursing facility within 60 days, or clients that were discharged from the hospital, but were not classified as being high-risk for rehospitalization, and all current clients of the agency that were not hospitalized within the past 60 days.

**Comprehensive education.** The agency routinely has one-hour case conference meetings with all nursing staff every Wednesday after lunch. All nurses know it is a priority to always attend these meetings and are given reminders of the case conference meetings weekly through the EMR messaging system. The one-hour education meeting and training took place during one of these case conference meetings at the beginning of the project time. All nursing staff of the agency were in attendance as they were required to sign in by the leadership team.

At the beginning of the meeting, the owner/administrator introduced the DNP student and the purpose for the student collaborating with the agency. All nursing staff were then given a copy of the most current ACH report from the Home Health Compare website (provided by the administrator) and discussion took place comparing the agency’s hospital rates with the neighboring agencies’ rates, the state rates, and the national average rates. All nurses seemed unaware of the agency’s high hospitalization rates and were open in hearing how these rates could be improved. The training session then continued with the DNP student giving all nurses information on evidence-based practices (hospital readmission prevention toolkit) that have shown to decrease an agency’s hospital readmission rates and improve patient outcomes, and which practices were going to be implemented. Most nurses agreed that they had heard of
some of these evidence-based practices before and all the nurses agreed that they were willing to help in preventing their patients from going into the hospital if it wasn’t necessary.

**Intervention one operational logistics.** To implement one of the interventions from the hospital readmission prevention toolkit of timely charting, all nurses were given a copy of the current documentation agency policy. The policy states that all documentation must be submitted within seven days of the visit. The nurse manager then presented the results of the random audit over a one-month period that showed the 1% compliance of timely documentation that follows agency policy. The nurse manager is able to view a visit status report anytime through the EMR system and identify nurses’ documentation that is not submitted in a timely matter. To encourage and promote the success of this policy enforcement, the leadership team reminded the nursing staff of various ways to complete charting in a timely matter by fully utilizing the current EMR system. The EMR system used by the agency can be accessed from any computer, laptop, or smartphone device with internet capabilities giving nurses immediate access to vital patient information. Electronic records have shown to improve quality of patient care, documentation, and date integrity (Hebda & Czar, 2013). Prior to the study, nurses were not consistently using the EMR to document. Some nurses would visit a patient and write notes on a sheet of paper than find the time later to transfer that information into the EMR system and submit. Each nurse was given a one-on-one opportunity to receive guidance regarding their chosen device and were assisted with programming the EMR system onto that device. EMR re-training was offered to all
nurses to re-enforce the different ways nurses can submit their documentation in a timely matter according to policy.

The Hawthorne effect is a common strategy used to increase compliant behavior in many different environments. The significance of the Hawthorne effect was demonstrated in a study monitoring hand hygiene within a hospital setting. Hand hygiene compliance improved threefold when the hospital workers were aware of being audited (Srigley, Furness, Baker & Gardam, 2014). The Hawthorne effect strategy was implemented by the nurse manager by auditing charting times for each nurse on a weekly basis through the EMR reports. A plan was to provide each nurse a visual representation such as a bar graph showing timely documentation, but was decided by the leadership team not to do that after all and instead just speak with the nurse privately on a weekly basis. The leadership team was concerned about printing up information that might embarrass the nurses. The nurse manager did speak with each nurse on a weekly basis providing reminders or positive reinforcement for submitting their documentation according to agency policy throughout the project time frame. This strategy did show to improve the nurses' timely documentation as 93% of the documentation was submitted in a timely matter following agency policy at the end of the project time compared to 1% prior to the study.

**Intervention two operational logistics.** To initiate implementing the hospital readmission prevention toolkit process, the administrative leaders agreed to a revised HRA tool (Appendix C) and algorithm (Appendix D) that outlines the change in skilled nursing visits and interventions. All tools included in the hospital readmission prevention toolkit were influenced by HHQI Best Practice Intervention Package, Fundamentals of Reducing Hospitalizations (2010),
which has been integral in reducing hospitalizations for many home health agencies throughout the years. The HHQI organization list the essential best practice interventions to reducing readmissions, which using an HRA tool, front-loading visits, and phone monitoring are included (HHQI, 2010). High-risk Patient Visit Protocol outlines the change in skilled nursing visits. This protocol was influenced by the Briggs National Quality Improvement/Hospitalization Reduction Study in 2006, which has been integral in reducing hospitalizations for many home health agencies over the past ten years (O’Connor, et al., 2014). Irani et al. (2018) points out that nurses benefit from using an evidence-based clinical decision support tool, like the changed HRA tool, to guide their decisions.

All nurses were given a copy of the revised HRA tool (Appendix C) and compared the differences from the current tool that was being used, which is incorporated in the Outcome and Assessment Information Set (OASIS). The leadership team pointed out that the revised HRA tool had additional risk assessment questions to choose from and recommended interventions to follow, which included front-loading visits and phone monitoring.

All nurses were then provided evidence-based research information about front-loading visits decreasing readmissions and were given examples on how to schedule the visits for the patients. All nurses practiced front-loading visits in patient’s schedules to show understanding of the new intervention being implemented. The nurse manager also explained to the nurses that with all new admissions, she was going to automatically schedule daily SN visits for the first three days and that they could change
the patient’s schedule after that according to the patient’s condition. The agency was 100% compliant with front-loading visits with all new admissions during the project time.

**Intervention three operational logistics.** To integrate patient weekly phone monitoring, staff member’s duties were evaluated by the leadership team and one nurse was chosen to implement the weekly phone monitoring from the office. All nurses were given a copy of the Phone Monitoring Patient Encounter Documentation Form (Appendix E) and an example of one completed (Appendix F). Discussion took place on how to effectively have open communication while conducting a phone encounter with a patient and how to address any patient issues or concerns. All nurses were informed to complete a Phone Monitoring Patient Encounter Documentation form as well if they had to call their patients during a non-SN visit day during the project time. An outline of questions were discussed with different patient examples. The Phone Monitoring Patient Encounter Documentation form guides the nurses to assess the patient for any changes or concerns since last contacted, document any education or instructions provided to the patient and family, any actions taken upon the call findings, and any follow-up needed. Discussion took place with instructing the nurses to begin with introducing themselves to the patient and asking if now is a good time to talk. If not, the nurse will get a good time to call back. Discussion continued with how the nurses could ask the patient how they are doing with their new or changed disease process, medications, diet, follow-up visits with their physicians, equipment, any questions or concerns, and a review of what to do if a health or medical problem arises. The nurses were also given an example of a completed phone monitoring form (Appendix F) to teach them what to ask when conducting the weekly follow up phone
calls and how to document them. Nurses can ask patients or family to locate and bring their plan of care, medications and supplements to the phone. Medication reconciliation can be performed, a nurse visit can be scheduled, and a phone call to the physicians reporting patient changes can be conducted. If the patient’s status has deteriorated, the nurse can provide patient education, check whether patient is taking medications as directed, check labs and review medications for any complications, advise the patient to attend an upcoming scheduled appointment with their physician, recommend a patient action for example, taking an over the counter medication, schedule a SN visit, and advise the patient to go to urgent care or the emergency department (Harrison et al., 2014).

A binder was created by the nurse assigned to the weekly phone monitoring intervention. The binder included a copy of the HRA tool for each patient included in the study and all Phone Monitoring Patient Encounter Documentation forms conducted. The nurse assessed each patient’s medical records using the EMR system and reviewed the patient’s plan of care, diagnosis, medications, condition at time of admission, and hospital discharge instructions prior to calling them.

The nurses were 100% compliant with conducting weekly phone calls on all new admissions that were considered high-risk patients. The nurses documented the call, call attempts, patient’s health status, problems with medicines, appointment status, patient’s post-discharge actions, and follow-up actions taken. The nurse manager immediately saw an improvement in patient status with weekly phone calls that the agency began to make weekly phone calls to other high-risk patients that were not part of the project study.
Since 2007, HHQI National Campaign has been dedicated to improving the quality of care provided to America’s home health patients. They help by providing evidence-based tools (included in the hospital readmission prevention toolkit Appendix C, E, and F), timely data reports, and a wealth of ongoing educational opportunities. All resources are absolutely free and available to everyone. This confirms that the hospital readmission prevention toolkit is free from bias, valid and reliable. The HHQI organization offers a variety of packages covering different topics that are all evidence-based and free for all providers, regardless of setting proving the HRA tool and interventions to be valid and reliable (HHQI, 2017). Dr. Landers points out that the HRA tool promoted by HHQI, assist agencies in reducing avoidable acute care hospital readmissions, but is also a sustainable and replicable strategy that achieves high value quality health care (HHQI, 2017).

The HRA tool is free from bias and distortion. It is a check off form answering yes or no questions about the patient making it a reliable and consistent tool because it will give the same results with the same or different population of nurses and patients. The purpose of the HRA tool is to identify high-risk patients for hospitalization within an agency in order to implement targeted interventions to prevent hospitalization. Many variables are included that HHQI (2017) reports can predict hospitalizations including: prior hospitalizations, chronic diseases, wounds, prior falls, medication issues, and low literacy levels. If the nurse identifies five or more risk factors, the evidence-based interventions for reducing hospitalizations will be implemented. This validates the HRA tool in consistently identify high-risk patient for rehospitalizations. HHQI recommends
modifying the HRA tool over time to best fit the agency’s population and needs, and to see if rehospitalizations rates adjust.

Prior to the project study, the agency used a shorter version of an HRA tool embedded in their comprehensive assessments with their start of care, resumption of care after hospitalizations, and recertifications after 60-day episodes. This shorter version of the HRA tool did not include the evidence-based interventions listed to choose from, which triggers nurses to implement referrals and best practices to reduce rehospitalizations. The nurses were able to select front-loading visits and weekly phone calls to be implemented for high-risk patients, which are included in the practice change.

**DNP Student Role and Leadership Team**

The DNP student provided the leadership team information on evidence-based practices that have proven to help their concerns with their higher than average rehospitalization rates. Together the DNP student along with the home health agency’s leadership team provided enhance educational opportunities to the nurses and re-enforce current application policy and practices. After the education was completed, the practice change was implemented for 60 days.

The DNP student made weekly visits to the agency during the project time and consulted with the nurse manager and owner/administrator. The DNP student assisted with any concerns or questions by the leadership team concerning the compliance with the study. The DNP student along with the nurse manager reviewed the nurses’ documentation status reports, all new patient’s SN frequency to verify front-loading compliance, and the weekly phone monitoring binder on a weekly basis. The owner/
administrator reported that all interventions were being implemented. The nurse manager automatically front-loaded SN visits on all new patient admissions and consulted with the nurses on a weekly basis concerning their timely documentation. The compliant nurse made weekly phone calls to patients on non-visit days and coordinated with the nurse manager if a patient’s schedule needed to be changed or a SN visit needed to be done immediately. The leadership team was very organized and was compliant with new practice changes and policies. With this quality improvement plan, all the nurses in the home health agency improved communication and collaboration and decreased rehospitalization rates.

**Study of the Interventions**

To measure the 40% decrease in rehospitalization rates by utilizing the hospital readmission prevention toolkit, the DNP student reviewed all patients’ EMR that were included in the study. It was verified by reviewing the EMR that all patients included in the study had the revised HRA tool performed and all had front-loaded visits within the first two weeks of admission. The binder was then reviewed to verify that all these patients also had weekly phone calls performed as well. After all the patient’s EMR were reviewed, a list was made with each patient’s condition, communication notes that showed any change in patient’s condition, hospitalization dates, and reason for hospitalizations. The readmission prevention toolkit showed to help patients that were discharged from the hospital with new medical diagnoses, procedures, and new or changed medications. Due to front-loading the SN visits, nurses were able to manage the patient’s conditions, verify that new medications were being taken, instructed the patient and family on new disease processes, medications, and procedures, reported
any abnormalities to the patient’s physician, and assured patients made their follow up visits with their physician. Weekly phone monitoring showed to help patients manage minor complications before they caused more serious problems, for example, three patients reported problems with constipation. This was then reported to the physician that ordered new medications and an enema to be performed. The timely documentation by the nurses showed to increase communication and collaboration among the health care team, which improved patient outcomes. All-important patient information and changes were readily available in the EMR for other health care providers to review, coordinate care and follow up. The hospital readmission prevention toolkit showed to decrease the agency’s rehospitalization rate by the nurses being more available for the patients, which showed to manage their conditions and avoid serious complications that would require hospitalizations. The patients that were admitted into the hospital during the project time showed to have multiple conditions with serious exacerbations that the home health nurse could not avoid. Two patients were not compliant with their medications due to not being able to afford to purchase them and another patient continued to have serious CHF exacerbations. The total number of patients that were hospitalized during the project time was divided by the total number of patients admitted in the agency. The result was 30% compare to the 50% rehospitalizations rate before the project time. This shows a 40% decrease in rehospitalizations rates for the agency aligning them more with the state and national rates.

Measures
The project’s design was a quality improvement practice change aimed at reducing high-risk patient’s hospital readmission rates in home healthcare. The outcome measures were the agency’s rehospitalizations rate at the end of the project time compared with the 50% rehospitalization rate that was analyzed prior to the project time from the EMR review. This was figured out by dividing the number of patients readmitted into the hospital within 60 days by the total number of patients discharged from the hospital and admitted into the agency. The practice changes included implementing interventions that were tracked weekly for compliance by the nurse manager and DNP student by reviewing the EMR system and weekly phone monitoring binder. The interventions included: timely documentation, front-loading visits, and weekly phone monitoring.

Timely documentation was tracked on a weekly basis by the nurse manager by reviewing the visit by status report from the EMR system. A plan was to provide each nurse a visual representation such as a bar graph showing timely documentation, but was decided by the leadership team not to do that after all and instead just speak with the nurse privately on a weekly basis. The leadership team was concerned about printing up information that might embarrass the nurses. The nurse manager spoke with each nurse on a weekly basis providing reminders or positive reinforcement for submitting their documentation according to agency policy throughout the project time frame. This strategy did show to improve the nurses’ timely documentation as 93% of the documentation was submitted in a timely matter following agency policy at the end of the project time compared to 1% prior to the study. The number of visit notes not completed according to policy was divided by the total number of visit notes. This
percentage was then compared before and after the project time to show the average of
timely documentation compliance.

EMR audits before the project time showed that none of the high-risk patients
had front-loaded visits and weekly phone monitoring implemented. Patient’s schedules
and visits were audited on all new patient admissions that were included in the project
study on a weekly basis to demonstrate compliance with new practice change
implementation. At the end of the project study, the number of patients who did not
have front-loaded visits were divided by the number of patients that did to determine the
percentage of compliance, which was 100%.

The agency created a binder that included all phone monitoring forms for patients
that were called weekly. The binder was reviewed on a weekly basis to confirm that all
patients included in the project study were being called on a weekly basis. At the end of
the project study, the number of patients who were not called on a weekly basis were
divided by the number of patients that were to determine the percentage of compliance,
which was 100%.

The main outcome measures were the agency’s rehospitalizations rate at the
end of the project time compared with the rehospitalization rate before the project time
for all new patient admissions that were high-risk for rehospitalizations. Both times the
number of patient’s that were hospitalized within 60 days of hospital discharged were
divided by the total number of patients that were not hospitalized to determine the
average of patients hospitalized. Before the project time, the agency had a 50%
rehospitalization rate compared to the 30% after the project time. This shows a
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decrease in rehospitalization rates after the hospital readmission prevention toolkit was implemented.

The EMR reports were the tools that were used to review compliance with the interventions that were implemented. The nurse manager would create a visit by status report to review timely documentation by the nurses. The nurse manager would also create reports on new patient admissions and transfers that would show the new patients being admitted into the agency and any patients that were transferred to the hospital during the project time. All reports created by the EMR system are proven valid and reliable as they repeatedly create the exact same results. The agency has a contract and pays a monthly fee in order to use the EMR system, therefore they have permission to use the EMR reports by the licensing company providing them the EMR system.

Analysis

Analysis of decreased rehospitalizations rates after hospital readmission prevention toolkit implementation was completed through quantitative measurements. Ratio data regarding the number of hospitalizations was collected retrospectively from the EMR audits and reports pre and post interventions. Number of patients hospitalized within 60 days of hospital discharge (numerator) was divided by the total number of patients admitted into the agency that were not hospitalized (denominator) to determine the average number of patients' rehospitalization rate. This was done for 60 days pre interventions and post interventions. The rehospitalization rate pre interventions was
then compared to the rehospitalization rate post interventions to determine if there was a decrease in rate.

**Ethical Considerations**

The Institutional Review Board (IRB) of Capella University determined that this project did not meet the federal regulation’s definition of Human Subjects Research therefore, IRB oversight was not needed. The project site accepted Capella’s IRB determination and approved the project. All Health Insurance Portability and Accountability Act (HIPPA) protected data was handled in a matter that was compliant with HIPPA. All personal patient information remained confidential. Ethical issues and practices were considered throughout the project time.

**Results**

According to the Data Access Report, the agency hospitalization rates average for the year 2017 was 52.60% and in 2018 it was 42.40% (HHQI, 2017; HHQI, 2018). The agency shows a history of having higher than average hospitalization rates compared to the state average of 30.50% and the national average of 24% for the year 2018 (HHQI, 2018). A random 60-day EMR audit revealed the agency had a 50% rehospitalization rate pre interventions. After the interventions were implemented for 60 days, the agency’s rehospitalization rate decreased to 30%, which showed an improvement compared to pre interventions. This shows a 40% decrease in rehospitalizations rates for the agency aligning better with the state and national rates (Figure 1). Over the 60-day project time, nurses were educated on evidence based best practices to reduce hospitalizations and a hospital readmission prevention toolkit
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was implemented. The toolkit included timely nurses’ documentation, front-loading SN visits, and weekly phone monitoring to patients that are considered high-risk for rehospitalizations.

Figure 1

Hospitalization Rates Comparison

During the 60-day project time, the agency admitted a total of 19 patients, but only 10 patients qualified for the study being discharged from a hospital within 60 days and considered high-risk for rehospitalizations according to the HRA. All 10 patients had the hospital readmission prevention toolkit implemented. Three patients (30%) from the 10 patients were readmitted into the hospital within 60 days post hospitalizations. This showed an improvement compared to the random 60-day EMR audit pre interventions that revealed the agency had five (50%) patients were rehospitalized from the total 10 patients admitted. This shows a 40% decrease in rehospitalizations rates for the agency aligning more with the state and national rates.
The hospital readmission prevention toolkit showed to decrease the agency’s higher than average hospitalization rates during the project study. It is recommended that further research regarding the effectiveness of the interventions be implemented in multiple home health agencies of different sizes, different patient populations, and for a longer period of time.

The observed associations between the outcomes and the interventions were evaluated. The readmission prevention toolkit showed to help patients that were discharged from the hospital with new medical diagnoses and procedures and new or changed medications. Due to front-loading the SN visits, nurses were more available at the beginning right after hospital discharge, and were better able to manage the patient’s conditions, verify that new medications were being taken, instructed the patient and family on new disease processes, medications, and procedures, reported any abnormalities to the patient’s physician, and assured patients made their follow up visits with their physician. Weekly phone monitoring showed to help patients manage minor complications before they caused more serious problems. For example, three patients reported problems with constipation, this was then reported to the physician that ordered new medications and an enema to be performed. The timely documentation by the nurses showed to increase communication and collaboration among the health care team, which improved patient outcomes. All-important patient information and changes were readily available in the EMR for other health care providers to review, coordinate care and follow up. The hospital readmission prevention toolkit showed to decrease the agency’s rehospitalization rate by the nurses being more available for the patients, which showed to manage their conditions and avoid serious complications that would
require hospitalizations. The patients that were admitted into the hospital during the project time showed to have multiple conditions with serious exacerbations that the home health nurses were unable to help with. The unintended consequences were two patients were not compliant with their medications due to not being able to afford to purchase them and another patient continued to have serious CHF exacerbations which lead to their hospitalization. There was no additional cost or failures associated with the interventions implemented. The leadership team and all nurses implemented the hospital readmission prevention toolkit interventions almost 100%. The only intervention that was implemented 93% was the timely documentation, which was a great improvement pre interventions when only 1% of the documentation was submitted according to agency policy (Figure 2).

Figure 2

*Interventions Compliance Rates Pre and Post Study Project*
The practice change will be sustained with the tools and resources provided to the leadership team provided by the DNP student. The agency will continue to utilize the hospital readmission prevention toolkit successfully, provide educational training sessions, and evaluate the toolkit periodically for adjustments based on the current population after the DNP project is over. It is recommended that the agency continue to implement the hospital readmission prevention toolkit and add additional evidence-based practice tools provided by the HHQI organization website, which is dedicated to improving the quality of care provided to America’s home health patients. The HHQI website provides evidence-based tools, timely data reports and ongoing educational opportunities. The website has specific tools to help improve quality of care for example, a specific tool for CHF patients. All resources are absolutely free and available to everyone making them free from bias, valid and reliable.

Discussion

Summary

During the 60-day intervention period, the agency’s hospitalization rates decreased to 30% as compared to the 50% hospitalizations rates 60 days before the interventions were implemented. The agency’s hospitalization rate after the intervention period is more aligned with the 30.50% state rate and 24% national rate. This shows a significant improvement in the agency’s hospitalization rates after implementing the hospital readmission prevention toolkit.

Nurses stated that after the patients were discharged from the hospital, the nurses were better able to manage their new diseases, procedures, and medications
with the interventions that were implemented. The nurses felt that patient’s quality of care improved because the nurses were more available to the patients by front-loading their visits and by timely documenting the patient’s status so other health care professionals could follow up with the patient’s care. This confirms the strengths of the project being that the nurses properly implemented the hospital readmission prevention toolkit accurately, therefore, there was a significant improvement in the agency’s hospitalization rates.

**Interpretation**

The project proved to have a substantial effect on the improvement in the agency’s hospitalization rates. Identifying high-risk patients and implementing evidence-based interventions helped improve patients’ outcomes and avoid hospitalizations. After the patients were discharged from the hospital, they often times had new diseases, procedures, diets, and medications to manage. By front-loading the SN visits, nurses were more available right after hospital discharge to manage and teach the patient and family about the new patient conditions, reconcile any medication discrepancies, and assist the patient with their follow up appointments with their physicians. This study findings are consistent with other evidence-based research that pointed out that if front-loading visits is not implemented, there will be missed opportunities to intervene with the higher risk patient population and possibly preventing admissions to the hospital (Topaz et al., 2018). Patients who reported problems understanding hospital discharge instructions and medication regimen had higher readmission rates (Olsen et al., 2016). Auerback et al. (2016) pointed out that patients not knowing who to contact after hospital discharge was one of the factors associated
A midsize home health agency reported that their rehospitalization rates decreased by 87% when they implemented a new practice protocol that included front-loading visits (Panozzo et al., 2017).

Weekly phone monitoring showed to help patients manage minor complications before they caused more serious problems for example, three patients reported problems with constipation. This was then reported to the physicians that ordered new medications and an enema to be performed. These study findings were consistent with the findings in the evidence-based research. Weekly phone monitoring can improve health outcome, access to care, and make health care delivery systems more efficient and cost-effective by preventing avoidable emergency room visits and hospitalizations (Sabharwal, 2016; Telehealth Guide, 2014). A weekly phone monitoring system for all newly admitted patients can lower hospitalizations rates (Feltner et al., 2014; Harrison et al., 2010; Harrison et al., 2014; HHQI, 2010). Weekly phone monitoring can identify a change in patient’s condition, failed or lack of equipment, answers patient’s questions about their post hospital discharge instructions, and any new medications (Auerbach et al., 2016; Black et al., 2014; and Soong et al., 2014).

Timely documentation by the nurses showed to increase communication and collaboration among the health care team, which improved patient outcomes. All-important patient information and changes were readily available in the EMR for other health care providers to review, coordinate care, and follow up. These study findings were consistent with the findings in the evidence-based research. Delayed entry of patient information can cause delays or errors in medical treatment, and details of the visit can be forgotten by the nurse (Kohle-Ersher et al., 2012). This leads to poor
communication and collaboration among all healthcare providers due to the immediate assessment and pertinent patient information not being available in the patient’s medical records for other healthcare providers to review and follow up (Panozzo et al., 2017). Collins, et al. (2013) specifically analyzed the relationship between delayed patient charting by nurses and mortality rates. This study concluded that with statistical significance, delayed patient charting by nurses increased patient mortality prevalence.

The hospital readmission prevention toolkit showed to decrease the agency’s rehospitalization rates, which was the agency’s most important goal. Home healthcare’s goals are to ensure that ill, elderly patients receive high quality, personal, and compassionate care. Hospitalizations are not safe for the frail elderly who have ongoing management of multiple chronic conditions. Hospitals put the frail elderly at a high risk of in-hospital nosocomial infections, delirium, and falls (Stuck et al., 2017). Patients that are readmitted into the hospital from homecare services have a high risk of low quality of life, and overall higher costs associated with medical care (Umegaki, et al., 2016). Therefore, it is imperative that agencies implement evidence-based practices to reduce hospitalizations.

The anticipated findings were to see the nurses implement additional interventions to help decrease rehospitalizations. Some patients that were admitted into the hospital during the project time showed to have multiple conditions with serious exacerbations that the home health nurses were not successful in avoiding. The unintended consequences were two patients were not compliant with their medications due to not being able to afford to purchase them. Additional referrals or interventions
may have assisted these patients with getting their medications and from having complications, which led them to the hospital.

The no additional cost for implementing the interventions was a great strategic trade-off for the agency. Higher than average hospital readmission rates can negatively affect the agency’s business. Having high hospital readmission rates lowers the agency’s patient care star rating. Poor overall agency ratings negatively impact the agency financially. The agency’s reimbursements by Medicare are adjusted upward or downward three to eight percent based on quality of patient care provided. Better rehospitalization rates will improve the agency’s reimbursement, performance, and reputation in the community, which can also increase referral rates.

Limitations

The quality improvement project was implemented in a midsized home health agency and may show different results for a larger agency or multioffice agency as it might be more difficult to consistently and accurately implement the interventions, and check weekly on compliance than a small agency. The project also took place in South Texas, which has a high rate of patients with comorbidities such as Diabetes, strokes, and obesity that are known to put patients at risk for health complications. This could be the reason why the agency had higher than average hospitalizations rates compared to the state and national rate. These factors allowed for greater generalizability of the findings as it represents patients with various medical conditions and nurses with varying educational and experience backgrounds. Factors that could affect validity
included some of the agency’s nurses, all patients included in the project, and the 60-day project time (season) were all different than the pre interventions time.

Conclusions

This project demonstrates that with enhanced education and consistent use of the hospital readmission prevention toolkit, hospital readmissions of clients cared for by a midsize home health agency with higher than average readmission rates were significantly reduced. The quality improvement changes in practice provided patient-centered care practices that are timely and adhere to evidence-based practice strategies applicable to this population. This project enhanced the homecare nurses’ knowledge of the high readmission rates and hospital readmission prevention evidence-based strategies in order to decrease the agency’s high hospital readmission rates. This project improved patient communication, collaboration, and patient outcomes. These factors will continue to help the agency provide good quality of care to its patients and decrease the agency’s high hospital readmission rates. Further study is needed in larger or multicity home healthcare agencies for a longer period of time, in a high comorbidity patient population, and with additional implementation of evidence-based practices that are available for this patient population. It is suggested that these interventions included in the practice change and more be implemented on all the agency’s current patients, not just the new admissions in the future to decrease any unnecessary hospitalizations and to provide the best quality of care.
References


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Appendix A

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Learners are expected to be the sole authors of their work and to acknowledge the authorship of others’ work through proper citation and reference. Use of another person’s ideas, including another learner’s, without proper reference or citation constitutes plagiarism and academic dishonesty and is prohibited conduct. (p. 1)

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NHS CAPSTONE TEMPLATE

(Print Name)  Anne He Wingard

REQUIRED Author's signature  ____________________________  Date  May 25, 2019
Appendix B

Ishikawa Fishbone Diagram

High Readmission Rates

Equipment
- Not fully utilizing the current EMR system
  - [cause]
  - [cause]

Policy/Procedures
- Documentation policy needs to be updated
  - No policy on front loading visits
  - No policy on telemonitoring

Administration
- Have not implemented best practice interventions to avoid readmissions
  - Do not hold staff accountable
  - Assigns nursing visits evenly throughout the episode
  - Delays in collaboration
  - Do not follow documentation policy

[materials]

Clients

Nurses
Appendix C

Hospitalization Risk Assessment Tool

Purpose: Screening tool to identify those at risk for hospitalization.

Patient Name: ___________________ Record # ____________

Date: ____________________

Prior pattern: Check all that apply

- [ ] 1 Hospitalizations or ER visits in the past 12 months (M1033)  [ ] History of falls (M1033)

Chronic conditions: Check all that apply (M1021/1022)

- [ ] HF (M1500 and M1590) [ ] Chronic skin ulcers (Wound care not indicated for any wounds)
- [ ] Diabetes
- [ ] COPD
- [ ] HIV/AIDS

Risk Factors: Check all that apply

- [ ] Discharged from hospital or skilled nursing facility (M1000) [ ] Help with managing medications needed (M1022)
- [ ] More than 2 secondary diagnoses (M1023) [ ] Non-compliance with medication regimen
- [ ] Low socioeconomic status or financial concerns
- [ ] Lives alone (M1050) [ ] Pressure ulcer (M1000, M1002 and M1006)
- [ ] Inadequate support network (M100) [ ] Stabilization (M100)
- [ ] ADL assistance needed (M102) [ ] Overall Poor Status/Progress (M1234)
- [ ] Home safety risks
- [ ] Depression (M1020)
- [ ] Diabetes (M1020)

Consider Therapy referral (PT, OT, ST)

Consider MSW referral

Consider Hospice referral

Consider RN referral, if not ordered

Table: # of checked boxes is Your agency may want to select a threshold score to target patients at high risk. (For example, 5 or greater risk factors may indicate that the patient is at risk for hospitalization. Note: This number is for convenience only and has not been tested or validated. The agency may modify the score based upon the needs of their patient population.)

Carry out patient-specific interventions as appropriate/ordered, if patient is at risk for hospitalization (Coordinate with M2250)

Referrals:

- [ ] SN  [ ] PT  [ ] OT  [ ]
- [ ] MSW  [ ] HHA
- [ ] Other:

- [ ] Medication Management
- [ ] Medication Reconciliation
- [ ] Assessment of patient's knowledge, ability, resources and adherence
- [ ] Education

- [ ] Phone Monitoring

- [ ] Immunizations (M1040, M1045, M1050, M1055)
- [ ] Influenza
- [ ] Pneumococcal

- [ ] Front-loading Visits
- [ ] Care Coordination (Physicians, hospitals, nursing homes...)

- [ ] Other:

Other:

- [ ] Patient/family education
- [ ] Enrollment into a disease management program (specify):

- [ ] Other:

- [ ] Physician
- [ ] Other:

- [ ] Interdisciplinary Team
- [ ] On Call Staff
- [ ] Agency Case Manager
- [ ] Other:

Clinician Signature: ___________________ Date: ____________

Revised 08/19/2015 to correlate with OASIS-C1.

The following areas provide more information on risk assessments:


Appendix D
Nurses’ Algorithm

Performance Improvement
Reducing Acute Care Hospitalizations

Identify who is at risk and implement interventions

Clinician puts at risk patient on schedule and admission note
Clinician submits all documentation according to policy

Is patient at risk?

Complete Hospitalization at Risk Tool

Follow plan of care

Contact patient via phone weekly on non visit days
Phone Monitoring Patient Encounter Documentation Form

Reason for Phone Monitoring:

Patient Name: [Name]
MR #: [ID]
Phone Monitoring Frequency:
Next Call Scheduled for:

MD: [Name]
Phone: [Number]
Onsite Visit Scheduled:
Next Onsite Visit Scheduled for:

Phone Encounter Date: __/__/____
Time: _______________________
Next Onsite Visit Scheduled for:

SOC Date: __/__/____
ROC Date: __/__/____
Spoke With:

Phone Assessment Findings: (Determine changes as applicable since last contact):

Education Instructions Provided (Include patient/caregiver response):

Actions Taken Based Upon Call Encounter Findings:

Follow-up Needed:

Staff Signature/Credentials:

[Signature]

This material was prepared by Quality Insights of Pennsylvania, the Medicare Quality Improvement Organization Support Center for Home Health, under contract with the Center for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The views presented do not necessarily reflect CMS policy. Publication number:
# Phone Monitoring Patient Encounter Form Example

This is a sample of a narrative documentation for a phone monitoring encounter. A blank template is located on [www.homehealthquality.org](http://www.homehealthquality.org). The COPD: Phone Monitoring Assessment Guide was used to direct this assessment.

## Phone Monitoring Patient Encounter Form (Narrative)

**Reason for Phone Monitoring:** High-risk for hospitalization with several exacerbations of COPD in past 6-9 months

<table>
<thead>
<tr>
<th>Patient Name:</th>
<th>Mrs. T.</th>
<th>MR #: xxxxxxxxxx</th>
<th>Phone Monitoring Frequency:</th>
<th>2 x wk</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD:</td>
<td>Dr. Jones</td>
<td>Phone: xxxxxxxxxx</td>
<td>Phone Monitoring Frequency:</td>
<td>2 x wk</td>
</tr>
<tr>
<td>Phone Encounter Date:</td>
<td>6/16/07</td>
<td>Time: 1:00 p.m.</td>
<td>Onsite Visit Schedule:</td>
<td>SN 2x wk x 2 wk; 1x wk x 2 wk; HH 2x wk x 1 wk</td>
</tr>
<tr>
<td>SOC Date:</td>
<td>6/16/07</td>
<td>ROC Date:</td>
<td>Next Onsite Visit Scheduled for:</td>
<td>6/19/07</td>
</tr>
</tbody>
</table>

### Phone Assessment Findings: (Determine changes as applicable since last contact)

Patient states she feels "about the same" as last call on 6/13/07. Patient reports a breathlessness score of 7 on a 1-10 scale of breathlessness with 10 being the worst. Feels "tired" per usual. Reports non-productive cough at night that has begun since our last phone contact, worse when first goes to bed; notes she is still able to sleep approximately six hours per night; rescue inhaler brings relief—only has needed at night since last phone contact; began using two pillows at night two nights ago. Swelling of legs/ankles reported to be "same." Denies anxiety, dizziness. Reported that control medication prescription expired and she has not taken the medication since last call. "I am going to wait until my doctor appointment in July (3 weeks) to get refill." Continues to use O2 at 2 lpm at night as ordered; reports needing O2 for approximately 10 minutes after doing dishes last evening (O2 is ordered on prn basis also).

### Education/Instructions Provided: (Include patient/caregiver response)

Reviewed current medication with emphasis on the use of her maintenance and rescue inhalers. Explained the importance of not stopping maintenance inhaler—stated she understood better why this was important. Offered to call her physician for a new prescription to be called to her pharmacy and she agreed. States she will immediately resume using it as ordered once she receives the refill. Also reviewed oxygen parameters as ordered by physician and safety aspects. Patient very cooperative during call and reports appreciating phone contacts. These calls help me "stay on track with things".

### Actions Taken Based Upon Call Encounter Findings:

Contacted primary nurse to observe patient using inhaler at next visit. Notified patient’s daughter of the need to pick up inhaler at pharmacy. Informed daughter of findings from call and the importance of patient using inhaler as ordered. She agreed to assist with monitoring patient’s use.

### Follow-up Needed:

Ensure phone encounters and onsite visits continue as scheduled, patient symptoms are not completely controlled at this time and patient still needs coaching with self-management of her illness.

**Staff Signature/Credentials:** Nancy Nurse, RN