2017

Using Health Literacy to Improve Emergency Department Discharge

Alicia Ortiz
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Alicia Ortiz

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Review Committee
Dr. Allison Terry, Committee Chairperson, Health Services Faculty
Dr. Edna Hull, Committee Member, Health Services Faculty
Dr. Eileen Fowles, University Reviewer, Health Services Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
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Abstract

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Alicia Ortiz

MSN, University of Phoenix, 2008

BSN, Interamerican University, 1990

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2017

Abstract

Patients with limited health literacy often fail to understand verbal and written discharge instructions, and they frequently return to the emergency department (ED) for care. Patients returning to the ED and 30-day readmission rate are core quality performance measures. The purpose of this project was to decrease repeat visits and readmissions to the ED by implementing components of health literacy programs within the ED on patient education and written discharge instructions. Change implementation consisted of (a) use of teach back method (b) modifying medical terminology to language that patient could understand (c) limiting use of words with more than three syllables and (d) discouraging nursing practice of copying and pasting other completed clinician notes in discharge notes. Following the tenets of the logic model and Watson's caring theory, ED nurses (*n=45*) at a veteran's healthcare facility participated in the modification of the ED discharge note design. A retrospective quantitative design was used to obtain data from 5,474 records related to each patient's language preference, educational level, and the readability index of the discharge note pre-and post-modification of the note. The comparative analysis of the descriptive statistics before and after modification of the discharge note indicated a decrease of 1.75% in the readability index of the discharge note, a 24% decrease in return visits within 30 days and a 40% decrease in readmission rate within 30 days. Healthcare costs and health disparities associated with health literacy decrease if patients comprehend discharge instructions. Understanding verbal and written discharge instructions correlates with healthy communities. Health literacy policies and technological innovation can promote health literacy and research on health literacy.

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Dedication

For those soldiers who served their country and for those that will continue to serve, this project is for you.

Acknowledgments

Recognition goes to the faculty at Walden University and Dr. Terry who inspired me to succeed and not give up. The endless support of the leaders, mentor and staff of the Tampa Veterans Health Administration Research Department, Quality Management and Nursing Education, Nursing Informatics, Emergency Department, Data Acquisition Analysis Services and Nursing service were instrumental in project implementation and outcomes. For my loved ones that passed away during my DNP journey, I will always keep you in my heart. On graduation day, will look up at the sky and see your smiles. To my parents, siblings, children and grandchildren thank you for believing in me. Education is a road to success, fulfill your dream.

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Section 1: Doctor of Nursing Project

Improving the Discharge Note of Patients from the Emergency Department

The emergency department (ED) is a dynamic environment of care. The constant flow of patients with acute and life-threatening conditions creates the need for clinician vigilance and preparedness for the unexpected. In health care, effective communication is essential. Thus, patients who receive care in the ED are given follow-up instructions upon discharge (Eingle, Heisler, Smith, Robinson, Forman and Ubel 2009). While ED nurses tend to believe that patients understand these instructions, researchers may disagree.

Zavala and Shaffer (2011) stated that patients usually remain confused about aftercare instructions given when discharged from the ED. Engel et al. (2009) conducted a study to evaluate whether patients lack comprehension of instructions given upon discharge from the ED. McCarthy, Waite, Curtis, Engel, Baker and Wolf (2012) stated that the older patient population in the United States has difficulty remembering verbal instructions given by clinicians. The patients with lower health literacy had poorer ability to recall the information. These assertions imply an association between health literacy and the ability to remember health information. Listening to something you don't understand makes it hard to remember.

The Institute of Medicine issued a report on health literacy in 2004 which indicated that over 90 million adult Americans lack the literacy skills needed to fully understand their basic healthcare (Bosworth 2010). Many patients hide the fact that they cannot read. Bosworth's summary indicated that research findings confirm that providers often have difficulty identifying patients with low health

literacy. Bosworth confirmed that low health literacy levels are common in racial ethnic minorities, older patients, immigrants, and those with lower education level (as cited in Wilson, 2003; Paasche-Orlow, M.K., Parker, R.M., Gazmararian, J.A., Nielson-Bohlman, LT & Rudd, RR., 2005)

Based on these facts, the purpose of this DNP project was to decrease repeat visits and readmissions to the ED by implementing components of health literacy programs within the ED on patient education and written discharge instructions. Health literacy elements used were the teach back method, change of medical terminology to basic language and limited use of words with more than three syllables. The effectiveness of this project will be assessed by adding up the return to ED visits and the number of readmissions within 30 days. The project consisted of the training and education of nurses in the teach-back method (see explanation in the following paragraph), a review of the current electronic ED nursing discharge template, modification of medical terms and measuring the readability index of discharge note after change of words to ensure an appropriate level of readability. The project's theoretical framework included the logic model that allowed a visual progression and evaluation of the project and the nursing theory tenets of Watson's caring theory. Badarudeen and Sabharwal (2010), numerous healthcare organizations have recommended the readability of patient education material be no higher than the sixth- to eighth-grade level. For patients to understand what they are reading about or how to take their medicine is a simple solution acceptable to everyone. Joint Commission (2010) stated that the grade level of discharge materials should be written at no higher

than the fifth-grade level. In this study, the Flesch–Kincaid Grade Level test was used to provide reliable and reproducible score of readability (Williamson & Martin, 2010).

With its simplified wording, staff use of the Teach Back Method may increase the chance of a patient understanding his or her ED discharge instructions. The Teach Back strategy is expected to benefit all veterans, but especially those with low levels of health literacy. The goal of the project is to maintain standards of patient-centered care and patient safety as comprehensive ED discharge instructions are distributed for all veterans. The following problem statement explains the requirements for developing this project.

Problem Statement

Patients sometimes use nonverbal gestures to indicate they understand ED discharge instructions. Other patients say yes when in fact, they do not understand. Some are in a hurry to leave the ED and do not wait for discharge instructions. Some patients have difficulty understanding ED discharge instructions and therefore, the results are noncompliance and adverse outcomes (Buckley, McCarthy, Forth, Tanabe, Schmidt, Adams, & Engel (2012). Nelson (2010) indicated that patients recall 10–15% of the content of discharge instructions even after they receive formal written and verbal instructions.

The veteran population is diverse and includes individuals from different cultures, of difference ages, of different ethnicity, gender, sexual orientation, religion and other characteristics. According to the United States Census (2013), an estimated 1.6 million veterans lived in the state of Florida, home of sample population. The gender consisted of

92.9 % males and 7.1% females. The veteran's age ranged from 55 to 64 years was 21.3%; age 65 to 74 years, 22%; and age 75 years and over, 26.5% (US Census, 2013). United States Census results in 2013 depicting veteran's race White, was 87.8%; Hispanic or Latino of any race 6.5%; and African American, 9.4%. Veterans with education less than a high school degree were 7.1%; high school graduate 28.3%; some college or associate degree 36.3% and Bachelor's degree or higher 28.4% (U.S. Census, 2013)

Elder veterans and African American veterans may be at a disadvantage when reviewing patient education materials due to the fact that they are associated with having lower health literacy level (Rodriguez, et al. 2013). Thus, the readability level of a discharge note may too high for a veteran. Understanding health information itself is a challenge for many veterans even more so for those with limited health literacy. The gap between patients' understanding well enough the ED discharge instructions so that they are aware of them in the future needs to be closed.

Vashi, and Rhodes (2011) studied audiotapes of discharge instructions, focusing on the explanation of the illness, expected course, self-care, medication instructions, symptoms prompting a return to the ED, the time specified for follow-up visit, follow-up care instructions, opportunities for questions, and patient confirmation of understanding. The analysis comprised descriptive statistics, $\chi 2$ tests, 2-sample *t* tests, and logistic regression models. Vashi and Rhodes (2011) concluded that verbal ED discharge instructions are incomplete and that patients discharged from the ED receive nominal opportunities to ask questions or confirm understanding.

The growing nationwide efforts to decrease readmissions established the need to carefully assess the quality of care, including an understanding of discharge instructions (Horwitz, Moriarty, Chen, Fogerty, Brewster, Kanade, and Krumholz 2013). In their study, Horwitz et al. observed the following: (a) discharge practices; (b) the presence of follow-up appointments and patient-friendly discharge instructions; (c) patient understanding of diagnosis and follow-up appointment, and (d) patient perceptions of, and satisfaction with, discharge care. The findings indicated that patients' perceptions of the quality of discharge care and self-rated understanding were high, and that written discharge instructions were comprehensive if not consistently clear. However, follow-up appointments and advanced discharge planning were deficient, and patient understanding of important aspects of post-discharge care was poor. Patients' perceptions and the written documentation did not adequately reflect patients' understanding of discharge care.

Determining a patient's language preference and health literacy levels are helpful when assessing their understanding of discharge instructions. A common ED nursing practice is to inform the patient and family of the physicians' follow-up and discharge instructions, which are documented in the electronic medical record. The nurse does not assess whether the instructions are suitable for patients with low proficiency in English. The nurse asks the patient if he/she understood the instructions, to which the patient usually responds yes. It is not common practice to ask patients to read back their discharge instructions and explain in their own words what they have been instructed to do. A change in this practice can improve the discharge process and assure the nurse that

the patient did understand the discharge instructions decreasing potential for a return visit or readmission.

In summary, the characteristics of some veterans may coincide with low health-literacy identifiers. Clinicians are responsible for decreasing any veteran's challenge or limitation to accessing care or health outcomes. Improved communication processes and using the patient's preferred language in teaching improves understanding of the discharge instructions.

Purpose Statement

The purpose of this project was to implement an ED discharge instructions template with a comprehensive readability index for all patients in order to improve patient outcomes, decrease the return rate to the ED, and reduce readmission rates.

Project Objectives

This project had four objectives. The first was to establish a needs assessment and literature review in support of improving patient understanding of the ED discharge instructions. Readability statistics of the current ED discharge instructions were evaluated using the Microsoft Word Flesh Kinkaid Readability Statistics. I carried out a chart review of total ED discharges from November 1, 2013, to November 31, 2013, and determined average readability level of the discharge notes.

The first objective yielded a complete data table review and an analysis of patient's age, gender race/ethnicity, education level, and the readability level of ED discharge note. Exposition of literature research review and findings related to health literacy levels, ED discharge instructions, and veteran population are included in section two of this paper.

According to Giuse, Koonce, Storrow, Kusnoor, and Ye (2012), patient outcomes are improved when personalized health information learning style preferences, language preference and literacy levels in discharge instructions are included.

The second objective was to break down, simplify, and modify the current ED discharge instruction template until it reached a readability level between sixth and eighth grade. The plain-language dictionary website, www.lib.umich.edu, was used to translate the medical terms of the ED discharge instructions as recommended by the organization's research compliance officer. Another method was to repeatedly submit the ED discharge instruction template in order to break down, simplify, and modify the Flesh- Kinkaid Readability Statistics until the goal was reached. The most refined ED discharge template was shown to the ED staff, nurse manager, and clinical application coordinator for revision and recommendations before presenting to the Nursing Template Committee for final approval.

Nurses can improve health literacy (Mayer & Villaire 2011). Nurses have the tools, knowledge, and leadership to implement best practices in their specialty. Education and training in the use of the revised template and use of the Teach Back Method are essential to ensure that the readability index of the ED discharge instructions template is no higher than eighth-grade.

The third objective was to allow ED staff to monitor and evaluate the effectiveness of the ED discharge template and to present written suggestions for further improvement. The evaluation tool they received was a Likert scale with a section for staff to write their input.

The fourth objective was to implement the revised ED discharge template with its improved readability index levels.

Project Question

P: Patient or Population: Veterans

I: Anticipated Intervention: ED discharge template

C: Comparison Group or Current Standard: Health literacy

O: Outcome Desired: Reduce return ED visits and readmissions

Question: Will veteran's return ED visits and readmission rates decrease with a revised discharge instruction template with health literacy concepts?

The next section will depict the importance of the project to nursing practice.

Significance/ Relevance to Practice

Relevance of improving the ED discharge note to nursing practice is establishing an evidence-based practice in compliance with patient's service of care expectations and healthcare standards. The implication for social change of reducing return ED visits and readmissions includes the benefits of optimum care and instruction for the diverse veteran population group served. Making a small change can impact the lives of many veterans and their families. The veteran's and family health education policy established that health care information provided to veterans and families must address health literacy needs (James A. Haley Veterans Hospital, 2009)

According to Washington, Sun, & Canning (2010) the administrative databases representative of the United States veteran population pertaining to the Veterans Health Administration (VHA), Veterans Benefits Administration (VBA), and Department of

Defense (DOD) were merged in 2008. The combined databases generated 925,946 unique records, representing 51% of the 1,802,000 U.S. women veteran population of which sample data was obtained for the National Survey of Women Veterans. The databases enhance the value and opportunity for research pertaining to the diverse veteran population.

Powers, Trinh, and Bosworth (2010) concluded that more than a few single-item questions, including the use of a surrogate reader and confidence with medical forms, were reasonable to quickly identify patients with limited literacy. Patient may not know the language, how to read, or understand on the certain words on the form. Patients with low health literacy levels have a hard time understanding the basic information of discharge instructions, consent forms, and medication labels. Failure to address the patient's understanding of ED discharge instructions may culminate in adverse events such as taking a wrong medication dose, a deteriorating medical condition leading to readmissions, and the loss of revenue for missed follow-up appointments, including missed outpatient ancillary testing, or consultations.

Markley, Sabharwal, Andow, Wang, Dusek, and Fennell (2013) along with the Centers for Medicare and Medicaid Services (CMS) determined that the estimated cost of readmissions of older adults to a hospital within 30 days of discharge is approximately $2.6 billion every year. Improved communication and coordination during care progressions could reduce readmission rates. The Readmission Reduction Program will be expanded to add other illnesses and penalties to the current standards of heart attack, pneumonia, and congestive heart failure.

Instructions for care and health education should be at the patient's level of understanding. Motivation is a component of learning. If the patient is not motivated to learn, the teaching will be ineffective. Nurses need to learn about the patient's experience and associate teaching with these events.

Patients with low literacy levels complain that they are not properly cared for when given health facts they do not understand, leaving them frustrated, uninformed and distrustful of the providers (Roter, 2011). The patients report feelings of humiliation and embarrassment due to the inability to communicate and participate in healthcare conversations. Patients feel clinicians should help them become active participants in their health care and health care decisions.

This study has one research question: Will the revised ED discharge template improve organizational performance measures, such as decreasing readmission rates and reducing frequent return ED visits. A secondary question in support of the research questions is that the ED discharge template with adequate health literacy index levels will benefit the diverse veteran patient population. Yet another question is will the ED staff continue to use the Teach Back Method to sustain program implementation? The final project supporting question relates to the data system and data collection. Will the data system be able to capture and provide sufficient data for analysis and support of the health literate ED discharge template?

Evidence-Based Practice of the Project

The Veterans Health Administration (VHA) community consists of individuals with diverse ethnicities and demographics who seek health care in repayment for quality

service to their country. This project has the potential to improve nursing care practices at time of patient discharge with improvement of the information system and technology to transform healthcare. The VHA is the largest integrated health care system in the world, with over 8.3 million enrollees receiving care within a network of 1,400 hospitals, clinics, and nursing homes across the country (Mattocks, Kauth, Sandfort, Matza, Sullivan, & Shipherd 2014). The potential social implication of this project is the prevention of readmission and return ED visits, reduced healthcare costs for the VHA and healthier veteran communities. An asset of the VHA health-care system is the active integration of substantiated findings from research into evidence-based practice and policy to improve veterans experience and healthcare outcomes.

A healthcare facility caring for veterans in the southern United States is a tertiary care facility and a teaching hospital, providing a full range of patient care services, with state-of-the-art technology as well as education and research. In 2013, the service area population was 221,303, outpatient visits 1,164,416 and admissions 12,452 (Veterans Health Administration, 2013). The strategic insight is for continuous monitoring of the broad range of operational, quality, safety, financial, and organizational health indicators that are necessary for a successful health care delivery system.

In the healthcare facility selected for this project patients refer to nurses to gain knowledge and insight into their medical problems and concerns. In this hospital setting the nurses provide the final discharge instructions written by the providers. Nursing knowledge must be reflective of up to date standards of care and evidence-based practices to ensure positive patient outcomes (VHA 2013). Nursing knowledge empowers

nurses to improve clinical perspectives, critical thinking skills and decision-making actions to strengthen nursing practice.

Theory, research, and evidenced-based practice are interrelated and are essential elements that guide nursing practice and promotes nursing knowledge (Roberts 2013). McCurry, Revell, & Roy (2010) stated that the integration of theory in nursing practice promotes health and prevents illness across the world. Principles of data analysis, literature review, peer education and application of theory help DNP scholars function as leaders in their clinical practice areas fostering quality patient care. Kenny, Richard, Ceniceros, and Blaize (2010) stated that military healthcare facilities provide a unique setting for the cultural development of evidence-based practice. Combat injuries unite soldiers in different demographic areas creating distinctive issues and concerns. Kenny et al. (2010) sought to enhance the quality of care through the use and implementation of research findings in this nursing environment. In the Kenny, et al. study collaborative military staff effort recognized their limitations yet developed three evidence-based clinical practice guidelines that were in various stages of implementation during the time of this study.

ED goals and measures are aimed at patient care outcomes. Some ED quality metrics are the length of stay, leaving against medical advice, diversion, failure to complete visit and patient satisfaction. The goals are aligned with the vision and mission statements the facility. Health care providers need to understand the patient's values, beliefs and goals of care to provide the best treatment options (Detering, Hancock, Reade & Silvester 2010). The integration of nursing research and theory improves patient care and health

outcomes and enhances the provider's communication skills and confidence to interact with the patients and families in everyday practice. Listening, family presence, and active patient participation in decision-making improves care planning (Detering et al. 2010). The DNP graduate who may have an advantage of expertise in practice will continue to lead the movement of transforming patient care (Zaccagnini & White 2011).

The basic domains of critical health literacy are information appraisal, understanding the social determinants of health, and collective action (Chinn 2011). Each is clearly delineated, with links to related concepts. The appreciation of work undertaken in a range of different disciplines, such as media studies, medical sociology, and evidence-based medicine can increase understanding of the critical health literacy concept and help us understand its usefulness as a social asset which helps individuals towards a favorable engagement with health information. Some aspects of health literacy have been found to be a resource for better health outcomes however, research is needed in this area, to develop quantitative and qualitative approaches to evaluating health literacy skills, and to offer convincing evidence that investment in programs designed to enhance health literacy is meaningful. In other words, the applicability of the project to nursing practice is important. Increased nursing knowledge, research and change promotes quality of care. The application of this project and findings can create better lifestyles for the veterans and population in general.

Implications for Social Change

When doing research in healthcare services we should think of the implications for social change. Sorensen, Van den Broucke, Fullam, Doyle, Pelikan, Slonska and Brand

(2012) completed a systematic review and integration of health literacy and public health to capture the most comprehensive evidence-based dimensions of health literacy. The health literacy integrated model contained twelve dimensions that referred to knowledge, motivation and competencies of accessing, understanding, appraising and applying health-related information within the healthcare, and disease prevention and health promotion. The dimensions of healthcare, disease prevention, and convey the positive social changes of health literacy. This project has the potential to prevent patients from returning to the ED for readmission because they did not receive written discharge instructions that were easy to read or understand, or received verbal instructions that were not clear.

Health literacy supports the practice of healthcare, disease prevention and health promotion by serving as a framework that can complement public health models in the development of health-enhancing interventions (Sorensen et al.2012). Building on Sorensen et al.'s (2012) study health literacy influences health behavior and the use of health services therefore, affects societies healthcare costs and outcomes. At a population level, health literate individuals can participate in public and private dialogues about health, medicine, scientific knowledge and cultural beliefs. Health literacy impacts the full range of life's activities including home, work, society and culture and may lead to more equity and sustainability of changes in public health (Sorensen et al. 2012).

Health literacy is a social determinant of health (Sentell, Wei Zhang, Davis, Kromer-Baker & Braun 2014). Providers and health systems that recognize the association between health literacy and health outcomes can be strong advocates for health reform

and public policy action. General educational improvements, community health fairs, funding for adult literacy services, and simplified wording in public aid forms are relevant efforts to improve health literacy. The authors indicated that both individual and community literacy are important and distinct correlates of general individual health. Sentel et al. (2014) recommended that primary care providers assess and address health literacy on both the individual and community level for further research.

Given the prevalence of inadequate health literacy, primary clinicians in many countries will meet individuals with literacy difficulties every day (Easton, Entwistle, & Williams 2013). Easton et al. showed that the stigma associated with a person's low literacy as well as the adverse outcomes related to low literacy could impair a person's engagement with the healthcare team and limit potential benefits of health services. The authors concluded that when health services and health professionals adopt practices that assume significant literacy skills, their effectiveness for a large but often hidden population of people with low literacy is limited.

Undeniably, there is an established association between health literacy and health outcomes across the world. Health literacy affects patient ability to function at home, work, and in the community. Low health literacy impedes patient from acquiring skills to make optimal care decisions for healthier lifestyle.

Definition of Terms

Health literacy is the degree to which individuals can obtain, process, and understand the basic health information and services they need to make an appropriate health decision (The Institute of Medicine 2013). Health literacy goes beyond the individual; it

is dependent upon the skills, preferences, and expectations of health information providers such as physicians, nurses, administrators, home health workers, the media, and many others. Health literacy arises from a convergence of education, health services, and social and cultural factors, and brings together research and practice from diverse fields (IOM, 2013).

Taggart, Williams, Dennis, Newall, Shortus, Zwar, and Harris (2012) cited Nutbeam (2000) definitions for three levels of health literacy:

1. Functional health literacy includes the basic reading and writing skills needed to be able to function in daily life.
2. Communicative or interactive includes advance cognitive and literacy skills which in addition to the person's social skills, enables someone to participate in a variety of activities and relate facts and figures to changing situations.
3. Critical health literacy encompasses even more advanced cognitive and social skills that a person can use to exert more control over their lives. The healthcare provider must focus on these three levels to determine which theory to apply in improving health literacy levels.

There are several approaches to conducting a needs assessment for health literacy among veterans (Taggart et al. 2012). One is a Rapid Estimate of Health Literacy in Medicine (REALM) or Medical Term Recognition (METER) test. The REALM takes two minutes to complete however, it is not self- administered. (Bosworth 2010). The REALM test requires that patients read a list of words aloud in front of the practitioner, who then scores the test. The Medical Term Recognition Test (METER) is a new test that

is short, self- administered in which the patients are required to read a list of words and identify which ones are real words. The Newest Vital Sign (NVS) takes 3 minutes to administer and assesses math, reading and comprehension skills, as well as abstract reasoning.

Assumptions and Limitations

An assumption of this project is that patients that returned to ED did not understand ED discharge instructions. Another assumption is that patients that did not return to the ED understood discharge instruction. McLaughlin (2009) stated that health care organizations need to develop communication programs that allow for effective communication with use of different methods to relay information for patient comprehension. The information must reach the patient to keep the communication flowing patient and provider. Effective communication impacts revenues, staff load, patient throughput, equipment utilization, patient safety, risk management and patient satisfaction. Kountz (2009) indicated that effective strategies to improve patient comprehension include the following: (a) conveying a few key points at each patient visit; (b) jargon-free communication; (c) use of pictures to clarify concepts; and (d) confirmation of patient comprehension via the "show-me" or "teach-back" method. Despite these advances, collaboration between multiple stakeholders in the health care system is necessary to overcome barriers to health literacy and enhance the quality of care.

The challenges of the project included getting buy-in from the ED staff to participate in the project and the turnover. They are instrumental in using the Teach-Back Method to

ensure that patients understand the discharge instructions given. The nursing staff was resistant to learning about the health literacy project and changes to the current ED discharge template. A modification and upgrade to the Emergency Department Information System (EDIS) created a temporary unsafe environment of care for patients making staff even more reluctant to change. The triage nurses were manually entering patient information in EDIS and could not generate an ED visit to capture accurate stop code information or data encounters. The health administrative support (HAS) could create the ED visit that would automatically transfer and display the patient information in the EDIS and capture accurate stop code information and data encounters. The HAS service did not have enough staff to support the extra workload. The delay of creating the ED visits delayed patient care. The triage nurses were not happy with this change and voiced concern with safety and quality of patient care. The use of instant messaging was a solution that allowed triage nurse to communicate with HAS and prevents delay in check-in process and patient care.

Key strategies and methods to obtain staff buy-in include one-to-one communication, health promotion with groups, and use of printed and electronic media (Hou 2014). The patient- centered model from the strengths can be used as the focus for staff buy-in. The expectation and goal of VHA health care professionals are to ensure that veterans receive quality care and discharge instructions in the language they prefer and at a comprehensive reading level.

The ED area itself can be a study limitation. The ED setting is busy, loud, frequently overcrowded and at times unable to accept arrival of new patients. The rooms are full

with admitted patients that require higher levels of care. The patients are in the mix of staff, visitors and other patients limiting space for a quiet and extensive discharge process. A reasonable measure to address the ED environment limitation was to work on project early in the morning when census is low. Exclusion of participants may cause bias. In this project, there was no exclusion. The record review pertained to all patients discharge from the ED during November 2013 and July 2015. The sample needs to include all discharged ED patients, although research indicates the ability to read, comprehend, and complete basic mathematical tasks is low among poor individuals, elders, ethnic minorities and immigrant populations (Mueller, Reid, & Muellar, 2010). The sample size and potential for veteran female misrepresentation constitutes another limitation to the study.

Summary

Health literacy has become a national priority in the United States even though little is known about the rate, outcomes, and costs associated with health literacy (McCormack, Haun, Sorensen, & Valerio, 2013). Health literacy problems affect people from all backgrounds even people with strong literacy skills (HealthPOWER Prevention News, SUMMER 2009). Veteran and family health education is a collaborative process in which patients may ask questions and share decision making (James A. Haley Veterans Health Administration, 2009). The veteran family health care information is available in a format appropriate to a veteran's learning needs and abilities which include health literacy needs.

My grandfather was a veteran with a 6th grade education level. My grandmother did not know how to read or write. Two significant people in my life with limited health literacy that struggled with medications and healthcare decisions. Changing the discharge template, training staff in the teach back method, coping with project limitations, literature review, and other components of this project will all come together at the end to help patients understand discharge instructions.

The research into practice is an important strategy to share knowledge and create partnerships between healthcare organizations to achieve the goal of providing quality health care services (Moore, Fischer, and Havranek, 2016). In Section 2, I review the existing literature on health literacy instructions. In section 3, I discuss the project design, methodology, protection of human subjects, instrumentation, training plan and data analysis plan. Section 4 consists of the data analysis and section 5 contains the project dissemination plan, summary and analysis of self.

Section 2: Background and Context

Health literacy is an essential component of improving ED discharge instructions. The purpose of this project was to decrease repeat visits and readmissions to the ED by implementing components of health literacy programs within the ED on patient education and written discharge instructions. The standards and best practices of the ED needed to be revised to support implementation of this project. The literature review that follows supports the need to improve health literacy and discharge instructions, implement change and improve healthcare services.

Literature Search Strategy

To conduct searches on health literacy and discharge instructions, the following databases were used: EBSCOhost, ProQuest, Nursing Reference Center, Google Scholar, National Institutes of Health, Agency for Healthcare Research and Quality, Centers for Disease Control and Prevention, Joint Commission, and the United States Census Bureau. A useful source was Department of Veterans Affairs internet and intranet services

The following terms for conducting the searches: *health literacy, discharge instructions, emergency department, health literacy and instruction adherence, veterans, older population, health literacy concept analysis, health literacy literature review,* and *health literacy systematic review*.

Specific Literature

The literature review provides insight into themes associated with health literacy and discharge instructions. Patients need to comprehend discharge instructions to implement any recommended changes in diet, medication, or lifestyle. The Veterans Administration

Hospital served as the setting for this project, several studies in the literature review used a veteran population. The screening for health literacy was important to establish each patient's ability to understand discharge instructions.

Asking patients if they have the confidence to fill out medical forms may be used to detect health literacy in the VA population (Chew, Griffin, Partin, Noorbaloochi, Grill, Snyder, & VanRyn 2008). Chew et al. conducted in-person interviews among a random sample of veterans from four VA medical centers. Interviews included three health literacy-screening questions and two validated health measures to detect patients with inadequate or marginal health literacy based on the Short Test of Functional Health Literacy I Adults (S-TOFLA) and the Rapid Estimate of Adult Literacy in Medicine (REALM). Study limitations included the small fraction of women in the population sample. The comparison of participants to non-participants demonstrated that the non-participants were more likely to be older, have a lower educational achievement and have lower socioeconomic status that suggests that non-participants may have lower health literacy than participants.

Mosher, Lund, Kripalani, and Kaboli, (2012) completed an observational cohort study and examined the association of health literacy with medication knowledge, adherence, and adverse drug events among cognitively intact veterans older than 65 years old who were taking five or more medications and who were enrolled in a Veterans Administration primary care clinic. The study outcome was that veterans with lower health literacy had poorer medication knowledge but did not have lower adherence or increased adverse drug events.

Patient's age, race, gender and socioeconomic status are associated with health literacy. Several studies reveal extraordinary levels of inadequate health literacy and numeracy in African Americans and older veterans (Rodriguez, Andrade, Garcia-Retamero, Anam, Rodriguez, Lisigurski & Ruiz 2013). Another study evaluated whether older veterans understood the ED discharge information provided and recognized the effect of understanding with the quality of care (Hastings, Stechuchak, Oddone, Weinberger, Tucker, Knaack, & Schmader 2012). The authors found that most veterans felt confident in how to take new medications and who to call if their condition worsened however, a significant number of veterans did not understand other elements of their discharge instructions. Study findings included a recommendation for innovative strategies to improve the delivery of discharge instructions to older veterans and families.

Low health literacy is associated with patient health care outcomes. Return to ED visits and readmissions are often associated with complications of chronic health conditions. Green, Mor, Shields, Sevick, Palevsky, Fine, Arnold, & Weisbord (2011) examined the occurrence and association of demographics and clinical characteristics with limited health literacy in patients and veterans receiving hemodialysis. Veteran status, lower income, education completion and African American race were demographic features associated with health literacy. The authors found that patients with higher education levels also demonstrated inadequate health literacy which has important clinical and research implications in this patient population. As stated by Green et al. (2011) a better understanding of the health implications of poor literacy levels, will enable the development of interventions to improve health literacy, and promote quality

of care and outcomes of patient on hemodialysis. Further research is necessary to evaluate the association of poor literacy levels with patient knowledge, self-management behaviors, access to care, and how this affects health disparities and long- term care of patients with kidney disease (Green et al., 2011).

Several authors recommend use of innovative strategies to improve communication, patient education and comprehension of discharge instructions. Boast and Potts (2011) conveyed that after implementation of 140 automated post-op discharge instructions sets the Portland, Veterans Affairs Medical Center reduced its 14-day readmission rate to 1.5 for every 1000 outpatient procedures. First, the team created handwritten standard format drafts with instructions for the most common surgical procedures. Subsequently, the drafts were submitted to each section chief and PVAMC Forms Committee for review and approval. Next, the team imported the approved drafts into the automated informed consent application). Integration of the two systems guaranteed that the providers had quick and easy access to the precise set of personalized instructions for each patient.

Boast and Potts (2011) further reported that the initial resistance to change decreased quickly once the providers experienced the benefits of patient-centered care, documentation, risk management and patient flow. In addition, they provided a checklist for a well-designed discharge instruction process. The discharge instruction process checklist included the following:

1. Develop a library of procedure specific discharge instructions.
2. Allow for some patient-specific customization.
3. Store discharge instructions in an electronic database.

4. List the surgeon or responsible physician on the discharge instructions.
5. Capture a patient signature.
6. Place a note documenting the provision of discharge instructions in the patient's medical record.
7. Retain an electronic copy of the discharge instructions in the patient's medical record.

Consequently, specific literature for the veteran population and health literacy identifies several tests that can be used to screen and identify patients with low health literacy. Although there is, an association between the patients' age, gender, education level, socioeconomic status, and health literacy, patients with higher education level can also demonstrate inadequate health literacy. The small representation of female veterans in sample population is a limitation for research.

Patient comprehension of care promotes self-management behaviors that are conducive to positive health outcomes and quality care. The creation of a checklist and use of innovative strategies can improve communication during the discharge process and increase patient and family understanding of care. The discussion in the general literature section ascertains that the impact of health literacy transcends national interests.

General Literature

The impact of low health literacy is of worldwide concern. Tens of millions of Americans have limited health literacy (Koh, Berwick, Clancy, Baur, Brach, Harris, and Zerhusen, 2012). The Affordable Care Act of 2010, the Department of Health and Human Services' National Action Plan to Improve Health Literacy, and the Plain Writing Act of

2010, have brought health literacy to the forefront of care. “If public and private organizations make it a priority to become health literate, the nation’s health literacy can be advanced to the point at which it will play a major role in improving health care and health for all Americans.”

There are studies that identify limited understanding of education, health behaviors and health disparities with cost of healthcare. Mancuso (2009), stated that health care professionals need to evaluate which methods and strategies are available to evaluate the impact of health literacy on health outcomes. Mancuso (2009) provided a review of psychometric properties, limitations, and advantages of the current methodologies used to evaluate health literacy.

Language barriers, financial limitations, transportation and childcare issues affect adherence to discharge instructions in specific racial groups. James, Carlson, and Brice (2010) compared ED discharge instructions adherence rates and barriers faced by White, African American and Hispanic patients. Identifying the primary barriers to adherence of ED aftercare instructions for specific racial groups would help define the problem of access and generate a solution. The survey instrument used in the study measured the patient’s health and socioeconomic status, satisfaction with ED care, adherence to follow-up appointments and medication compliance. Barriers to adherence quantified with survey instrument included an understanding of instructions, transportation and financial limitations, insurance status, and lack of child care. Study results show that African American and Hispanic patients were more likely than white patients to report difficulty

in getting a follow-up appointment within 14 days even though overall adherence was statistically similar between groups.

Karliner, Auerbach, Napoles, Schillinger, Nickleach and Perez-Stable (2013) studied the association of a language barrier with patient comprehension of discharge instructions, including follow-up appointments, diagnosis, and medication reconciliation. The authors compared comprehension of discharge instructions between limited English proficient (LEP) and English proficient (EP) patients admitted to two urban hospitals from 2005 until 2008. Study findings showed that understanding of post-discharge medications and appointment type was low. The LEP patients had more difficulty understanding category and purpose of medication. Karliner et al. (2013) determined that interventions to improve communication at the time of discharge were needed for all patients, and particularly for those with LEP.

Patient education and health literacy also encompasses readability and availability of educational materials for susceptible and older adult populations. Chinn, McGuirt, and Puri, (2014) stated that readability is the primary quality factor of patient education materials. The goal of their study was to evaluate the readability of patient education materials from online resources for anesthesiology. The authors used ten different readability scales to evaluate the patient education materials. Study findings showed that the patient education materials had higher than the recommended eighth-grade readability level. Although the online resources provided structured information, the advanced readability levels limited the patient's value of information. Chinn, McGuirt, and Puri

(2014) recommended improving readability of patient education materials in anesthesiology to promote health literacy.

Neuhauser, Huang, Engelman, Tseng, Dahrouge, and Kealey, (2013) examined the literature associated with emergency preparedness communications for the susceptible older adult population, and the Deaf/Hard of Hearing individuals residing in San Francisco, California. The authors explored the availability and readability of printed emergency preparedness materials from community-based organizations serving the community and examined the availability and readability of web-based emergency preparedness resources for these populations from local and national websites that include emergency preparedness information. Neuhauser et al. (2013) recommended readability benchmarks and processes to improve emergency preparedness communication for these populations.

Research and implementation of best practices are strategies that promote health literacy. Interdisciplinary dialogue can be used to facilitate and address challenges in advancing health literacy. Bailey, McCormack, Rush and Paasche-Orlow (2012) provided a review to advance health literacy research, facilitate discussions, and innovative practices. The authors included findings from the Health Literacy Annual Research Conference (HARC III) of 2011 and the International Conference on Communication in Healthcare (ICCH). The health literacy investigators shared findings and built collaborations for the future. Bailey et. al. (2012) discoursed literature associated with health literacy, culture and language proficiency, health literacy and chronic disease, patient preferences for health information, conceptualization and measurement of health

literacy, health literacy, and health outcomes, and use of health literacy to improve design content and efficacy of written materials. The authors recommended continued interdisciplinary dialogue, to confront and address challenges in advancing health literacy.

Limpahan, Baier, Gravenstein, Liebmann, and Gardner (2013) developed a set of best practice guidelines for cross-setting communication at ED discharge. In milieu of the evolving payment models the best practices provide standards that can be shared between ED leaders and community partners. The best practices can enhance organizational transparency and examination of principles plus improve accountability and communication across the care continuum. The ED best practices for safe care transitions include the following:

1. Record the names of patient's primary care provider and or home care.
2. Send summary of clinical information to primary and or home care provider upon discharge.
3. Send summary of clinical information to receiving physicians in other facilities upon discharge or transfer.
4. Perform medication reconciliation before ED discharge.
5. Provide patient with effective education before discharge.
6. Provide patient with written discharge instructions before discharge.

Implementation of technological innovation and alternate teaching methods can help improve patient understanding of discharge instructions. Simplifying written discharge instructions and use of videos are some examples mentioned in the literature review that

help improve patient comprehension. Alberti and Nannini (2013) completed a comprehensive literature review to examine research published from 1995 to 2010, evaluating patient comprehension of discharge instructions from ED or urgent care (UC) settings. The authors examined: (a) the interventions used to provide discharge instructions; (b) the methods used to assess patient comprehension and 3) the most effective strategies for assuring patient understanding of ED discharge instructions. The authors concluded that alternative teaching methods in comparison to standard handwritten discharge instructions increase patient understanding of ED discharge instructions. Literature purports that clinicians rarely clarify patient understanding in practice, although effective methods are recognized in research. Implications for practice were that the simplification of discharge material is essential to ensure patients understand discharge instructions. Alberti and Nannini (2013) recommended further research to explore innovative teaching interventions and their effect on patient understanding and outcomes.

Bloch and Bloch (2013), stated that patients need to understand their diagnosis, treatment, and aftercare plans including the when, where, and why they need to be reassessed. Their study goal was to determine if adding video discharge instructions minimizes illiteracy, limited physician time and other factors that may inhibit caregivers understanding of their child's ED visit, care, and follow-up. The video discharge instructions contained the same information as the written discharge instructions. The study outcome showed that addition of the brief video discharge instructions improved caregiver's knowledge while in the ED and 2-5 days later after discharge in comparison

with receiving only written discharge instructions. Video discharge instruction improved caregiver satisfaction of discharge process. Lastly, alternative teaching methods, improving readability of patient education materials and simplification of discharge instructions increase patient comprehension of ED discharge instructions.

To conclude, health literacy is not specific to one population. If healthcare organizations, clinicians, policy writers, and community leaders prioritize the need to improve health literacy, health disparities and healthcare costs will decrease. Interdisciplinary dialogue, sharing of evidence-base practices and innovative methodologies to evaluate health literacy can decrease the challenges and limitations of advancing health literacy. Health literacy plays a major role in the improvement of healthcare and patient health worldwide.

Conceptual Models Theoretical Frameworks

A theoretical framework encompasses concepts that apply to the various stages of the research project. The framework selected to guide the project was the logic model for the simplicity in which the proposed program can be developed, modified, and measured to show the final outcomes. According to Ketner, Moroney and Martin (2008) the logic model portrays the flow of events, starting with input/resources, process/activities, outputs/measurements of services, outcomes/benefits and impact/measurable changes occurring as a result of services. The logic model allows a visual of the project progression and evaluation being comparable with dashboards and scorecards used in healthcare for performance and quality improvement.

The Missouri Foundation for Health (MHO) (2010) used the logic model template as a framework to develop their health literacy funding initiative. The MFH sought to improve the health of the uninsured and underserved residents of Missouri and focused on three goals; (a) improve the health literacy of Missouri residents to promote better health decisions and behaviors (b) promote health literacy education and training for health professionals, and (c) enhance communication between patients and health care providers. According to Anderson, Petticrew, Rehfuess, Armstrong, Ueffing, Baker, and Tugwell (2011), a logic model illustrates how a program accomplishes its outcomes and have been used many times to improve health outcomes.

Having a dual role of student and employee at the practicum site, increases support for the use of Jean Watson's Theory of Human Caring. Nursing service at the practicum site, endorses the Caritas factors therefore, tenets of the theory were applied during project implementation and evaluation. According to McEwen and Wills (2011), the major concepts of the science of human caring are the human being, health, nursing, actual caring occasion, transpersonal, phenomenal field, self and time. Watson's model describes the connection between nursing and caring.

Nursing assessment of patient's health literacy and needs are important to provide education and aftercare instructions. Caring nurses show respect for patients who cannot read and take extra time to seek meaningful educational resources. A caring nurse involves patient and family in the care process and gives them the opportunity to ask questions. A caring nurse reinforces verbal information with visual aids and pictographs for those patients with low health literacy. A caring nurse is aware that poor health

literacy is an indicator of increased healthcare costs and poor patient outcomes. Patients appreciate and deserve a caring nurse who provides quality care.

The Health Literate Care Model (HLC) incorporates health literacy principles with relevant tools from the Health Literacy Universal Precautions Toolkit and maximizes the potential for system change (Koh, Brach, Harris, and Parchman (2013). Some providers may object to becoming a health literate organization since the process is too time-consuming yet, implementing the HLC model with integrated health literacy approaches could ultimately serve to reduce duplication and inefficiency while improving patients' understanding of and engagement in health care.

A framework used to implement change is Kurt Lewin's Force Field Analysis which creates a balance of driving and restraining forces towards present or desired state. According to White and Dudley-Brown (2012), Lewin's theory can be used for change in healthcare settings. The idea of a good strategy that came to mind to improve health literacy is to combine Kurt Lewin's cognitive field theory and Malcolm Knowles' cognitive learning theory. As stated by McEwen and Wills (2011), Lewin believed that through the use of verbal explanations, use of pictographs, drawing diagrams, and other teaching activities, the teacher helps the learner understand the noteworthy relationships and organizes that experience into a functional pattern.

Another problem-solving method commonly used in healthcare is the Plan-Do-Study-Act (PDSA) cycle that is also known as the Shewhart cycle. According to Kelly (2011), the PDSA originated from commercial use to improve the quality of their product or process. The PDSA consists of a four-step systematic approach to improving processes

that require a quick transformation. The cycle starts with the “Plan,” for a change followed by the Do” small scale implementation of change, “Study” use data and analyze results for a small change, evaluate outcomes, Act” implement on a larger scale if successful, if not begin the cycle again.

The Teach Back Method is a comprehensive, interdisciplinary evidence-based strategy which can empower nursing staff to verify understanding, correct inaccurate information and reinforce medication teaching and home care skills with patients and families (Kornburger, Gibson, Sadowski, Maletta, and Klingbeil, 2013). Teach-back is a valuable easily understandable and effective strategy that supports staff in providing safe and high-quality care. Using the Teach-back method encourages and engages patients and families in the learning process supporting patient and family-centered care.

Josif, Barclay, Bar-Zeev, Kildea, and Brittin (2012), provided an example of the application of the Practical Participatory model in the redesign of discharge paperwork. The Practical Participatory model principles include the following: (a) participation; (b) relationships; and (c) inclusion and communication that can be applied to redesigning the current ED discharge instruction template. Staff teamwork, participation in the process of change, communication and discussion of implementation strategies are necessary to accomplish the goal of improving the discharge template to a comprehensive literacy level which patients understand.

Healthcare systems are using a patient-centered focus and prevention approach with program planning. Application of the Patient-Centered Medical Home Model (PCMH) initiatives give emphasis to programs that are patient driven, continuous, efficient,

coordinated, accessible, and team based including family members and informal caregivers (Piette, Holtz, Beard, Blaum, Greenstone, Krein, & Kerr, 2011). The PCMH is a model of efficient and comprehensive care services that may improve health care quality and overall patient, family and clinician satisfaction.

Summary

Themes in health literacy literature consist of an association of social skills, socio-economic status, limited English proficiency and ethnic disparities with limited health literacy. Another theme was the cost of healthcare for the millions of people around the world with limited health literacy. Health care providers should assess patients for health literacy level and provide care according to that level. The need to establish best practices, innovative teaching methods, and involvement of leaders in the community to improve health literacy was identified through this literature review. Another theme identified in health literacy literature was the need to design effective written materials to improve accountability and communication at discharge.

Facts on health literacy literature show that over 90 million Americans lack literacy skills to comprehend their primary health care. Poor health care outcomes and increased health care cost are effects of low health literacy on women, elderly, minority and special populations. Global unity, dialogue, innovative strategies and best practice implementation are positive approaches that can improve health literacy and health outcomes.

The project to implement a health literacy program in the ED-specific to patient education and written instructions at the time of discharge can lead to improvements in

social skills and healthcare costs for patients with limited health literacy. The health literacy literature themes of socioeconomic status and ethnic disparities can also improve with the application of health literacy projects. Concepts to improve health literacy apply to every patient population in the healthcare system. Health care professionals have the duty and responsibility to create and implement best practices that result in better patient outcomes and reduced healthcare costs. Technology can be a great resource for health care providers to improve health literacy discharge instructions.

Methodology is the lead title of Section 3 of this project. The interpretation of method design, protection of human subjects, site and sample population, data analysis, instrumentation, training plan and project evaluation plan is revealed in the following section. These topics represent the core measures used to develop the project.

Section 3: Collection and Analysis of Evidence

Methodology

The purpose of this DNP project was to decrease repeat visits and readmissions to the ED by implementing components of health literacy programs within the ED on patient education and written discharge instructions. According to Polit (2010), a quantitative research study consists of capturing concepts of interest in numerical data. In quantitative studies, statistical analysis can describe data, explore relationships, test hypothesis, predict outcomes and answer research questions (Polit, 2010). This section contains the data collection procedures, instrumentation, data analysis and validity of methods to substantiate this project.

Methodology of the Project

This retrospective, quantitative study explored the effects of a new ED discharge note template. The study used a pre- and post-comparison design in which the VA Data Acquisition Analysis Service (DAAS) created an Excel spreadsheet with demographics of patients who had visited the ED between November 2013 and July 2015 the data collection period. I review electronic medical records extensively to extract data and transfer it to a spreadsheet. The data included each patient's language preference, education level, and the readability index of discharge note. Descriptive statistics were compared to validate whether veterans' return ED visits and readmission rates decreased with a revised discharge instruction template that included modifying medical terminology to language that patient could understand limiting use of words with more

than three syllables and no other completed clinician notes in discharge note. The conceptual framework used was the logic model.

Role play of the discharge process with fictitious patient data was used to create awareness among staff of need for change. A first it was funny but eventually they got the point. ED nurses received continuous reminders to use teach-back methods and to document using plain language. The teach back observation tool was used to provide nursing staff with components of teach back competency. (See Appendix A, Teach Back Observation Tool.) They received step-by-step instructions on how to measure the readability index of their discharge notes using Microsoft's Flesch- Kinkaid readability function. The staff watched health literacy videos and received emails with evidence-based literature substantiating the benefits of the Teach Back method to improve ED discharge instructions.

To implement the project, nursing, cognitive, behavior and change theories, and conceptual models for effective communication were applied. Chocolates and cookies were used to motivate the staff to review the ED discharge template and provide input for changes. The nurses were informed of the project's progression, especially when recommended changes were not approved based on VA IT, fiscal, and informatics' regulations and standards.

After implementation of the revised ED template, the nurses received a short questionnaire, which I developed, to evaluate the effectiveness of new ED discharge template. I also tested the questionnaire for validity and correlation before giving it to the nurses.

1. The new ED discharge template is easy to access in the computerized patient record.
2. The new ED discharge template incorporates modified medical terminology, simple words, limited use of words with more than three syllables and only specific components of the discharge note.
3. The template improves the ED discharge process.
4. The readability index of the ED discharge note is no higher than the 8th grade level.
5. Patients repeat, in their own words, the ED discharge instructions given.

The justification for the chosen methods is the fact that "a single approach to evaluating a concept may be insufficient to justify a statement that it is a valid measure of a theoretical model" (Grove, Burns & Gray, 2013 pg.208). A retrospective study allowed the DNP student to identify a pattern of return visits and readmission rates of patients discharged from the ED. The benefits of implementing health literacy concepts in the ED discharge template modification were examined.

The project was carried out according to the following steps:

1. Establish needs for study with assessment of current state of discharge note and literature review. Assess nurses' knowledge on health literacy. Gain knowledge of health literacy, templating, informatics, information technology and terminology, Microsoft software program, and organizational informatics and technology standards and regulations. Establish project objectives including collection of pre-and post project implementation data pertaining to

ED visits, return ED visits, readmissions and readability index of ED discharge note.

2.) Communicate and establish a network with organizational leaders and stakeholders. Participate in nursing template committee meetings. Have individual encounters with the mentor, nursing informatics, nursing educator, clinical applications coordinator, and data analyst. Obtain consents for project implementation. Maintain and use effective communication strategies with interdisciplinary team members and end users.

3.) Plan activities with end users to captivate their attention on the project, and include teaching on template functions, terminology, information technology, regulations, and standards.

4.) Maintain a record of activities with stakeholders and measured progress towards completion of objectives. Identify limitations and barriers of study progression. Establish time management priorities.

5.) Prepare staff for a change. Obtain evidence-based literature in support of change and innovation. Provide traditional and nontraditional education and training sessions for staff pre, during and post project implementation. Be flexible to accommodate staff needs and not researcher needs. Recognize staff efforts and participation.

6.) Initiate change implementation process with discharge template. Use rapid improvement cycles for change evaluation. Present discharge template changes to nursing template committee for revision and approval.

7.) Evaluate and analyze data. Share and celebrate outcomes with staff and stakeholders. As a final point, acknowledge their support throughout the progression of the project.

Site Population and Sampling

The ED at a veteran's healthcare facility serves as the setting for this project. The sample includes hospital records of veterans who were discharged from the ED during the time of November 1, 2013, to November 30, 2013. Comparison data consist of hospital records of veterans who were discharged from the ED during the time of July 1, 2015, to July 31, 2015. Records of readmitted patients within 30 days are reviewed regardless of admission diagnosis. Sample exclusions will be determined following VA criteria, for example, patients 90 years and older.

Protection of Human Subjects

An application for Veterans Health Administration Operations Activities That May Constitute Research form was completed and sent with a copy of the project to the Veterans Health Administration Research and Development Committee. The Operations Activity Reviewer determined that the project is a quality improvement and not research. Any research activity request needs to be submitted to an Institutional Review Board for approval. According to the Veterans Health Administration Institutional Review Board (VHAIRB), a systematic investigation is an activity planned in advance that uses data collection and analysis to answer a question. Although research must include systematic investigation, non-research operation activities also include a systematic investigation to

ensure reliable outcomes. A Walden University IRB application was approved for this project (Approval No. 06-10-15-0393104)

Data Collection Procedures

The electronic medical record (EMR) contains the most recent data of patient's health conditions. According to Blumenthal and Tavenner (2010), the majority of EMRs are designed to include data entry of patient demographics, allergy and medication lists, history and current use of alcohol and smoking, list of health laboratory results, problems and active diagnoses and patient education. Other key components of the EMRs are the safety and privacy software devices that substantiate the potential of EMRs to efficiently and safely improve the quality of care. The functions of the EMRs are designed to help providers make objective clinical decisions and prevent errors (Blumenthal and Tavenner 2010).

The VA standard method of documenting patient information is the electronic medical records (EMR). Revision of the electronic medical record was the method used to obtain patient demographics and content of ED discharge instruction template. Data collection consisted of extracting patient's age, gender, race, ethnicity, education level, and language preference from patient's chart and creating an Excel spreadsheet. Sample exclusions were determined following VA criteria, for example, patients 90 years and older.

The discharge note was copied and pasted in a Microsoft word page and measured for readability index. The results were added to the spreadsheet and the note was deleted from Microsoft Word. The process was repeated for subsequent notes. The spreadsheet

information was analyzed by Data Acquisition and Analytics Service (DAAS) and DNP student.

The revised ED discharge created following VHA patient education guidelines, nursing informatics standards, policy and template design guidelines. The website www.lib.umich.edu.plain-language dictionary was used to simplify medical terminology used in the discharge template. The Microsoft Readability Statistics using the Flesch-Kincaid Grade Level was the tool used to determine the readability index of the ED discharge instruction note given to the patient.

The revised ED template provided the data for comparison of patient demographics, readability index, return to ED visit and readmission within 30 days' information collected in November 2013. Nurses had the opportunity to evaluate the revised ED discharge template by responding to a questionnaire formatted as a Likert scale to measure the functionality of revised template.

Instrumentation

A Likert scale, which is a rating scale (Heiberger & Robbin, 2014), was designed and validated using Pearson bivariate analysis to measure nursing satisfaction with revised ED discharge note. Rating options had numeric values from one to five. One indicates strongly disagree, two indicates disagree, three indicates neither agree or disagree, four indicates agree and five indicates strongly agree. Questionnaire questions were related to the functionality of the new design. Excel program formulas were used to obtain descriptive statistics pertaining to demographic data, language preference, education

level, and readability index of discharge note from data samples of November 2013 and July 2015.

Nurses Training Plan

The hectic ED environment creates a limitation for training all staff at once. One-to-one training sessions, mini group training, role play, training sessions on evening and night tours, the internet for the use of audiovisual aids, health literacy brochure, and bulletin board postings were proposed alternative teaching methods to educate nurses. Training sessions were not to exceed one hour. The Teach Back Observation Tool was used to evaluate the nurse's knowledge and comprehension of the Teach Back method. The Teach Back Observation tool validates the patient comprehension of ED discharge instructions via the "show-me" or "teach-back" method.

Data Analysis Plan

The Flesch-Kincaid Grade level is an established method for providing reliable and reproducible scores of readability (Williamson and Martin 2010). Flesch-Kinkaid uses the number of syllables per 100 words and the average number of words per sentence and is the formula most commonly used (Wang, Miller, Schmitt, and Wen, 2013). Readability formulas are used to evaluate literacy of written health care materials. Microsoft's Flesch-Kincaid grade level will be used to measure the readability index of the ED discharge template in November 2013 and July 2015 samples. Comparison of readability index data will demonstrate the effectiveness of project plan and intent to improve readability index of discharge note.

The statistical presentation is a component of change and implementation of evidence-based processes. The SPSS Statistics program is the statistical software used by most students and nurse researchers (Polit, 2010), however, for this project DAAS used Excel formulas for data analysis. The DAAS extracted information from the electronic medical record from November 1 to November 30, 2013. DAAS created an Excel spreadsheet that contained the number of ED visits, readmissions within 30 days, return to ED visits, and patient demographics to include age, gender, and race. The DNP student completed the revision of EMR to extract data pertaining to patients preferred language, education level and readability index of discharge note and add information to the DAAS excel spreadsheet. In July 2015, DAAS and DNP student repeated the data collection process to collect information for comparison sample. Researchers need numerical data to represent and validate concepts of interest in quantitative studies.

Data Analysis Plan

According to Bossen (2011), electronic medical records (EMRs) are essential, constructive parts of health care and hospitals. The EMRs enhanced the coordination of health care services and collaboration among staff. The EMRs ensure immediate access to authorized users that can be shared and provide the information to the patient.

The implication of the EMR in this study is that the new template will contain the data for comparison to measure the goal of this project to improve readability index of discharge note, patients understanding and reduce the return to ED visits and readmissions. The new discharge note template will provide the patient a summary of the ED visit, discharge instructions and serve as patient’s main resource of information

related to ED visit. The project goal will be insignificant if patient or family cannot read or understand instructions on the new discharge note template.

The project objectives are guides that lead to project completion. Barriers to completion of the objectives included situations related to non-nursing tasks and activities that disrupted and created animosity among ED personnel. Nursing staffing limits, ED overcrowding, and unit safety concerns with mental health patients were reasons some staff resisted to participate in the proposed project goals.

The following paragraphs describe how all four objectives in this project were met. The first project objective was to establish a needs assessment and literature review in support of improving patients understanding of ED discharge instructions. Random testing of ED discharge notes resulted in readability index level higher than ninth grade. Several search engines and websites were used to obtain literature in support of improving ED discharge note and information pertinent to health literacy. The method used to obtain study data was a revision of the ED discharge notes from November 1, 2013, to November 31, 2013, and July 1 to July 31, 2015. Data consisted of patient's age, gender race/ethnicity, education level, language preference and readability level of ED discharge notes.

The second objective of the project was to breakdown, simplify and modify the current ED discharge instruction template until the template reached a satisfactory readability level of eighth grade or less. Use of a plain language dictionary helped simplify medical terminology in the template. A cease of nurse's practice to copy and paste components of physician's note in the template decreased readability index levels.

Rapid PDSA cycles provided the opportunity to evaluate changes to the template. Use of Microsoft Word Flesh-Kinkaid Readability Statistics program measured readability index of discharge notes. Collaborative interventions with ED nurse manager, staff nurses, clinical application coordinators and nursing template committee for revisions and recommendations led to the use of new modified ED discharge template.

Staff education and training in the use of Microsoft Word Flesh-Kinkaid Readability Statistics program ensured template reached acceptable readability index of less than ninth grade. The Teach Back Method training was an interactive process that motivated staff to participate in the project. Emails, in-services, poster boards and staff meetings were resources used to present staff with evidence-based literature findings, and health literacy outcomes and data. To sustain project implementation goals recommendations are: 1) Complete a needs assessment of new ED staff on health literacy concepts and teach back methods training. 2) Establish an ED nursing note team to continuously monitor use of current template and readability index levels, review staff recommendations for further changes and improvement and present recommendations to nursing template committee. 3) Maintain an ED representative in hospital's nursing template committee to learn about CPRS updates, standards, regulations and changes that may affect current ED template and coordinate activities that motivate nurses to continue with template improvement. Allow ED nurses to participate in trial and selection any commercial EMR product the VA may want to purchase for ED nursing documentation and or discharge instructions.

The third objective was to allow ED staff to monitor and evaluate the effectiveness of the ED discharge template and present written suggestions for further improvement. The ED staff evaluated the revised template with a validated Likert Scale questionnaire. Staff use of the revised ED discharge template with improved readability index levels was fourth and final project goal. A collection of post-implementation data and presentation of findings served as evidence to sustain completion of fourth and final project objective.

A strategy to evaluate the project goal and implementation of revised ED discharge template can be random monitoring of the nurses' discharge notes to ensure they remain at a readability index less than eighth-grade level. Another strategy is to observe nurse-patient interaction during the discharge process and evaluate patient's ability to read back the instructions and express in their own words what they meant. This allows for clarification of any misunderstanding. Creative solutions are necessary to address aspects of learning in health care settings (McCarthy, Waite, Curtis, Engel, Baker, and Wolf 2012).

A measurable project goal is a consistent decrease of frequent return to ED patient visit rates and readmissions within 30 days. Records of patient's with frequent ED visits should be revised for indicators that compromise health literacy patient's age, gender race/ethnicity, education level, language preference and readability level of ED discharge notes. Hospital leaders meet monthly to review data and compare findings with performance benchmarks.

Attention is given to the performance measure of patient readmission rates. According to the Department of Veterans Affairs (2011), a patient is counted as being readmitted if

that patient ends up admitted to the same VA hospital or any other VA hospital within 30 days after the day the patient was admitted. The VA does not differentiate if the patient is admitted again for the same or different reason (Department of Veterans Affairs, 2011).

As stated by Epstein (2011) the Medicare Payment Advisory Commission (MedPAC) recommended that the Centers for Medicare and Medicaid Services (CMS) privately provide data on risk-adjusted readmission rates to hospitals and after a two-year run-in period publicize these rates. MedPAC requested that the CMS decrease payments to hospitals with moderately high readmission rates for certain conditions such as congestive heart failure, pneumonia, and heart attacks. The MedPAC recommended that hospitals be permitted to compensate physicians monetarily for facilitating a decline in readmission rates.

In efforts to evaluate the impact of the discharge template on the readmission rate measure, the template implementation date needs to be acknowledged by the performance improvement team for pre and post data comparison. Revision of the hospital quality measure data set for all cause and disease specific readmission rates can determine how many of these patients came through the ED. I will clarify at this point that during the time of this study the organization had several system redesign teams working on processes to reduce readmissions and return visits.

Program evaluation creates opportunities for additional or new research and investigations based on the feedback of results, accomplishments, and outcomes. Kettner, Moroney, and Martin (2008) stated that program evaluations could lead to the discovery

of positive or negative consequences. Social policy or program design changes may be needed to address the unintended program consequences.

According to Haftel and Hicks (2011) education, teamwork and communication skills enriches team functioning, facilitates the transfer of patient information and promotes quality of care and patient outcomes. As stated by White and Dudley-Brown (2012) evaluation is a necessary and important component of the effective implementation of evidence into practice and should offer continuous feedback on the translation of evidence.

The Centers for Medicare and Medicaid Services (CMS) use performance quality measures as tools to sustain quality improvement programs and enhance patient care outcomes. To receive reimbursement for care, health care facilities need to abide by conditions established by the CMS. The CMS conditions for quality care are endorsed by the Joint Commission. (Centers for Medicare & Medicaid Services n.d.). According to Baur (2011), a Healthy People 2010 and 2020 objective is to improve the population's health literacy levels. Improving communication between patients and clinicians and facilitating access to online health information are strategies which contribute to the advancement of health literacy. Patients' health literacy is progressively acknowledged as a critical element which affects health communication and outcomes (Ozdemir, Alper, Uncu, & Bilgel, 2010).

Summary

The following paragraphs provide the summary for the methodology section and its components. Despite having all these plans and methods outlined for guidance during this

study, some required modification or elimination for progression of project implementation. As you can read through this paper you can see that change is complex.

Sustaining the implemented change of introducing health literacy to ED staff and formatting the nursing discharge template to meet the readability levels of veterans is a precursor for similar research in other healthcare settings. Effective communication and understanding between patients and staff, improvement of patient care, and a decrease of healthcare costs are positive study findings. Maintaining current evidence-based practice for establishing health literacy principles in all aspects of care and treatment will improve nurse-patient interactions at the time of discharge. According to Coleman, Chugh, Williams, Grigsby, Glasheen, McKenzie, & Min (2013), the hospital discharge stage is recognized as a time of vulnerability for gaps in safety and quality. The ability of patients to understand and execute discharge instructions is critical to promote effective self-care.

Change requires an investment of time to spend on project research, design, implementation, and evaluation however, the payoff is established in personal and professional growth and development. Integration of nursing practice skills and concepts. strengthens the evidence for the project. The opportunity to improve patient care and disseminate best practice for peers and colleagues is an expected outcome of this project.

Further research on the impact of health literacy and low literacy levels on veteran care outcomes is recommended. Evidence substantiates the use of best practices that increase staff awareness and knowledge of the association between health literacy, veteran's health, and outcomes. The impact of low literacy levels in veteran population and healthcare costs is another area for investigation. Assessing health literacy in the

veteran population, documentation of health literacy, the impact of health literacy on veteran population, health literacy of VA patient portals and electronic medical health information records are potential themes that can emerge from the implementation of the project.

In Section 4 I present the findings. The findings represent the realization of implementation and change surpassing challenges and limitations. This section also provides the learning of opportunity for more research associated with health literacy.

Section 4: Data Analysis of Evidence

Introduction

The purpose of this DNP project was to decrease repeat visits and readmissions to the ED by implementing components of health literacy programs within the ED on patient education and written discharge instructions. The data comparison and findings in this section reveal positive change implementation. Data collected in November 2013 was compared to data collected July 2015, one month after the revised template for the ED discharge note was implemented. (See Table 1 for the ED comparison data between November, 2013, and July, 2015.) The rates of ED visits increased, which is consistent with the yearly increase in the veteran population. However, the return ED visits, readmissions within 30 days, and readability index of discharge notes decreased. These findings are consistent with the project implementation goals.

Table 1

Emergency Department Comparison Data

Sample month and year	Total ED visits	Return visits within 30 days	Readmission within 30 days	Readability index of ED discharge note
November 2013	2,054	1102	435	8.57
July 2015	3,420	829	257	8.42

A review of over 5,000 charts was the method selected to obtain the data on patient education level, language preference, and readability index of ED discharge note. All charts were included in the revision. From the November, 2013, database, 2,054 charts were reviewed; from the July, 2015, database, 3,420 charts were reviewed.

A finding during data analysis was the difference in the sample population. Only 164 patients (7.9%) in the November, 2013, sample population were in the July, 2015, sample. The number of female veterans identified in the sample population was low; thus, the findings emphasized the male veteran population. In Nov. 2013, the highest return to ED visits by a single patient was seven, which is equivalent to 0.3% of total visits, and in 2015, the highest return to ED visit by a single patient was five, which is equivalent to 0.1%.

The ED nursing staff received training in the Teach Back Method and completed the competency checklist. To practice teach-back principles, interchange role-play was used. (See Appendix A for the components of the teach-back observation tool.)

During the time of the project, the ED's 45 registered nurses regularly provided input for change and revised the ED discharge note. To evaluate the new modified ED discharge note, they received a brief questionnaire. Only 21 questionnaires were completed and returned for a 46.6% staff participation rate. While the staff had no questions about the questionnaire, they provided additional comments and recommendations to further improve ED documentation and use of discharge template.

Questionnaire Discussion

I developed the five-question questionnaire based on findings from the literature review. The nurses were instructed to choose a numeric value from one to five. One indicated strongly disagree, two indicated disagree, three indicated neither agree or disagree, four indicated agree and five indicated strongly agree. Table 2 illustrates the questionnaire used to address the impact and changes to the computerized ED discharge template and the response value selected by the nurses. The first question refers to finding and opening the new template in the computer to which 94% of the staff agreed it was easy. The second question relates to staff acknowledgment of template changes to modify the use of medical terminology with plain language following health literacy concepts. Results indicated that 76% of staff agreed that the new template had integrated health literacy concepts. The third question is staff perception that the template is improving the discharge process and 71% of staff agreed. The fourth question of the survey refers to readability index of the discharge note. The nurses learned how to measure the readability index of their discharge note using the Microsoft's Flesh Kincaid method. Responses to this question reflect that 75% of the staff agreed that the readability index of the discharge note is an 8th-grade level or less. The fifth and last question does not pertain directly to the template however, it relates to the fact that the nurses are using the plain language of the template to provide patient information and that patient can verbalize in his or her own words ED discharge instructions given to which 90% of the staff agreed.

Of the respondents to the questionnaire 4 out of 21, which is equivalent to 19%, provided additional feedback for improvement of ED template. The first recommendation was for the purchase of new healthcare software products such as EPIC, CERNER and PICIS to replace the VA computerized patient record system. The second suggestion was for adding a section to template for 24-hour post ED visit phone call and follow up documentation. A third proposal was to add a section where the patient could personalize his or her ED experience. The fourth recommendation was to move and bold discharge instructions to the top of the template to make them stand out.

Table 2

Emergency Department Template Evaluation Questionnaire Findings

Questions	Strongly agree 5	Agree 4	Neither agree or disagree 3	Disagree 2	Strongly disagree 1
The new ED discharge template is easy to access in the computerized patient record	Total 13 61%	Total 7 33%	Total 1 4.7%	Total 0	Total 0
The new ED discharge template has health literacy concepts (simple words)	Total 6 28.5%	Total 10 47.6%	Total 4 19%	Total 1 4.7%	Total 0
The template is improving the ED discharge process	Total 11 52.3%	Total 4 19%	Total 6 28.5%	Total 0	Total 0

Readability index of the ED discharge note is 8 grade level or less	Total 7 33.3%	Total 9 42%	Total 5 23.8%	Total 0	Total 0
Patients repeat in their own words ED discharge instructions given	Total 11 52.3%	Total 8 38%	Total 2 9.5%	Total 0	Total 0

Table 3 shows significant correlation was found by Pearson bivariate analysis between the five questions used to evaluate template. The questionnaire measured what it was supposed to measure, meaning it has face validity.

Table 3

Pearson Correlation Validation of Emergency Department Template

		Access to Template	Improved ED Process	Readability Index	Health Literacy	Repeat in Own Words
Access	Pearson Correlation	1	.843	.757	.693	.982
	Sig.(2-Tailed)	5	.073	.138	.195	.003
	N		5	5	5	5
Improved ED Process	Pearson Correlation	.843	1	.728	.564	.831
	Sig. (2-Tailed)	.073 5		.163	.322	.081
	N		5	5	5	5
Readability Index	Pearson Correlation	.757	.728	1	.970	.863
		.138				

	Sig. (2-Tailed)	5	.163		.006	.060
	N		5	5	5	5
Health Literacy	Pearson Correlation	.693	.564	.970	1	.814
	Sig. (2-Tailed)	.195	.322	.006		.093
	N	5	5	5	5	5

Readmission Discussion

The comparison of readmission rate was used to measure the effectiveness of health literacy applications during project evaluation. Staff interactions using health literacy concepts in communication and written instruction resulted in a decrease in all-cause readmission rate in 2015 when compared to 2013 sample population. The average age of the readmitted patient is at 63 years old for both 2013 and 2015 sample population. The age of 63 falls under the age category of Vietnam veterans.

Action plans to use plain language and ask patients to repeat in their own words care instructions given resulted in lower admission rates. Reduction in readmission rate is linked with organizations performance measures therefore, a lower readmission rate is good. The project finding of decreased readmission rate indicates that effective interdisciplinary interventions increased patient understanding and participation in healthcare decision.

Revision of the EMR information provided data to measure readmission rate in November 2013 and July 2015. In November 2013, 194 patients were readmitted within 30 days in comparison to 220 patients readmitted within 30 days in July 2015. The difference of 26 more patients readmitted within 30 days is equivalent to a 13.40% increase in patients readmitted within 30 days.

The amount of ED visits for readmission within 30 days was 435 in Nov. 2013. In July 2015, there were 257 ED visits for readmission within 30 days. The difference of 178 ED visits less for readmission within 30 days resulted in a 40.92 percent decrease. The average return to ED visits for readmissions decreased 47.9 percent. The average ED visits for readmission within 30 days decreased from 2.24 in Nov. 2013 to 1.17 in July 2015.

Data Analysis

DAAS services created a database with Nov. 2013 and July 2015 ED visits which contained total ED visits, return within 30 days, readmitted within 30 days, age, gender, and ethnicity. Extensive chart review provided data for education level and readability index. A number was assigned to identify the groups of different education levels ranging from 4^{th} grade to doctorate degree. If the education level was not found in the computerized patient record the assigned group number was cero. The number one was assigned for education levels of 4^{th} to 8^{th} grade. The number two was designated for education levels of 9^{th} to 12^{th} grade, high school and general equivalency degree (GED). Lastly, the number three was assigned to education levels ranging from some college, associate, bachelors, masters and doctorate degree. A table with the results from the

education levels in data sample from November 2013 and July 2015 was not included in this project however, DAAS included an average education level from both samples in table three.

Completed databases were returned to DAAS for comparison and analysis. Age, gender, ethnicity, education level, and readability index data was collected and analyzed for comparison data sample for all ED visits, return to ED within 30 days and readmitted within 30 days for Nov. 2013 and July 2015. Table 4 illustrates the findings for demographics, readability index of discharge note, average education level, ED volume for return visits and readmissions for the month of November 2013 and July 2015.

Table 4

Emergency Department Comparison Data and Analysis

Volume-All ED	Nov-13	Jul-15	Difference	% Change
Patients	1,819	2,854	1,035	56.90%
Visits	2,054	3,420	1,366	66.50%
Avg. Visits	1.13	1.20	0.07	6.12%
Volume - Return in 30 Days	Nov-13	Jul-15	Difference	% Change
Patients	429	606	177	41.26%
Visits	1102	829	-273	-24.77%
Avg. Visits	2.57	1.37	-1.20	-46.75%
Volume - Admitted in 30 Days	Nov-13	Jul-15	Difference	% Change
Patients	194	220	26	13.40%
Visits	435	257	-178	-40.92%
Avg. Visits	2.24	1.17	-1.07	-47.90%
Demographic Return ALL ED	Nov-13	Jul-15	Difference	% Change
Avg. Age	58.18	58.05	-0.13	-0.23%
% Male	86.64%	89.07%	2.43%	2.81%
Avg. Education Level	2.52	2.51	-0.01	-0.27%
Avg. Readability	8.57	8.42	-0.15	-1.75%
Demographic Return in 30 Days	Nov-13	Jul-15	Difference	% Change

Avg. Age	59.45	59.27	-0.18	-0.31%
% Male	87.65%	90.59%	2.95%	3.36%
Avg. Education Level	2.48	2.51	0.03	1.28%
Avg. Readability	13.96	8.38	-5.59	-40.01%
Demographic Admit in 30 Days	Nov-13	Jul-15	Difference	% Change
Avg. Age	62.60	62.99	0.39	0.62%
% Male	90.50%	95.45%	4.95%	5.47%
Avg. Education Level	2.46	2.47	0.01	0.42%
Avg. Readability	8.30	7.82	-0.48	-5.74%

This unique data is secured by DAAS and available at the VA hospital for future references or research**.**

All ED Visits Volume

In Nov. 2013, the ED had 2,054 visits, in comparison to 3,420 in July 2015. The difference of 1,366 visits for a 66.5 percent increase is within the range of the yearly unique increase visits to the ED. During the timeframe of Nov. 2013 to July 2015, the ED and Fast Track merged creating one stop code for ED visit. The average ED visits in Nov. 2013 was equivalent to 1.13 compared to 1.20 in July 2015. The average ED visit increase was 6.12 percent.

In Nov. 2013, there were 1,102 return to ED visits within 30 days in comparison to the 829 return to ED visits within 30 days in July 2015. The difference of 273 fewer visits resulted in a 24.77 percent decrease ED visits within 30 days. The average ED visits within 30 days decreased from 2.57 in Nov. 2013 to 1.37 in July 2015 for a 46.75 percent decrease.

The total of visits for readmission in Nov. 2013 was 435 compared to 257 in July 2015. The difference of 178 visits less for readmission within 30 days resulted in a 40.92 percent decrease. The average return to ED visits for readmissions decreased 47.9

percent. The average ED visits for readmission within 30 days decreased from 2.24 in Nov. 2013 to 1.17 in July 2015.

All ED Demographics

Males comprise the majority of the veteran population for all ED visits in Nov. 2013 and July 2015. The findings for patient gender consist of 86.64 percent male in Nov. 2013 in comparison to 89.07 percent male in July 2015. This finding indicates an increase of 2.81 percent of male veterans seeking care in the ED. The Primary Care Annex opened the women's center during this comparative period. Extended hours of operation offered female veterans improved access to care in the women's clinic. The transgender data was not available for this project.

The average age of veteran population for both Nov. 2013 and July 2015 was 58 years old. The average education level for all ED sample population was the high school for both 2013 and 2015. The readability index of all ED sample population Nov. 2013 was 8.57 compared to 8.42 in July 2015. The difference of minus 0.15 is equivalent to a 1.75 percent decrease of readability index of discharge note for the all ED sample population.

Ethnicity for the all ED data sample for Nov. 2013 was 3% American or Alaska Native, 25.2% Black or African American, 4.7% declined to answer, 2.2% Native Hawaiian or other Pacific Islander, 1% unknown by the patient and 66.7% White. Ethnicity in the all ED July 2015 data sample was not available. Ethnicity is a voluntary demographic so if they choose not to specify it will be missing from the database.

In 2013 the language preference was 97.2% English and .7% Spanish compared to 94.6% English and 1.1% Spanish in 2015. The readability index level of ED discharge

notes in 2013 for all ED sample in 2013 was 8.57 compared to 8.42 in 2015. In the return to ED visits within 30-day sample, the readability index of the discharge note was 13.96 in 2013 compared to 8.38 in 2015. The readability index level ED of discharge note in 2013 in the admitted within 30 days sample was 8.30 and 7.82 in 2015. These findings indicate that work towards implementing health literacy concepts in written discharge instructions increases opportunity for patient comprehension and decreases readability index.

Implication

The implications of findings are positively consistent with projected goal of the project. Planning, implementation, and evaluation of interventions for a change effectively improve the ED discharge note. Application of components of health literacy programs in the ED specific to written patient education and aftercare instructions help decrease readability index level of discharge note, decrease return ED visits and readmissions within 30 days.

The patient population that speaks Spanish slightly increased from 2013 to 2015 therefore, consideration must be given to these veterans to have accessible educational resources in their preferred language. Limited female and transgender veteran population in databases do not allow for fair comparison of findings among gender.

In the following expositions related to nursing research and practice, the findings of the project support the principles of nursing for advancement of the profession. Without nursing research and application of evidence-based to nursing practices, the progression

is null. The credibility and validity of nursing practice relies on increase knowledge, innovation and change.

Nursing Practice

Health literacy competency helps nurses improve patient-nurse communication and outcomes. Education and training of health literacy should be shared with other healthcare professionals. Nurses can assess the patient's level of understanding by using the teach- back method, plain language, and allowing the patient to repeat in their own words discharge instructions given. Nurse's knowledge of theoretical frameworks for the different types of learners allows for the integration of these tenets in their practice when applying health literacy concepts in their daily interactions with patients and families. Use of audiovisual aids, electronic messaging, bulletin boards, huddles, and staff meetings are opportune means for continuous health literacy training and education.

Nursing Research

Nurses should partake and have an interest in research to establish evidence-based practice. Integration of nurse's input is integral when applying changes to ED discharge template. Active staff participation in the rapid cycle improvement tests decreased resistance to change. The nurse's evaluation of new ED discharge template was essential to measure the effectiveness of change. New nursing staff is encouraged to evaluate the ED nursing documentation templates and provide ideas for further change and improvement.

Application and integration of health literacy concepts in the electronic nursing templates benefit both nurses and patients. Revision of the electronic medical record was

method used to collect some of the study data. Nursing documentation is only as good as what is documented in the patient's record. Leaving template fields blank by choice or neglect is a bad practice.

Social Change

Health literacy affects all aspects of life. Patients with low health literacy need emotional and physical support to cope with the shame associated with low health literacy. Health care teams and educators can help find educational resources for patients with low health literacy. Creating partnerships with the community is a form of interaction with different populations and creates an opportunity for the provision of reliable information and resources associated with health literacy. Health care leaders and providers should advocate for individuals with low health literacy by establishing communal awareness of the issue and creating local and global policies that promote health literacy for veterans and population in general. Allocating funds for research will produce the evidence and innovation needed to promote health literacy and create healthy communities. Patients, providers and society in general benefit from reduced healthcare costs and health disparities associated with health literacy.

Social change needs to focus on then goal for all patients to verbalize understanding of preventive care, treatments, and aftercare instructions that will lead to healthier lifestyles. Implementation of health literacy concepts in health practice is cost effective. Use of simple language and terms when caring for patients can make a significant impact in their life.

Strengths and Limitations

Strengths of the project as it was implemented were consistent mentor guidance, support and nursing expertise from the initial planning process to evaluation. Resources were readily available for staff training and education. Collaborative efforts and interactions with other healthcare professionals were very rewarding and led to professional growth and respect for others work. Authorized DAAS staff completed the data analysis. The database created for this project is impressive. The information can be advanced to other projects or research if the VA choses to do so however, I cannot take full credit to say that this project alone decreased ED visits and readmissions within 30 days. Nursing staff satisfaction is noticeable when informed of project outcome and findings.

Time management was main project limitation of the implementation process. Down time in the ED setting rarely occurs. Concise training was used to get the nurses attention and away from their patient workload for short periods. Staff training was done individually and not in groups as preferred. Staffing itself was a limitation due to high turnover rate. Following strict research and quality improvement guidelines led to the need for a longer period of time for project completion.

A limitation to data collection was not finding the necessary data in the electronic patient record. Blank fields related to patient's education level and language preference in the electronic patient record limited data correlation and analysis. The chart review process was time-consuming however, this occurrence was by a personal choice and

desire to obtain a good sample size for analysis. I wanted to ensure solid facts and findings.

One last limitation of project implementation included personal family time when coping with family illness. Project implementation required constant modification of initial plans and expectations. The idea was not to quit, the idea was to cope with barriers and limitations to reach goals. Recommendation for a future research project is to follow mentor's advice regarding data collection and analysis. Chart review provides loads of information however, it is a tedious and extensive process. Another recommendation for health literacy research related to ED discharge instructions is to focus solely on the female veteran, which represents a smaller veteran population.

Section 5: Dissemination Plan

Dissemination of the project findings is the precursor to maintaining the project implementation of an ED discharge instructions template with a comprehensive readability index for all ED patients, decrease frequent visitor return rate and readmissions. Presenting accomplished work in the Nursing Research & Evidence Based Practice Symposium at work is a personal goal. This year I received an invitation from the Nursing Research Committee at work to present a poster of my project however, I opted not to do so until completion and approval from Walden University. In the future, I will present my project in this type of venue and disseminate the information to other VA hospitals.

Membership to the Emergency Nurses Association gives me the opportunity to submit the project abstract for consideration in future conference. Participant of several ENA conferences allowed for networking with the other ED and VA nurses. Global exposure of sharing gained knowledge as DNP graduate from Walden is a successful approach towards advancing the nursing profession.

Other methods for dissemination of the project include PowerPoint presentations to new ED employees and nursing students. The journal club at work provides another mean for project dissemination and is a preferred method of learning of some staff nurses. The innovative simulation lab is another resource to have personal interactions with staff while teaching the importance of health literacy and ensuring patients comprehend verbal and written discharge instructions.

Analysis of Self

The student who started the DNP journey three years ago is no longer the same. The increased knowledge base has made me a better person and health care professional. The experiences gained has a Walden University DNP student and application of DNP essentials helped me become a role model and mentor for other nurses in pursuit of advance nursing practice degrees. The DNP essentials are foundational competencies that are core to all advance practice-nursing roles (American Association of Colleges of Nursing 2006). The project findings and outcomes improved patient care outcomes and are supportive of evidence base best practice. The DNP student can say that the journey has been worthwhile.

The negative side of self at times felt like giving up and quitting. School was conflicting with employment and other professional and personal duties and responsibilities. The DNP program taught me that research is not an easy task. I realized that nurses do not wish to participate in research due to the time constraints however, as DNP graduates our duty is to help the nurse's transition to research roles and demands one step at a time.

Moving the nursing profession forward relies on the participation of current nursing staff in research and quality improvement projects. Recruitment of men and women in the profession of nursing will be needed to care for aging population. The future of nursing relies on the sharing of wisdom and expertise with students and the application of changes in practice today.

Summary

Health care professionals need education and training on health literacy. An effective strategy to improve patient comprehension of healthcare issues is the Teach Back Method. Use plain language, not medical jargon to communicate with patient and family. Request that patient ask you three questions concerning his or her treatment and care. Listen and allow the patient time to repeat in his or her own words instructions given. Increase patient participation in decisions about care, which in turn prevents unnecessary visits to the ED and hospital readmissions.

The electronic medical health record is an all-inclusive prime source of recorded medical documentation. The ED nursing discharge template design should include health literacy specifications such as an appropriate readability index level. Nursing input is vital for a successful transition and process to implement change in practice.

Lack of health literacy is present in diverse patient populations therefore, ED healthcare professionals are responsible for ensuring patient comprehension and understanding of education and aftercare discharge instructions. A health literacy myth is that higher education level indicates patient comprehension of healthcare issues. Some people hide the fact that they cannot read from family friends and health care providers.

Research and evidence base practice contribute to safe and qualitative nursing practice. Choose a framework that will explain new knowledge and findings to other peers. Use different means of communications to share findings on health literacy, improving ED discharge. Celebrate success.

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Appendix A: Teach Back Method Tool

Always Use Teach-back!

Teach-back Observation Tool

Care Team Member: _____ Date: _____

Observer: _____ Time: _____

Did the care team member…	Yes	No	N/A	Comments
Use a caring tone of voice and attitude?				
Display comfortable body language, make eye contact, and sit down?				
Use plain language?				
Ask the patient to explain in their own words what they were told to do about: • Signs and symptoms they should call the doctor for? • Key medicines? • Critical self-care activities? • Follow-up appointments?				
Use non-shaming, open-ended questions?				
Avoid asking questions that can be answered with a yes or no?				
Take responsibility for making sure they were clear?				
Explain and check again if the patient is unable to use teach-back?				
Use reader-friendly print materials to support learning?				
Document use of and patient's response to teach-back?				
Include family members/caregivers if they were present?				

Teach-back Observation Tool continued

Notes: _____

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_____

_____

_____

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_____

Appendix B: Emergency Department Template Evaluation Questionnaire

Questions	5	4	3	2	1
The new ED discharge template is easy to access in the computerized patient record	Strongly agree 5	Agree 4	Neither agree or disagree 3	Disagree 2	Strongly disagree 1
The new ED discharge template has health literacy concepts (simple words)	Strongly agree 5	Agree 4	Neither agree or disagree 3	Disagree 2	Strongly disagree 1
The template is improving the ED discharge process	Strongly agree 5	Agree 4	Neither agree or disagree 3	Disagree 2	Strongly disagree 1
Readability index of the ED discharge note is 8 grade level or less	Strongly agree 5	Agree 4	Neither agree or disagree 3	Disagree 2	Strongly disagree 1
Patients repeat in their own words ED discharge instructions given	Strongly agree 5	Agree 4	Neither agree or disagree 3	Disagree 2	Strongly disagree 1