2016

Diabetes Mellitus Type 2: A Quality Improvement and Patient Safety Initiative

Remeliza Navarrete Tukay
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Remeliza Tukay

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Mary Verklan, Committee Chairperson, Health Services Faculty
Dr. Barbara Niedz, Committee Member, Health Services Faculty
Dr. Phyllis Morgan, University Reviewer, Health Services Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2016

Abstract

Diabetes Mellitus Type 2: A Quality Improvement and Patient Safety Initiative

by

Remeliza N. Tukay

MS, Charles R. Drew University of Medicine and Science, 2012

BS, Lorma Colleges, 1990

Doctoral Study Submitted in Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

December 2016

Abstract

The purpose of the quality improvement (QI) project was to examine the relationship between amended nursing education concerning diabetes mellitus (DM) Type 2 self-care management incorporating Tune in, Explore, Assist, Communicate, and Honor (TEACH) and Motivational Interviewing (MI) strategies and techniques and the Glycosylated hemoglobin (HgbA1C) of veteran patients with uncontrolled diabetes. The target sample included the 2 licensed practical nurses and 2 registered nurses assigned to 2 primary care teams, and the 10 purposively sampled patients with uncontrolled DM Type 2 from each team. The nurses' competencies were measured through descriptive comparison before and after nursing education implementation using the instrument Patient Education: TEACH for Success Self-Assessment Questionnaire. The nurses' confidence and their perceived importance of the TEACH and MI skills application and skill assessment for promoting health behavior change were tested inferentially with a paired *t* test before and after nursing education implementation using the instrument Clinician Importance and Confidence Regarding Health Behavior Counseling Questionnaire. The primary care team developed their skills tailored to each patient's needs, considering the guiding principles and premises of the health belief model (HBM). Patients' self-care management knowledge, skills and confidence were improved. The project decreased the elevated HgbA1C of patients measured after the project initiative. The QI project leads to positive social change by decreasing the number of patients with uncontrolled diabetes among the veteran population. The patients and their providers can develop individualized plans of care for diabetes management by educating, redirecting, and evoking behavioral changes in the veteran patients by using a team approach.

Diabetes Mellitus Type 2: A Quality Improvement and Patient Safety Initiative

By

Remeliza N. Tukay

MS, Charles R Drew University of Medicine and Science, 2012

BS, Lorma Colleges, 1990

Doctoral Study Submitted in Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

December 2016

Dedication

This project is dedicated to my loving husband, Junn Tukay and my children Jumelle Aubrey and Junrem Rynel, my mom and dad, sisters and brother and their families who served as my inspiration and personal driving force to reach the finish line. Without their love, support, encouragement and assistance, reaching my goal would not have been possible.

Acknowledgments

I wish to acknowledge the guidance of my preceptor, Dr. Lori Winchell, my project professor and chair, Dr. Mary Verklan, my project nurse champions, Ms. Sandra Guerrero, RN, Ms. Florence Gan, RN, Ms. Brittany Degracia, LPN and Ms.Linda Merryweather, LPN, my project PACT providers Dr. Mary Odtohan and Dr. Belinda Peralta who all supported the completion of the project and never gave up. I would also like to acknowledge all the nurses from the VA Southwest Primary Care Clinic, Ms. Jennifer Strawn (Nurse Executive), Dr. Maia Carter (Chief of Primary Care), Dr. Roosevelt Watson (Chief of Southwest Primary Care Clinic), Ms. Hilda Pool, RN (Southwest Primary Care Clinic Nurse Manager), Dr. Desiree Crawford (ANE/ Nursing Professional Services) and Dr. Roland Villareal (Research Compliance Officer) who all helped and supported the realization of this project.

Table of Contents

List of Tables

Section 1: Nature of the Project

Introduction

In the United States, diabetes mellitus (DM) Type 2 is considered a health care dilemma, generating a massive national and global economic disparity. The Center for Disease Control and Prevention (CDC, 2011) reported that the spread of DM is an escalating predicament that involves approximately 25.6 million people in the United States. According to the National Committee for Quality Assurance (2010), keeping people healthy and developing new and more cost-effective interventions are needed to tackle the burden of chronic illness. In this quality improvement project, I examined the relationship between improved nursing education concerning DM Type 2 self-care management and Glycosylated hemoglobin (HgbA1C) of uncontrolled diabetes at the Southwest Veterans Affairs (VA) primary care clinic. The project will provide an overview of the project, a review of the scholarly evidence, and the significance and implications of the project. Section 1 of the paper will include a discussion of the problem, its context and background, purpose statement, project objectives, the project's relevance to practice, the practice question to address, the project significance and implications for social change, definition of terms, the project's assumptions and limitations, and summary.

Background/Context

To identify the prevention of a nationally significant disease, the impact of the disease to the population of interest must be considered. The national health promotion and disease prevention issue that I chose to address is patients over 18-years-old with

diagnosed diabetes, whose HgbA1c value is >9%. The Healthy People 2020 listed this as a leading health topic and indicator under clinical preventive services with current status of little or no detectable change over the past 10 years (U.S. Department of Health and Human Services, 2010).

The incidence of DM in the veteran population is multi-factorial and maybe consequential from different system influences. The United States Department of Veterans Affairs (2015) acknowledged the high prevalence of DM among the veterans, which can be attributed to 25% of the population being overweight and another 40% obese. Despite all of the programs and resources of the VA, patients with DM Type 2 who have an uncontrolled glycemic index are frequently seen throughout the six VA primary care clinics of Las Vegas, where I serve as a nurse practitioner. The macro system influences on the problem of uncontrolled DM Type 2 includes the absence of a certified diabetes educator (CDE) and the compartmentalization of communication between primary care and specialty care. The micro system influences on the problem of uncontrolled DM Type2 include inconsistency in teaching; limited time to teach, educate, and coach by providers; and inconsistent teaching materials not tailored to certain populations and patient educational learning preferences. Other micro system influences are teaching tools that are not patient-centered, patients' fear of losing VA benefits, patient's learning preferences, and a lack of family support to control DM Type 2. These factors contribute to the growing number of patients with uncontrolled DM Type 2; therefore, there was a need to improve patient outcomes. To address the problems of DM, the issues have to be tackled from the clinic level beginning with interventions from the

nurses of the Patient Aligned Care Team (PACT), the basic unit of care at the VA primary care clinics. The PACT nurses are the main contact for patients in each primary care patient visit, where rapport and trust develops with each patient contact.

Different approaches to facilitate patient teaching and learning were considered. Haas et al. (2013) discussed the significance of integrating DM patient needs, objectives and aims, and life occurrences to facilitate knowledge, proficiency, skills, and capability learned through diabetes self-management education (DSME). The program provides steps and preventative measures to prevent the progression and avoidance of complications in DM (Haas et al., 2013). In the health belief model (HBM), performance of health promotion activities is encouraged among patients experiencing DM Type 2. Through the application of the HBM model, I explored the expansion of innovative approaches to patient teaching. Nurses can use the HBM model to develop programs to foster patients' awareness of their health problems. The model can be employed for health promotion and disease prevention programs to ensure positive outcomes for patients and the community.

Problem Statement

Patients with uncontrolled diabetes with HgbA1C of $\geq$ 9% are frequently observed in the VA primary care clinics despite the presence of DM resources. such as the diabetes and endocrinology clinics, PACT pharmacist, and PACT dietician. Currently, one in four veterans is diagnosed with DM, affecting almost 25% of the VAs' patient population (United States Department of Veterans Affairs, 2015). Three-quarters of veterans are overweight, and nearly 40% are obese (United States Department of

Veterans Affairs, 2015). According to the United States Department of Veterans Affairs (2015), the high incidence of DM among the veterans is partially attributable to the older average age of veterans as compared to the general U.S. population. Another etiology for developing DM that is unique to Vietnam veterans is their exposure to Agent Orange. These veterans developed DM as a result of being exposed to herbicides while serving in Vietnam, therefore increasing the disease incidence among this specific group of veterans (U.S. Department of Veterans Affairs, 2015).

The costs of the high prevalence of DM in the U.S. population result in enormous economic burden for the country. The American Diabetes Association (ADA, 2013) reported that the 2012 diagnosed DM estimated expenditure comprised $176 billion in direct medical expenditures and $69 billion in diminished productivity, yielding a the total amount of $245 billion, which was 48% higher than the estimated $218 billion for 2007. The 2012 combined economic burden exceeded $1,000 for each person in the United States, with the average burden per case for diagnosed diabetes being $10,970, undiagnosed diabetes $4,030, prediabetes $510, and gestational diabetes $5,800 (Dall et al., 2014). The large economic burden of diagnosed DM provides more reason for DM management to be improved at the VA primary care.

The problem of diabetes management among veterans with poorly controlled HgbA1C is a population need in the VA primary care, requiring consideration of complex barriers in diabetes care. According to Kettner, Moroney and Martin (2008), a recognized population problem has to be transformed into needs that eventually will be transformed into services or other interventions. Need is a normative perception outlined by social,

political, and economic environments that mutually possess quantitative and qualitative elements (Kettner et al., 2008). The number of patients with DM in the Las Vegas VA primary care with poorly controlled HgbA1C of > 9.0% was as high as 84%, compared to the national target of 81% (U.S. Department of Veterans Affairs, 2015). The perceived needs include patients with diabetes presenting to the primary clinic with complaints related to DM such as noncompliance due to a fear of losing VA benefits, individual patient's learning preferences, and a lack of family support. The nurses providing the service in diabetes care also expressed needs that include compartmentalization of communication between primary care and specialty care, teaching inconsistencies, time limitation of teaching, education and coaching by providers, and inconsistencies of teaching materials that are not tailored to patients' educational learning preferences that are not patient-centered. Jansink, Braspenning, Weijen, Elwyn, and Grol (2010) found that patients' limited understanding of their behavior, healthy lifestyle awareness, and comprehension, coupled with motivation deficits to transform or carry on a healthier lifestyle, are all patients' barriers to diabetes care. Nurses have identified inadequate time and counseling deficiencies as barriers to providing successful lifestyle counseling in diabetes management (Jansink et al., 2010).The findings of the study support the complexity of diabetes management in primary care, affected by teaching and learning barriers from both nurses and patients alike.

The known complications of diabetes include cardiac diseases, cerebrovascular attack (CVA) or stroke, renal diseases, blindness, neurological diseases, limb sores, and limb amputations (CDC, 2013). The absence of DM education may leave patients at risk

of developing complications from the disease (Kent et al., 2013). Patients who manage and control their DM Type 2 may prevent further complications and progression of the disease. When DM is addressed early, personal and economic burden of the chronic disease is also lessened. Boren, Fitzner, Panhalkar, and Specker (2009, found that patients with diabetes who practice self-care management and lifestyle modification prevail over the economic burden of diabetes.

Purpose Statement

The ADA and the European Association for the Study of Diabetes (EASD) discussed their position statement on the management of patients with Type 2 DM as remaining unchanged (as cited in Inzucchi et. al., 2015). The organizations continue to recommend the need for individualization of both treatment goals and strategies, emphasizing the necessity of shared decision making and patient-centered care (Inzucchi et al., 2015). The American Association of Diabetic Educators (AADE) suggested that educating patients about their diabetes management facilitates problem solving and development of coping skills (as cited in Johnson & Raterink, 2009). Self-management support is a component of disease management because diabetes outcomes and complication prevalence are related to the degree of self-involvement in illness care (Johnson & Raterink, 2009). Kent et al. (2013) accounted that patient participation in health maintenance interventions such as retinal annual check, yearly diabetic foot exams, HgbA1C screenings, and annual Flu immunizations are more likely to occur when receiving DSME education. The purpose of this project was to evaluate the DM Type 2 self-care management nursing education and to document the results of an ADA

guideline-directed nursing education intervention at the VA primary care clinic. All PACT nurses are scheduled upon hiring to attend the Tune in, Explore, Assist, Communicate, and Honor (TEACH) for Success program and Motivational Interviewing (MI) as a part of their training in primary care. The education intervention will incorporate strategies and techniques from the mandatory TEACH and MI program, assessing nursing proficiency and confidence in self-care management teaching to patients with DM.

Project Objective

The purpose of this project was to implement a DM Type 2 self-care management program through an ADA guideline-directed nursing educational program for the registered nurses (RN) and licensed practical nurses (LPN) in the VA Southwest primary care clinic. The nursing education program goal was directed toward improving knowledge, proficiency, confidence, and efficiency of nurses in teaching patients with DM who have uncontrolled HgbA1C in the primary care clinic. A pretest and posttest were completed by the nurses using the same questionnaire to evaluate the confidence and importance of the TEACH and MI skills application and skill assessment. A pretest and posttest using the same questionnaire were also used to assess the self-care management knowledge, skills, and confidence of patients with DM Type 2 after receiving a nursing teaching intervention. The clinic nurses were encouraged to use education strategies and techniques from the TEACH and MI programs to improve the self-care management of the patients with DM Type 2, providing evidence-based, veteran-centered health education and coaching and patient-centered communication

skills. The DM Type 2 self-care management programs included the proper selection of appropriate, organized, and standardized DM Type 2 teaching materials and references. The choices are modified according to a patient's learning preferences, making it more veteran-centered and patient-specific.

As a part of the project, informatics development was proposed to the VA for nurses and providers to flag patients' Computerized Patient Record System (CPRS) charts regarding individual patient's learning preferences, barriers, or challenges to individualize DM teaching and to make it patient-centered. The patient's chart coversheet will reveal the patient's learning preference after clinicians complete the patient preference prompt. The learning preference information served as a guide for providers to effectively transfer information to patients, not just during DM teaching but throughout patients' health care visits.

Project Question

Can improving the self-care management of patients with diabetes Type 2 through ADA guidelines-directed nursing education at the VA primary care clinic decrease the percentage of patients with poor control of HgbA1C from 84% to 81%, the national VA target?

Relevance to Practice

Nurses have been recognized for their roles as educators and patient advocates, and are, therefore, mandated to expand these roles in the diabetes self-care management education of patients. When nurses educate their patients about self-care management, problem-solving and coping skills are developed and expanded. Self-care management

support centers on providing patients with the skills to arrive at smart health care decisions and encouraging patients to be personally responsible for their own health care. The lack of optimal patient education and counseling creates opportunities for medical errors, suboptimal outcomes, and poor patient and provider satisfaction (Varkey et al., 2009). According to Haas et al. (2013), it is important to provide continued support for patients with DM and those at risk for developing DM to promote behavior transformation, maintain healthy behaviors, and tackle psychosocial concerns. Diabetes self-management education is an ongoing process because self-care management continues beyond the patient leaving the provider's office (Haas et al., 2013). Diabetes self-management support (DSMS) and DSME are usually presented within a collaborative and integrated team approach framework; however, it is critical that patients with DM are viewed as a part of the team, performing active and dynamic roles (Haas et al., 2013). The implementation of the project will positively impact the nursing practice by encouraging nurses to be proactive in diabetes care, prevention, and control of DM Type 2.

Significance of the Project

The provision of learned skills to patients diagnosed with DM is fostered a component of chronic disease care management to create wise health care decision making and to promote responsible ownership for self-care maintenance (Johnson & Raterink, 2009). DSME results in improvements in clinical outcomes confirmed by controlled glycemic status and improved lifestyle outcomes as demonstrated by DM self-care-management knowledge and skills (Steinsbekk, Rygg, Lisulo, Rise, & Fretheim,

2012). Diabetes self-management education also results in improvements in psychosocial outcomes like self-empowerment, quality of life, and self-care efficacy (Steinsbekk et al., 2012). Through a team-based approach, members of the PACT team, particularly the nurses, use learned educational strategies and techniques from the TEACH for Success program and MI program to improve the self-care management of the patients with DM Type 2. Both of these programs are components of training the PACT team, providing evidence-based, veteran-centered health education and coaching, and patient-centered communication skills requiring opportunities for reflection, skill practice, and feedback (National Center for Health Promotion and Disease Prevention [NCP] and Employee Education System [EES], 2013). Through collaboration with the VA health promotion and disease prevention programs and resources, addressing DM Type 2 self-care management educations among the veteran patients of the primary care clinic becomes more efficient and organized.

Reduction of Gaps

Self-care management is the foundation of DM control; however, self-care management necessitates attitude modification, knowledge increase through education, skills accumulation, and behavior adaptation acquired over time. It is necessary to promote self-management among patients with diabetes to prevent consequences and complications from the chronic disease. According to ADA (2010), controlling of HgbA1C is recognized as critical DM management constituent; yet, less than half of the sample attained controlled glycemic index. Chen, Creedy, Lin, and Wollin (2012) identified three gaps in the problem of self- care management and diabetes outcomes:

DM educational intercessions and motivation augmentation to suitably maintain DM management, limited studies addressing the psychological component as a barrier in DM management, and limited studies on idyllic strategies to augment behaviors in self-care management. The study supports the complexity of DM management and self-care management, acknowledging the presence of gaps and barriers affecting diabetes outcomes.

Health care clinicians and nurses should be skilled and efficient in teaching self-care management for diabetes patients. Bradshaw (2010) affirmed that nurses need to explore avenues to advance knowledge and be responsive to innovative methods and advances, techniques, and technology and to reinvent strategies of outcome measurement. Health care organizations are dependent on nurses to provide quality DM education to individuals with chronic diseases. Young (2011) divulged that nurses need best practices in the pathophysiology of DM, medical management, existing guidelines, resultant hyperglycemia, and diabetes nursing care, thereby supporting tackling the knowledge gaps through education. Chen et al. (2012) demonstrated that MI can be used in the management of DM Type 2 improving self-care management, psychological results, and HgbA1c control. The U.S. Department of Veterans Affairs (2013) reported that the TEACH program prepares clinicians for veteran-centered health care communication and coaching skills, meeting The Joint Commission standards. The DM QI project intervention application into practice may increase the knowledge, decision making, and critical thinking skills and confidence of nurses and encourage integrating TEACH and MI techniques during patient interactions. Health care clinicians, particularly nurses,

should be current on skills, knowledge, and evidence-based practices (EBP) and resources in the provision of proficient, efficient, competent, culturally sensitive and patient-centered DM self-care education.

Implications for Social Change in Practice

Diabetes is prevalent among the U.S. population resulting to health complications and necessitating national attention and intervention. In the United States, 24 million or 8% of the population was estimated to have diabetes, with one third undiagnosed (CDC, 2013). Diabetes was the seventh leading cause of death, contributing to total of 233,619 deaths in 2005 (CDC, 2013). Diabetes is also known to be the chief cause of cardiac diseases and stroke amongst adults and the primary cause of nontraumatic amputations of lower extremities, kidney failure, and blindness (U.S. Department of Health and Human Services, 2010). Diagnosed patients with diabetes whose A1C value is greater than 9% are listed in Leading Health Topic and Indicator under the Clinical Preventive Services of the Healthy People 2020, with its latest status as little or no detectable change (U.S. Department of Health and Human Services, 2010). The findings described the enormity of diabetes as a national health care problem needing solutions and interventions from everyone.

Providers, specifically nurses, should take the initiative to support patients with diabetes to take care of their own health through self-care management initiatives. These initiatives are encouraged and supported in the VA through the Health Promotion Disease Prevention (HPDP) program, where DM is one of the chronic diseases being addressed. According to the U.S. Department of Health and Human Services (2010), clinical

preventive services can reduce death and disability and improve national health. Diabetes Type 2 was chosen as the issue to address for the national health promotion and disease prevention effort because, when addressed, reduction of the risk of illnesses, disability, early death, and medical care costs through prevention and early detection is expected (U.S. Department of Health and Human Services, 2010). The doctor of nursing practice (DNP) quality improvement (QI) project can impact social change by decreasing the number of patient with uncontrolled diabetes among the veteran population, reducing health disparity and addressing the national health issue.

Developing a program plan for DM Type 2 self-care management will demonstrate my leadership capability, functioning as a DNP leader in motivating, influencing, directing, and persuading others to function in their full capacity as nurses and accomplishing the mission and vision of the VA organization. The QI project will allow me to become a change agent in addressing health care issues through the use and synthesis of appropriate programs and resources within the organization and the community. According to Bradshaw (2010), nurses are the forefront providers whose decisions and contributions augment knowledge, understanding, and responsiveness and cultivate transformation in an organization.

Definitions of Terms

To fully understand the concepts of this project, the following terms are defined:

Computerized Patient Record System (CPRS): An integrated patient record system for providers, management, quality assurance staff, and researchers at VA hospitals and health care centers across the United States. It is a form of an electronic

medical record (EMR) or more accurately, an electronic health record (EHR) that is used by VA providers and clinicians. Its goal is to generate a quick and easily used product that provides clinicians enough information through clinical reminders, outcomes, recording and reporting, and improved decisions concerning orders and treatment actions (Bay Pines VA Healthcare System Sharepoint, 2012).

Diabetes mellitus (DM) Type 2: A condition where the pancreas is able to continue secretion of insulin but the body is unable to properly process it, leading to insulin resistance. The pancreas gradually loses capacity for insulin production. Diabetes as a chronic disease accounts for the 90% to 95% of total diagnosed cases of diabetes (CDC, 2013).

HgbA1C (glycosylated hemoglobin): A blood test that provides information regarding a person's average levels of blood glucose or blood sugar over the past 3 months. It is the primary test used for DM and diabetes research. The normal level is below 5.7%, while a value of 6.5% and above leads to diagnosis of diabetes. A value of 5.7% to 6.4% yields to prediabetes diagnosis (National Institute of Diabetes and Digestive and Kidney Diseases, 2014).

Motivational Interviewing (MI) program: A clinical method used by providers to guide patients leading to healthy choices and transformations in behavior for health improvement. The program strives to engage and stimulate patients, empowering patients to achieve a more dynamic part in self-care, chronic conditions' self-management, preventative care, and management of acute and chronic conditions (Goldstein & Minor, 2013).

Patient Aligned Care Team (PACT): The team comprised of the patient, the patients' personal support persons, and the designated PACT staff that consists of the provider, registered nurse (RN), clinical associate, and administrative associate. The teams deliver primary care to veterans that is patient-centered, data-driven, unceasingly improving, accessible, team-based, organized, timely, and comprehensive that provides continuity of care over time (U.S. Department of Veterans Affairs, 2014).

Tune in, Explore, Assist, Communicate, and Honor (TEACH) for Success program: An interdisciplinary learning experience recognized as a chief vehicle to offer training to PACT teams through patient-centered communication, health education, and coaching skills. The course is presented in each VA facility on an ongoing foundation for VA clinicians from all professional disciplines (Goldstein & Minor, 2013).

Assumptions and Limitations

There were several assumptions and limitations that were associated with this project.

Assumptions of the Project

In this project, I assumed that additional nursing self-care management education incorporating the techniques of the TEACH and MI programs will increase nurses' knowledge, skills, proficiency, efficiency, and confidence in teaching uncontrolled diabetes patients. I also assumed that when the nurses developed efficiency, proficiency, and confidence in their job performance, improved and more effective patient teaching will transpire through subsequent patient teachings from the nurses. The positive effects of added education can improve DM outcomes, patient satisfaction, and nurses' job

satisfaction and self-esteem, saving time and extra efforts for the PACT team in the long term. The added nursing education and patient education from the nurses will translate into improved patient care delivery and outcomes. It was also assumed that the nurses desire the education and will use it effectively in order to decrease elevated HgbA1C levels of the patients with diabetes.

Limitations of the Project

There were five major limitations associated with this QI project. First, the project only reflected results from the intervention done in the Southwest primary care clinic, one of the six VA Las Vegas primary care clinics, and only reflected a small portion of the organization. Secondly, the project only included uncontrolled patients with diabetes with HgbA1C of >9.0%. The third limitation was related to time and resource constraints because there was only one RN and one LPN per PACT team. The fourth limitation included the patients' resistance and struggle to adopt suggested lifestyle modifications and self-care management changes. Lastly, I assumed that the nurses will work with the patients; however, it is unlikely that all patients will follow the recommended modifications and changes; therefore, the nurses should not be responsible for noncompliance choices that may reflect negatively on the end results.

Summary

The prevalence and the frequency of uncontrolled HgbA1C among patients with DM Type 2 remains to be a problem in the VA primary care. The implementation of self-care management education will center on each individual patient, regarded as an important member of the team who is capable of achieving active and dynamic roles in

the management of his/her chronic disease. The evidence-based concepts and techniques of TEACH and MI will be used to implement strategic interventions essential to address the gaps and barriers in self-care management of patients with diabetes, in order to avert consequences and complications from the chronic disease. Nurses have a role in the chronic disease care management of diabetes by assisting patients in learning skills to arrive at health care decisions and the promotion of responsibility for self-care maintenance. Diabetes self-care management education can result in improved clinical and psychosocial outcomes for the patients. The project initiative can impact social change by decreasing the number of patients with uncontrolled diabetes among the veteran population, reducing health disparities and addressing the national health issue.

Section 2: Review of Literature and Theoretical/Conceptual Framework

Introduction

The purpose of the QI project was to examine the relationship between improved nursing education to patients concerning DM Type 2 self-care management and HgbA1C of patients with uncontrolled diabetes at the VA Southwest primary care clinic. The gaps in diabetes care can be addressed by improving DM management through educational interventions, coaching, and motivational augmentation by addressing psychological and behavioral barriers in self-care management. Improving nursing education in diabetes care can transpire into better patient education and coaching resulting in improved patient outcome and care delivery. The framework of the HBM was used to understand the barriers and factors affecting the patient's self-care management performance. The nurses also used the framework to improve the patient teaching process. The collective use of the PACT team-based approach in self-care management teaching, the TEACH and MI programs concepts and techniques, and the HBM model were used by the nurses to tackle the multifarious management of diabetes in the VA primary care clinic.

In order to achieve the purpose of the project, the literature was examined to retrieve information on the repercussion and effects of DM Type 2 related to individual patients, the veteran population, and the U.S. population as a whole. The literature was also scrutinized in search of recommendations to improve self-care management, the gaps and barriers involved in self-care management, and the advantages of effective self-care management. Literature discussing the PACT team approach, TEACH and MI programs, and the HBM model were also examined. In Section 2, I will present the literature

review, as well as the HBM as the theoretical/conceptual framework used in the development of the project.

Search Strategy

The following library databases and search engines were accessed to gain a better understanding of self-care management in diabetes care: the Google Scholar search engine of Walden University library, Cochrane Library database, OVID Technologies, EBSCO host, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, Agency for Healthcare Research and Quality (AHRQ) National Clearinghouse, PubMed, Medline, ProQuest, Nursing and Allied Health Sources, and VA databases through the VA library and VA Intranet. The key search terms and combinations of search terms used in the review of literature included the following: *DSME*, *diabetes Type 2*, *DM Type 2*, *diabetes education*, *diabetes management*, *diabetes care in primary care*, *diabetes self-management*, *self-care management education*, *TEACH*, *MI*, *MI and diabetes*, *PACT*, and *PACT in the VA*. In order to maintain currency, published studies between 2008 and 2015 were examined for implication and relevance to the project. A total of 20 articles were located; 17 were used to discuss self-care management, diabetes education, prevention and support, gaps in diabetes care, and improving HgbA1C and outcome of patients with DM Type 2.

Specific Literature

Diabetes self-care management education and support should be provided to patients with diabetes Type 2 upon diagnosis and as needed and to measure and monitor the effectiveness of self-care management and quality of life as part of general care

(ADA, 2015). The ADA (2015) further recommended that programs should address psychosocial concerns and provide edification and support to patients with prediabetes, encouraging healthy behaviors to delay or prevent diabetes onset. Subsections have been developed to discuss the importance of diabetes self-care management education, addressing the gaps in education and the importance of the TEACH and MI concepts and techniques to improve patient outcome through coaching and patient-centered approach in diabetes care.

The Importance of Diabetes Self-care Management Education

Diabetes self-care management education has been proven to improve diabetes outcomes. Steinsbekk et al. (2012) performed a meta-analysis of a computerized bibliographic database of randomized controlled trials (RCTs), evaluating group-based DSME as compared to the routine treatment (recommended standard of care) for adult patients with Type 2 diabetes. A total of 2,833 participants from the 21 studies reported in 26 publications were included. The aim of the study was to assess the effects of group-based DSME in comparison to the routine treatment on the clinical, lifestyle, and psychosocial outcomes in patients with Type 2 diabetes. The results of the main clinical outcomes were the following: significant reduction of HgbA1c at 6 months (0.44% points; $P = 0.0006$, 13 studies, 1,883 participants), 12 months (0.46% points; $P = 0.001$, 11 studies, 1,503 participants), and 2 years (0.87% points; $P < 0.00001$, three studies, 397 participants); and significant reduction of fasting blood glucose levels at 12 months (1.26 mmol/l; $P < 0.00001$, five studies, 690 participants) but not at 6 months. The results of the main lifestyle outcomes were the following: significant diabetes knowledge

improvement at 6 months (SMD 0.83; $P = 0.00001$, six studies, 768 participants), 12 months (SMD 0.85; $P < 0.00001$, five studies, 955 participants), and 2 years (SMD 1.59; $P = 0.03$, two studies, 355 participants); and significant improvement of self-management skills at 6 months (SMD 0.55; $P = 0.01$, four studies, 534 participants). The results of the main psychosocial outcomes were significantly improved empowerment/self-efficacy (SMD 0.28, $P = 0.01$, two studies, 326 participants) after 6 months; no conclusion was made for quality of life because of high heterogeneity. The results of secondary outcomes were significantly improved patient satisfaction and body weight at 12 months for the intervention group; no differences were reported between the groups in lipid profile, body mass index, mortality rate, and blood pressure. The findings of the study support the effect of DSME in the improvement of glycemic control and augmented diabetes knowledge, self-efficacy, self-management skills, and empowerment.

Many studies have proven that DSME improved clinical outcomes for diabetes patients. A significant improvement of HgbA1c and fasting blood glucose was confirmed among the intervention group that received group- based DSME (Steinsbekk et al., 2012). Self-care management interventions may yield a higher effect if the program is condensed with sessions closely grouped together (Steinsbekk et al., 2012). Education with some degree of reinforcement during additional points of contact may provide the greatest improvement opportunity in patient outcomes. Intensification of diabetes self-care management education with follow-up interventions from the nurses can improve patients' HgbA1C and fasting blood glucose levels.

Self-care management programs containing educational and behavioral interventions has been reported to improve HgbA1C of in patients with Type 2 diabetes. Minet, Moller, Vach, Wagner, and Henriksen (2010) determined the effects of self-care management interventions on the improvement of glycemic control in patients with Type 2 diabetes in a meta-analysis of 47 RCTs yielding 7,677 subjects. The objective of the study was to assess the effects of self-care management interventions in improving glycemic control in Type 2 diabetes through analyzing the impact of different study characteristics on the effect size. Minet et al. investigated the impact of the differentiation between educational and behavioral psychosocial intervention. Minet et al. supported the improvement of glycemic control as showed by HgbA1C in patients with Type 2 diabetes through self-care management intervention. There was a reported 0.36% (95% CI 0.21–0.51) improvement in glycemic control of people who received self-care management treatment, similar to the effect seen in previous studies analyzing both educational and behavioral interventions in diabetes Type 2 (Minet et al., 2010). The reported reduction in HgbA1C was modest; however, Minet et al. suggested that such reduction in HgbA1C was significant enough in the reduction of risk development and diabetic microvascular complications progression. Providing a shorter intervention and closely grouped together sessions permitted the participants to remember and better synthesize the information (Minet et al., 2010). Shorter self-care management interventions by the PACT team nurses can improve HgbA1C in patients with Type 2 diabetes.

Self-management support, effective health care delivery system and collaboration between patients and their providers are important elements of effective diabetes

management. Johnson and Raterink (2009) promoted self-management support as a component of diabetes disease self-management aimed at improving diabetes-related health outcomes through a unique health care delivery method of clinic-in-a-clinic design, focusing on adults with diabetes Type 2. Johnson and Raterink endorsed self-management support through the provision of learned skills through diabetes management education, assisting in accomplishing intelligent and prudent health care decisions and responsibility promotion of self-care maintenance ownership. Johnson and Raterink described the Clinic in a Clinic model of care, based on the chronic care model (CCM) principles, and focused on the proposed outcomes of the American Association of Diabetic Educators (AADE). The objectives of the program were to demonstrate diabetic health outcomes improvement and to increase patient knowledge and self-management skills, thereby improving their participation in the management of their diabetes and patient-provider their communication (Johnson & Raterink, 2009). The setting of the family practice clinic was in the Denver Metro area, with approximately 500 total patients with diabetes among which 250 were actively receiving care. Johnson and Raterink acknowledged that diabetes outcomes and complications are dependent on the patient's extent of self-participation in diabetes management. The use of the plan, do, study, act (PDSA) cycle model was advocated as a strategy for modifying the process of care delivery, allowing evaluation and goal adjustments in a structured and sequential approach. One of the goals of the clinic-in-a-clinic design is the provision of alternative health care delivery to provide education time further than the time-limited visit, allowing continuity of care through collaboration between patient and providers. The process

objectives of the program were formatively evaluated throughout the PDSA cycles, addressing patient participation in order to achieve the concluding outcomes of improved health. The program showed the process of redesigning health care delivery, addressing the areas of improvement needed in the health care system through the individualized but interrelated PDSA cycles. Johnson and Raterink emphasized that addressing self-care management support for patients should be given importance, even at the outpatient clinic setting where allotted time for visits are sometimes challenging. Patients' collaboration with their providers and the delivery system is noted as a factor in the reduction of the chronic illness' consequences.

Diabetes self-management education (DSME) and self-management support (DSMS) are the foundation of effective diabetes management. A position statement and algorithm from the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics provided evidence and strategies for the provision of education and support services to all adults living with Type 2 diabetes (as cited in Powers et al., 2015). As a chronic disease, diabetes required patients to engage in numerous daily complicated activities involving self-management decisions and performances. Building the foundation to assist patients with diabetes to navigate through the multitude of decision-making actions to achieve improved diabetes outcome is the essence of DSME and DSMS (Powers et al. 2015). The facilitation of skills, knowledge and abilities in DSME are critical processes for diabetes self-care (Powers et al., 2015). Considered as a critical process in diabetes management is the maintenance of continued self-management (Powers et al., 2015). The DSMS is

maintained by supporting the implementation and sustainment of the patient's coping behaviors and skills (Powers et al., 2015). The position statement highlighted the many fragile factors to consider when assisting patients with diabetes to assimilate and apply learned coping and problem solving strategies. The dynamic and multidimensional patient behaviors and the environmental factors like family, values, culture, medical condition, social and the society are all interconnected in DSME and DSMS; therefore needing thoughtful consideration by the providers. Powers et al. (2015) validated the importance of patient-centered approach where consideration of collaboration and successful communication are encouraged to attain patient engagement in diabetes care. The self-care management educational approach should encourage patients' exploration of their healthcare choices, deciding for their own actions, supporting empowerment to accomplish well-informed decision making (Powers et al., 2015). The PACT team's exploration of patient's emotions, insights, and comprehension through active and reflective listening, using open-ended questioning, and discovering their aspiration for learning or modification in support of self-efficacy are components of effective patient engagement in diabetes care.

Addressing the Gaps in Education

The use of the plan, do, study, act (PDSA) quality improvement (QI) tool may enhance patient education and counseling in primary care. Varkey et al. (2009) aimed to use QI techniques to enhance patient understanding of diagnosis, management and follow up during office visits, using pre and post-intervention patient surveys that included qualitative and quantitative data for evaluation. Varkey et al. acknowledged that the lack

of optimal patient education and counseling are barriers to primary care safety and quality that generate opportunities for medical errors, suboptimal patient outcomes and poor patient and provider satisfaction. Varkey et al. recommended using reasonable and satisfactory QI tools, like the PDSA methods as proven techniques for generating and commencing system improvements intended to enhance patient education and counseling. Written or printed individualized information provided for each patient's clinic visit can serve as recall enhancer and improve patient satisfaction (Varkey et al., 2009). The PACT team nurses should optimize patient education and counseling through using the PDSA and individualized plan of care at each patient visit to achieve the best patient outcome.

Motivational interviewing (MI) interventions has been reported to address gaps in the problem of self-care management and diabetes outcomes. Chen, Creedy, Lin, and Wollin (2012) used a RCT with a goal to evaluate the effectiveness of the motivational interviewing as an intervention to improve self-care management, glycemic and psychological outcomes for patients with Type 2 diabetes. Chen et al. randomly selected 250 patient subjects with Type 2 diabetes who received motivational interviewing (MI) interventions. The result of the study showed significant improvement in self-management, self-efficacy, quality of life, and HbA1c with appropriate baseline value (<121.24, <174.57, <107.18, and >7.62, respectively) but not in depression, anxiety and stress ($F = 0.13$, $P = 0.72$) in comparison to the control group at three months follow-up. Chen et al. recognized that there were several gaps in the problem of self-care management and diabetes outcomes, which included DM educational intercessions and

increased motivation augmentation to suitably maintain DM management, limited studies that addressed the psychological component as a barrier in DM management, and limited studies which conferred idyllic strategies to augment behaviors in self-care management. Chen et al. acknowledged that individual discussion and group intervention produced a greater decline in glycemic levels particularly in the short term in people with Type 2 diabetes. The study showed significant information to use in improving diabetes care and management in the VA. First, the study showed the gaps involved in self- care management and diabetes outcomes. Secondly, the study provided evidence that the PACT team, particularly the nurses can use the learned techniques and concepts of MI and TEACH programs to improve uncontrolled HgA1C and diabetes outcomes. The MI techniques can be used individually by nurses and providers to coach patients with diabetes Type 2, eliciting a positive change in diabetes care.

The Importance of Tune in, Explore, Assist, Communicate, and Honor (TEACH)

The TEACH for success initiative of the VA provides the necessary training for the PACT team to apply coaching and self-care management education to patients with chronic diseases. Responding to the 2009 Universal Services Task Force Report, the VA commenced several transformational initiatives which included the TEACH for success as the main element of PACT team training (National Center for Health Promotion and Disease Prevention (NCP) & Employee Education System (EES), 2013); Goldstein and Minor, 2013). The program prepared providers to apply proactive, individualized and veteran-driven healthcare (NCP & EES, 2013). The VA has been promoting and integrating the use of both TEACH for success program and MI in patient education,

hence making these classes mandatory for PACT team members in the VA primary care. Goldstein and Minor (2013) reported that the TEACH course assists clinicians to integrate the individual patient's needs and concerns with the clinician's responsible patient education. The concepts of TEACH promote the patient's health and well-being, promote empowerment to manage his/her own health problems, and emphasizes health coaching and self-care management education to improve health behaviors, achieve wise health decisions and manage health tasks (Goldstein and Minor, 2013). Utilizing the TEACH training concepts will provide evidence-based, veteran-centered patient education, and patient-centered communication skills, and coaching to assist in the self-care management of chronic diseases, promotion of healthy behavioral changes, optimizing patient's health and well-being (NCP & EES, 2013). The program also highlights practical, explicit, and concise techniques in patient education that providers can utilize in various healthcare settings, meeting the Joint Commission standards in patient education competencies (Goldstein and Minor, 2013). The use of the TEACH concepts and techniques in the QI project will provide evidence-based, patient-centered, concise yet specific patient education to improve diabetes outcome in primary care.

The Importance of Motivational Interviewing (MI)

The VA also mandated the inclusion of the MI program in training PACT teams for effective coaching and self-care management education of patients. Motivational Interviewing is an evidenced-based intervention, patient-centered, respectful, and a comparatively brief approach to elicit change in varied target health behaviors across healthcare settings (Rollnick, Miller, Butler, & Aloia, 2008; Miller & Rose, 2009).

Goldstein and Minor (2013) discussed the four core concepts of MI, the first of which includes partnership through building a common understanding, trust, caring and respect between the patient and provider. Secondly, the concept of acceptance is fostered which encourages recognition and provides support to the patient's autonomy because the patient has the true power for embarking change. Thirdly the concept of compassion actively promotes the individual patient's welfare and prioritizes their specific needs. Lastly, the concept of evocative approach is fostered in patient counseling, eliciting unique individualized motivations and capabilities of the patient to change (Goldstein and Minor, 2013). The core concepts of MI can be applied by the nurses to improve the diabetes self-care management teaching of patients with uncontrolled HgbA1C in the VA primary care.

Motivational Interviewing has been reported as effective in eliciting behavior changes in chronic disease education. A seminal text book on the application of MI in healthcare settings provided extensive evidence of the efficacy of MI on multiple health issues (Rollnick, et al., 2008). Rollnick, et al. discussed evidence that MI is a patient-centered, respectful approach that has been demonstrated to change multiple health behaviors with brief interventions with core skills of: ask, respond with empathy while listening and inform. The MI skills can be used by the nurses in the implementation of self-care management, coaching and evoking positive changes in diabetes care.

Motivational Interviewing has been used across patient population needing motivation and behavior change. The journal article of Miller and Rose (2009) presented the history and outcomes research supporting the efficacy of MI in behavior change,

healthcare and psychological services. The journal article reviewed the last 30 years of MI development and research, with multiple populations across the world as subject. This review of research promoted MI as a collaborative therapeutic style that evokes client motivation and honors client autonomy as critical component and explored the key skills in MI as being feedback, emphasis on personal responsibility, advice, a menu of options, an emphatic counseling style, and support for self-efficacy. Motivational Interviewing is evidence-based, relatively brief, and applicable in a broad variety of target behaviors and requires the relational and technical skills of the providers to promote change talk and behavior, which can be utilized by the nurses in the self-care management teaching of patients.

Patients with Type 2 diabetes experience barriers to self-care behavior requiring tailored treatments and interventions. Daly et. al. (2009) aimed to recognize which barriers to diabetes management are linked with problem behaviors and which patient behaviors and barriers are associated with diabetes . The cross-sectional study linked medical records and self-reported survey information from patients with Type 2 diabetes. The study randomly selected a group of 800 clinic patients from a Midwest medical center with 55% or 253 patients responded and had HgbA1c done within 3 months of the survey date. As results, the variables significantly and independently associated with lower HgbA1c included being married (the mean HgbA1c was 0.46% lower for married patients as compared to those who were not married at $P < .016$), higher adherence-satisfaction with medication (the mean HgbA1c was 0.90% lower for higher adherence-satisfaction with medication than low at $P < .001$), and higher adherence-satisfaction with

testing blood glucose (the mean HgbA1c was 0.40% lower for higher adherence-satisfaction with testing blood glucose than low at $P < .042$). Findings also suggested that the barriers to self-care behavior are varied with the patient with diabetes. The most common barrier identified was cost among the self-care behaviors. The belief that Type 2 diabetes is a serious problem and depression were strongly associated with higher HgbA1c levels while lower HgbA1c levels were associated with being married and better self-reported adherence and satisfaction with taking medication and blood glucose testing. Identification of barriers to adherence and depression are essential to enhancing self-management behaviors to manage diabetes and minimize adverse effects (Daly et. al., 2009). Daly et. al. concluded that developing interventions to minimize barriers and tailor treatment are important. The importance of the study to the project is the provision of guidance for the nurses to explore and identify individual patients' unique barriers to guide in the development of individualized treatment plans.

In summary, the TEACH and MI techniques and concepts can be used synergistically by the nurses to achieve effectual outcome in diabetes Type 2 self-care management interventions during the project initiative. Both programs provide evidence-based, veteran-centered health education and coaching, and patient-centered communication skills for the nurses. Using the TEACH and MI techniques and concepts requires opportunities for patient self-reflection, skill practice and feedback to improve self-care management teaching of patients with DM Type 2.

General Literature

Complications of Diabetes

Diabetes Mellitus as a chronic disease leads to many complications if not addressed timely and consistently controlled. Nationally, diabetes affects 24 million Americans and is identified as the seventh leading cause of death costing 233,619 lives in 2005 (CDC, 2013). The problem of uncontrolled diabetes was also addressed as one of the leading health topics and indicators under the Clinical Preventive Services of the Healthy People 2020 (U.S. Department of Health and Human Services, 2010). The literature has established that hyperglycemia, measured by HgbA1C, is related to the microvascular and macrovascular complication risks of diabetes thus still the main focus of diabetes therapy (Inzucchi et al., 2015). Randomized trials have recognized decreased microvascular complication rates for controlled glycemic goals of patients with Type 2 diabetes (Inzucchi et al., 2015). Complications and disease progression can lead to various cardiovascular, neurological and renal problems, amputations and blindness (CDC, 2013; U.S. Department of Health and Human Services, 2010). Inzucchi et al. (2015), reported that diabetes Type 2 is also associated with an increased cancer risk, severe psychiatric illnesses, cognitive deterioration, chronic hepatic illnesses, accelerated arthritis, and other deadly and disabling states. Understanding the prevalence and significant impact of this chronic disease on the veteran population has been instrumental as the driving force leading to further investigate the gaps and barriers of diabetes care, as well as the suggested recommendations to improve diabetes outcome.

Developing a Comprehensive Diabetes Education Curriculum Program

The component of a self-care management educational tool have to be evidenced-base, concise and patient-tailored to be efficient and effectual. In setting out national

standards for DM education, Haas et al. (2013) endorse that current educational research supports the inclusion of sensible problem-solving advances, collaborative diabetes care, psychosocial concerns, behavioral transformations, and strategies to preserve self-management efforts of the patients with Type 2 diabetes. Several criteria for quality and effective diabetes education to support decision-making and sensible behavioral change, and address psychosocial dilemmas were discussed. The criteria include interactive and patient centered approaches, action-oriented behavioral aims and objectives, and, resourceful, patient-centered, delivery methods that are experience-based (Haas et al., 2013). Further, it was suggested that a framework for DSME curriculum should stipulate existing evidence and practice guidelines specifying outcomes evaluation criteria, however, consideration of the individual patient's needs should determine the needed specific part of the curriculum. Haas et al. (2013) also noted that the diabetes curriculum as shown in Table 1 can be adapted in every practice setting and should be tailored according to the patient's age, diabetes type, cultural mores, health literacy consideration and health co-morbidities to result in successful outcomes.

Table 1

Core Themes in a Comprehensive Diabetes Education Curriculum Program (Haas et al., 2013).

1. Descriptions of the DM disease process and choices
2. Integration of the nutritional management and patient lifestyle

3. Integration of patient's physical activity and lifestyle
4. Education regarding medication safety and therapeutic effectiveness education
5. Education in blood glucose monitoring and parameters and results interpretation with corresponding self-care management decision-making
6. Prevention, detection, and treatment of acute complications
7. Prevention, detection, and treatment of the chronic complications
8. Development of individual strategies to tackle psychosocial concerns and problems
9. Development of individual strategies to encourage health and behavioral change

Information from the Haas et al (2013) article, including information from Table 1, was instrumental in developing an effective and evidence-based diabetes education curriculum program that the project leader can incorporate in the DM QI project. In addition, Haas et al., (2013) also inspired the leader to address each patient's individualized learning preferences as vital information to be added into the patient's electronic chart for easy reference. Diabetes self-management education is necessary and effective, although it does not guarantee a lifetime diabetes self-care effectiveness. It is essential to have regular communication among the patient's health care team to ascertain

effective and high-quality edification and support for patients with diabetes and prediabetes.

Theoretical and Conceptual Framework

Introduction

The HBM was chosen as the best theoretical framework to address the DM Type 2 dilemma among veteran population. The HBM theory was founded in the 1950's by an assembly of social psychologists who considered the attitudes and beliefs of a person as the developing foundation (McEwen and Wills, 2014). The HBM theory was considered a founding theory that visualized behavioral health achieved by adjusting concepts originating from behavioral sciences. The HBM theory was predominantly expanded to promote prioritization of preventative measures among the U.S. population. McEwen and Wills (2014) recounted that social psychology theories can be purposefully used in nursing through health promotion interventions. Health promotion activities are displayed in nursing implementation as exemplified by the project initiative, through increasing patients' awareness concerning healthcare problems and encouraging transformation towards healthy behaviors and activities (McEwen and Wills, 2014).

Syx (2008) acknowledged the importance of the HBM in the patient's educational interventions, and discussed the three chief premises of the HBM. The first premise includes the patient's individualized perception of susceptibility and severity of his/her disease process, which is viewed as a critical element affecting patient's adherence. Secondly, patients have unique modifying factors like knowledge baseline, demographic characteristics, social variables, and psychological factors. Lastly, the likelihood of the

patient taking action is dependent on his/her perceived barriers and benefits. When providers develop keen understanding of the HBM premises, they can elicit individual patient's perspective in order to modify or tailor educational interventions.

Understanding the three chief premises of the HBM can assist the PACT team in improving the DM Type 2 self-care management educational interventions. The HBM premises provide a clear framework from which to understand that each individual patient is unique and affected by different factors and perceptions, therefore requiring individualized teaching strategy and intervention to be effective. The QI project will encourage the PACT team to incorporate the collective concepts and techniques from TEACH, MI and the HBM to better understand each diabetes patient, in order to arrive into a successful patient-tailored and patient-centered communication, coaching and diabetes education intervention.

Hodges and Videto (2011) described that according to the HBM, a person's possibility of engagement in the recommended healthcare intercession is mainly dependent on his/her perceptions. When an individual's perception is positively modified, the possibility of engagement in the recommended healthcare intercession also increases. The four essential concepts of the HBM are perceived susceptibility, perceived severity, perceived benefits, and perceived barriers (Hodges and Videto, 2011). The person's perceived susceptibility determines how the individual foresee the likelihood of getting sick. The person's perceived severity is how the individual foresee the reliability of his diagnosis and examination results. The person's perceived benefits is how the individual foresee the effectiveness of recommended interventions. The person's perceived barriers

pertain to how the individual foresee the concrete and expresses costs of the recommended interventions (McEwen & Wills, 2014).

In summary, the magnitude of the effect of the HBM theory to the project lies on the performance of health promotion activities by patients with DM Type 2, as encouraged or influenced by their nurses. Hodges and Videto (2011) recounted that health promotion and health education programs or projects are intended to raise perception of susceptibility and severity, provide information accuracy regarding benefits and barriers, reduce barriers when suitable, increase self-efficacy and provide cue to action. The development of the project empowers the nurses to utilize strategies in educating their patients, supporting healthy interventions, activities and behaviors.

Summary

The literature review revealed strong evidentiary support for the improvement of self-care management education processes in diabetes Type 2 as a critical step to improve patient outcomes in diabetes care. The lack of consistent and comprehensive, yet individualized and patient-centered nursing education frequently absconds patients. Patients will be left without apparent understanding of the importance of self-care management in chronic diseases like diabetes Type 2 and unable to recognize important signs, symptoms and complications of the disease process. The PACT team providers and nurses' recognition of the gaps and barriers in improving self-care management and diabetes education is critical to improve the healthcare outcomes of patients with diabetes Type 2. Using the evidence-based, feasible, practical, individualized, concise and patient-centered concepts and techniques of the VA TEACH and MI programs assisted providers

in teaching and coaching of patients, to achieve the skills and goals of self-care management, promoting healthy behavioral modifications to reach optimized health and well-being. The PACT team also used the guiding principles of the HBM to develop skills to completely understand the model's premises to elicit individual patient's perspective to modify or tailor interventions.

Section 3: Approach

Introduction

Generally, QI projects are used to focus on improving the health care quality, patient outcomes and processes and the effectiveness and efficiency within the workflow of an organization (Kring, 2008). In the QI project, I focused on improving the self-care management education by the nurses through using the TEACH and MI strategies and techniques when teaching patients with uncontrolled DM Type 2 in the VA Southwest primary care clinic. The project also included implementation of a DM Type 2 self-care management program through an ADA guidelines-directed nursing education of the RN and LPN. In the project initiative, I evaluated outcomes before and after teaching interventions through a comparison pretest and posttest design and also assessed if the initiative improved the uncontrolled HgbA1C of veteran patients with DM Type 2. I evaluated the nurses' confidence and importance of the TEACH and MI skills application and skill assessment. I also evaluated the self-care management knowledge, skills, and confidence of patients with DM Type 2 after receiving subsequent self-care management nursing teachings. In Section 3, I presented an in-depth description of the project design/methods, population, and sampling that includes project setting and target population, data collection, instrumentation, protection of human subjects, anticipated benefits and potential risks, data analysis, the analytical techniques to answer the guiding and/or research questions, the project evaluation plan, and summary.

Project Design/Methods

The purpose of the QI project was to implement a DM Type 2 self-care management program through an ADA guidelines-directed nursing education of the RNs and LPNs in the VA Southwest primary care clinic. The goal of the nursing education program was to improve the knowledge, proficiency, confidence, and efficiency of nurses in teaching patients with DM Type 2 who had uncontrolled HgbA1C in the primary care clinic. A pretest and posttest was completed by the nurses using the Patient Education: TEACH for Success Self-assessment and Clinician Importance and Confidence Regarding Health Behavior Counseling questionnaires to evaluate the confidence and importance of the TEACH and MI skills application and skill assessment. By incorporating TEACH and MI strategies and techniques within the improved self-care management program, the nurses provided evidence-based, veteran-centered health education, communication, and coaching. A pretest and posttest using the Diabetes Self-Management Education Program: Patient Assessment of Learning Needs Using TEACH and MI questionnaire was also used by the RNs to assess the self-care management knowledge, skills, and confidence of patients with DM Type 2 after receiving subsequent nursing teaching intervention. The DM Type 2 self-care management program included proper selection of appropriate, current, organized, and standardized DM Type 2 teaching materials and references. The self-care management program was modified according to the patient's learning preferences, situations, barriers, and condition, making it more veteran-centered and patient-specific. By the end of the project initiative, the nurses determined if their improved self-care management intervention made a difference or

improved the patients' outcomes by looking at improvements in the initially uncontrolled HgbA1C of selected patients.

Population and Sampling

Setting

The United States' largest integrated health care system is the Veterans Health Administration (VHA; U.S. Department of Veterans Affairs, 2016). The foundation of the VHA's definition of primary care was based on the Institute of Medicine's definition as

> Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community. (U.S. Department of Veterans Affairs, 2015, para 1)

The VHA primary care provides eligible veterans the long-term, patient-provider relationships, the initial point of contact for newly enrolled veterans, coordinating care across a spectrum of health care services and educating and offering disease preventive programs (U.S. Department of Veterans Affairs, 2016). The setting of the QI project was the VA Southwest primary care clinic, located in Las Vegas, Nevada. The clinic was one of the six VA primary care clinics, all located in Southern part of Nevada and part of the VA Southern Nevada Healthcare System (VASNHS).

The VA management was supportive of the QI initiative because of the escalating number of uncontrolled diabetes patients with HgbA1C of > 9% in the primary care clinics despite the presence of DM resources, such as the diabetes and endocrinology clinics, PACT pharmacist, and PACT dietician. The primary care nurses had completed the mandatory TEACH and MI program classes required to improve patient teaching in the clinic setting. Through the QI initiative, the nurses were able to use learned strategies and techniques from the classes, but more specific to applying them to improve diabetes care and management through the PACT team approach. The purpose of the QI project was to evaluate the outcomes of nursing teaching by assessing the patients' self-care management knowledge, skills, and confidence after receiving subsequent nursing teaching intervention. In the QI project, I also evaluated the outcomes of the improved self-care management intervention by assessing the initially uncontrolled HgbA1C of selected patients.

Target Population

The target population of the QI project included the LPNs and RNs assigned to the two PACT teams included in the project and the 10 targeted patients with uncontrolled DM Type 2 from each PACT teams. The nurses were expected to participate in receiving an ADA guidelines-directed nursing education to improve DM Type 2 self-care management program and a program showing how to incorporate the concepts and techniques of TEACH and MI into the improved self-care management program. The PACT nurses, in collaboration with their PACT providers, randomly chose the initial 10 scheduled patients with uncontrolled DM Type 2 with their latest HgbA1C of > 9% from

each PACT team, as the inclusion factor. The included patients discussed the plan of care with their providers and agreed to the mutually developed individualized goals and activities. The providers directed these patients during their scheduled appointments to have a 30-minute nursing appointment with their respective PACT RNs, with succeeding follow-up phone calls or visits as needed and agreed upon by the patients, allowing for implementation of the improved self-care management program.

Data Collection

In the project plan, I evaluated the outcomes of the TEACH and MI program and the DM Type 2 self-care management program. A program was implemented by the project leader to incorporate the concepts and techniques of the TEACH and MI into the improved DM self-care management program. I implemented the pretest (Appendix D and Appendix E) to be completed by the nurses to evaluate their confidence and their perceived importance of the TEACH and MI skills application and skill assessment prior to starting the refresher program. A program was provided using a DVD from the VA Health Promotion Disease Prevention (HPDP) showing how to incorporate the concepts and techniques of the TEACH and MI using the PDSA approach in a VA-approved form called My Health Choices (Appendix A). I reminded the nurses to incorporate the learned concepts and techniques of the TEACH and MI in diabetes teaching. The nurses used the PDSA tool to validate each individual patient's goal to improve his or her self-care management and to re-evaluate when the nurses will make the follow-up phone calls. After the program, a posttest using the same questionnaires was completed by the nurses. Through comparing the results of both tests, an improvement or increase in the nurses'

confidence and their perceived importance of the TEACH and MI skills application was analyzed. The mandatory TEACH and MI program education occurred upon working in the primary care as a required training for the PACT team. The PACT team nurses had received the TEACH and MI program education from a VA-certified educator because these programs are mandatory education offered to train PACT teams in promoting patient-centered communication, health education, and coaching skills (Goldstein & Minor, 2013).

An ADA guidelines-directed nursing education was also implemented to improve the DM Type 2 self-care management program. The tool used was a Power Point presentation (Appendix B) developed by the project leader based on the 2015 ADA recommendations and following the Haas et al.'s (2013) comprehensive diabetes education curriculum program as shown in Table 1. The PACT RNs used the Power Point presentation to assist in teaching the 10 patients for the project. In addition, a collection of VA-approved printed and colored DM Type 2 reading materials were also organized for the patient's reference. The collection included a top page (Appendix C), with the individual patient's recent fasting glucose, HgbA1C, blood pressure, lipid panel results, and target ranges, making it unique to the patient. A comparison pretest and posttest was used by the PACT RNs to assess the self-care management knowledge, skills, and confidence of patients receiving the self-care management teaching. The pretest (Appendix H) was given to the 10 patients by their PACT RN prior to their individualized teaching, and the same questionnaire was also used for the posttest after the class. Both results were compared to assess the increase or improvement in the

patient's self-care management knowledge, skills, and confidence. By the end of the project initiative, the nurses also determined if the improved self-care management intervention made a difference or improved the patients' outcomes by looking at improvements in the initially uncontrolled HgbA1C of selected patients.

Instruments

Patient Education: TEACH for Success Self-Assessment Questionnaire

The instrument Patient Education: TEACH for Success Self-Assessment (Appendix D) was provided by the VA HPDP and TEACH coordinator. The instrument was developed by the VA National Center for Health Promotion and Disease Prevention who granted me approval for use (Appendix G). The instrument is used by the organization's TEACH and MI educators to describe the competency of the nurses in the identified TEACH skills. I will use the questionnaire to evaluate the nurses' profile of patient education skills and highlight the areas where the nurses needed more skills reinforcement. Although there was no reliability or validity information for the instrument, the VA National Center for Health Promotion and Disease Prevention advocated its use to assess the learner's TEACH skills, which is necessary for effective patients' education. The TEACH program has been recognized in providing training to PACT teams demonstrating patient-centered communication, health coaching, and education skills (U.S. Department of Veterans Affairs, 2010).

The instrument includes a Likert scale to determine if the participant is *not skillful*, *skillful*, or *very skillful*. The questionnaire was used to describe the competency of the nurses in the identified TEACH skills, thereby determining the areas where the

nurses needed more skills reinforcement. The skills focus on establishing effective patient and clinician relationships by identifying behaviors that help or hinder the relationship. The skills also help the participants to identify the learning assessment elements involved, help them to understand and use the health coaching approach to assist in behavior change, and help them learn how to deal with the patient's ambivalence and resistance to change (U.S. Department of Veterans Affairs, 2010).

Clinician Importance and Confidence Regarding Health Behavior Counseling Questionnaire

Another instrument from the VA HPDP and TEACH coordinator that was used in the project is the Clinician Importance and Confidence Regarding Health Behavior Counseling questionnaire (Appendix E). The VA organization's TEACH and MI educators use the instrument to evaluate the attendees' confidence and their perceived importance of the TEACH and MI skills application and skill assessment. The instrument was developed by the VA National Center for Health Promotion and Disease Prevention, granting approval for use (Appendix G). The instrument includes a Likert scale to evaluate the level of importance and confidence of the communication strategies for promoting health behavior change. The questionnaire represented the Importance Ruler and Confidence Ruler by providing a visual aid through a horizontal bar representing the 0 to 10 scale matching the scales of *not at all important* being the lowest to the *extremely important* being the highest rating of importance and the *not at all confident* being the lowest to the *extremely confident* being the highest rating of the confidence scale. The perception of how important the change is to the person and how confident he/she is in

making the said change influences the readiness of the person to make the change (Miller & Rollnick, 2003). Shumaker, Riekert, and Ockene (2009) reported that generally, when the importance and confidence scales are both high, the patient feels more readiness to make changes while when both importance and confidence scales are low, the patient does not feel ready at all to make the changes. If the importance and confidence scales are somewhere in between the low and high or one factor is high but the other one is low, the patient is more likely to feel ambivalent about making changes (Shumaker et al., 2009). Boudreaux et al. (2012) reported that MI have shown its practical use in various settings, target behaviors and study samples as it enhances internal motivation for behavioral change suggesting that behavioral change is likely to happen and persist at the presence of strong internal motivation. Boudreaux et al. (2012) also reported that motivation rulers are clinically popular, broadly disseminated, not requiring scoring or algorithms, familiar and quick to complete but little published studies have examined their psychometrics. The observational study however, showed the correlation of 0.50 between Important ruler and Confidence ruler, and that they are significant at $p < 0.001$.

Diabetes Self-Management Education Program: Patient Assessment of Learning Needs Using TEACH and MI" Questionnaire

The comparison pre-test and post-test used by the PACT RNs to assess the self-care management knowledge, skills and confidence of patients with uncontrolled DM Type 2 is the Diabetes Self-Management Education Program: Patient Assessment of Learning Needs Using TEACH and MI questionnaire (Appendix H). Permission to use the instrument has been included in Appendix I. The questionnaire was adopted from the

Diabetes Self-Management Education Program published by the Centers for Medicare and Medicaid Services, Quality Improvement Organizations and Nevada Wellness, currently being used by different organizations in the state, like Dignity Health to provide diabetes education in the community. The instrument was primarily developed for the Chronic Disease Self-Management study by Stanford University, tested on 605 subjects with chronic disease, with internal consistency reliability score of .91 (Stanford University School of Medicine, 2007). The instrument includes a six-item scale covering several domains commonly seen across numerous chronic diseases like controlling symptoms, role function, emotional functioning and provider communications. The data from the instrument will determine the patients' basic knowledge of diabetes self-management and patients' level of confidence regarding controlling symptoms, role function, emotional functioning and provider communications, domains that are commonly observed in diabetes as a chronic disease. The data will be used by the PACT RNs to assess the self-care management knowledge, skills and confidence of patients with uncontrolled DM Type 2. The instrument provided a visual aid via a horizontal bar representing a simple scale of 0 to 10 which represents the scales of *not at all confident* being the lowest to the *extremely confident* being the highest rating of confidence. The patients' data showing higher score in the Confidence Ruler may suggest that the patients' internal motivation is stronger, therefore suggesting likelihood of successful health behavioral change in diabetes.

Protection of Human Subjects

The QI project initiative was conducted after receiving the approval from the VA Research Compliance Office and deemed to have completed the required VA Academic Project approval process. Data collection and results evaluation of the QI project occured upon completion of the project proposal paper and after Walden's Institutional Review Board (IRB) approval was received. As instructed by the VA management, I completed and submitted the required VA Academic Project Request Process, as part of the Nursing Standard Operating Procedure (NSOP) policy from nursing service. The policy's purpose is to ensure a standardized process for students requesting approval to complete an academic project at VASNHS. Since the project was considered a QI initiative, IRB approval was not required nor any consent requirements from the project participants. Approval for the QI project to proceed without VA IRB intervention was received via the approval letter from the VA Chief of Nursing Professional Services/Associate Nurse Executive (Appendix J). The VA Chief of primary care, the Nurse Executive, the Chief of Nursing Professional Services/Associate Nurse Executive, the Chief of the Southwest primary care clinic and the Southwest primary care clinic nurse manager were all supportive of the QI project initiative. Participation to the initiative were all voluntary and agreed upon by the participants, with all answers to the QI project questionnaires treated as confidential and anonymous. The nurses evaluated the change in the patients' HgA1C, maintaining the patients' confidentiality in the process through using the numbering of patient #1 to patient #10. The hard copies of the data from the QI project were kept in a locked cabinet in a locked VA office. Data information in the computer

were password- protected and were kept in a secured environment in the VA primary care clinic. All patient information were secured following the VA policy and Health Insurance Portability and Accountability Act (HIPAA) guidelines, required password-protected computer access and use of individual VA- approved badge to protect the veteran's identity.

Anticipated Benefits

It was anticipated that the project will increase the nurses' knowledge, skills, proficiency, efficiency and confidence in teaching patients who have uncontrolled diabetes. When the nurses developed efficiency, proficiency and confidence in their job performance, improved and more effective patient teaching will transpire through subsequent self-care management patient teachings from the nurses. The positive effects of added education improved DM outcomes, patient satisfaction, and nurses' job satisfaction and self-esteem, saving time and extra efforts for the PACT team in the long term. The added nursing education and patient education from the nurses translated into improved patient care delivery and outcomes, therefore anticipated effective decreases of elevated HgbA1C levels of the patients with DM Type 2. Implementation of the project created a positive impact in nursing practice through encouraging nurses to have proactive roles in diabetes care, prevention and control of DM Type 2.

Potential Risks

The answers to the QI project questionnaires were kept anonymous with nurses' and patients' risks of participating in the initiative as being none to minimal. Minor discomforts transpired from answering the questionnaires. The nurses and patients as

participants were allowed ample private time to answer and may elect to complete the questionnaires privately. For the nurses, the additional patient intervention required extra time and efforts on their part, but the overall part of their roles as patient educator and advocate. For the patients with diabetes, the initiative required them to communicate more with their PACT team, particularly the nurses through subsequent face to face or follow-up telephone appointments. The initiative required the patients to re-evaluate their daily activities as it relate to their diabetes self-care management, making the extra effort, time and changes to improve their HgbA1C and addressing involved barriers.

Data Analysis

The practice-focused question was: Can improving self-care management of patients with Diabetes Type 2 through ADA guidelines directed nursing education at the VA primary care clinic decrease the percentage of patients with poor control of HgbA1C from 84% to 81%, the national VA target?

Analytical Techniques to Answer Guiding and/or Research Questions

By the end of the three-month project initiation, the changes in patients' HgbA1c levels were assessed as a result of the project's full implementation. The instrument Patient Education: TEACH for Success Self-Assessment Questionnaire measured the competency of the nurses in the TEACH skills and determined the areas in which they need more skills reinforcement. Descriptive analysis was used to examine and analyze the percentage of the ordinal data of the pre-test and post-test, showing the percentage of nurses who are *not skillful, skillful* and *very skillful*. The instrument Clinician importance and confidence regarding health behavior counseling determined the level of importance

and confidence of the communication strategies of the nurses for promoting health behavior changes. A t-test was used to examine and compare the mean scores of the nurses in their importance and confidence scale rating of 0 to 10 regarding the 12 communication strategies from the pre-test and post-test data. The instrument Diabetes Self-Management Education Program: Patient Assessment of Learning Needs Using TEACH and MI evaluated the self-care management knowledge, skills and confidence of the patients with uncontrolled DM Type 2. A descriptive analysis was used to examine and analyze the proportion/percentage of patients' correct responses regarding their basic diabetes knowledge and their individual responses on how they cope with their diabetes. A t-test was used to examine and compare the mean scores of the patients' level of confidence scale rating in coping with diabetes, ranging from 0 to 10 scale.

Project Evaluation Plan

According to Hodges and Videto (2011, p. 209), impact evaluation assesses the improvement in "behavioral, environmental, predisposing, reinforcing and enabling factors". The impact evaluation utilized in the QI project has shown the improvement in the delivery of healthcare and patient outcomes. Quality improvement tools, such as the PDSA methodology are successful and effective techniques for generating and initiating system improvements intended to enhance patient education and counseling, a key component necessary for enhancing the safety and quality of primary care such as where I work as a primary care nurse practitioner of the VA. The model builds in continuous formative evaluation and redesign to ensure successful program development, implementation and evaluation (Johnson & Raterink, 2009). The QI project aimed to

decrease the elevated, uncontrolled Hemoglobin A1C (HgbA1C) levels of the patients with diabetes Type 2 in the VA Southwest primary care through improved education initiative by the PACT team. The nursing education program goal was directed towards improving knowledge, proficiency, confidence and efficiency of nurses in teaching patients with DM Type 2 who have uncontrolled HgbA1C. The QI project also focused on improving the self-care management education by the nurses through using the TEACH and MI strategies and techniques when teaching patients with uncontrolled DM Type 2. By incorporating TEACH and MI strategies and techniques within the improved self-care management program, the nurses provided evidence-based, veteran-centered health education, communication and coaching. Comparison pre-test and post-test questionnaires were used to evaluate the nurses' confidence and their perceived importance of the TEACH and MI skills application and skill assessment. Comparison pre-test and post-test questionnaires were used to assess the self-care management knowledge, skills and confidence of patients with DM Type 2 after receiving subsequent nursing teaching intervention. The project initiative provided the organization with the valuable information to improve nursing education and patient self-care management education in order to improve patient diabetes outcome. The QI project also assessed improvements in patient's uncontrolled HgbA1C by the end of the initiative.

Summary

The QI project initiative aimed to decrease the elevated HgbA1C levels of the patients with diabetes Type 2 in the VA Southwest primary care through improved education initiative by the PACT team using TEACH and MI. The nursing education

program goal was directed towards improving knowledge, proficiency, confidence and efficiency of nurses in teaching patients with DM Type 2 who have uncontrolled HgbA1C. By incorporating TEACH and MI strategies and techniques within the improved self-care management program, the nurses provided evidence-based, veteran-centered health education, communication and coaching. The project initiative provided the organization with the valuable information to improve nursing education and patient self-care management education improving diabetes outcome.

Section 4: Findings and Recommendations

Introduction

The purpose of the QI project initiative was to decrease the elevated HgbA1C levels of the patients with diabetes Type 2 in the VA Southwest primary care clinic through an improved education initiative by the PACT team using TEACH and MI techniques. The project implemented a DM Type 2 self-care management program through an ADA guideline-directed nursing educational program for the RNs and LPNs in the VA Southwest primary care clinic. I evaluated the confidence and importance of the TEACH and MI skills application and skill assessment using pretest and posttest questionnaires. Assessment of the self-care management knowledge, skills, and confidence of patients with DM Type 2 after receiving the subsequent nursing teaching intervention was also conducted using pretest and posttest questionnaires. The clinic nurses used education strategies and techniques from the TEACH and MI programs to improve the self-care management of the patients with DM Type 2, providing evidence-based, veteran-centered health education and coaching and patient-centered communication skills. In Section 4, I will discuss the summary of findings, the findings in the context of the literature, implications, strengths and limitations of the project, and an analysis of self.

Summary of Findings

The goal of the QI project was to implement a DM Type 2 self-care management program through an ADA guideline-directed nursing educational program for the two PACT teams composed of two RNs and two LPNs in the VA Southwest primary care

clinic. The project incorporated TEACH and MI strategies and techniques within the improved self-care management program in order to provide evidence-based, veteran-centered health education, communication, and coaching to the patients. The project question was the following: Can improving self-care management of patients with diabetes Type 2 through ADA guideline-directed nursing education at the VA primary care clinic decrease the percentage of patients with poor control of HgbA1C from 84% to 81%, the national VA goal? In order to answer the project question, the following objectives were identified for the project initiative:

1. To improve the knowledge, proficiency, confidence, and efficiency of nurses in teaching patients with DM who have uncontrolled HgbA1C in the primary care clinic
2. To evaluate the outcomes of nursing teaching by assessing the self-care management knowledge, skills, and confidence of patients with DM Type 2 after receiving subsequent nursing teaching intervention
3. To examine the relationship between improved nursing education regarding DM Type 2 self-care management and the HgbA1C of patients with uncontrolled diabetes at the VA Southwest primary care clinic.

Project Objective 1

Pretests and posttests were administered to the nursing staff before and after receiving DM Type 2 self-care management program incorporating TEACH and MI strategies and techniques. To be more effective in teaching their patients, the PACT team nurses were evaluated regarding their competency in the identified TEACH skills and

profile of patient education skills, highlighting the areas where they needed more skills reinforcement. The instrument used for the assessment was the Patient Education: TEACH for Success Self-Assessment Questionnaire. The instrument used a Likert scale to determine the participant's self-assessment of being *not skillful*, *skillful*, or *very skillful* (Table 1). The data analysis involved the pairing of each nurse's responses basing on the pretests and posttests results. It was anticipated that increased frequency of v*ery skillful, can do this well* responses at posttest would suggest that the nursing staff increased their skills competency and, therefore, benefitted from the educational intervention.

Table 1

Skills Competency of Nurses

	Questions	N	Pre-test		Post-test	
	21	4	Freq	Percent	Freq	Percent
Not skillful, need help with this			5	5.95	0	0
Skillful, could use some updating			63	75.0	13	15.48
Very Skillful, can do this well			16	19.05	71	84.52

Because the pretests and posttests were immediately completed before and after the educational intervention, all four nursing staff from the two PACT teams who participated in the project initiative completed both the pretests and posttests questionnaires composed of 21 questions. According to the pretest, there were few TEACH skills that the nurses considered themselves *not skillful* in and needed help; however, for most of the TEACH skills, the nurses felt *skillful* but could use some updating. As seen in Table 1, in the posttest, there was a considerable increase in the

nurses' skills competency, with most of the questions answered as *very skillful* and, therefore, the nurses benefited from the educational intervention.

The instrument, Clinician Importance and Confidence Regarding Health Behavior Counseling Questionnaire, was used to evaluate to evaluate the nurses' confidence and their perceived importance of the TEACH and MI skills application and skill assessment. I used the instrument to evaluate the level of importance and confidence of the communication strategies for promoting health behavior change. The instrument represents the Importance Ruler and Confidence Ruler. The perception of how important the change is to the person and how confident he/she is in making the said change influences the readiness of the person to make the change (Miller & Rollnick, 2003).

Pre-tests and post-tests were administered to the four nursing staff to assess their perceived importance of the TEACH and MI skills application and skill assessment (Table 2). The data analysis involved the pairing of each nurses' scores based on the pre-tests and post-tests. The instrument used a Likert scale representing the Importance Ruler by providing a visual analogue scale (VAS) representing the 0 to 10 scale matching the scales of *not at all important* being the lowest to the *extremely important* being the highest rating of importance. The evaluation of the pre-test and post-test of the Clinician Importance Regarding Health Behavior Counseling showed that the nurses increased their importance perception of the communication strategies as a way to promote patient health behavior change to a 100% at post-test. However, the t test demonstrated no statistically significant difference in the nurses' perceived importance level between the pre-test and post-test (Table 2). Additionally, since the N is only 4, there is not enough

power to demonstrate any statistical significance, however, the result does not mean that there is no clinical significance of the findings because all the nurses viewed the communication strategies in health behavior counseling as *extremely important*. The result demonstrated that the nurses' perception that change is *extremely important* influences the readiness of the person to make the change. The results of the t-test used to examine and compare the mean scores of the nurses' importance scale rating of 0 to 10 regarding the 12 communication strategies from the pre-test and post-test data are shown in Table 2.

Table 2

Nurses' Perceived Importance of the TEACH and MI Skills Application and Skill Assessment

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Making a personal connection with patients to establish rapport - Making a personal connection with patients to establish rapport	-.50000	1.00000	.50000	-2.09122	1.09122	-1.000	3	.391
Pair 2	Eliciting patients' agenda and needs - Eliciting patients' agenda and needs	-.50000	1.00000	.50000	-2.09122	1.09122	-1.000	3	.391

Pair 3	Eliciting patient's ideas, values, feelings regarding health behavior change - Eliciting patient's ideas, values, feelings regarding health behavior change	-.75000	1.50000	.75000	-3.13683	1.63683	-1.000	3	.391
Pair 4	Reflecting patients' ideas, beliefs, concerns - Reflecting patients' ideas, beliefs, concerns	-.50000	1.00000	.50000	-2.09122	1.09122	-1.000	3	.391
Pair 5	Responding to and affirming patients' concerns and feelings - Responding to and affirming patients' concerns and feelings	-.50000	1.00000	.50000	-2.09122	1.09122	-1.000	3	.391
Pair 6	Sharing information in small chunks - Sharing information in small chunks	-1.25000	2.50000	1.25000	-5.22806	2.72806	-1.000	3	.391
Pair 11	Exploring barriers - Exploring barriers	-.75000	1.50000	.75000	-3.13683	1.63683	-1.000	3	.391
Pair 12	Problem-solving to address barriers - Problem-solving to address barriers	-.50000	1.00000	.50000	-2.09122	1.09122	-1.000	3	.391

Pre-tests and post-tests were administered to the four nursing staff to assess their perceived confidence regarding health behavior counseling. The data analysis involved the pairing of each nurses' scores based on the pre-tests and post-tests. The instrument used a Likert scale representing the Confidence Ruler by providing a VAS representing the 0 to 10 scale matching the scales of *not at all confident* being the lowest to the *extremely confident* being the highest rating of the confidence scale. The evaluation of the pre-test and post-test of the Clinician Confidence Regarding Health Behavior Counseling instrument showed that the nurses increased their confidence in using their skills to

promote patient health behavior change to a 100% at post-test. The t test demonstrated a statistically significant increase in confidence in sharing information in small chunks (pairs 6, *P*=0.35), guiding patients toward healthy choices (pairs 8, *P*=.024), setting goals collaboratively (pairs 9, *P*=0.35), exploring barriers (pairs 11, *P*=.002), and problem-solving to address barriers (pairs 12, *P*=.003) at post-tests as compared to pre-tests (Table 3). The results of the t test used to examine and compare the mean scores of the nurses' confidence scale rating of 0 to 10 regarding the 12 communication strategies from the pre- and post-test data are shown in Table 3.

Table 3

Nurses' Perceived Confidence Regarding Health Behavior Counseling

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Making a personal connection with patients to establish rapport - Making a personal connection with patients to establish rapport	-1.00000	1.15470	.57735	-2.83739	.83739	-1.732	3	.182
Pair 2	Eliciting patients' agenda and needs - Eliciting patients' agenda and needs	-1.25000	1.50000	.75000	-3.63683	1.13683	-1.667	3	.194
Pair 3	Eliciting patient's ideas, values, feelings regarding health behavior change - Eliciting patient's ideas, values, feelings regarding health behavior change	-1.25000	1.50000	.75000	-3.63683	1.13683	-1.667	3	.194

Pair 4	Reflecting patients' ideas, beliefs, concerns - Reflecting patients' ideas, beliefs, concerns	-1.75000	1.25831	.62915	-3.75225	.25225	-2.782	3	.069
Pair 5	Responding to and affirming patients' concerns and feelings - Responding to and affirming patients' concerns and feelings	-1.50000	1.00000	.50000	-3.09122	.09122	-3.000	3	.058
Pair 6	Sharing information in small chunks - Sharing information in small chunks	-3.50000	1.91485	.95743	-6.54696	-.45304	-3.656	3	.035
Pair 8	Guiding patients toward healthy choices - Guiding patients toward healthy choices	-3.00000	1.41421	.70711	-5.25033	-.74967	-4.243	3	.024
Pair 9	Setting goals collaboratively - Setting goals collaboratively	-2.75000	1.50000	.75000	-5.13683	-.36317	-3.667	3	.035
Pair 11	Exploring barriers - Exploring barriers	-2.75000	.50000	.25000	-3.54561	-1.95439	-11.000	3	.002
Pair 12	Problem-solving to address barriers - Problem-solving to address barriers	-2.25000	.50000	.25000	-3.04561	-1.45439	-9.000	3	.003

Shumaker et al. (2009) reported that when the importance and confidence scales are both high, these typically suggest more readiness to make changes. The PACT team's nurses achieving 100% post-test results of *extremely important* and *extremely confident* as shown by the instrument Clinician Importance and Confidence Regarding Health Behavior Counseling Questionnaire clearly demonstrated readiness to make changes in promoting patients' health behavior changes.

Project Objective 2

Johnson and Raterink (2009) reported that the provision of learned skills to patients diagnosed with DM is promoted as a vital component of chronic disease healthcare management, in order to promote intelligent and smart health decisions of patients and foster responsibility and self-care management ownership. The pre-test and post-test of the instrument Diabetes Self-Management Education Program: Patient Assessment of Learning Needs Using TEACH and MI questionnaire was used by the PACT RNs to evaluate their patients with uncontrolled DM Type 2. The instrument is a six item scale covering several domains commonly seen across numerous chronic diseases. The data from the instrument determined the patients' basic knowledge of diabetes self-management and patients' level of confidence regarding controlling symptoms, role function, emotional functioning and provider communications. The data were utilized by the PACT RNs to assess the self-care management knowledge, skills and confidence of patients with uncontrolled DM Type 2.

Table 4 depicts the basic diabetes knowledge table showing that there were four questions asked of 20 patients. One patient opted not to engage in the pre-test and post-test. The basic diabetes knowledge questions used a 2-point, forced choice scale that ranged from 1 *correct* to 2 *error*. The results of the pre-test showed that 78.75% of the basic diabetes knowledge questions were answered correctly while 16.25% were answered in error. The nurses took the opportunity to educate their patients regarding their diabetes knowledge after the results were known, hence the improved correct responses at post-test to a 90.0%.

Table 4

Basic Diabetes Knowledge

	Questions	**N**	**Pre-test**		**Post-test**	
	4	20	Freq	Percent	Freq	Percent
Correct			63	78.75	72	90.0
Error			13	16.25	4	5.0
No Response			4	5.0	4	5.0

Table 5 displayed the patients' skill of coping with diabetes, composed of one question asked of 20 patients. Again, one patient opted not to answer the question. The patients' skill of coping with diabetes was measured on a 5-point Likert scale that ranged from 1 *never*, 2 *almost never*, 3 *sometimes*, 4 *most of the time* to 5 *always*. The pre-test found that 30% of the responses was *always* felt overwhelmed living with diabetes, while only 5% of the responses were *almost never*. The post-test found that 35% of the patients' responses answered that *most of the time* they felt overwhelmed living with diabetes, while only 5% responded *almost never*. The result of the test demonstrated that some patients have increased tendencies to be overwhelmed living with diabetes and are not skilled in coping with diabetes, therefore as healthcare providers, we should learn to understand the significant impact of the chronic disease to our patients.

Table 5

Coping With Diabetes

	Questions	**N**	**Pre-test**		**Post-test**	
	1	20	Freq	Percent	Freq	Percent

Never	3	15.0	2	10.0
Almost never	1	5.0	1	5.0
Sometimes	5	25.0	4	20.0
Most of the time	4	20.0	7	35.0
Always	6	30.0	5	25.0
No response	1	5.0	1	5.0

The patients' skills of coping with diabetes as shown by the answers to four questions asked of 20 patients is shown in Table 6. Again, one patient opted not to answer the questions. The patients' skills of coping with diabetes were measured on a 5-point Likert scale that ranged from 1 *yes,* 2 *maybe,* 3 *I don't know,* 4 *I don't think so* to 5 *no.* Responses to the pre-test showed that 53.75% of the questions were answered with *yes,* that patients indeed indicated that they are coping with diabetes well with their skills, in contrast to 3.75% of patients that answered *no,* they felt they are not coping well with diabetes. The results of the post-test showed that 68.75% of the questions were answered with *yes,* that patients indeed noted that they are coping well with diabetes with their skills, while 6.25% were answered with *I don't know*. The results demonstrated that patients truly experience barriers to adherence, affecting their coping with the chronic disease, therefore requiring their healthcare providers to explore and identify these unique barriers to guide in the development of individualized DM treatment plans.

Table 6

Coping With Diabetes

Questions	**N**	**Pre-test**		**Post-test**	
4	20	Freq	Percent	Freq	Percent

Yes	43	53.75	55	68.75
Maybe	18	22.5	16	20.0
I don't know	8	10.0	5	6.25
I don't think so	4	5.0	0	0
No	3	3.75	0	0
No response	4	5.0	4	5.0

The QI project also identified barriers and challenges from both patients and providers alike, as reported by the PACT RNs. The barriers identified during the project implementation include the time constraints for the patients as they complained that they have too many appointments, and some patients claimed they already know what to do about managing their diabetes and became less interested in learning. The project required challenging time and effort commitments from the nurses due to patients not picking-up their phone calls and not returning calls when messages were left. Some patients required multiple calls which was challenging due to the nurses' current heavy workloads and duties.

The challenges identified during the project implementation from both patients and providers included instances when the patients had to temporarily stop their diet and exercise regimen due to illness, such as flu and urinary tract infections. Some patients were frustrated with controlling their blood sugar when necessary steroid injections required for pain issues increased their blood sugar. Others were unable to continue their plan of care or regimen due to a family member becoming ill or hospitalized, which then became their priority. Three patients did not return to the clinic to have their HgbA1C drawn despite multiple calls from their nurses. Another challenge identified was when the

nurses called or talked to their patients regarding the project progress, the conversation often trailed down to other patient concerns not specifically related to diabetes, which prolonged the telephone calls and visits. The RNs also reported positive feedbacks received from patients which included appreciation of in-depth and thorough teachings, the follow up calls and visits made, and the referrals made to appropriate clinics or specialists like the Endocrinology clinic, PACT pharmacist, dietician and DM telehealth.

The instrument Patients' Confidence Scale in Coping with Diabetes used a VAS of zero to 10 which represented *not at all confident* being the lowest to the *extremely confident* being the highest rating of patients' confidence to cope with diabetes (Table 7). Two patients out of 20 subjects opted not to complete the pre-test and post-test. The t test demonstrated a statistically significant increase in patients' confidence in keeping fatigue caused by diabetes from interfering with the things they want to do (pairs 1, P=.000), confidence in keeping the physical discomfort or pain caused by diabetes from interfering with the things they want to do (pairs 2, P=.001), confidence in keeping the emotional distress caused by diabetes from interfering with the things they want to do (pairs 3, P=.002), confidence in keeping any other symptom or health problem they have from interfering with the things they want to do (pairs 4, P=.002), confidence in performing different tasks and activities needed to manage diabetes to reduce need to see a doctor (pairs 5, P=.004), and confidence in performing things other than just taking medication to reduce how much diabetes affects their everyday life (pairs 6, P=.009) at post-tests as compared to pre-tests (Table 7). The patients' post-test data showed statistically significant increase in the Confidence Ruler, therefore suggesting that the patients'

internal motivation is stronger, therefore suggesting the likelihood of successful health behavioral change in diabetes.

Table 7

Patients' Confidence Scale in Coping with Diabetes

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	How confident are you that you can keep the fatigue caused by your diabetes from interfering with the things you want to do? - How confident are you that you can keep the fatigue caused by your diabetes from interfering with the things you want to do?	-1.33333	1.23669	.29149	-1.94833	-.71834	-4.574	17	.000
Pair 2	How confident are you that you can keep the physical discomfort or pain caused by your diabetes from interfering with the things you want to do? - How confident are you that you can keep the physical discomfort or pain caused by your diabetes from interfering with the things you want to do?	-1.16667	1.24853	.29428	-1.78755	-.54579	-3.964	17	.001

Pair 3	How confident are you that can keep the emotional distress caused by your diabetes from interfering with the things you want to do? - How confident are you that can keep the emotional distress caused by your diabetes from interfering with the things you want to do?	-1.16667	1.33945	.31571	-1.83276	-.50058	-3.695	17	.002
Pair 4	How confident are you that you can keep any other symptom or health problem you have from interfering with the things you want to do? - How confident are you that you can keep any other symptom or health problem you have from interfering with the things you want to do?	-1.38889	1.57700	.37170	-2.17311	-.60467	-3.737	17	.002
Pair 5	How confident are you that you can do the different tasks and activities needed to manage your diabetes so as to reduce your need to see a doctor? - How confident are you that you can do the different tasks and activities needed to manage your diabetes so as to reduce your need to see a doctor?	-1.44444	1.82216	.42949	-2.35058	-.53831	-3.363	17	.004

Pair 6	How confident are you that you can do things other than just taking medication to reduce how much your diabetes affects your everyday life? - How confident are you that you can do things other than just taking medication to reduce how much your diabetes affects your everyday life?	-1.50000	2.14887	.50649	-2.56861	-.43139	-2.962	17	.009

Project Objective 3

There were 20 patients who participated between the two PACT teams involved in the project initiative. Among the 20 patients with uncontrolled HgbA1C, 55% *decreased* their HgbA1C after receiving improved DM type 2 self-care management nursing education, while 5% showed *no change*, 25% showed *increased* HgbA1C and 15% did not have their HgbA1C measured (Table 8). The overall result of the project initiative demonstrated that improving the DM Type 2 self-care management nursing education incorporating TEACH and MI strategies and techniques improved the uncontrolled HgbA1C of patients with DM Type 2, thereby decreasing the number of patients with poorly controlled HgbA1C.

Table 8

HgbA1C Data

HgbA1C	**N= 20**	**Percent**
Decrease	11	55.0
No Change	1	5.0

Increase	5	25.0
No HgbA1C done	3	15.0

Discussion of Findings in the Context of Literature

Diabetes self-care management education is an ongoing process when tackling the chronic disease**.** The importance of providing continuous support to patients with DM and those at risk for developing DM is critical in order to promote behavior transformation, maintain healthy behaviors, and tackle psychosocial concerns (Haas et al., 2013). Improved DM outcomes were achieved through using a team-based approach and incorporating learned educational strategies and techniques from the TEACH for Success program and MI program to improve the self-care management of the patients with DM Type 2. The project initiative demonstrated that the nurses improved their knowledge, proficiency, confidence and efficiency in teaching patients with DM who have uncontrolled HgbA1C in the primary care clinic. The project initiative also showed that effective nursing teaching using the TEACH and MI strategies and techniques improved the self-care management knowledge, skills and confidence of patients with DM Type 2 after receiving subsequent nursing teaching intervention. According to the U.S. Department of Veterans Affairs (2010), the TEACH skills focused in the establishment of effective patient and clinician relationship, identifying behaviors that help or hinder the relationship. The skills also helped the nurses identify the learning assessment elements needed, helped understand and use the health coaching approaches to assist in behavior change, showing how to deal with patient's ambivalence and

resistance to change. Steinsbekk et al. (2012), reported that diabetes self- management education resulted in improvements in clinical outcomes for patients with DM as confirmed by controlled glycemic status, improved lifestyle outcome as demonstrated by augmented DM self-care-management knowledge and skills, and improved psychosocial outcomes like self-empowerment, quality of life, and self-care efficacy. The project initiative also demonstrated that improving the self-care management nursing education may result in improved HgbA1C of patients with DM Type 2, thereby decreasing the number of patients with poorly controlled HgbA1C. The gaps in diabetes care may be addressed by improving DM management through educational interventions, coaching and motivational augmentation addressing psychological and behavioral barriers in self-care management. Nurses and providers alike need to understand that different patients experience barriers to adherence in DM care, affecting their coping with the chronic disease; therefore requiring exploration and identification of these unique barriers to guide in the development of individualized DM treatment plans. Improving nursing education in diabetes care can transpire into better patient education and coaching resulting in improved patient outcome and care delivery.

Implications

Policy

The DNP project was a QI initiative aimed at decreasing the elevated HgbA1C levels of the patients with diabetes Type 2 in the VA Southwest primary care clinic through an improved education initiative by the PACT team using the TEACH and MI techniques and strategies. Realizing the implication of improved nursing education

through using TEACH and MI, the organization should continue to incorporate teaching the concepts and techniques of these programs to new primary care employees as a mandatory requirement and offer additional refresher glasses as needed. The organization should allow ample nursing time for counseling and self-care management intervention to patients with diabetes Type 2 because management of the chronic disease requires regular communication among the patient's healthcare team, ensuring successful and superior quality education and support (Haas et al., 2013). Decreasing the number of patients with poorly controlled HgbA1C of > 9.0% equates to improving the organization's performance measure, a criterion for reimbursement by the Center for Medicare and Medicaid Services (CMS). Decreasing the number of patients with poorly controlled HgbA1C of > 9.0% in the organization also means addressing the leading Health Topic and Indicator under the Clinical Preventive Services of the Healthy People 2020. The Health Care Reform emphasized the development of primary care strategies to enhance healthcare delivery through utilization of inter-professional healthcare teams and chronic disease management strategies to find resolution to the increasing prevalence of chronic diseases (Lukewich, Edge, VanDenKerkhof, & Tranmer, 2014).

Practice

The QI project provided evidence that when nurses practice in the maximum capacity of their role and practice, optimum patient education and counseling can be achieved, leading to improved patient outcome and increased patient and provider satisfaction as added result. The QI project showed that nurses can effectively perform and expand their roles as educators and patient advocates in diabetes self-care

management education of patients with diabetes Type 2. The nurses educated, encouraged and expanded development of their patients' problem-solving and coping skills in diabetes self-care management. The nurses provided self-care management support to patients with diabetes Type 2, focusing in the provision of learned skills to attain smart and reasonable healthcare decisions, and the encouragement of personal responsibility. The nurses' continued support for patients with diabetes and those at risk for developing diabetes will promote patients' behavior transformation, maintenance of healthy behaviors, and resolution of psychosocial concerns (Haas et al., 2013). Through the provision of a collaborative and integrated PACT team approach focusing on the active and dynamic role of the patient with diabetes, nurses are able to provide ongoing and continued diabetes self-management support (DSMS) and diabetes self-management education (DSME). Zaccagnini and White (2011) reported that the purposeful intension of the DNP curriculum is to translate, apply and evaluate new science in order to accomplish the generation of innovative evidence to guide and govern nursing practice. The implementation of the QI project created a positive impact in nursing practice through the nurses' proactive role in diabetes care, and the prevention and control of DM Type 2.

Research

The findings of the DNP project showed that improved nursing education through using TEACH and MI may result in improved uncontrolled HgbA1C levels and improved diabetes self-care management education, thereby improving the overall diabetes outcome of patients with diabetes Type 2. Future research needed to be conducted to

show the effectiveness of improved nursing education using TEACH and MI and improved self-care management to the HgbA1C of patients in a larger VA population to determine reliability and generalizability of results. Future research needed to be conducted to also show the effectiveness of improved nursing education using TEACH and MI to improve self-care management and HgbA1C of patients with prediabetes. The results can then show the magnitude of early nursing intervention in diabetes care. Future research may also explore the application of improved nursing education using TEACH and MI to improve other chronic diseases like hypertension, hyperlipidemia, heart failure and chronic obstructive pulmonary diseases (COPD).

Social change

The DNP QI project impacted social change by decreasing the number of patients with uncontrolled diabetes Type 2 among the veteran population. Through the development and implementation of the QI project, I demonstrated leadership capability in motivating, influencing, directing, and persuading nurses to function in their full capacity, accomplishing the mission and vision of the VA organization. The QI project showed the importance of improved communication coordination and teamwork among patients and their PACT team. The project encouraged the nurses to have productive discussion and communication with their patients and doctors. The nurses coordinating ways to assist patients in improving their glycemic index while considering the different barriers and challenges that arises and referring patients to appropriate specialty clinics like Endocrinology, MOVE! Weight Management Program, PACT Dietary and Pharmacy when necessary. The project also encouraged patients to use appropriate

communication skills to contact their providers when needed, encouraging smart and reasonable self-management activities and decisions, and encouraging personal responsibility, which are all considered critical components of chronic disease management. Through using the team approach, patients and their providers are able to develop effective plans of care in diabetes management by educating, redirecting, and evoking behavior change for patients while considering their unique individual situations.

Project Strengths and Limitations

Strengths

One of the strengths of the QI project was the willingness and eager participation of the nurses to attain improved diabetes outcomes, patient satisfaction, nurses' job satisfaction and self-esteem, and an improved PACT team performance. Another strength of the DNP project was the use of pretests to evaluate patients and nurses' baseline knowledge and competency, therefore determining the areas where added knowledge and skills reinforcement are needed. The third strength was the availability of the TEACH and MI program resources to increase nurses' knowledge, skills, proficiency, efficiency and confidence in teaching uncontrolled diabetes patients. The added nursing education and patient education from the nurses translated into improved patient care delivery and outcomes. Lastly, the QI project developed and reinforced the establishment of effective patient and clinician relationship, identifying behaviors that help or hinder the relationship, thereby fostering PACT team values.

Limitations

The DNP QI project had several limitations. The QI project only reflected results from the intervention completed in two out of ten PACT teams from the Southwest primary care clinic, one of the six VA Las Vegas primary care clinics, and only reflects a small portion of the organization, therefore not offering generalizability of results from the project due to its small sample size. Secondly, the QI project only reflected changes of HgbA1C of uncontrolled patients with diabetes with HgbA1C of $\geq$ 9.0%, excluding prediabetes and patients with controlled HgbA1C. Time and resource constraints also limited the QI project, due the availability of only one RN and one LPN per PACT team, who were also responsible for multiple tasks and responsibilities in the unit. The fourth limitation of the QI project was the continued patients' resistance and struggle to adopt suggested lifestyle modifications and self-care management changes, as evidenced by the different barriers uncovered during the project implementation. Lastly, the project showed that although the nurses doubled their efforts and worked closely with patients, it is still unlikely that all patients will adhere to recommended modifications and changes at all times, therefore, not all patients showed favorable changes in their HgbA1C.

Recommendations for Remediation of Limitations in Future Work

One of the major limitations of the project is its small scale, only reflecting results from the intervention done in the Southwest primary care clinic, which is a small portion of the organization. The findings of the QI project are therefore only the snapshot of results from two PACT teams and are not meant to be generalized. The QI initiative therefore recommended to conduct future research to include a larger population of

Veterans with DM and more PACT teams to increase the reliability and generalizability of results. Secondly, the project only included patients with uncontrolled diabetes with HgbA1C of ≥ 9.0%. Future studies can also explore the effect of improved nursing education using TEACH and MI and improved self-care management to the HgbA1C of patients with prediabetes, ranging from 5.7% to 6.4%. The ADA (2015) recommended encouragement of early healthy behaviors to delay or prevent diabetes onset through programs that address psychosocial concerns and provide education and support to patients with prediabetes. The third limitation was related to time and resource constraints because there is only one RN and one LPN per PACT team. The project recommends consideration from the organization to allow set time and resources for nurses to implement quality self-care management education to patients with diabetes Type 2. The organization and the nurses' working environment should be supportive and empowering to expand and augment the accomplishment of ongoing practice implementation of evidence-based and conscientiously analyzed interventions in practice (Grant, Colello, Riehle & Dende, 2010). The fourth limitation of the project included the patients' resistance and struggle to adopt suggested lifestyle modifications and self-care management changes. The organization should continue offering PACT team trainings and education like the TEACH for success and MI trainings to foster teamwork and evidence-based training of employees in order to manage barriers and challenges in patient teaching. Explicit PACT team strategies and continued quality patient education are required to provide ongoing and improved diabetes outcome, even to patients with multiple barriers to recommendation adherence. The last limitation of the project wass

the unlikely ability of the nurses to influence all patients to follow the recommended modifications and changes. Although each patient is considered a unique individual with autonomy rights, nurses have the invaluable and critical role in the management of chronic diseases which includes assisting patients in learning skills for wise decision-making and promotion of responsible ownership for self-care maintenance. The evidence-based concepts and techniques of continued TEACH and MI education will be used to implement ongoing strategic interventions essential to address the gaps and barriers in self-care management of patients with diabetes, in order to avert serious consequences and complications from the chronic disease.

Analysis of Self

As Scholar

The DNP project facilitated my development to become a true scholar, gaining knowledge, skills, and experiences to apply learned techniques and processes, overcoming barriers and challenges in order to accomplish the goals of the DNP project. I learned to navigate through the complexity of the VA organization, applying systems thinking, and considering the micro and macro systems affecting the healthcare environment (Zaccagnini & White, 2011). Ialso engaged in various meetings, conferences and communication with the organization's leadership and stakeholders in order to reach the project's goals, meeting time limitations of the project while contributing to the mission and vision of the VA organization. Through the application and guidance of the AACN essentials in the completion of the DNP project, scholarship was applied in the synthesis and integration of nursing science into practice and the

development of new practice approaches for future studies (AACN, 2006). The capability of a DNP as a clinical scholar in translating research, can transform healthcare systems resulting in performance improvements, utilizing informatics and models of quality improvement, serving our population and influencing organizational research (Institute of Medicine, 2011). As a scholar, I can continue to apply innovative approaches in my practice and continue to contribute to the scholarship of education in the VA organization.

As Practitioner

The DNP project stimulated me to become a more effective practitioner, considering the patient as the main player of the PACT team, so that decisions and interventions in diabetes care can be tailored according to the individual patient's needs and unique conditions. The project has taught me to consider the various barriers and gaps in patients' behavior transformation and diabetes management, that proactive roles of nurses and their PACT team can make a difference in patients' diabetes outcome. The QI project also showed me that the application of evidence-based, veteran-centered patient education, and patient-centered communication skills and coaching, like the application of TEACH and MI in my practice, is important to assist patients in the management of their chronic diseases like diabetes.

As Project Developer

The development and implementation of the QI project provided me with learned knowledge and skills necessary for the advancement of nursing practice. As a project developer, I have learned the ropes and challenges of navigating through organizational

systems, considering and managing both the microsystems and macrosystems of the organization and other challenges of project development. The project enabled me to create resolutions to remedy the challenges and kinks in the processes, while maintaining timely interventions in order to achieve the project goals in a timely manner. The project also enabled me to become a thoughtful project developer, considering the input and contributions of various stakeholders as critical components of project development. As a program developer, I was able to coordinate and appreciate the input and guidance of my project preceptor, project chair and all organizational leadership guidance in order to accomplish a timely development, integration, coordination, and implementation of the DNP QI project.

Future Professional Development

I learned the value of hard work, teamwork, effective communication, timeliness, systematic and organized steps and processes in the project development and implementation of the QI initiative. As a professional, I learned to integrate existing knowledge with newly learned body of knowledge to assist in effective project development. The application of leadership in organizing the project development, the organized and timely collaborative activities involving various management, stakeholders, leaderships, committees and programs are all essential and integral component of my professional project leader role. The activities learned from this project development are necessary skills to help me achieve future plans of additional quality improvement initiatives for the VA. The skills will also assist me to become an effective leader in academia where I plan to explore for my next professional endeavor.

Summary and Conclusions

The QI project initiative aimed to decrease the elevated HgbA1C levels of the patients with diabetes Type 2 in the VA Southwest primary care through improved education initiative by the PACT team using TEACH and MI strategies and techniques. The nursing education program improved the knowledge, proficiency, confidence and efficiency of nurses in teaching patients with DM who have uncontrolled HgbA1C in the primary care clinic. The findings and implications of the QI project have demonstrated improvements in knowledge, proficiency, confidence and efficiency of nurses in teaching patients with DM, improved the self-care management knowledge, skills and confidence of patients with DM Type 2 after receiving subsequent nursing teaching intervention and also showed decreases in the elevated HgbA1C of patients with diabetes Type 2. The development of the DNP project showed its various implications in policy development, practice, research and social change. Through the provision of a collaborative and integrated PACT team approach focusing on the diabetes patients' active and dynamic role, nurses are able to provide ongoing and continued diabetes self-management support (DSMS) and diabetes self-management education (DSME). The implementation of the QI project created a positive impact in nursing practice through the nurses' proactive role in diabetes care, and the prevention and control of DM Type 2. The QI project also compelled the DNP student to look back and analyze the impact and effect of the development of the QI project to herself as a scholar, practitioner, project developer and future professional developer. The QI project showed the importance of improved communication, coordination and teamwork among patients and their PACT team. The

project emphasized the consideration of the various barriers and gaps in patients' behavior transformation and diabetes management, and the positive impact of the proactive roles of nurses and their PACT team in diabetes outcome.

Section 5: Scholarly Product

The development and evaluation of results of the QI project are important processes in the project development but the reporting and dissemination of results are also as important. The principle of evidence-based projects outcome dissemination is the expansion of current knowledge in relation to the associated EBP interventions to offer clarification among health professionals across different settings (AHRQ, 2012). The communication and reporting of EBP project outcomes and findings is the ultimate culmination of utilization of the research process, providing the foundation and groundwork for purposeful critique and development of innovative inquiry and further examination of research evidence in practice (Zaccagnini & White, 2011). The DNP curriculum have prepared their DNP graduates to readily evaluate research outcomes by developing and evaluating new approaches in practice (AACN, 2006). One of the planned dissemination of my QI project findings is through development of a poster (Appendix K). The poster will be used as a dissemination media in the poster presentation of the American Association of Nurse Practitioners (AANP) national conference. The poster will also be used to disseminate the outcome of the project in the VA primary care clinics and within the organization during VA provider's meetings, research poster presentations and health promotion disease prevention (HPDP) program presentations. In the near future, the DNP QI project will also be submitted for publication consideration for the AANP's journal The Journal for Nurse Practitioners, Nevada Nurses Association journal and the VA publications.

References

Agency for Healthcare Research and Quality. (2012). Communication and dissemination strategies to facilitate the use of health and health care evidence. Retrieved from https://effectivehealthcare.ahrq.gov/ehc/products/433/1208/CommunicationDissemination_ResearchProtocol_20120731.pdf

American Association of Colleges in Nursing. (2006). The essentials of doctoral education for advanced practice nurses. Washington, D. C.: Author.

American Diabetes Association. (2015). Standards of medical care in diabetes-2015. *Diabetes Care, 38(*suppl 1), S1-S93. Retrieved from http://www.ndei.org/ADA-diabetes-management-guidelines-strategies-for-preventing-or-delaying-type-2-diabetes.aspx

American Diabetes Association. (2013). Economic costs of diabetes in the U.S. in 2012. *Diabetes Care*. doi:10.2337/dc12-2625.

American Diabetes Association. (2010). American Diabetes Association standards of medical care in diabetes**.** *Diabetes Care*, 33(2010), s11–61. doi**:** 10.2337/dc10-S011

Bay Pines VA Healthcare System Sharepoint. (2012). Clinical Informatics. *Introduction to CPRS*. Retrieved from http://vaww.visn8.portal.va.gov/baypines/assocdir/bos/informatics/CPRS%20Helpline/Introduction%20to%20CPRS.aspx

Boren, S. A., Fitzner, K. A., Panhalkar, P. S., & Specker, J. E. (2009). Costs and benefits associated with diabetes education: A review of the literature. *The Diabetes*

Educator, 35(1), 72-96. doi:10.1002/dmrr.1034

Boudreaux, E. D., Sullivan, A., Abar, B., Bernstein, S. L., Ginde, A. A., & Camargo, C. A. (2012). Motivation rulers for smoking cessation: A prospective observational examination of construct and predictive validity. *Addiction Science & Clinical Practice, 7*(1), 1. doi:10.1186/1940-0640-7-8

Bradshaw, W. G. (2010). Evidence-based practice: Importance of nursing leadership in advancing evidence-based nursing practice. *Neonatal Network, 29*, 117-125. doi:10.1891/0730-0832.29.2.117

Center for Disease Control and Prevention. (2011). *National diabetes fact sheet: General information and national estimates on diabetes in the United States*. Atlanta, GA: U.S. Department of Health and Human Services, Center for Disease Control and Prevention.

Center for Disease Control and Prevention. (2013). Workplace health. Implementation Type 2 diabetes prevention and control. Retrieved from www.cdc.gov/workplacehealthpromotion/implementation/topics/type2-diabetes.html

Chen, S. M., Creedy, D., Lin, H. S., & Wollin, J. (2012). Effects of motivational interviewing intervention on self-management, psychological and glycemic outcomes in Type 2 diabetes: A randomized controlled trial. *International Journal of Nursing Studies, 49*, 637-644. http://dx.doi.org.ezp.waldenulibrary.org/10.1016/j.ijnurstu.2011.11.011

Chin, Y. F., Huang, T. T., & Hsu, B. R. S. (2013). Impact of action cues, self-efficacy

and perceived barriers on daily foot exam practice in Type 2 diabetes mellitus patients with peripheral neuropathy. *Journal of Clinical Nursing*, *22*(1-2), 61-68. doi:10.1111/j.1365-2702.2012.04291.x

Dall, T. M., Yang, W., Halder, P., Pang, B., Massoudi, M., Wintfeld, N., ... Hogan, P.F. (2014). The economic burden of elevated blood glucose levels in 2012: Diagnosed and undiagnosed diabetes, gestational diabetes mellitus, and prediabetes. *Diabetes Care*, *37*(12), 3172-3179. doi: 10.2337/dc14-1036

Daly, J. M., Hartz, A. J., Xu, Y., Levy, B. T., James, P. A., Merchant, M. L., & Garrett, R. E. (2009). An assessment of attitudes, behaviors, and outcomes of patients with type 2 diabetes. *The Journal of the American Board of Family Medicine*, *22*, 280-290. doi:10.3122/jabfm.2009.03.080114Glasgow, R. E. (2003). Translating research to practice lessons learned, areas for improvement, and future directions. *Diabetes Care*, *26*(8), 2451-2456. *Online ISSN: 1935-5548*

Goldstein, M.M. & Minor, B. H. (2013). TEACH and Motivational Interviewing: Complementary skills. Retrieved from vaww.infoshare.va.gov /sites /prevention /ncp training_resources /shared documents /teach /teach and mi training overview 9 2013 version.docx.

Grant, B., Colello, S., Riehle, M., & Dende, D. (2010). An evaluation of the nursing practice environment and successful change management using the new generation Magnet Model. *Journal of Nursing Management, 18*(3), 326–331. doi:10.1111/j.1365-2834.2010.01076.x.

Haas, L., Maryniuk, M., Beck, J., Cox, C. E., Duker, P., Edwards, L., ... & Youssef, G.

(2013). National standards for diabetes self-management education and support. *Diabetes care*, *36*(Supplement 1), S100-S108. doi:10.2337/dc13-S100

Hodges, B. C., & Videto, D. M. (2011). *Assessment and planning in health programs* (2nd ed.). Sudbury, MA: Jones & Bartlett Learning.

Institute of Medicine (IOM). (2010). *The future of nursing: Leading change, advancing health* [Report brief]. Retrieved from http://www.iom.edu/~/media/Files/Report%20Files/2010/The-Future-of-Nursing/Future%20of%20Nursing% 202010%20Report%20Brief.pdf.

Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health*. Atlanta, Ga: The National Academies Press.

Inzucchi, S.E., Bergenstal, R.M., Buse, J., Diamant, M., Ferrannini, E., Nauck, M.,… Matthews, D. R. (2015). Management of hyperglycemia in Type 2 diabetes, 2015: A patient-centered approach: update to a position statement of the American Diabetes Association and the European Association for the Study of Diabetes. *American Diabetes Association*. Retrieved from http://care.diabetesjournals.org/content/38/1/140.

Jansink, R. Braspenning, J, Weijen, T., Elwyn, G. & Grol, R. (2010). Primary care nurses struggle with lifestyle counseling in diabetes care: A qualitative analysis. BMC Family Practice, 11(41), 1-7. doi:10.1186/1471-2296-11-41

Johnson, P., & Raterink, G. (2009). Implementation of a diabetes clinic-in-a-clinic project in a family practice setting: Using the plan, do, study, act model. *Journal of Clinical Nursing, 18*(14), 2096–2103. doi:10.1111/j.1365-2702.2008.02774.x

Kent, D., D'Eramo-Melkus, G., Stuart, P. M., McKoy, J. M., Urbanski, P., Boren, S. A.,.Lipman, R. (2013). Reducing the risks of diabetes complications through diabetes self-management education and support. *Population Health Management, 16*(2), 74-81. doi:10.1089/pop.2012.0020

Kettner, P. M., Moroney, R. M., & Martin, L. L. (2008). *Designing and managing programs: An effectiveness-based approach* (3rd ed.). Thousand Oaks, CA: Sage.

Kring, D. (2008). Research and quality improvement: different processes, different evidence. *MEDSURG Nursing, 17*(3), 162-169.

Lukewich, J., Edge, D., VanDenKerkhof, E., and Tranmer, J. (2014). Nursing contribution to chronic disease management in primary care. *Journal of Nursing Administration*, 44(2): 103-110. doi: 10.1097/NNA.0000000000000033

McEwin, M., & Wills, E.M. (2014). *Theoretical basis for nursing*. (4th. ed.). Philadelphia, PA: Wolters Kluwer Health.

Miller, W., & Rollnick, S. (2003). Motivational interviewing: Preparing people for change. *Journal for Healthcare Quality*, *25*(3), 46.

Miller, W. R., & Rose, G. S. (2009). Toward a theory of motivational interviewing. *American Psychologist*, *64*(6), 527.

Minet, L., Møller, S., Vach, W., Wagner, L., & Henriksen, J. E. (2010). Mediating the effect of self-care management intervention in type 2 diabetes: a meta-analysis of 47 randomised controlled trials. *Patient Education and Counseling*, *80*(1), 29-41. http://dx.doi.org.ezp.waldenulibrary.org/10.1016/j.pec.2009.09.033

National Center for Health Promotion and Disease Prevention (NCP) & Employee

Education System (EES) (2013). Patient education: TEACH for success level III evaluation summary Handbook.

National Committee for Quality Assurance. (2010). *The state of health care quality: Reform, the quality agenda and resource use.* Washington, D. C.: National Committee for Quality Assurance. Retrieved from http://www.ncqa.org/Portals/0/State of Health Care/2010/SOHC 2010 - Full2.pdf.

National Institute of Diabetes and Digestive and Kidney Diseases (2014). Health Information: the A1C Test and Diabetes. Retrieved from http://www.niddk.nih.gov/health-information/health-topics/diagnostic-tests/a1c-test-diabetes/Pages/index.aspx#1

Powers, M. A., Bardsley, J., Cypress, M., Duker, P., Funnell, M. M., Fischl, A. H., ... & Vivian, E. (2015). Diabetes self-management education and support in Type 2 diabetes: A joint position statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. *The Diabetes Educator*, *41*(4), 417-430. doi: 10.1177/0145721715588904

Rollnick, S., Miller, W. R., Butler, C. C., & Aloia, M. S. (2008). Motivational interviewing in health care: Helping patients change behavior. *COPD: Journal of Chronic Obstructive Pulmonary Disease*, *5*(3), 203-203. doi: 10.1080/15412550802093108

Shumaker, S. A., Riekert, K. A., & Ockene, J. K. (Eds.). (2009). *The handbook of health*

behavior change third edition. Springer Publishing Company.

Stanford University School of Medicine (2007). Stanford Patient Education Research Center: Chronic disease self-management program questionnaire code book. Retrieved from http://patienteducation.stanford.edu/research/cdcodebook.pdf.

Steinsbekk, A., Rygg, L., Lisulo, M., Rise, M., & Fretheim, A. (2012). Group based diabetes self-management education compared to routine treatment for people with type 2 diabetes mellitus. A systematic review with meta-analysis. *BMC Health Services Research, doi: 10.1186,* http://dx.doi.org/Retrieved from http://www.biomedcentral.com/1472-6963/12/21.

Stellefson, M., Dipnarine, K., & Stopka, C. (2013). Peer Reviewed: The chronic care model and diabetes management in US primary care settings: A systematic review. *Preventing Chronic Disease, 10.* doi: http://dx.doi.org/10.5888/pcd10.120180

Syx, R. L. (2008). The practice of patient education: The theoretical perspective. *Orthopaedic Nursing*, *27*(1), 50-54. doi: 10.1097/01.NOR.0000310614.31168.6b

U.S. Department of Health and Human Services (2010). Healthy People 2020. Retrieved from http://www.healthypeople.gov/2020/TopicsObjectives2020/pdfs/HP2020_brochure.pdf.

U.S. Department of Veterans Affairs (2015). Office of Research & Development. Retrieved from http://www.research.va.gov/topics/diabetes.cfm.

U.S. Department of Veterans Affairs (2010). Office of Veteran Health Education and

Information , VHA National Center for Health Promotion and Disease Prevention and VA Employee Education System. Patient education: TEACH for success participant manual.

U.S. Department of Veterans Affairs (2015). Veterans Health Administration. Retrieved from http://www.va.gov/health/services/primarycare/index.asp.

U.S. Department of Veterans Affairs (2014). Patient Aligned Care Team (PACT) Handbook. Retrieved from vaww.infoshare.va.gov /sites /prevention /hpdp_facility_programs /shared documents /pact /pact hb 1101.10_final_hpdphilite.pdf

U.S. Department of Veterans Affairs (2015). Veterans Health Administration: Close to 25 percent of VA patients have diabetes. Retrieved from http://www.va.gov/health/NewsFeatures/20111115a.asp.

U.S. Department of Veterans Affairs (2013). VHA National Center for Health Promotion and Disease Prevention (NCP). Retrieved from http://vaww.prevention.va.gov/VHEI/TEACH.asp

U.S. Department of Veterans Affairs (2015). VHA Office of Analytics and Business Intelligence Performance Measurement. Retrieved from http://vaww.car.rtp.med.va.gov/programs/pm/performace.aspx.

Varkey, P., Sathananthan, A., Scheifer, A., Bhagra, S., Fujiyoshi, A., Tom, A., & Murad, M. H. (2009). Using quality-improvement techniques to enhance patient education counseling of diagnosis and management. *Quality In Primary Care, 17* (3), 205–213. Retrieved from the Walden Library using the EBSCO host

database.

Yoon, J., Scott, J.Y., Phibbs, C. S., & Wagner, T.H. (2011). Recent trends in Veterans Affairs chronic condition spending. *Population Health Management*. 14:293-298. doi: 10.1089/pop.2010.0079.Young, J. L. (2011). Educating staff nurse on diabetes: knowledge enhancement. *Medsurg Nursing*, 20(3), 143-150. Retrieved from Academic Search Complete database.

Zaccagnini, M. E., & White, K. W. (2011). *The doctor of nursing practice essentials: A new model for advanced practice nursing* (Laureate Education, custom ed.). Sudbury, MA: Jones & Bartlett.

Appendix A: My Health Choices

My Health Choices

Circle your choice below.


Be Involved in Your Health Care


Be Tobacco Free


Eat Wisely


Be Physically Active


Strive for a Healthy Weight


Limit Alcohol


Get Recommended Screening Tests & Immunizations


Manage Stress


Be Safe

Your Choice

_____

_____

My goal for the next week is: (Be specific: what, where, how much, how often.
Example: I will walk at least 3 times this week for 15 minutes each, after I get home from work.)

_____

_____

Things that might get in my way: (Examples: weather, pain, time)

_____

_____

What I can do to overcome these things: (Examples: exercise indoors, walk with a friend)

_____

_____

I believe that I can reach my goal: (Circle the number that matches how confident you feel.)

1	2	3	4	5	6	7	8	9	10
Not at All Sure				Somewhat Sure					Very Sure

Follow-up Date: _____ **Follow-up Method:** ❑ Phone ❑ In-person ❑ Other

Complete and update your plan every week. Use the charts below to track your progress.

My Progress Report

for week beginning _____ (date)

Goal: _____

Day of week	Action Taken	Comments (how I felt, challenges, successes)
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

My Progress Report

for week beginning _____ (date)

Goal: _____

Day of week	Action Taken	Comments (how I felt, challenges, successes)
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

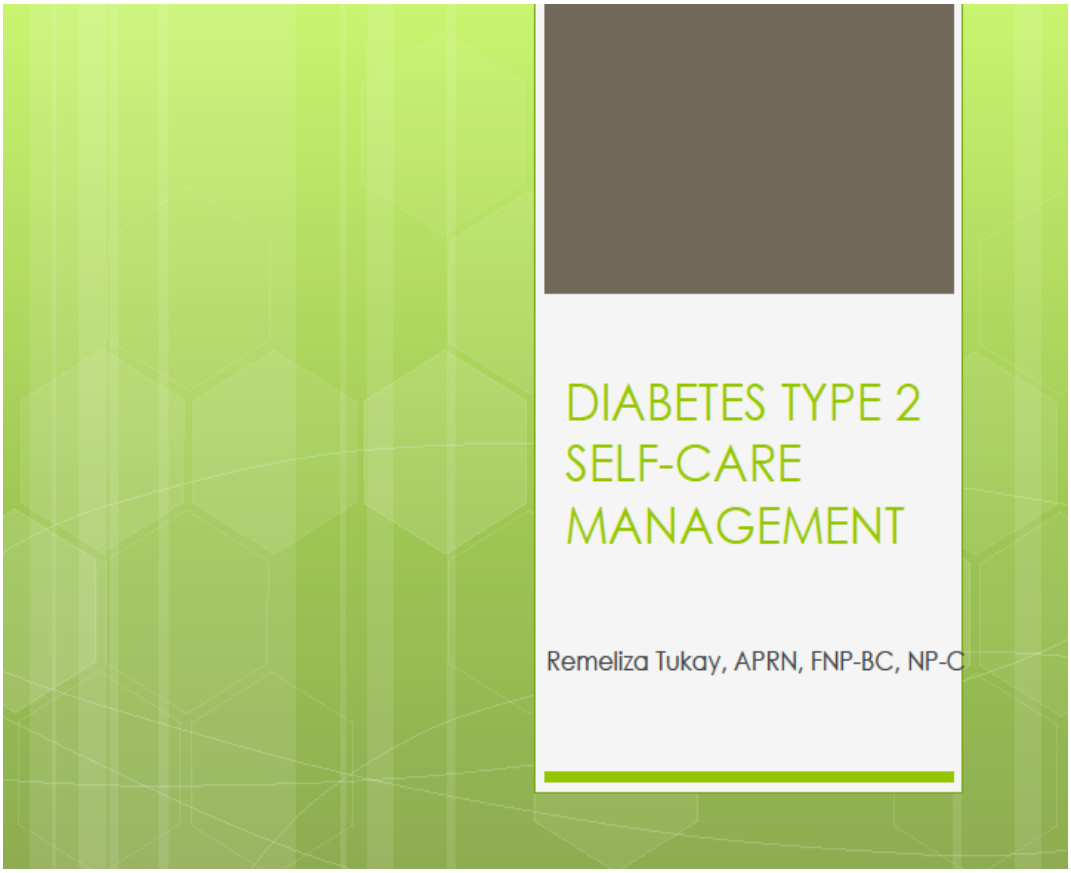
Healthy Living

VHA National Center for Health Promotion and Disease Prevention

Patient Care Services

IB 10-367 P96438 Nov-10

Appendix B: Diabetes Type 2 Self-care Management Power Point



Appendix C: Diabetes Management Scoring Shee

DIABETES MANAGEMENT SCORING SHEET

Identification/date _____

TEST/CRITERIA	RESULT	DATE	TARGET RANGE	GOAL MET YES/NO
Glucose (fasting)			80-130 before meals (70-100 mg/dl is normal target range for non-diabetics)	
1. A1c			Less than 7.0 %	
2. Blood Pressure			Less than 130/90	
3. Total Cholesterol			Less than 200 mg/dl	
4. HDL Cholesterol			Greater than 40 mg/dl	
5. LDL Cholesterol			Less than 100 mg/dl	
6. Triglycerides			Less than 150 mg/dl	
7. Fingerstick glucose			80-130 before meals and Less than 180 two hours after a meal	

Appendix D: Patient Education: TEACH for Success Self-assessment

Patient Education: TEACH for Success
Self-Assessment

Please check the column that best describes you competency in the following skills:

Skills	Not skillful, need help with this	Skillful, could use some updating	Very skillful, can do this well
1. I can incorporate a patient-centered approach to patient education based on the patient's readiness to change			
2. I use the most effective approaches to build rapport with patients			
3. I know my own behaviors that help or hinder effective clinician-patient relationships			
4. I make quick connections with new and returning patients			
5. I can redirect a clinician-patient relationship that's difficult			
6. I use effective listening and questioning skills			
7. I can describe the components of a learning assessment			
8. I can assess a patient's level of importance and confidence to perform a health behavior			
9. I know one method of needs assessment that can be done in a matter of minutes			
10. I can detect limitations to learning			
11. I can identify the elements of health coaching			
12. I can describe the process of health coaching			
13. I know how to be a health coach for the patients I work with			
14. I use health coaching techniques in my communications with patients			
15. I incorporate tailoring into my communications with patients			
16. I can effectively help patients deal with strong emotions such as fear			

Knowledge/Skills/Abilities	Not skillful, need help with this	Skillful, could use some updating	Very skillful, ca do this well
17. I can deal effectively with patient ambivalence			
18. I can deal effectively with patient resistance			
19. I know the characteristics of effective clinician-patient partnerships			
20. I can describe how clinician and patient preferences for partnering influence their interactions and decision making			
21. I incorporate both my clinical and the patient's perspectives into treatment planning to reach mutually agreed-upon goals			

How to interpret your self-assessment:
If you checked either the left or middle column on any item, you may want to focus on the course unit that addresses that item:

Unit	Item
T—Tune in to the Patient	1, 2-6
E—Explore the Patient's Concerns, Preferences and Needs	1, 7-10
A—Assist the Patient with Behavior Change	1, 11-14
C—Communicate Effectively	1, 15-18
H—Honor the Patient as a Partner	1, 19-21

Even if you are very skillful in some areas, you may want to use the opportunities in this course to reinforce your skills. Recall that professional athletes practice every day even though they are already highly skilled in their sports.

Appendix E: Clinician Importance and Confidence Regarding Health Behavior

Clinician Importance and Confidence regarding Health Behavior Counseling

I. For each of the following communication strategies, please provide your rating of its importance as a way for promoting patient health behavior change.
Please circle a number on the following scale:

	Not at all Important	Extremely Important
1. Making a personal connection with patients to establish rapport	0--1--2--3--4--5--6--7—8—9--10	
2. Eliciting patients' agenda and needs	0--1--2--3--4--5--6--7—8—9--10	
3. Eliciting patient's ideas, values, feelings regarding health behavior change	0--1--2--3--4--5--6--7—8—9--10	
4. Reflecting patients' ideas, beliefs, concerns	0--1--2--3--4--5--6--7—8—9--10	
5. Responding to and affirming patients' concerns and feelings	0--1--2--3--4--5--6--7—8—9--10	
6. Sharing information in small chunks	0--1--2--3--4--5--6--7—8—9--10	
7. Checking the patient's understanding	0--1--2--3--4--5--6--7—8—9--10	
8. Guiding patients toward healthy choices	0--1--2--3--4--5--6--7—8—9--10	
9. Setting goals collaboratively	0--1--2--3--4--5--6--7—8—9--10	
10. Assessing patients' confidence to follow through with a plan	0--1--2--3--4--5--6--7—8—9--10	
11. Exploring barriers	0--1--2--3--4--5--6--7—8—9--10	
12. Problem-solving to address barriers	0--1--2--3--4--5--6--7—8—9--10	

II. For each of the following communication strategies, please provide your rating of your confidence in using this skill to promote patient health behavior change.
Please circle a number on the following scale:

	Not at all Confident	Extremely Confident
1. Making a personal connection with patients to establish rapport	0--1--2--3--4--5--6--7—8—9--10	
2. Eliciting patients' agenda and needs	0--1--2--3--4--5--6--7—8—9--10	
3. Elicitng patients' ideas, values, feelings regarding health behavior change	0--1--2--3--4--5--6--7—8—9--10	
4. Reflecting patients' ideas, beliefs, concerns	0--1--2--3--4--5--6--7—8—9--10	
5. Responding to and affirming patients' concerns and feelings	0--1--2--3--4--5--6--7—8—9--10	
6. Sharing information in small chunks	0--1--2--3--4--5--6--7—8—9--10	
7. Checking the patient's understanding	0--1--2--3--4--5--6--7—8—9--10	
8. Guiding patients toward healthy choices	0--1--2--3--4--5--6--7—8—9--10	
9. Setting goals collaboratively	0--1--2--3--4--5--6--7—8—9--10	
10. Assessing patients' confidence to follow through with a plan	0--1--2--3--4--5--6--7—8—9--10	
11. Exploring barriers	0--1--2--3--4--5--6--7—8—9--10	
12. Problem-solving to address barriers	0--1--2--3--4--5--6--7—8—9--10	

VHA National Center for Health Promotion and Disease Prevention (NCP), January, 2011

Appendix F: Approval For TEACH

From: Minor, Becky H.

Sent: Monday, March 14, 2016 7:38 AM

To: Tukay, Remeliza N.

Subject: Patient Education: TEACH for Success Program

TO: Remeliza Tukay

FROM: Becky Hartt Minor, MA, National Lead, Patient Education: TEACH for Success Program

Remeliza Tukay has been given the rights to use the TEACH Self-Assessment Tool in her upcoming Quality Improvement project.

The TEACH Self-Assessment Tool is used in the TEACH coursework as a pre-test tool where participants can self-rate themselves on their current health education participants.

Throughout the remainder of the course health education, health coaching, goal-setting, and patient-centered communication skills are used to enhance clinical staff use of said skills in their clinical encounters with Veterans.

Sincerely,

Becky Hartt Minor

Appendix G: Approval for Clinician Importance

March 17, 2016

Dear Remeliza,

I am very happy to provide you permission to use the "Clinical Importance and Confidence Regarding Health Behavior Counseling" tool for your DNP project "Diabetes Mellitus Type 2: A Quality Improvement and Patient Safety Initiative".

As you may know, we believe strongly that a skilled, patient-centered communication approach is key to effective support of self-care, self-management, and behavior change.

Best of luck with your project and your continued work in the field of Health Promotion and Disease Prevention.

Sincerely,

Peg Dundon, PhD

Peg Dundon
National Program Manager for Health Behavior
National Center for Health Promotion and Disease Prevention
Mobile: **(716) 604-5446**

Healthy Living Matters.
Prevention Works.

Appendix H: Diabetes Self-management Education Program

DIABETES SELF-MANAGEMENT EDUCATION PROGRAM

PATIENT ASSESSMENT OF LEARNING NEEDS USING TEACH and MI

Instructions: Please answer these questions to assist us in providing effective programming that meets the needs of our participants. This information will stay private.

1. **How does exercise help your blood sugar?**

❑ Lowers blood sugar ❑ Raises blood sugar ❑ Has no effect ❑ I don't know

2. **Which one is the best way to take care of your feet?**

❑ Look at and wash them every day ❑ Massage them every day with alcohol
❑ Soak them every day for one hour ❑ Buy shoes a size larger ❑ I don't know

3. **What is a retinal exam?**

❑ A foot exam ❑ A gum exam ❑ An eye exam ❑ I don't know

4. **Carbohydrates (starches and sweets) break down in your body to what?**

❑ Wheats/whole grains ❑ Fats ❑ Glucose/sugar ❑ I don't know

Instructions: Please answer these questions to help us understand how you cope with your diabetes. This information will stay private.

1. **How often in the last week have you felt overwhelmed by living with diabetes?**

❑ Never ❑ Almost never ❑ Sometimes ❑ Most of the time ❑ Always

2. **Do you know healthy ways to handle the stress related to your diabetes?**

❑ Yes ❑ Maybe ❑ I don't know ❑ I don't think so ❑ No

3. **When you need it, do you feel you can ask for support on how to manage your diabetes?**

❑ Yes ❑ Maybe ❑ I don't know ❑ I don't think so ❑ No

4. **Do you feel you can ask your doctor questions about your treatment plan?**

❑ Yes ❑ Maybe ❑ I don't know ❑ I don't think so ❑ No

5. **Do you feel you can make a plan with goals that will help you control your diabetes?**

❑ Yes ❑ Maybe ❑ I don't know ❑ I don't think so ❑ No

Circle one: Not confident at all 1 2 3 4 5 6 7 8 9 10 Totally confident

Instructions: Please answer these questions to help us understand how you cope with your diabetes. This information will stay private.

1. **How confident are you that you can keep the fatigue caused by your diabetes from interfering with the things you want to do?**

Circle one: Not confident at all 1 2 3 4 5 6 7 8 9 10 Totally confident

2. **How confident are you that you can keep the physical discomfort or pain caused by your diabetes from interfering with the things you want to do?**

Circle one: Not confident at all 1 2 3 4 5 6 7 8 9 10 Totally confident

3. **How confident are you that you can keep the emotional distress caused by your diabetes from interfering with the things you want to do?**

Circle one: Not confident at all 1 2 3 4 5 6 7 8 9 10 Totally confident

4. **How confident are you that you can keep any other symptom or health problem you have from interfering with the things you want to do?**

Circle one: Not confident at all 1 2 3 4 5 6 7 8 9 10 Totally confident

5. **How confident are you that you can do the different tasks and activities needed to manage your diabetes so as to reduce your need to see a doctor?**

Circle one: Not confident at all 1 2 3 4 5 6 7 8 9 10 Totally confident

6. **How confident are you that you can do things other than just taking medication to reduce how much your diabetes affects your everyday life?**

Circle one: Not confident at all 1 2 3 4 5 6 7 8 9 10 Totally confident

ADOPTED FROM:

Appendix I: Approval for Diabetes Self-management Program

March 15, 2016

To Whom It May Concern,

This letter serves to authorize Remeliza N. Tukay to use the Pre and Post program survey questionnaires for Diabetes Self-Management Program for her DNP project titled "Diabetes Mellitus Type 2: A Quality Improvement and Patient Safety Initiative".

Should you have any questions, please email me at aidee.floresfernandez@dignityhealth.org or call me at 702-616-4914.

Aidee Flores Fernandez

Community Education Program Specialist

Appendix J: VA Approval

February 4, 2016

Dear Ms. Tukay,

Your project, "*Diabetes Mellitus Type 2: A Quality Improvement and Patient Safety Initiative*", has been reviewed by the Research Compliance Officer of the VA Southern Nevada Healthcare System. Your project was determined not to require IRB approval.

Based upon the Academic Project approval process, you have been granted approval to move forward with your project.

Best wishes in your endeavors.

Sincerely,

DESIREE CRAWFORD 501911

Digitally signed by DESIREE CRAWFORD 501911
DN: dcmgov, dcmva, ominternal, ourpeople, 0.9.2342.19200300.100.1.1=desiree.crawford@va.gov, cn=DESIREE CRAWFORD 501911
Reason: I am the author of this document.
Date: 2016.02.04 11:54:24 -08'00'

Desiree Crawford, DHEd, MHA, BSN, RN
Associate Nurse Executive/Nursing Professional Services

Appendix K: Dissemination Poster