DIABETES EDUCATIONAL PROGRAM AS IT RELATES TO BABY BOOMERS AND READMISSION RATES

by

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Abstract

Diabetes is the seventh leading cause of death in the United States, despite medical advancements (Centers for Disease Control [CDC], 2011). Diabetes management and education is the key to curtail the rapid spread of this disease. As American baby boomers age, the diagnoses of diabetes increase and cause the disease to reach epidemic proportions (King, Matheson, Chirina, & Shankar, 2013). A New York City nursing home conducted a needs assessment in 2013, which revealed an increase in the readmission of residents with diabetes or diabetes-related complications. These sobering facts led to the project question: Does a diabetes educational program in a sub-acute setting decrease the 30-day hospital readmission rates among baby boomers? The purpose of this evidence-based project was to study a diabetes educational program's impact on readmission rates. The ultimate goal of the project is to improve patients and caregivers' management of this complicated disease. Management and improvements of this disease include better eating habits, exercise, self-care and educating the diabetic patients to reduced adverse effects of the disease. The researcher used a pre and post questionnaire designed to better understand nurses and patients' knowledge of diabetes prior to the education program. A convenience sample of nurses ($N = 27$) and patients ($N = 9$) participated in the project. Patients had follow-up calls within 30 days of discharged to assess for any readmission. Orem's Self-Care Deficit Nursing Theory and the IOWA Model served as the theoretical frameworks that guided this system change. The findings from the needs assessment suggested that augmented diabetic education for patients may improve diabetes management and reduce readmission rates.

Keywords: diabetes mellitus, diabetes, nursing homes, baby boomers, readmission, champions, champion model, diabetes champion, expert clinician, hospital admission, discharge, and hospital utilization.

Dedication

I would like to dedicate this project to my loving husband Dexter, my children Xenovia, Arianna and Christopher, my mother Adeline, and my cousin Sanchelle Celestin. Their continued love, support and encouragement were pivotal to the successful completion of this journey.

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Diabetes Educational Program as it Relates to Baby Boomers and Readmission Rates

CHAPTER 1

The Centers for Disease Control and Prevention reported that the total cost of diagnosing and treating diabetes is $174,000,000 annually, and continues to rise. Type 2 diabetes occurs in 99% of all diabetic patients (CDC, 2011). Most baby boomers with this disease develop Type 2 diabetes, formerly called adult onset diabetes. Martin, Freedman, Schoeni, and Andreski (2009) defined baby boomers as individuals that was born between 1946 and 1964. Type 2 diabetes occurs when the body does not produce enough insulin or the cells in the body are insulin resistant. Approximately 14 million baby boomers are living with diabetes, which represents one out of every adult in this age group (Ricketts, 2011). This is very alarming and drastic measures need to be taken to curtail this disease. A gap in practice exists as it relates to the impacts of diabetic patients on the healthcare system worldwide. The baby boomers population who are the focus of this project is greatly affected. Diabetic baby boomers who practice good disease management are thriving today and living healthy lives if they are diligent about self-care (Geden, Isaramalai, & Taylor, 2001).

Nature of the DNP Project

To understand current patients and caregivers' knowledge of diabetes management, a New York City nursing home conducted a needs assessment. The assessment analysis indicated an increase in the readmission rate of diabetic patients among the baby boomers generation due to inadequate knowledge of proper diabetes management. The PICOT framework proved an ideal model for highlighting the elements of the clinical question and developing a diabetes educational program for baby boomers. The PICOT framework helped to structure the clinical question that yielded the more useful literature-search results. It also provided a clear direction

in the process of planning, implementing, and evaluating a practice change (Melnyk & Fineout-Overholt, 2011). Baby boomers in a sub-acute setting were the population of interest (P). The group would take part in an educational program delivered by the Sweet Success Program (I), and the readmission rates of this population would be compared to the readmission rates of the group that did not receive the intervention. The assumption (C) was that the group participating in the educational program would have a lower readmission rates (O). The intervention was a 30-day program (T). Sweet Success Champions were essential to the design of the program. Sweet Success Champions are bedside nurses trained by a Diabetes Educator in diabetes management, including discharge, education, teaching and medication management.

In response to the assessment outcome, a diabetes education program targeting baby boomers was developed within the PICOT framework. The program was named Sweet Success. A two group comparative design was used to determine the impact of the Sweet Success program and baby boomer's readmission rate.

Description of the Problem, Environment, and Target Population

Diabetes is an increasing health problem worldwide among baby boomers who are between the ages of 52–69 years old (Edson, Sierra-Johnson, & Curtis, 2009). This DNP capstone project involved baby boomers who were readmitted to a New York City nursing home because of diabetes complications. The project was completed to respond to the identified concerns of lack of patients' knowledge of the complications of diabetes among baby boomers. This effort was centered on the Sweet Success diabetes education program that the researcher developed by applying the principles of the PICOT concept to assist in identifying the elements of the clinical question. The New York City nursing home's Administrator and Director of Nursing approved Sweet Success and accepted its implementation for the project. They

recognized the potential of Sweet Success to help educate diabetic patients who were constantly being readmitted as a result of lapses in diabetic management.

Purpose of the DNP Project

The primary purpose of this evidence-based practice project was to identify and illustrate best-evidence clinical practices in the treatment of diabetes, particularly the relationship between a diabetes educational program and a decline in readmission rates. According to Gurzick and Kesten (2010), the nurses who treat diabetic patients needed an educational program that taught best clinical practices for diabetic patients. The secondary goals of the DNP project included dissemination of knowledge in relationship to design, implementation, and evaluation of a diabetic educational program. The project's aim was to bring about a significant decline in diabetes related readmission rates and to educate diabetic baby boomers and their caregivers about diabetes management.

Significance of the DNP Project

Kim, Ross, Melkus, Zhao, and Boockvar (2010) reported that diabetes was one of the leading causes of doctor visits for baby boomers. The factors that drive patients' admission and readmission rates related to diabetes drove the researcher's assessment of the significance of the project. The results of this study may add to the knowledge-base of healthcare practitioners to help establish adequate educational programs for their diabetic patients. The diabetes education programs that were tailored to both nurses and patients at the New York City nursing home, may serve as an example to other facilities in establishing effective educational programs that help reduce readmission rates of diabetic patients. In addition, this study may inform policy makers about the importance of reducing readmission rates of diabetic patients. Creating policy that

provides diabetes education for nurses who work with diabetic patients will help reduce the exploding costs of health care in the United States.

Definition of Relevant Terms

The following terms not commonly known to a reviewer or colleagues are:

- Baby boomers - Adults born between 1946 and 1964 (Martin et al., 2009).
- Centers for Disease Control (CDC) - The body that tracks and oversees health related issues for the United States government (CDC, 2011).
- Diabetes, type 2 - A type of diabetes that occurs in adults when the body does not produce enough insulin or the cells in the body are insulin resistant (Hughes, 2008).
- Evidence-based practice (EBP) - Applying the best available research results in practice (Stillwell, Fineout-Overholt, Melnyk, & Williamson, 2010).
- Improving Our Workplace Award (IOWA) Model - (Stillwell et al., 2010).
- Readmission rates - The number of patients who experienced unplanned readmissions to a hospital after a previous hospital stay (Ricketts, 2011).
- Stakeholders - These are patients, family members, community members, and nurses from various disciplines who are involved in the diabetic program (Hughes, 2008).
- Sweet Success Champion - A Sweet Success Champion is a bedside nurse trained by an expert diabetes clinician in diabetes management, including discharge and medication management.

Assumptions

This project operated on two assumptions. One was the researcher's belief that an onsite diabetes education program for diabetic patients would result in reduced readmission rates. Second, the researcher assumed that patients' readmission rates would further decrease as the program gained momentum.

Limitations

The survey method elicited responses from the potential participants, and the accuracy and truthfulness of the responses could not be fully measured. In addition, a limited sample data of $N = 9$ discharged patients that participated in the diabetes education posed a challenge. As a result, the study may not be generalized to other healthcare practitioners because of this limitation. These limitations were offset by several strengths inherent to the IOWA Model, which takes into account the entire system, including the patients, providers and organization. Despite these strengths, the IOWA Model is not without restrictions, which must be considered a limitation. Restrictions of this model include the assembly of an interdisciplinary team. However, this system-wide approach allowed for the best utilization of resources and ultimately the best clinical practice.

DNP Project Objectives

Nursing as a practice profession requires both practice experts and nurse scientists to expand the scientific basis for patients' care. Hence, doctoral education in nursing is designed to prepare nurses for the highest level of leadership in practice and scientific inquiry (American Association of Colleges of Nursing, 2006). This study used an established method based on a needs assessment that led to the development and implementation of the Sweet Success program. This program addressed the diabetic disease process and its impact on the baby boomers population.

The objectives of this DNP project were to (1) foster self-management and reduction in the readmission rates of diabetic baby boomers, (2) teach the nursing staffs to educate diabetic patients about the complications of ignoring their disease, and (3) to improve quality of life and promote self-care among diabetic baby boomers. The primary goal of the DNP project was to implement the Sweet Success Diabetes Education Program to educate nursing staffs about the disease process, promote self-management awareness among patients, and to address the readmission cycle among baby boomers, ages 51 to 69.

CHAPTER 2. THEORETICAL FRAMWORK AND LITERATURE REVIEW

Theoretical Framework

The IOWA Model developed by Marita G. Titler best addressed the clinical issue and the PICOT question. In addition to the IOWA Model, the Orem's Self-Care Deficit Theory informed the appraisal of literature and facilitated change in practice. The IOWA Model is designed to guide clinical practice using a scientific method of evidence-based research in improved practice, with the ultimate goal of answering the clinical question, and predicting patients' outcomes (Titler et al., 2001). Elements of the IOWA Model are: (1) identify a problem, (2) determine a plan, (3) form a team, (4) gather evidence, (5) critique and synthesize the evidence, (6) determine the validity and appropriateness of the evidence, (7) pilot change, (8) determine if the change is appropriate for practice, (9) implement, and (10) disseminate results (Gawlinski & Rutledge, 2008).

Reducing readmission for diabetic patients has become a priority for many hospitals since the federal implementation of the healthcare reform. Being aware of the need to reduce readmission for diabetic patients, the Director of Nursing and Director of Nursing Education at this study's nursing home conducted a needs assessment which revealed a gap in the education and awareness of diabetes management. The assessment data revealed a gap in the staffs' education and awareness of diabetes management. Furthermore, the assessment revealed that the nurses at this study's facility were receptive to change contingent on the appropriateness of the method, implementation, and introduction of the change. The IOWA Model was therefore an ideal choice for the structure of this study.

Implementing this planned change to the sub-acute population required active participation of all staff members, caregivers, and stakeholders. A committed pilot team that

understood the necessity of the planned change agreed to participate. Since the IOWA Model emphasizes that a positive change is possible once the changes are explained, shared, and accepted, the collaboration of the team is requisite to success. The planned change initiative offered the staffs and managements of the New York City nursing home a more comprehensive approach to better manage an age-old disease by improving the delivery of care processes. This Quality Improvement (QI) project at the New York City nursing home improved the system already in place by educating staffs to better manage and care for patients.

A synthesized collection of evidence-based research data supported the formation of the PICOT question. A systematic, interpretive review of related studies revealed that restructuring care administered by healthcare professionals, with emphasis on patients' self-care and intense education, is essential as patients transitioned from hospital to home. Understanding patients' self-care needs is essential in preventing readmission. Patients with diabetes face numerous obstacles that influence self-care, and as a result, many patients are readmitted to the hospital despite their efforts to manage their disease. Factors that contribute to preventable hospital readmissions include inadequate patients' education, failed social support, failure to seek medical attention promptly, and non-compliance with diet and medications. Addressing these multiple obstacles requires a systematic approach, and to that end, Orem's self-care deficit theory was an ideal theory to address the challenges of these patients. Orem's theory is compromised of three unified theories: (1) the theory of self-care, (2) the self-care deficit theory, and (3) the theory of nursing systems. When patients are unable to meet their self-care requisite, a self-care deficit occurs and nursing care is needed. The presence of a self-care deficit identifies patients in need of dependent care, which initiates and performs the needed care on behalf of the dependent person (Hartweg, 1991).

Summary of Relevant Research

Documentation

The researcher relied on several search engines, including Medline, EBSCO HOST, Cochrane, PubMed, the Cumulative Index to Nursing and Allied Health Literature (CINAHL) to gathered pertinent evidence-based research data for the literature and full-text search, and peer-reviewed articles. The following keywords proved useful in the search for empirical literature on diabetes are diabetes mellitus, diabetes, baby boomers, readmission, champions, champion model, diabetes champion, expert clinician, hospital admission, discharge, and hospital utilization.

Creating champions in clinical settings promotes improvements in patients' care. Champions are defined as clinical experts who have the ability to look at the whole system and facilitate learning and change by employing a multitude of competencies. They are a positive influence on patients, families, nurses and administrators. Education is the best method for achieving better patients' outcomes and decreasing hospital admissions and readmissions. The study found that the role of certified nurse specialists in a diabetes program is to use the clinical pathways to collect data from evidence-based practices to help identify high-risk patients. Clinical pathways assist in the implementation of evidence-based practices to improve quality of care and promote positive patients' outcomes (Gurzick & Kesten, 2010).

Sackett, Rosenberg, Muir Gray, Haynes, and Richardson (1996) concluded that evidence-based medicine is the conscientious, explicit, and judicious use of current practices in making decisions about the care of individual patients. Findings revealed a need for refining evidence-based practices by utilizing clinical experience to promote better patients' outcomes (Melnyk & Fineout-Overholt, 2011).

According to Muller, Hujcs, Dubendorf, and Harrington (2010), Magnet certification, which originated in 1984, is the highest recognition a healthcare organization can achieve. The authors described how when using Magnet certification, clinical nurses can broaden their scope of practice to foster a higher quality health care delivery system. Only 8% of U.S. hospitals possess this prestigious recognition. Magnet certification is a performance-driven recognition that exemplifies the impact nurses can have on quality, service, and cost (Drenkard, 2010). The Magnet certification program offers five components to assist nurses in broadening their scope. The five components are: (1) transformational leadership, (2) structural empowerment, (3) exemplary professional practice, (4) generation of new knowledge through innovation, and (5) improvement and empirical quality outcomes (Muller et al., 2010). Encouraging continued high standards in nursing could be achieved by the empowerment of champions to enhance bedside nursing care; such standards would benefit the entire hospital.

In a study conducted by Draper, Finland, Liebhaber, and Melichar (2008), they found empirical evidence that nurses need to play a pivotal role in the improvement of the health care delivery system. Nurses are the nuclei of the healthcare continuum and the primary contacts for patients. Nurses significantly influence the quality of care provided, which ultimately impacts patients' outcomes. Institutional drive to obtain Magnet certification is the root cause of this dramatic shift. Accreditation boards and other government institutions are focusing on staffs' participation in the internal quality improvement measures (Draper et al., 2008). To achieve better patients' outcomes, hospitals are faced with implementing more quality improvement measures (Drenkard, 2010). These quality improvement measures redirect focus on the quality of nursing.

The rising costs of health care, coupled with government intervention in cost containment, means care evaluation reimbursement for hospitals is tied to patients' outcomes. Participatory measures that feature interdisciplinary collaboration improve patients' care. In one example of such collaboration, a Chief Executive Officer's (CEO) support for tracking and addressing the prevalence of bedsores demonstrated a strong level of commitment and initiative to support nurses. By his actions, this CEO demonstrated respect for the nurses' central role in assessing and treating patients. Such new thinking and collaborative efforts allow nurses to be more proactive. It is further stated that nursing champions are particularly effective when implementing a project that they believe will achieve real and sustained improvement (Draper et al., 2008).

Cost containment measures have also caused a shift from hospital-based care to sub-acute and home-based care. Hospital stays that would once have been considered routine have been shortened or eliminated. Criteria for hospital discharged are related to the ability of patients or families to manage care. Current evidence indicated that individuals and families who engage in self-management behaviors improve their health outcomes (Ryan & Swain, 2009). Self-management related to a chronic illness or diagnosis involves multiple steps. Self-management skills are learned activities such as self-monitoring, reflective thinking, decision-making, and goal setting. These activities are geared toward a lifestyle change (Grumbs, 2012).

Ryan and Swain's (2009) self-management program activities prepared diabetic patients to assume responsibility for managing their chronic illnesses or engaging in healthy lifestyle activities. The first step in achieving self-management is learning the importance of self-efficacy. The second step involves education about the disease and the disease process. Having

a clear understanding of the disease and its effect on the body is imperative to achieving self-management.

Pleog et al. (2010) surveyed a sample of 255 nurse leaders, educators, and mentors regarding healthcare innovation to learn how they were optimizing good patients' outcomes. The studies showed a remarkable link between collaboration and the creation of a champion program. Having a clinical nurse specialist who uses evidence-based practice in clinical settings to advance the care of diabetic patients is critical to improving patients' outcomes.

Sullivan, Dalal, and Burke (2013), in their 12 months cohort study of 17,483 counseling and education recipients and 17,470 non-counseling and education, found that the recipients in the counseling and education group had a significantly lower A1C of 7.7% vs. 7.2% over a three months period. The AIC blood test known as the hemoglobin A1C, HBA1C or glycohemoglobin test, measures a person's blood glucose, also known as blood sugar. The A1C rate demonstrated that education is essential to the promotion of good patients' outcomes. Patients can learn how to curtail the negative effects of the disease if they are educated about the disease. In addition, medical professionals will need to play an active role in helping the patients transitioned from hospital to home care. Clinical support professionals strengthens patients' ambition and ability to manage their illness on their own (Sullivan et al., 2013).

CHAPTER 3. DNP PROJECT DESIGN

Project Design and Description

The methodology chosen for this DNP project was based on the assumption that implementing a personalized diabetes program that targeted diabetic patients in a skilled rehabilitation facility would result in reduced readmission rates. The project design was qualitative and sought to find common reoccurring themes among the participants. The empirical and theoretical literature drove decision making regarding the project design. A convenience sample ($N = 27$) of nurses completed the diabetes educational program. Nine patients were followed for the proposed project. The needs assessment illustrated patients' lack of awareness of factors that predisposed them to diabetes, such as genetics, obesity and diet. The primary purpose of this DNP evidence-based practice project was to describe best clinical practices based on empirical evidence and measure the relationship between a diabetes educational program and readmission rates.

The clinical question addressed in this DNP project was: Does a diabetes educational program in a sub-acute setting decrease 30-day hospital readmission rates among baby boomers? The current hospitalization rate for patients with diabetes and the treatment of secondary illnesses is creating an enormous financial burden (Kim et al., 2010). To ensure a reduction in the high cost of treatment for diabetics, a universal program is needed in the health care environment to engage people diagnosed with diabetes as well as those who are predisposed to the disease (Grumbs, 2012). Based on recommendations and observations, the researcher identified important stakeholders, including hospital administration, nurses, physicians, patients, families, community members, and Capella University faculty. This group formed a planning committee and designed this program by first investigating and identifying a lack of diabetes

education in the New York City nursing home. The planning committee then conducted an exhaustive research and designed a best-practice approach to the management of patients' transitioning from hospital to home.

The roles of the stakeholders varied, but each played an integral part in the success of the program and its evaluation. The patients and family members partnered with the nurses about increasing knowledge using an informative brochure. The community monitored and provided education and assistance to the patients and family members through activities and ongoing training within the community. The administration, organization and physicians sponsored and advocated with a clear message about the need for improving the quality of care for diabetic patients, while communicating with the researcher through email and meetings. The nurses worked closely with the patients as diabetic champions and participated in this study's training to improve their knowledge and education of diabetes, so they could then educate patients and families. Finally, Capella DNP faculty supported the project by endorsing the importance of improving the care of patients suffering from chronic complications common to diabetes, and by providing the researcher with feedback via email. Capella University's faculty and Capella's Institutional Review Board (IRB) played a significant role in the project, from the approval of the clinical problem to following the project's progress from beginning to completion.

The shared goals of the project were to increase knowledge of the disease and its management, to maintain patients' health within the community, and to avoid diabetes related hospitalizations. The program was a success for all of the stakeholders involved because the education provided improved the health of patients, their families, and their communities. It also achieved the goal of better patients' outcomes at the nursing home. Stakeholders are in a position to implement strategies and confer with each other, and as such, they played a vital role

in the success of this project. The Director of Nursing Education supported the project and orchestrated its clinical administration. The stakeholders invested their time, skills, encouragement, and understanding with the goal of reducing readmission. Without their unwavering commitment to improving patients' care and supporting this project, the success achieved would have been impossible.

Statistical Data

The participants consisted of a convenience sample who were admitted with a primary or secondary diagnosis of diabetes. Prior to going through the diabetes educational program, seven out of the nine discharged patients noted, "I thought I knew everything about diabetes. I was so wrong." The diabetes class revealed the consequences of not following a regimented plan for treating Type 2 diabetes.

Inclusion Criteria

According to Farrugia, Petrisor, Farrokhyah, and Bhandari (2010) obtaining statistically significant data from an entire population of interest is rarely feasible; therefore, establishing an unbiased estimate of the desired population is necessary and must be conducted with care. When conducting an evidence-based practice, selection of participants is usually based on access to the population of interest, previous research, and the PICOT question to be. To ensure generalizability and validity of the results, research suggests that participants must be representative of the targeted population to which results will be applied. Inclusion criteria for this evidence-based project included: (a) primary or secondary diagnosis of diabetes, (b) date of birth between 1946 and 1964, and (c) agreement to participate in the evidence-based project with follow-up phone calls post discharged.

Exclusion Criteria

To help mitigate the occurrence of characteristics that might interfere with the validity of the study's results, the researcher established predefined exclusion criterias to ensure participants' safety, maximize the generalizability of the project findings, and provide a uniform effect on project participation. Diabetic patients with cognitive impairments and communication barriers who may not be able to follow the established project protocols or recommended treatments were excluded.

DNP Project Intervention

Stakeholders' implementation of the plan made the success achieved possible. Stakeholders had to be willing to openly and consistently communicate with one another as well as with the patients in order to achieve positive goals. The researcher had to monitor the project and made the necessary changes. The inclusion and exclusion criteria dictated which patients to include in the project. The field of participants had general attributes that helped guide the goals and results of the project. The patients' attributes had to be measurable to make monitoring for results possible. The DNP had a clear understanding of what the results of the plan required and how the plan would be conveyed to the medical team and participants. Decisions made included the length of the plan, the participants, both patients and medical staffs, and most important, the goals of the plan. The interdisciplinary collaboration played a crucial role in achieving the goals of the project.

As the team leader, the researcher gathered materials and referrals, created the surveys, delineated the patients' parameters, and set the time frame and goals of the initiative. The researcher also set initial specifications for scientific evidence. For example, follow-up calls were made to each discharged patient to determine whether the patients remained out of the

hospital during the project and its conclusion. A written plan were completed to include note-taking requirements for the stakeholders in order to accurately assess the progress. The researcher openly accepted feedback and ideas from others and made positive changes to the plan for the benefit of all the participants.

Nurses must understand and address patients' concerns and issues that influence their ability and willingness to actively participate in their care. Financial concerns, such as the lack of insurance, inability to pay the co-payment and the inability to purchase healthy food are everyday struggles for many groups. Other barriers such as literacy and language makes it difficult for some patients to understand the written diabetes educational materials. At the same time, the healthcare organizations are facing their own financial issues related to diabetes. Repeated hospitalizations dramatically increase the cost of treating diabetes-related illnesses. The implementation of the diabetes program at the New York City nursing home lowered the rates of diabetes-related readmissions, decreased the devastating effects of the disease, improved the financial outlook for the affected healthcare system, and providing insight that guided the development of the program.

The following steps describe the diabetic educational project at a New York City nursing home.

Approval Letter - The nursing home administrator received a letter that provided a summary of the DNP capstone project and request for approval and support for the proposed program. The Director of Nursing, Director of Nursing and Education and Administrator approved and supported the project.

IRB approval - The quality Improvement (QI) projects are related to evidence-based practice (EBP) because they encourage the improvement of care in practice settings, advocate for the implementation of changes, promote the collection of data from those changes, and evaluate the results (Melnyk & Fineout- Overholt, 2011). The diabetes educational project was directed towards quality improvement activities specifically related to an evaluation process within the nursing home that involved facility nurses. The project met all these criteria and the Institutional Review Board (IRB) at Capella University; IRB deemed the Diabetes DNP project as "not research".

Stakeholders Meeting – The Director of Nursing and Nursing Education of the DNP project provided feedback based on a presentation of the planned project.

Diabetic Pre-questionnaire – Nurses who expressed interest in the diabetes educational program filled out a pre-project questionnaire. A password-protected computer housed all the information, including codes assigned to each participants and the results of the questionnaire. This will prevent any inadvertent alterations to the pre-project data.

Planning and Implementation - Throughout the initial planning and throughout the project, formal and informal meetings promoted open dialogue and elicited feedback. Prior to attending the diabetes educational program, the participating nurses completed a participant contract stating their commitment to conclude the program. The diabetes educational program was conducted in May, 2014.

Wrap-up - On May 31, 2014, the diabetes educational program concluded and nurses completed a post-project questionnaire. On June 1, 2014, the stakeholders rolled out the diabetes educational program to patients. The second phase of the project rolled out on August 1, 2014. The purpose of this project was to assess patients who were discharged 30 days post-completion

of the diabetes educational program. The second phase also assessed whether patients were readmitted within 30 days due to diabetes or diabetes related complications.

The main goals of this project was to address the gaps in diabetes education at the New York City nursing home and make changes to improve patients' care for chronic conditions. This project followed the Improving Our Workplace Award Model (IOWA). According to Chinn and Kramer (2008), the IOWA Model was designed to facilitate practice based on research findings (evidence), and is used to guide clinical decision-making. The IOWA Model requires that clinical decision-making be supported by evidence-based practices (EBP) and both the practitioner and organizational perspectives play an active role in the implementation of projects. The clinical question driving this process was: Does a diabetes educational program in a sub-acute setting decrease the 30-day hospital readmission rates among baby boomers? The researcher used the process governed by EBP to identified the need to improve diabetes practice and formulated the clinical question in the PICOT (population/disease, intervention or variable of interest, comparison, outcome and time) format. Next, the researcher searched for the best available evidence in peer-reviewed literature. Critical appraisal of all evidence helped determine which strategies were most applicable to practice. Finally, the researcher analyzed outcomes to allow positive findings to be integrated into diabetes practice (Melynk & Fineout-Overholt, 2011).

Assessment Tools

The assessment tools for this project can be found in Appendix A. The project's design of Sweet Success' diabetes educational program post quiz was created to obtain feedback on the facility participants' level of understanding of the diabetes education program. The surveys,

evaluation of data, and interviews with the Sweet Success' participants provided the basis for evaluating the program.

CHAPTER 4. ANALYSIS OF IMPACT

Data Analysis

Clinical pathway needs are based on the EBP guidelines and changes are implemented utilizing a validated process that is revised periodically to ensure continuous quality improvement (Gurzick & Kesten, 2010). The purpose of this EBP project was to answer the compelling clinical question: Does a diabetes educational program in a sub-acute setting decrease the 30 day hospital readmission rates among baby boomers? The diabetes educational program, which commenced in May, 2014, seeks to address this question. Initially, 27 nurses participated in the training, and subsequently, nine patients who were admitted and discharged (August 2014) for diabetes or diabetes related issues participated in the diabetes educational program in June 2014. Those patients were followed for 30 days post discharged for any readmission due to diabetes related complications. Data from the discharged planner served as the primary source of information regarding the discharged status of participating patients. The researcher encoded the data to include the first name of the patients and their phone number.

Evaluation of the plan revealed encouraging results. After the champion nurses worked with the participating patients, all who were discharged from the sub-acute facility remained at home. Unfortunately, two patients were discarded from the study results due to death. Appendix B contain the phone call script used to assess readmission within 30 days of discharge. From the 27 nurses who participated in the diabetes educational program, 15 scored under 50% on the pre-test and 25 passed with a score of 75% or better on the post-test.

The aim of this project was to demonstrate that attentiveness to disease management, eating habits, exercise, self-care and education improves and reduce the adverse effects of diabetes (Grumbs, 2012). The education plan was dedicated to teaching patients self-care,

effecting positive changes in how food is viewed and ingested, and analyzing the effects of regular physical exercise on mind, body, and spirit. An example of a changed behavior is walking to the train station instead of taking a short bus ride. While many participants did not reach all the goals set in the plan, positive outcomes included decreased body mass, weight loss, and better dietary awareness; all of which are beneficial to the patients and their families. Patients' well-being, daily food selections, and food preparation was also improved. The diabetes educational program in this DNP project improved patients' understanding of how to change their lifestyles.

CHAPTER 5. IMPLICATIONS IN PRACTICE AND CONCLUSIONS

The lack of awareness of the factors that predisposed patients to diabetes, such as genetics, obesity, and diet are the clinical problems identified in the needs assessment. The main purpose of this DNP project was to bring awareness to the importance of collaboration and education to the nurses at a New York City nursing home to work with the patients to assist in reducing the readmission rates of diabetic patients among the baby boomers population.

Implications for Practice

The findings from this study suggested that hospitals must make changes to stem recidivism from preventable diseases such as type 2 diabetes. There is a high rate of hospital readmission for patients diagnosed with diabetes and diabetes-related conditions. A close look at the factors that created the situation revealed that a diabetes educational program yields a reduction in hospital admission and readmission. Hospital administrators who play a key role in creating and implementing policies to address readmission rates, must be part of the implementation of such programs. Improvement in educational resources and communication techniques that are more patient-centered will assist in narrowing the gap and give accreditation for the success of the diabetes education program.

Future research should focus on the determinants of different health outcomes across populations and address the disparities. There is a strong link between population risk and individual risk with three primary types of determinants. The distal determinants include the population, social conditions, policies that affect social conditions, and the policy-making bodies that influence or determine them. The intermediate determinants include the immediate social and physical contexts and social relationships in which the distal effects are experienced. The proximal determinants are factors that are closest to you that directly affect or cause the

condition. These determinants are the neighborhood or community poverty level, extent of residential segregation, median income, and education and opportunities for social interaction to readdress the effects of the distal factors of community-based partnerships (Krieger, 2008). Research and intervention strategies used in the Sweet Success project are essential to the findings about health disparities, which indicates that many baby boomers are not receiving the level and type of healthcare related social services they need to live healthy, productive lives.

A partnership at multiple levels must be initiated in order to overcome barriers that impede services. Community organizations may provide medical care, counseling, nutrition programs, exercise classes, or other programs. There are very few community organizations that have sufficient resources or expertise to meet the needs of the growing diabetic population, as was practiced in the site of this study.

As a result of this DNP project, healthcare policy makers should provide more funding for diabetic education that may help to reduce the cost of healthcare in the United States. Emerging research has suggested that providers' tendency to stereotype patients is an important contributor to health disparities (King et al., 2013). The lack of engagement in treatment among patients, substandard care, language barriers, and the lack of compassion may be attributed to the provider and subsequent refusal of treatment. This nursing DNP project showed that properly trained nurses providing diabetes education to patients reduces the instance of complications and readmission.

Providers need to be mindful of the patient's background and tailor their information about disease prevention to the individual patient's needs (Grumbs, 2012). Improving patient-provider's communication and provider's training are key targets for reducing health disparities. Developing intervention strategies for community based settings that serve vulnerable

populations, instituting evaluation techniques, determining whether a strategy for reducing disparities is ready for implementation and translation into the routine care setting, and developing strategies that promote policy changes on the basis of intervention, all aid in the reduction of disparity. Ensuring that feedback about the intervention is disseminated back to the patients, providers, and the community is very beneficial for evaluation.

When sub-acute admission occur for a diagnosis of diabetes, patients need a pathway in place to facilitate follow-ups and follow-through by the patients and staffs. Follow-ups should trigger the education process about the disease from admission and include referrals for diabetes maintenance programs. This educational intervention may be crucial to preventing the recurrence of hospitalization and assisting patients in developing a mandatory self-management routine. If readmission is related to issues of diabetes self-care or to problems in maintaining self-care for other related medical problems, such as hypertension, the need for diabetes re-education services should be more clearly defined (Leichter, August, & Moore, 2003).

Consistent with research, Leichter et al. (2003) noted that the Columbus Regional Medical Center in Georgia created a new Model for its diabetes intervention program because they identified diabetes and its complications as a high-priority healthcare issue for their service area. The program focused primarily on diabetic admission, re-admission, and length of stay, which was increasing due to the lack of staffing and educational resources. The system could not manage other admissions because a third of the educator's work hours were devoted to diabetic patients. Realizing the gap in services for the diabetic populations, the hospital created a committee to evaluate the situation and create and implement a system that could better handle the population, resulting in a new program. The primary goal of the new program was to reduce hospital stays, which would translate into lower costs while simultaneously formulating plans for

individual patient to achieve as rapid a discharge as possible, while reducing the risk that the patient would have a relapse and be readmitted again (Leichter et al., 2003).

Focusing on social services and finances, the team provided a variety of outpatient services. The program succeeded in reducing hospital stays and readmissions. Financially, investment in the program benefitted the hospital as a result of savings and the prevention of unreimbursed readmissions for the same illness (Leichter et al., 2003). Addressing these concerns prior to discharge may enable a patient to be more receptive and compliant in following medical advice and reduce the chance of hospital readmission.

Summary of Outcomes as Related to Evidence-Based Practice

For the diabetes project, bedside nurses were trained by an expert diabetes clinician in diabetes management, including discharge, diet, and medication management. The Sweet Success Champions were astute, organized, and educated in diabetes management. Attuned to the patients, they also possessed the necessary interpersonal skills to communicate effectively with the patients. The nurses were the patients' point of contact for questions related to diabetes management. The Sweet Success Champions empowered the patients by giving them literature on diabetes management and by offering support and focus groups. Encouraging patients with diabetes to eat right, exercise, adhere to medication plans, and self-monitor was paramount in helping them to manage the disease. The Sweet Success Champions played a vital role in helping patients understand diabetes and created a self-care protocol. Patients' knowledge about disease management must become ingrained in order for them to have the confidence to manage the disease and for the greater community to see a sustainable change.

Conclusions

The DNP project demonstrated that implementing a diabetes education program at the nursing home reduced readmission rates. In order to become an expert in the healthcare environment, nurses and clinicians must take ownership of their duties by improving the needed skills, learning and managing the responses of patients, and completing the required health tasks. Illnesses are minimized when healthcare workers promote activities that encourage changing and maintaining behaviors that lead to sustaining healthy choices. Emphasis must be placed on individual patient's needs, and this can be achieved by examining variables such as patient's values, resources, and other variables specific to individual patients (King et al., 2013).

When patients increase their knowledge about health choices, they make better decisions and often utilize the self-management model. Furthermore, gaining knowledge and making better decisions help to improve the health of individuals globally. Promoting healthy living is essential in this rapid and changing modern world. These changes should be implemented in ways that will affect the entire population and not just affect people on an individual or national basis (Doody & Doody, 2011). The EBP project not only answered the PICOT question, but also paved the way for future projects and research.

A combination of evidence-based diabetes recommendations, along with the IOWA Model and Orem's Self-Care Deficit Theory, were used to support this practice change. The IOWA Model of evidence-based practice facilitated the design of this high-priority diabetes practice change. This IOWA Model provided a good fit for this EBP project because it is one of the most appropriate guides for implementing a practice change at a facility level (Doody & Doody, 2011). The systematic framework of this Model is designed to answer a clinical inquiry by utilizing the most current evidence combined with the viewpoints of a multidisciplinary team.

The combination of current evidence and the expertise of the team approach were found to be the model's strongest point.

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APPENDIX A. ASSESSMENT TOOLS

Post Quiz

Methodology, project design example survey questionnaire and feedback tools pre-/post-assessment.

Sweet Success Diabetes Program CNA Post Quiz

Name: _____ Date: _____

Score: _____

1. True or False: Patient experiences frequent thirst, hunger and urination. These are signs of type 2 diabetes

2. True or False: Diabetes is also known as insulin dependent diabetes

3. While bathing a resident, you notice the patient is sweating and non-responsive. What do you do first?

   A) Check blood sugar

   B) Call the nurse immediately

   C) Provide the resident with orange juice

4. True or False: You can cut a diabetic patient's toenail

5. True or False: More people are developing diabetes now because they are taking more medications?

Sweet Success Diabetes Program Nurses Post Quiz

Name: _____ Date: _____

Score: _____

1. True or False: If a patient is taking insulin he or she must have type 1 diabetes?

2. True or False: Type 1 diabetes is an autoimmune disease?

3. In type 2 diabetes, which organ dumps glucose into the bloodstream in an effort to 'feed' the cells?

   D) The pancreas
   E) The liver
   F) The intestines

4. Which blood glucose level best reflects the action of the liver?

   A) Fasting blood glucose level

   B) Pre-meal

   C) Post-meal

   D) Before and two hours after each meal

5. Testing blood glucose levels before and two hours after eating helps:

   A) To evaluate how the medication is covered meals and evaluates the meal plan.

   B) To make sure the patient's blood glucose level does not exceed 250 mg/dl.
   C) To use up the patient's strips quickly
   D) To see the activity of the liver

6. Name two pen specific things you should teach your patient who is starting insulin with an insulin pen?

    1.

    2.

7. What is the best way to offer diabetes advice or knowledge to a colleague?

8. What are the benefits of using an insulin pen over an insulin syringe?

9. True or False: You can utilize the same flex pen with more than one resident?

10. True or False: The conversion of insulin is the same with flex pen?

APPENDIX B. OTHER EVALUATIVE STRATEGIES

Hello (_____), my name is Djenane Bartholomew, a doctoral student completing my DNP project at a metropolitan New York City nursing home. The purpose of my call today is to follow-up on the diabetes education that was provided to you in the nursing home. Would you be willing to answer a few questions that would help us better our diabetes education program at the nursing home?

If Yes proceeds to the questions

If No, I will respond with "Thank You for your time. Have a good day!"

1. Since your discharge have you been readmitted to the hospital?
2. If Yes, what was the reason?
3. Any diabetes-related complications?
4. Do you feel the diabetes, teaching at the nursing home provided new knowledge?
5. Do you feel that you are doing a good job with self-managing your diabetes?
6. Do you feel the diabetes program at the nursing home has helped you better understand and manage your diabetes?
7. What did the program lack that we should include?
8. Do you have any questions and/or concerns that I can address?

Thank you for participating in our questionnaire. This information will help us make improvements in our diabetes education program. Should you have any questions and/or comments, please feel free to reach out to us. We value your business and looking forward to meeting your needs. Please share your experience at the nursing home with friends and family.

APPENDIX C. ACADEMIC HONESTY POLICY

Capella University's Academic Honesty Policy (3.01.01) holds learners accountable for the integrity of the work they submit, which includes but is not limited to discussion postings, assignments, comprehensive exams, and the dissertation or DNP project.

Established in the Policy are the expectations for original work, rationale for the policy, definition of terms that pertain to academic honesty and original work, and disciplinary consequences of academic dishonesty. Also stated in the Policy is the expectation that learners will follow APA rules for citing another person's ideas or works.

The following standards for original work and definition of *plagiarism* are discussed in the Policy:

> Learners are expected to be the sole authors of their work and to acknowledge the authorship of others' work through proper citation and reference. Use of another person's ideas, including another learner's, without proper reference or citation constitutes plagiarism and academic dishonesty and is prohibited conduct. (p. 1)
>
> Plagiarism is one example of academic dishonesty. Plagiarism is presenting someone else's ideas or work as your own. Plagiarism also includes copying verbatim or rephrasing ideas without properly acknowledging the source by author, date, and publication medium. (p. 2)

Capella University's Research Misconduct Policy (3.03.06) holds learners accountable for research integrity. What constitutes research misconduct is discussed in the Policy:

> Research misconduct includes, but is not limited to falsification, fabrication, plagiarism, misappropriation, or other practices that seriously deviate from those that are commonly accepted within the academic community for proposing, conducting, or reviewing research, or in reporting research results. (p. 1)

Learners failing to abide by these policies are subject to consequences, including but not limited to dismissal or revocation of the degree.

APPENDIX D. STATEMENT OF ORIGINAL WORK AND SIGNATURE

I have read, understood, and abided by Capella University's Academic Honesty Policy (3.01.01) and Research Misconduct Policy (3.03.06), including the Policy Statements, Rationale, and Definitions.

I attest that this dissertation or DNP project is my own work. Where I have used the ideas or words of others, I have paraphrased, summarized, or used direct quotes following the guidelines set forth in the APA *Publication Manual*.

Learner name and date	DJENANE BARTHOLOMEW 1/25/2015
Mentor name and school	LYDIA FORSYTHE, CAPELLA UNIVERSITY