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Staff Education on American Diabetes Association Standards of Medical Care for Diabetes

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This is to certify that the doctoral study by

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Walden University
2020

Abstract

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MS, Walden University, 2014

BS, Metropolitan State University, 2008

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Diabetes is a commonly encountered chronic illness that leads to other lifelong comorbidities if left uncontrolled. Ranked as the seventh leading cause of death in the United States, diabetes affects over 29 million Americans. Although 90%-95% of all diabetes cases are preventable with proper planning and management, clinicians continue to be challenged as they strive to achieve the desired patient care goals. This Doctor of Nursing Practice (DNP) staff education project addressed the lack of standard evidence-based care for diabetic patients in the federally qualified health center look-alike practice for which this project was developed. Guided by the practice-focused questions and framed with the analysis, design, development, implementation, and evaluation model of instructional design, the purpose of this DNP project was to plan, implement, and evaluate a staff education project about the use of the American Diabetes Association Standards of Medical Care in Diabetes for clinicians caring for patients with diabetes. The content experts evaluated the curriculum using a dichotomous “met = 1” “not met = 2” scale with results showing all experts finding each objective as “met” related to the objectives and content validation of the pretest/posttest items. Content experts did not recommend any changes. The staff education was a 30-minute PowerPoint presentation. Evidence was generated by the participants (n=7) of the program by means of a change in knowledge from pretest to posttest which showed a 30% increase in knowledge. An anticipated positive social impact of the staff education project is quality standard diabetes care leading to wellness in diabetic patients and their families.

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Dedication

To my late father who always had a positive influence in my life since childhood and my mother, a retired Ugandan nurse and role model, who always encouraged me to further my career.

Acknowledgments

Special acknowledgement to my husband, my three daughters, and my son for their unconditional support throughout my DNP journey.

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I also acknowledge the team at my practicum site; my mentor MD who believed in me, the clinical director, and medical director for support and encouragement to complete this project.

Table of Contents

List of Tables

List of Figures

Section 1: Introduction

Diabetes is a commonly encountered chronic illness that leads to other lifelong comorbidities if left uncontrolled. Ranked as the seventh leading cause of death in the United States (Joseph, Johnson, Wholey, & Frederick, 2015), diabetes affects over 29 million Americans and threatens 86% of the population (prediabetic). Although 90%-95% of all diabetes cases are preventable with proper planning and management (Towne et al., 2017), clinicians continue to be challenged as they strive to achieve the desired patient care goals (Ali et al., 2016). The economic cost of diagnosed diabetic patients in the United States is $245 billion per year. Moreover, the minority and medically underserved populations are disproportionately affected by this disease (Seol, Thompson, Kreider, & Voderstrasse, 2017). Studies show that African Americans, Hispanics, and American Indians have higher chances of developing diabetes compared to non-Hispanic Whites (Towne et al. 2017).

Using the best research evidence and clinical expertise can significantly improve patient outcomes (Nichols, 2017). The American Diabetes Association (ADA) Standards of Medical Care in Diabetes (ADA, 2020) endorses evidence-based (EB) care for clinicians to ensure quality practice and improve the care received by diabetic patients. In alignment with the ADA, the Minnesota Community Measurement (MNCM, 2019) identified the standards of medical care as optimal diabetes care specifications (diabetic performance measures) reportable to public databases. These standards of care are also an expectation for federally funded community health clinics in underserved communities; Medicare's reimbursement for services also depends on the providers' quality of care

identified through public performance measure health scores (Clinical director, personal communication, 2019). Therefore, the need to educate clinicians on the diabetic evidence about quality care found in literature is unarguable. These ADA practice guidelines can be incorporated as standard practice to improve the quality of patient care.

I developed a Doctor of Nursing Practice (DNP) staff education program (SEP) (see details under the Approach subsection) to educate clinicians and promote the use evidence-based practice (EBP) at the urban Midwestern clinic also referred to as a federally qualified health center look-alike (FQHCLL). I anticipated successful implementation of the DNP SEP to create a positive social change where standard diabetes care would lead to wellness and improved quality of life for diabetic patients and their families.

Problem Statement

The problem identified in this DNP project was the lack of standard EB care for diabetic patients in the FQHCLL practice for which this project was developed. About 95% of the patients seen at the FQHCLL were African immigrants, African Americans, Hispanics, and American Indians with low income, large families, and limited knowledge about preventive care. Implementing standard care for diabetes management within an organizational system improves patient outcomes (Joseph et al., 2015). Diabetic patients at the clinic experienced a variety of treatment plans from different providers at the FQHCLL because there were no standard guidelines readily available for providers to use. Moreover, the clinic was resource challenged with minimal continuity of care by the same provider leading to fragmented clinical decisions that confused patients. Public

records showed that in 2019, 52% of the 358 diabetic patients seen at the clinic had uncontrolled diabetes. Overall, 36% of the patients seen at the FQHCCL in 2019 had diabetes (clinical director, personal communication, 2019). National data shows that the underserved and underinsured patients with lower health literacy levels have a 50% higher chance of being diagnosed with diabetes than their counterparts (Koonce, Giuse, Kusnoor, Hurley, & Ye, 2015). Evidence from research and clinical expertise is fundamental to clinical decisions and predictions for improved patient outcomes (Nichols, 2017). The SEP was inevitable and anticipated to increase the providers' knowledge and promote the use of the ADA Standards of Medical Care in Diabetes (ADA, 2020) at the FQHCLL to improve patient outcomes.

This DNP SEP is significant for the field of nursing practice because nurses are frontline clinicians who provide primary care for many diabetic patients. Many advanced practice nurses (APRNs) are independent providers in primary care settings expected to use EBP to simultaneously manage preventable risk factors associated with complications likely to result from uncontrolled diabetes. The DNP SEP demonstrates a nurse proposed change in diabetes management focused on translating literature from research into practice as recommended by the American Association Colleges of Nursing Essentials III (Garritano, Glazer, & Willmarth-Stec, 2016). The project shows nurse leadership focused on educating clinicians and promoting EBP. Nurses can take leadership roles and integrate standardized EBPs that support continuous performance improvement in the management of chronic illnesses (Warren et al., 2016). Through this DNP project I addressed the clinicians' limited use of the ADA (2020) EB guidelines, which are also

identified as indicators of quality diabetes care (Health Resources and Services Administration; [HRSA] 2019; MNCM, 2019).

Purpose Statement

The purpose of this DNP project was to plan, implement, and evaluate an SEP about the use of ADA Standards of Medical Care in Diabetes (ADA, 2020) as standard care for FQHCLL patients with diabetes. The project addressed an identified gap in practice between the lack of standardized care and the availability of evidence in the literature known to improve the quality of care and patient outcomes. Providers at the clinic practice a variation of diabetic care with limited use of EBP. Research shows that incorporating EB standards of medical care into practice improves diabetic patient outcomes (Marcial & Graves, 2019). Although there are numerous EB recommendations for diabetes management, this staff education specifically focused on the importance of using Standards of Medical Care in Diabetes (ADA, 2020) supported by MNCM (2019) as optimal diabetes care specifications and recommended by the clinic's funding agency to improve patient outcomes (HRSA, 2019).

The practice-focused questions that guided the project were:

PFQ1: What evidence from the literature supports the use of EB guidelines for diabetic care in a clinical setting?

PFQ2: Does an educational program about the use of EB diabetic care directed towards clinic staff increase knowledge about EBP guidelines for the care of the diabetic patient?

The DNP SEP has the potential to address the gap in practice by increasing the providers' knowledge while promoting the use of ADA guidelines to improve the quality of care at the clinic.

Nature of the Project

Evidence

Sources of evidence that supported this DNP SEP included a literature review of current EBP for effective diabetes management. Walden University databases used to find evidence from the literature that supports the use of ADA Standards of Medical Care in Diabetes (ADA, 2020) included CINAHL & MEDLINE, CINAHL Plus with full text, and MEDLINE with full-text databases. The government websites and the MNCM information essential for the clarification of national and federal guidelines and expectations for FQHCLL included the ADA, HRSA, and the National Center for Quality Assurance. Standards of Medical Care in Diabetes had the most current EB guidelines that endorsed quality care as a priority during the diagnosis and treatment of diabetes (ADA, 2020). Other sources of evidence applicable after Institutional Review Board (IRB) approval included de-identified data from the patients' charts that illustrated limited use of EBP before the implementation of the DNP SEP and the pre-/posttest scores.

Approach

As per the Walden University *Manual for Staff Education*, I used a 5-phase analysis, design, development, implementation, and evaluation (ADDIE) model (Jeffrey, Longo, & Nienaber, 2015; see Appendix A) during the planning, implementation, and

evaluation steps for developing an SEP. Planning included the analysis, design, and development phases followed by the implementation and evaluation steps.

Planning

Analysis. The first phase of the staff education plan was to establish the need for the project and to analyze the clinical practice problem (see Jeffrey et al., 2015). I identified the problem through a chart review (redacted charts provided by the medical director) of the providers' patient progress notes, which showed lack of standard EB care for diabetic patients at the FQHCLL and limited use of EBP. During this phase, approval from the FQHCLL site was achieved as well as approval from the Walden University IRB.

Design and development. The second phase was to design a solution and develop practice focused questions and teaching materials to guide the project. Staff education about the use of ADA Standards of Medical Care in Diabetes (ADA, 2020), an expectation for quality care at federally funded clinics (HRSA, 2019) was the solution.to the identified practice problem. Activities involved choosing the project presentation format, the content of the curriculum plan, evaluation methods, and deciding what the learning objectives were (design). I synthesized the literature, created the Literature Review Matrix (see Appendix B) and graded the selected literature (see Appendix C) using the Johns Hopkins Nursing Evidence-Based Practice (Dang & Dearholt, 2017). I used EB research to develop the Curriculum Plan (see Appendix D). I then developed a PowerPoint presentation (see Appendix I) and the pretest/posttest (see Appendix F) while focusing on the learning objectives and content of the curriculum plan. A team of content

experts, my preceptor, the clinical director, a family medicine resident, and an APRN reviewed the content in the teaching materials before the formal staff education presentation. Content evaluation was done by the content experts except for the APRN who helped with the pretest/posttest development. Details about the content experts' contribution to the project are included in Section 3 of this paper.

Implementation

Copies of the revised teaching materials were presented to the medical director before the formal staff education presentation to the targeted staff. Due to the Corona virus (COVID- 19) disruptions at the FQHCLL, the staff education took place during a providers' meeting and not during lunch time as planned earlier on**.** The participants were notified about the in-service education that would be part of their staff meeting and they took a pretest during their down time between patient care the morning of the staff education presentation due to limited time allocated to the meeting. To assure anonymity and matching of the pretest/posttest results, the participants were asked to keep track of the numbers on their pretests to match the posttest completed after the presentation. Although the pretest completion by the participants was not supervised, the intent to promote the use of EBP at the FQHCLL was met during the staff education presentation.

A PowerPoint about the ADA Standards of Medical Care in Diabetes (ADA, 2020) described in Section 3 was presented. The focus was to meet the learning objectives as described in the curriculum plan. Background information that highlighted the practice problem and justified the rationale for the SEP was presented to staff as de-identified documentation that showed limited use of EBP and inconsistency in diabetes

management among the FQHCLL providers. Following this background information, staff education about ADA (2020) guidelines was presented and discussed with emphasis on the goal to promote standard ADA guidelines and improve the quality of diabetes care. At the end of the educational presentation, the participants completed a posttest (same as the pretest). The participants were unable to evaluate my program as stated in the proposal due to limited time allocated to the presentation and clinical environment.

Evaluation

Evidence generated by the project included formative evaluation of the curriculum and validation of the pretest/posttest items by content experts in the planning phase of the ADDIE model. There was impact evaluation of the change in knowledge from pre to posttest by participants in the implementation phase, and, finally, the summary evaluation of the project completed by the content experts.

Significance

The key stakeholders in this DNP SEP were the providers and nurses who are directly involved with patient care. Their consistent use of the EBP guidelines could lead to a new culture of practice that values EB care for chronic illnesses, including diabetes. Also benefitting from the DNP SEP are the patients seen at the clinic who will have healthier lives. In addition, the ADA Standards of Medical Care in Diabetes (ADA, 2020) guidelines are transferable to other health care settings, including community health clinics, with a similar practice problem where diabetes care is inconsistent among the providers. The standards would be appropriate for diabetic patients in all health care settings as the treatment of diabetes would be the same, regardless of the setting. Locally,

the standard guidelines can be shared during a meeting for quality improvement leaders from other community health clinics. The anticipated improved patient outcomes would be a community-wide positive social change marked by controlled diabetes. The SEP is consistent with the Healthy People initiatives advocating for nationwide achievement of high-quality care and health improvement. Clinicians are encouraged to help all people live longer lives free of preventable diseases and reduce premature deaths (Neumann, Farquhar, Wilkinson, Lowry, & Gold, 2016).

Summary

Section 1 of this DNP project was an introduction of diabetes as a life-threatening disease that costs the United States $245 billion per year, disproportionately affecting minorities (Seol et al., 2017), that is a challenge to the health care providers (Ali et al., 2016). At an urban Midwestern community health clinic that serves a considerable number of minority patients, there was lack of standard EB care for diabetic patients. The purpose of this DNP project was to plan, implement, and evaluate an SEP about the promotion of the ADA guidelines as standard care for FQHCLL patients with diabetes. The ADA (2020) Standards of Medical Care in Diabetes supported by MNCM (2019) as optimal diabetes care specifications and recommended by the clinic's funding agency HRSA (2019) as indicators of quality diabetes care were presented to the participants at the FQHCLL. This project was designed to increase the providers' knowledge and promote the use of ADA (2020) guidelines at the FQHCLL. Section 2 of this paper addresses the concepts and framework used to inform and guide the project, my role as a DNP student and a team leader, and the relevance to practice and local background.

Section 2: Background and Context

The problem identified in this DNP project was the lack of standard EB care for diabetic patients in the FQHCLL practice for which this project was developed**.** Diabetic patients at the clinic experienced a variety of treatment plans from different providers at the FQHCLL because there were no standard guidelines readily available for providers to use. Practice-focused questions used to guide the project and help address the problem were as follows:

PFQ1: What evidence from the literature supports the use of EBP guidelines for diabetic care in a clinical setting?

PFQ2: Does an educational program about the use of EB diabetic care directed towards clinic staff increase knowledge about EBP guidelines for the care of the diabetic patient?

The purpose of this DNP project was to plan, implement, and evaluate an SEP about the use of ADA Standards of Medical Care in Diabetes (ADA, 2020) as standard care for FQHCLL patients with diabetes. This section introduces the research supporting the DNP SEP. The concepts and model used during project development are explained and discussed. Additionally, I discuss the background related to the DNP SEP and my role as a leader and DNP student.

Concepts and the Project Model

ADDIE Model

A five-phase ADDIE model (Jeffrey et al.,2015), extensively used in the past to guide staff education planning in various professional settings (Hsu, Lee-Hsieh, Turton,

& Cheng, 2014; Lu et al., 2016), was used as a framework to inform this DNP SEP. The five phases of the model are analysis, design, development, implementation, and evaluation. The first phase of the model requires assessment of an educational need, an existing problem (analysis), or a gap in practice (Jeffrey et al., 2015). The second phase requires educators to design the project and develop (third step) a learning activity to address the identified problem. Jeffrey et al. (2015) stated that during the designing and development phases, educators must engage key stakeholders and use strategies likely to assist learners in integrating the new knowledge from educational activities into daily practice. The fourth phase (implementation) is where staff educators identify the participants, the educational activities, and a place and time for the education. The relevance of education to the learners and the flexibility of completing their activities are key factors. The fifth phase (evaluation) of the ADDIE model involves an evaluation of changes that resulted from the learning activity. Learners are evaluated to see if they gained the intended knowledge. The educator pays attention to individual benefit from the education, how much of the knowledge was gained, and whether the learning activity was a solution to the problem (Jeffrey et al., 2015).

By using the ADDIE model to plan for the DNP SEP at the FQHCLL, I identified the problem and gap in practice (analysis), decided what the project presentation format, the content of the curriculum plan, the learning objectives (design), and evaluation methods would be. I synthesized the literature, developed a literature review matrix, developed the teaching materials, and gave the project evaluation templates to content experts to complete. I engaged the content experts to evaluate the SEP. For

implementation, the project participants, the nurses, and providers took the pretest/posttest and attended the staff education presentation during a staff meeting. Evaluation of the learners' gained knowledge was measured through the change in scores between the pre- and posttest. For ethical and legal considerations (Jeffrey et al., 2015), all data collected for evaluation was de-identified.

In the past, the ADDIE model (Jeffrey et al., 2015) was used to develop online continuing education for nurses to increase their knowledge about the importance of positive attitudes while caring for patients. Hsu et al. (2014) interviewed the patients, family members, and nurses to identify expressions that indicated uncaring behavior among the nurses (analysis; first phase). Hsu et al then designed, developed, and implemented an e-learning curriculum for nurses to participate in. The goal was to increase knowledge about appropriate caring behaviors that nurses could adopt. This online course was evaluated through reflection quizzes, course evaluation forms, focus groups, and self-evaluations (fifth phase). Education evaluations indicated positive results after the learning activity. Another study by Lu et al. (2015) used the ADDIE model to develop a nursing informatics training program for new graduates and newly hired nurses with a self-efficacy report indicating a significant ($p < .000$) improvement in scores after the training comparing the pretest and the posttest results. The participants were engaged, and, in the end, they exhibited increased knowledge.

The ADDIE model is known to be a well-developed framework appropriate for an SEP and is effectively usable with the evaluation of adult learners. This model covers all the principles of the SEP based on the Walden University *Manual for Staff Education*.

For this DNP SEP, the ADDIE model was appropriate because the five phases were a framework for successful planning, implementation, and evaluation steps of the staff education.

Definitions of Terms

The following are definitions of terms were used in the project:

Federally qualified health center (FQHC): A community-based health care provider that receives grant funding from a HRSA program to provide primary care services in underserved areas. This FQHC must meet a stringent set of requirements (HRSA, 2018a).

Federally qualified health center look-alike: A health care center that meets the eligibility requirements of organizational HRSA expectations about primary care in underserved areas but does not receive program funding in form of grants (HRSA, 2018b) like an FQHC. Services in an FQHCLL are funded by the federal government on behalf of Medicare and Medicaid patients. For this paper, the term FQHCLL is alternatively used when referring to the urban Midwestern community health clinic where this project was implemented.

Health Resources Services and Administration (HRSA): A United States Department of Health and Human Services agency; a primary federal agency that oversees health care improvement for people who are geographically isolated and/or economically or medically vulnerable (HRSA, 2019).

Minnesota Community Measurement (MNCM): A nonprofit organization that analyzes and shares publicly reported data about the quality of clinical care with medical

groups to drive improvement in practices. The MNCM committee of health care providers and health plans is informed by national standards (MNCM, 2020).

Performance measures: Standards of care that indicate the quality of care delivered to patients. The measures show a comprehensive look at a health center's services toward chronic illnesses affecting underserved communities (MNCM, 2019).

Optimal diabetes care specifications: An evaluation of the percentage of patients 18-75 years of age with either type 1 or type 2 diabetes and whose diabetes was optimally managed during the measurement period as defined by the following: hemoglobin A1C (HbA1C) < 8%; blood pressure < 140/90; low density lipoprotein (LDL) < 100; the use of statins and daily aspirin or antiplatelets (if ischemic vascular disease), unless contraindicated or if there are exceptions and tobacco use **(**Joseph et al., 2015; MNCM 2019). These measures are also referred to as Standards of Medical Care in Diabetes including annual vision screening by an ophthalmologist, and yearly nephrology screening (ADA, 2020). Public health scores show the percentage of patients who received the quality of care as described above; a score > 45% indicates that for every 100 adult diabetic patients, 45 met the Minnesota goals recommended for quality diabetes management (Minnesota Health Scores, 2020).

Patient outcomes: The results of care attributable to services provided (White, Dudley-Brown, & Terharr, 2016).

Relevance to Nursing Practice

Diabetes is a long-term illness overwhelmingly identified in primary care settings (Cheung et al., 2017) where providers and nurses are challenged to provide quality care

for patients with complex chronic illnesses. Diabetes significantly affects the minorities and medically underserved populations when compared to other races in this country. Evidence indicates a need for change in practice due to the increasing numbers with higher risks among the minority groups (Seol et. al, 2017). The current state of nursing practice shows a growing incidence of diabetes in the United States that requires providers to effectively manage diabetes in their practices (Edmunds, 2017). Lower-quality diabetes care is associated with primary care providers who work in busier ambulatory patient practices (Cheng et al, 2017) like the urban Midwestern clinic involved in this project. Application of the ADA guidelines as standard practice will enable providers to balance productivity with quality care. Implementing standard care for diabetes management within an organizational system improves patient outcomes (Joseph et al., 2015).

The state of Minnesota established key performance measures that indicate the quality of care provided to patients with diabetes (MNCM, 2019). To improve practice, providers can use these measures (same as ADA guidelines) as standard care for all patients with diabetes including the underserved and uninsured minority populations with social and economic challenges that may limit self-care. By promoting the ADA Standards of Medical Care in Diabetes (ADA, 2020), providers at the FQHCLL will improve wellness and the quality of life for the community served.

In the past EB guidelines for diabetes management and provider support were used to provide quality care for patients with diabetes (Ali et al. 2016; Cheung et al. 2017). In their 2-year study, Cheung et al. (2017) found that simultaneous monitoring and

management of the Hb A1C, LDL, and annual eye exams improved patient outcomes. Cheung et al. concluded that programs designed to support the providers' workflow in the form of resources improved the quality of care received by the patients. The standard guidelines (simultaneous monitoring) were anticipated to reduce the providers' variations in treatment plans. According to Ali et al.'s (2016) study findings, application of multicomponent strategies significantly improved patient outcomes for people with diabetes with poor cardiometabolic profiles, even in a resource- challenged clinical setting. This DNP SEP was designed for a FQHCLL that is resource challenged and the minimal continuity of care with the same provider confuses patients due to fragmented clinical decisions. Standard practice was anticipated to improve the quality of diabetes care.

Local Background and Context

At the FQHCLL where this project was implemented there was limited use of EBP and no standard practice guidelines for diabetes care readily available for providers to use during patient encounters. Diabetic patients at the clinic experienced a variety of treatment plans from different providers at the FQHCLL and there was minimal continuity of patient care by the same provider. Promoting the use of ADA Standards of Medical Care in Diabetes (ADA, 2020) through an SEP was relevant to the urban Midwestern clinic where 36% of the patients in 2019 had diabetes (Clinical director, personal communication, 2019), yet there were no standard practice guidelines for diabetes care.

Quality care is a HRSA expectation for the federally funded community health clinic where patients face many barriers to care including language, transportation, lack of insurance, and unemployment. At the FQHCLL, diabetic health scores for the past three years fell below the state and national benchmarks, a situation that violates the HRSA expectations. HRSA evaluates the value of patient care based on results from a set of performance measures that emphasize the quality of care and patient outcomes (HRSA auditor, personal communication, 2018). Being an FQHCLL outpatient HRSA-funded clinic also identified as an essential community provider in alignment with Minnesota Statutes (Minnesota Department of Health, n.d), the clinic must provide quality standard care for patients with chronic illnesses, including diabetes, regardless of their ability to pay. As stated by the clinical director, in a personal discussion (2019), over 90% of the patients rely on state and federal programs of Medicaid and Medicare, yet payment for their services is withheld if the performance measures like comprehensive diabetes care are not met. Compliance with applicable HRSA regulations was critical during the development and implementation of the DNP SEP.

Fundamental to a successful DNP SEP implementation was to highlight the imperative for standard EB care, the HRSA expectations, and the Medicare and Medicaid payment model where payment is incentivized or withheld based on the quality of performance (Mehrotra, Burstin, & Raphael, 2017). The ADA Standards of Medical Care in Diabetes (ADA, 2020) are known to ensure quality practice and improve the care received by diabetic patients. This DNP SEP addressed fundamental disparities in the delivery of care in a population under economic stress, joblessness, and battling a

political environment where the resources for immigrants and investments in the form of public health are limited.

Role of the Doctor of Nursing Practice Student

Being a former provider and leader for quality improvement, a former medical director, and a volunteer provider at the FQHCLL, I identified the need to educate clinicians about quality care for diabetic patients. My role as a DNP student was to identify and analyze the lack of standard EB practice at the FQHCLL. I designed and developed the SEP to increase the providers' knowledge and promote the use of Standards of Medical Care in Diabetes (ADA, 2020). I reviewed the literature to gather the research evidence that supports the use of these guidelines, synthesized the findings, and applied that research to nursing practice to develop the learning objectives. The performance goal for the DNP SEP was to reduce the gap in practice between the lack of standardized care and the availability of evidence in the literature known to improve the quality of diabetes care. DNP students are required to develop and evaluate care delivery approaches to meet current patient needs (Garritano et al., 2015) which I accomplished with this project.

Awareness of the FQHCLL's increased rates for uncontrolled diabetes shared during monthly group leadership meetings motivated me to develop a DNP SEP to introduce standard care that is EB and make a positive social change. Studies showed that providers play a crucial role in helping to improve the quality of care (Nelson, Bobade, Hunt, & Mundi, 2018), especially in underserved communities disproportionately affected by diabetes prevalence, complications, diabetes-related hospital admissions, and

readmissions (Joseph et al, 2015). APRNs are also expected to share knowledge about transitioning research into practice to solve a practice problem (Ogrin & Barrett, 2015) with the stakeholders. Successful completion of the DNP SEP showed that doctoral nursing students are prepared to engage in leadership roles to drive improvement in patient care.

Addressing the quality of diabetes management at the FQHCLL in an underserved community where most of the patients have a language barrier, are uninsured, and have low income with large families was essential. The risk for diabetes in the immigrant population is high because they lack knowledge about healthy American food, and they encounter unfortunate financial situations. There were no biases during the development of this SEP. The patient population served by the FQHCLL deserves quality standard practice.

Summary

The FQHCLL where this DNP SEP was implemented did not have standard diabetes practice guidelines available for providers to use. Evidence from a literature review that supports the use of ADA Standards of Medical Care in Diabetes (ADA, 2020) was synthesized and translated into an SEP to increase the providers' knowledge and promote use of standard EB care at the FQHCLL. The DNP SEP addressed the gap in practice between the lack of standardized care and the availability of evidence in the literature known to improve the quality of diabetes care. Due to the growing incidence of diabetes in the United States, nurses are expected to effectively manage complex diabetic patients. Providers at the FQHCLL are held accountable for the quality of care received

by diabetic patients. Fundamental to a successful DNP SEP implementation was to highlight the imperative for EB care, and the HRSA expectations. The project was designed to create a practice culture that systematically supports the work of EB research translation, as described by White et al. (2016). My role was to lead and engage a team of participants through the DNP SEP steps of planning, implementation, and evaluation framed by the ADDIE model (Jeffrey et al., 2015). Section 3 includes the literature analysis, an explanation of the sources of evidence, and the steps for the DNP SEP

Section 3: Collection and Analysis of Evidence

Introduction

The problem identified in this DNP project was the lack of standard EB care for diabetic patients in the FQHCLL practice for which this project was developed. Diabetic patients at the clinic experienced a variety of treatment plans from different providers at the FQHCLL because there were no standard guidelines readily available for providers to use. The purpose of this DNP project was to plan, implement, and evaluate an SEP about the use of ADA Standards of Medical Care in Diabetes (ADA, 2020) as standard care for FQHCLL patients. These standards of care are an expectation for the federally funded community health clinic by HRSA. The clinic is funded by the federal government, and payment for services may be withheld for poor practice (Clinical director, personal communication, 2019). Fundamental to a successful DNP SEP implementation was to highlight the imperative for standard EB care, the HRSA expectations, and the Medicare and Medicaid payment model where payment is incentivized or withheld based on the quality of performance (Mehrotra et al., 2017). The DNP SEP promoted the use of the ADA (2020) guidelines known to be indicators of quality diabetes care (HRSA, 2019; MNCM 2019).

Section 3 identifies the sources of evidence that addressed the practice-focused question, how the evidence related to the purpose, and how collection and analysis of the evidence provided the appropriate way to address the practice-focused questions.

Practice Focused Questions

The local problem was lack of standard EB care for diabetic patients in the FQHCLL practice for which this project was developed. Diabetic patients at the clinic experienced a variety of treatment plans from different providers at the FQHCLL because there were no standard guidelines readily available for providers to use. There was a gap in practice between the lack of standardized care and the availability of evidence in the literature known to improve the quality of care and patient outcomes. The practice-focused question**s** to guide the project were as follows:

PFQ1: What evidence from the literature supports the use of EBP guidelines for comprehensive diabetic care in a clinical setting?

PFQ2: Furthermore, does an educational program about the use of EB diabetic care directed towards clinic staff increase knowledge about EBP guidelines for the care of the diabetic patient?

The purpose of this DNP project was to plan, implement, and evaluate an SEP about the use of ADA Standards of Medical Care in Diabetes (ADA, 2020) as EB standard care for FQHCLL patients with diabetes. To address the practice focused questions, I reviewed and synthesized research evidence from reliable literature that supported the use of ADA Standards of Medical Care in Diabetes to develop a curriculum plan. The content experts performed formative evaluation of the curriculum plan during the planning phase of the ADDIE model. Content in the curriculum plan was presented to the participants as diabetes EB guidelines that can be standardized for all FQHCLL providers to use (implementation). During the implementation phase, the pretest/ posttest

results from the participants were evaluated for the providers' change in knowledge (impact evaluation). Findings from the pretest/posttest results indicated increased knowledge about the use of EB care during diabetes patient encounters. The gap in practice between the lack of standardized care and the availability of evidence in the literature was addressed**.**

Sources of Evidence

Evidence to support the project came from the EB literature that I reviewed and synthesized. The literature was comprised of studies that supported simultaneous management of diabetes risk factors to improve the quality of care and patient outcomes. Evidence generated by the project included evaluation of the curriculum plan and content validation of the pretest/posttest items by the content experts. Evidence was also obtained from the pretest/posttest change in knowledge results upon completion of the pretest/posttest.

Participants

There were two sets of participants, the content experts and the group who attended the educational presentation. The content experts were my preceptor (endocrinologist), the clinical director (epidemiologist), a family medical resident, and an APRN. They were selected due to their knowledge about diabetes management. The second group consisted of nurses and providers who participated because they will be the end-users of the ADA (2020) guidelines. Participation in project activities promotes a model of active engagement to avert translational barriers (White et al.,2016). The content experts (except the APRN who helped with the pretest/posttest items) evaluated

the curriculum plan (planning phase of the ADDIE model) using the Curriculum Plan Evaluation by Content Experts template (see Appendix E) and the Pre/Posttest Content Validation by Content Experts (see Appendix G), and they completed a Curriculum Plan Evaluation by Content Experts Summary (see Appendix H).

Procedures

During the planning step, the content experts received an e-mail from me about the project with attachments including the Literature Review Matrix, the Curriculum Plan, the Pretest/Posttest, a copy of the Curriculum Plan Evaluation by Content Experts, a Pretest/Posttest Content Validation by Content Experts, and the PowerPoint. My DNP SEP committee member provided templates for organizational use in the paper. The family medical resident received hard copies from the medical director due to the change in his e-mail address. Meeting the content experts as a group was not possible as planned due to their busy work schedules and changes at the clinic; therefore, the meetings depended on their availability. During the meetings each of the content experts reviewed a hard copy of the teaching materials and evaluation/validation forms and were requested to complete the anonymous evaluations within a week. The APRN collected the completed evaluations from the content experts and kept them in a sealed envelope in her office until I picked them up.

While the DNP SEP proposal was to have an expert review the pretest/posttest items before implementation, an APRN reviewed and recommended changes on the pretest/posttest during a meeting. The SEP schedule to present the SEP was moved to an earlier date due to the Corona virus (COVID- 19) precautions. I revised and changed the

pretest/posttest as recommended by the APRN. Because the APRN helped with the pretest/posttest changes in the test items, this participant did not engage in the project evaluation to avoid bias.

Protection

To ensure ethical protection of the participants, and prevent exposure of the clinic, the names of the participants were withheld and the location of the clinic generalized as an urban Midwestern clinic. During the implementation step, promotion of the ADA Standards of Medical Care in Diabetes (ADA, 2020) followed the practicum site and Walden University Ethics Committee approval in compliance with the IRB requirements (approval # 12-10-19-0305913). I abided by the IRB policies, the site resource policies, and their agreement with Walden University. There were no potential ethical issues to present problems for the completion of this project as permitted by Walden IRB and practicum site agreement.

Analysis and Synthesis

Evidence that supports the DNP SEP was analyzed and synthesized using findings from the content expert evaluations. The content experts used a dichotomous scale in the Curriculum Plan Evaluation by Content Experts template to show if there was relevance of content in the Curriculum Plan to the learning objectives (met) or if the content did not speak to the objective (not met). Table 1 shows the pretest/posttest scores as a percentage gain in knowledge of the participants. Simple statistics were done by hand showing the number of participants, group mean score of correct answers, and a group mean gain

scores. The content experts also used a dichotomous scale to indicate if the learner objectives were met (Curriculum Plan Evaluation by Content Experts Summary).

Summary

This DNP SEP addressed the lack of standard EB care for diabetic patients in the FQHCLL practice for which this project was developed. Evidence for the project was generated after a literature review of EB guidelines for diabetes management. Staff education materials were essential for generating project evidence used to address the two practice focused questions. By incorporating the ADA (2020) guidelines into their practice, the providers should better meet the HRSA expectations for quality diabetic care. To maintain the community's confidentiality, ensure the ethical protection of the participants, and prevent exposure of the clinic, the names of individual participants were withheld and the location generalized. Evidence generated by the evaluators showed relevance of the SEP to solving the lack of standard EB care for diabetic patients at the FQHCLL. Section 4 of the DNP SEP is a report of the findings and implications, recommendations, the contribution of the project team, and the strength and limitations of the project.

Section 4: Findings and Recommendations

Introduction

The local problem was lack of standard EB care for diabetic patients in the FQHCLL practice for which this project was developed. Diabetic patients at the clinic experienced a variety of treatment plans from different providers at the FQHCLL because there were no standard guidelines readily available for providers to use. There was a gap in practice between the lack of standardized care and the availability of evidence in the literature known to improve the quality of care and patient outcomes. The practice-focused questions to guide the project were as follows:

PFQ1: What evidence from the literature supports the use of EBP guidelines for comprehensive diabetic care in a clinical setting?

PFQ2: Does an educational program about the use of EB diabetic care directed towards clinic staff increase knowledge about EBP guidelines for the care of a diabetic patient?

The purpose of this DNP project was to plan, implement, and evaluate a SEP about the use of ADA Standards of Medical Care in Diabetes (ADA, 2020) as standard care for FQHCLL patients with diabetes.

Evidence to support the staff education was obtained from the ADA Standards of Medical Care in Diabetes (ADA, 2020) also identified as indicators of quality diabetes care (HRSA 2019; MNCM; 2019). Evidence from studies (published within the past 5 years) that showed positive outcomes from the use EB diabetes care was reviewed for strategies used to improve the patient outcomes. The collection and analysis of research

evidence provided an answer to the practice focused questions and served as the foundation for the SEP. The Curriculum Plan was designed using reliable evidence to address the practice gap identified. The evidence was graded and synthesized in alignment with the ADA guidelines to develop a curriculum plan.

Findings and Implications

Findings

Curriculum evaluation by content experts summary. The content experts evaluated the content after I analyzed and synthesized the evidence that was collected to develop the SEP. By using the Curriculum Plan Evaluation by Content Experts Summary template, the content experts evaluated if the learning objectives related to the curriculum plan, content, and literature review matrix. The criteria for the evaluation was to mark as "met = 1" and "not met = 2." The content experts marked "met = 1" meaning that they understood the content from the Curriculum Plan and that the content spoke to each of the four objectives. The learning objectives were as follows: (a) Learners would be able to explain the significance and purpose of the SEP about diabetes, define ADA Standards of Medical Care in Diabetes (ADA, 2020) for quality care as recommended by current reliable sources, (b) identify the clinical practice problem, and (c) explain why ADA guidelines should be incorporated into their practice. The content experts marked that each of the learning objectives was "met," meaning the objectives covered the content in the curriculum plan (see Appendix H). This evaluation was completed by my preceptor, the clinical director, and a family practice medical resident at the clinic.

Pretest/posttest change in knowledge results from presentation. The Pretest/Posttest change in knowledge results by participants showed the participants' gained knowledge from the staff education presentation. The group mean gain of correct answers was 30%, computed by adding all the gain scores divided by the number of participants. The pretest mean score for correct answers was 68.75% and the posttest mean score was 98.75% computed by adding all the correct answer scores of the participants and dividing them by the number of participants. See Table 1 for the pretest/posttest results from seven participants, four providers, a family medicine resident, and two nurses. Detailed findings from the pretest showed that all the participants had limited knowledge about the clinic's publicly reported low health scores and that the providers were held accountable. The pretest results showed that three of the seven participants were not aware that lack of the required proper provider documentation about performance measures impacted the health scores. The PowerPoint presentation was used to explain the ADA (2020) EB guidelines for clinical practice as standard care that addressed the identified practice gap.

Table 1

Findings from the Pretest/Posttest

Participant	Pretest % Score	Posttest % Score	Percent Gain of Correct Answers (Gain score)
1	70	100	30
2	60	90	30
3	70	100	30
4	70	100	30
5	80	100	20
6	70	100	30
7	60	100	40

Note. Pretest group mean score of correct answers was 68.75%
Posttest group mean score of correct answers was 98.75%
Group average gain score----------30%
n =7

Pre/posttest content validation by content experts. The content experts reviewed the Curriculum Plan and the Pretest/Posttest with answers. They received instructions to use a Pretest/Posttest Content Validation by Content Experts template to check each test item to see if the questions represented the course objectives and that the correct answer was reflected in the course content. The content experts validated the questions as "not relevant = 1, somewhat relevant = 2, relevant = 3, and very relevant = 4." Overall, questions 1-10 were marked as "very relevant= 4" and a few as "relevant =3."

Limitations. An unanticipated limitation to the DNP SEP was that two of the providers were unable to attend the staff education presentation due to schedule changes related to the COVID- 19 disruptions at the clinic. One participant, the APRN, was eliminated from the pretest/posttest because this provider had access to the information

and was a content expert. The goal was to have all the providers attend (end users) as the end users of the staff education content.

Another limitation to project dissemination was the electronic medical records basic package at the clinic, which cannot be modified to include built in standard guidelines or links to the websites with diabetic resources. Links to the ADA Standards of Medical Care in Diabetes would be resourceful within the EMR for providers to routinely use during patient care.

Implications

Following the staff education presentation, if providers incorporat**e** the ADA (2020) Standards of Medical Care in Diabetes in their practice to simultaneously manage diabetic risk factors and reduce complications, the patients will be less confused between different provider visits. The community served by the clinic will be healthier (social change), and the FQHCLL will meet HRSA expectations about primary care for clinics in underserved communities. Increased awareness about financial consequences for poor quality care may drive unanimity in the providers' use of the ADA (2020) guidelines.

Recommendations

The ADA Standards of Medical Care in Diabetes should become standard practice for all the providers at the FQHCLL. These guidelines may be used to develop a diabetes-specific template to serve as a provider reminder or quick resource because the clinic does not have resources for built-in guidelines as hard stops. Using the resources available and knowledge gained from the SEP, providers at the clinic should simultaneously monitor risk factors in all diabetic patients to ensure the following:

HbA1C < 8% for diabetics blood pressure < 140/90; LDL <100; the use of statins and daily aspirin or antiplatelets (if ischemic vascular disease), unless contraindicated or if there are exceptions, and tobacco use (ADA, 2020, MNCM 2019**;** HRSA 2019). In addition, the ADA (2020) guidelines recommend optimizing glycemic control with a Hb A1C of < 7% (nonpregnant adults without comorbidities); annual vision screening by an ophthalmologist; and yearly nephrology screening to prevent lifetime complications or risks related to chronic kidney disease and diabetic retinopathy.

Plans to Extend the Project Beyond the DNP Doctoral Project

This project may be extended beyond the DNP SEP by the quality improvement provider (APRN) at the FQHCLL. Being the Medical Director and Certified Diabetes Educator, the APRN can build on this project by encouraging providers to participate in quarterly peer to peer chart reviews assessing each other's compliance with standard care. The providers can use an evaluation tool developed using the ADA (2020) guidelines or diabetic performance measures as a compliance checklist among peers. This activity would enable providers to self-reflect about the use of ADA Standards of Medical Care in Diabetes while discussing these practice guidelines amongst themselves.

Strength and Limitations of the Project

The ADA guidelines are known to have the most current EB research most pertinent to primary care (ADA 2020). Project implementation was successful due to the outstanding support from the management team at the FQHCLL, the participants, and content experts.

Limitations to the project included COVID -19 pandemic unplanned disruptions that somehow led to a reduction in the number of providers who attended and inability to meet the content experts as a group. The pretests being completed ahead of time before the meeting without supervision was a limitation. Also, the APRN, being a content expert and a participant, was eliminated from the pretest/posttest because this provider had access to the information and was a content expert. Future projects about diabetes at the FQHCLL should build on interventions that reinforce standards of care for diabetic patients at the clinic, engaging all the providers for a successful improvement in practice.

Summary

The pretest/posttest results indicated an increase in the participants' knowledge about ADA EB guidelines. The key targeted end users' (providers) will hopefully incorporate the ADA Standards of Medical Care in diabetes in their daily practice. The content experts who are also leaders at the clinic could engage as a team and reinforce standard care at the clinic as proposed in the SEP using the quarterly peer chart reviews. If adopted, the community served by the clinic will be healthier (social change), and the FQHCLL will meet HRSA expectations about primary care for clinics in underserved communities.

Section 5: Dissemination Plan

Fundamental to the dissemination plan is to facilitate the application of ADA (2020) guidelines as standard care for diabetic patients used by all the providers. The DNP project work at the FQHCLL was disseminated by sharing the PowerPoint (electronically filed) and the links to the research evidence that supported ADA Standards of Medical Care in Diabetes with the APRN who was the acting quality improvement provider and medical director. The APRN was tasked to share the same information with all the interested providers. No paper copies were printed for filing at the clinic because management prefers digital storage. All policies and documents at the FQHCLL are electronically filed and only printed as needed. Links to resources shared with the providers include the ADA Standards of Medical Care in Diabetes website, the HRSA practice expectations for FQHCLLs, and the MNCM website with recommendations for quality diabetes care. Links were preferred because when the ADA Standards of Medical Care in Diabetes change, the websites will be updated, maintaining current information.

Beyond the in-service staff education, I will submit the completed DNP SEP to ProQuest, a Walden University requirement for graduation. Submission of an article to the *Clinical Diabetes Journal* would be an appropriate means to disseminate this project to a broader professional audience of primary care providers. The key targeted audience for this DNP SEP is all practitioners caring for patients with diabetes, especially those working in underserved communities with limited resources and poor publicly reported health scores and organizations where the EMRs do not have “smart” built in EB guideline or alerts that promote access to ADA Standards of Medical Care in Diabetes. A

quick in-service education and sharing of the links (the ADA, and MNCM websites) to the resources used can improve care in primary care clinics with limited resources.

This SEP could be presented at a local quality improvement leadership conference for urban network health centers in this urban Midwestern state. Local member clinics share similar diabetes care challenges like the FQHCLL. The developed work and availability of quick reference guidelines may be used to develop a built-in template for providers with overbooked schedules, no smart electronic health systems, and no time for research.

Analysis of Self

The skills and knowledge learned during the DNP SEP process will be the foundation for becoming a lifetime scholar-practitioner. Completion of this project demonstrates an integration of nursing science with knowledge and skills to implement the best practice (Garritano et al.,2016) and positively impacts the quality of care for patients with diabetes at the FQHCLL. I feel empowered to participate, lead, develop, and implement quality improvement projects by taking the seemingly complex EBP and making it useable in nursing practice or sharing it with other providers (see Houghton, Casal, Fortuna, & Larsen, 2015).

Being a project manager enabled me to lead and engage providers from different training backgrounds towards a common goal of improved care for patients with diabetes. APRNs are expected to share knowledge about transitioning research into practice to solve practice problems (Ogrin & Barrett, 2015). Planning this SEP exposed me to the challenge of implementing learning activities for busy providers who also needed the

flexibility to participate in and attend staff education. I learned that schedules for educational activities need flexibility due to unplanned circumstances.

Completion of the DNP SEP demonstrated two DNP essential skills recommended for DNP students by the American Association of College of Nursing (Garritano, et al., 2015) and a requirement for Walden University graduation. The two DNP skills consistent with the SEP were organizational and systems leadership (Essential II) and the ability to use existing literature and other evidence to determine and implement the best evidence for practice (Essential III). Essential II is consistent with elimination of health disparities, promotion of patient safety, and excellence in practice at an organizational and systemic level (American Association of College of Nursing, 2006). By promoting the use of ADA Standards of Medical care in Diabetes at the FQHCLL, the providers will engage in quality care and reduce health disparities in an underserved patient population. To meet Essential Skill III (American Association of College of Nursing, 2006), EB literature was synthesized and used to develop a SEP that promoted standard practice at the FQHCLL. Overall, the scholarly journey insights gained were practical strategies that can be used to improve diabetic patient outcomes regardless of the clinical sitting or limitation in the providers' resources.

Summary

I developed an SEP to introduce standard diabetes care at a FQHCLL to promote the use of and increase the providers' knowledge about ADA Standards of Medical Care in Diabetes (ADA, 2020). The identified gap in practice was between the lack of standard practice and the availability in the literature known to improve the quality of care and

patient outcomes. The five steps of the ADDIE model (Jeffrey et al., 2015) helped to inform and frame the DNP SEP. Nurses and providers took a pretest/posttest and attended the presentation. A results analysis of the pretest/posttest indicated the participants' knowledge gain about the use of EB guidelines for diabetes care. If the providers at the FQHCLL incorporate ADA guidelines into their practice, diabetic patients and their families will have better lives leading to a positive social change. This DNP SEP was designed to meet the Walden University requirement for DNP graduation of using skills and knowledge to create a positive social change. The project was developed to reduce the rate of uncontrolled diabetes by promoting EBP in a medically underserved community where the providers' variation in practice affects the patient outcomes.

References

Ali, M. K., Singh, K., Kondal, D., Devarajan, R., Patel, S. A., Shivashankar, R., . . . Tandon, N. (2016). Effectiveness of a multicomponent quality improvement strategy to improve achievement of diabetes care goals: A randomized, controlled trial. *Annals of Internal Medicine, 165*(6), 399-408. https://doi.org/10.7326/M15-2807

American Association of College of Nursing (2006). *The essentials of doctoral education for advanced nursing practice.* Retrieved from https://www.pncb.org/sites/default/files/2017-02/Essentials_of_DNP_Education.pdf

American Diabetes Association (2020). Standards of medical care in diabetes-2020 Abridged for primary care providers. *Clinical Diabetes 38*(1), 10-38. Retrieved from https://clinical.diabetesjournals.org/content/38/1/10

Cheung, A., Stukel, T. A., Alter, D. A., Glazier, R. H., Ling, V., Wang, X., & Shah, B. R. (2017). Primary care physician volume and quality of diabetes care: A population-based cohort study. *Annals of Internal Medicine, 166*(4), 240-247. https://doi.org/10.7326/M16-1056

Dang, D., & Dearholt, S. (2017). *Johns Hopkins nursing evidence-based practice: Model and guidelines* (3rd ed.). Indianapolis, IN: Sigma Theta Tau International.

Edmunds, M. W. (2017). Caring for patients with diabetes is a good role for NPs. *Journal for Nurse Practitioners*, *13*(3), A23. https://doi.org/10.1016/j.nurpra.2017.01.017

Garritano, N. F., Glazer, G., & Willmarth-Stec, M. (2016). The Doctor of Nursing Practice Essentials in Action: Using the essentials to build a university-wide automatic external defibrillator program. *Journal for Nurse Practitioners, 12*(4), e143–e150. https://doi.org/10.1016/j.nurpra.2015.12.003

Houghton, N., Casal, R., Fortuna, S., & Larsen, T. (2015). DNPs: Collaboration and Practice. *Ohio Nurses Review, 90*(4), 12-14.

Health Resources and Services Administration. (2019). About HRSA. Retrieved from https://www.hrsa.gov/about/index.html

Health Resources and Services Administration. (2018a). Federally qualified health centers. Retrieved from https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc/index.html

Health Resources and Services Administration. (2018b) Health center look-alikes. Retrieved from https://bphc.hrsa.gov/programopportunities/lookalike/index.html

Hsu, T., Lee-Hsieh, J., Turton, M. A., & Cheng, S. (2014). Using the ADDIE model to develop online continuing education courses on caring for nurses in Taiwan. The *Journal of Continuing Education in Nursing, 45*(3), 124-31. https://doi.org/10.3928/00220124-20140219-04

Jeffrey, A. D., Longo, M. A, & Nienaber, A. (2015). *Staff educator's guide to professional development: Assessing and enhancing nursing competency.* Indianapolis: IN: Sigma Theta Tau International.

Joseph, J. M., Johnson, P. J., Wholey, D. R., & Frederick, M. L. (2015). Assessing diabetes care disparities with ambulatory care quality measures. *Health Services Research, 50*(4), 1250-1264. https://doi.org/10.1111/1475-6773.12277/M17-0655

Koonce, T. Y., Giuse, N. B., Kusnoor, S. V., Hurley, S., & Ye, F. (2015). A personalized approach to deliver health care information to diabetic patients in community care clinics. *Journal of the Medical Library Association, 103*(3), 123–130. http://doi.org/10.3163/1536-5050.103.3.004.

Kurt, S. (2020). ADDIE Model: Instructional design. Retrieved from educational technology website: https://educationaltechnology.net/the-addie-model-instructional-design

Lu, S. C., Cheng, Y. C., & Chan, P. T. (2016). Using ADDIE model to develop a nursing information system training program for new graduate nurse. *Studies in Health Technology and Informatics, 225,* 969–970.

Marcial, E., & Graves, B. A. (2019). Implementation and Evaluation of Diabetes Clinical Practice Guidelines in a Primary Care Clinic Serving a Hispanic Community. *Worldviews on Evidence-Based Nursing, 16*(2), 142–150. https://doi.org/10.1111/wvn.12345

Mehrotra, A., Burstin, H., & Raphael, C. (2017). Raising the bar in attribution. *Annals of Internal Medicine, 167*(6), 434-435. https://doi.org/10.7326/m17-0655

Minnesota Community Measurement (2019). Optimal diabetes care specifications 2019 report year. Retrieved from https://www.health.state.mn.us/data/hcquality/measures/docs/fnl01odc.pdf

Minnesota Community Measurement (2020). Our vision. Retrieved from http://www.mncm.org/about/

Minnesota Department of Health (n.d.). Essential community providers. Retrieved from https://www.health.state.mn.us/facilities/insurance/managedcare/ecp/index.html

Minnesota Health Scores (2020) Retrieved from http://www.mnhealthscores.org/diabetes-13184

Nelson, E., Bobade, R., Hunt, V., & Mundi, M. S. (2018). Optimizing adult diabetes care in community health. *Journal of the American Association of Nurse Practitioners, 30*(8), 443. https://doi.org/10.1097/jxx.0000000000000042

Neumann, P. J., Farquhar, M., Wilkinson, C. L., Lowry, M., & Gold, M. (2016). Lack of cost-effectiveness analyses to address Healthy People 2020 priority areas. *American Journal of Public Health, 106*(12), 2205–2207. https://doi.org/10.2105/AJPH.2016.303361

Nichols, A. (2017). Changes in knowledge, skills, and confidence in fieldwork educators after an evidence-based practice short course. *Open Journal of Occupational Therapy, 5*(1), 1-14. https://doi.org/10.15453/2168-6408.1204

Ogrin, R., & Barrett, E. (2015). Clinical leadership and nursing. *Australian Nursing & Midwifery Journal, 23*(2), 45.

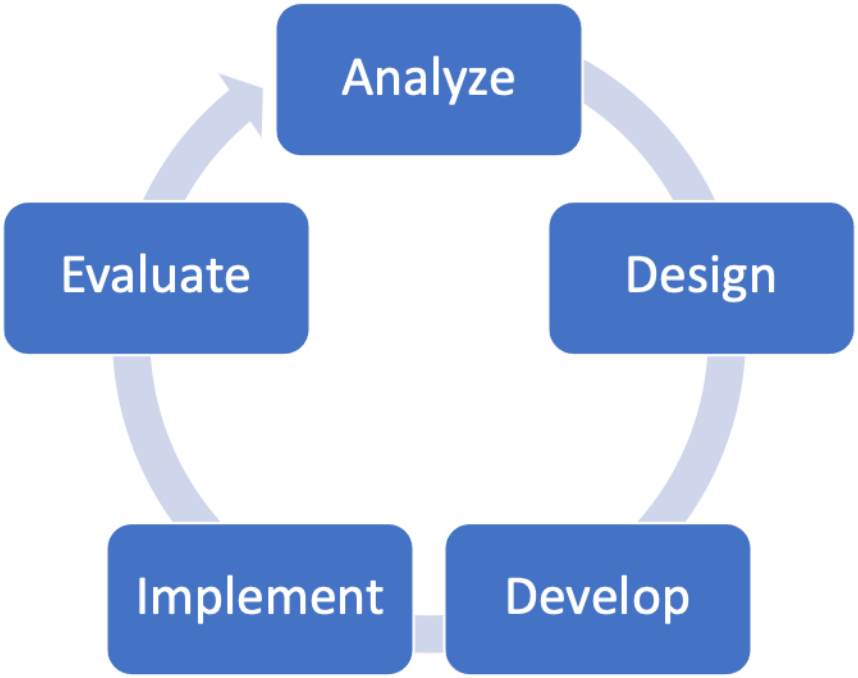
Seol, H., Thompson, M., Kreider, K. E., & Vorderstrasse, A. (2017). Diabetes self-management quality improvement initiative for medically underserved patients. *Journal of Nursing Care Quality*,*32*(3), 272-279. doi:10.1097/ncq.0000000000000243

Towne, S. D, Bolin, J., Ferdinand, A., Nicklett, E. J., Smith, M. L., & Ory, M. G. (2017). Assessing diabetes and factors associated with foregoing medical care among persons with diabetes: Disparities facing American Indian/Alaska native, Black, Hispanic, low income, and southern adults in the U.S. (2011-2015). *International Journal of Environmental Research and Public Health, 14*(5), 464. https://doi.org/10.3390/ijerph14050464

Warren, J. I., McLaughlin, M., Bardsley, J., Eich, J., Esche, C. A., Kropkowski, L., & Risch, S. (2016). The strengths and challenges of implementing EBP in healthcare systems. *Worldviews on Evidence-Based Nursing, 13*(1), 15-24. https://doi.org/10.1111/wvn.12149

White, K. M., Dudley-Brown, S., & Terharr, M. F. (2016). *Translation of evidence into nursing and health care practice* (2nd ed.). New York, NY: Springer.

Appendix A: ADDIE Model



Kurt, S. (2020). Addie Model: Instructional design educational technology.Retrieved from https://educationaltechnology.net/the-addie-model-instructional-design/

Appendix B: Literature Review Matrix

DNP Project Title: Staff Education about the American Diabetes Association Standards of Medical Care Student: Christine Nsubuga

Reference	Grading the Evidence	Research Question(s) Or Hypothesis or Purpose	Research Methodology	Analysis & results	Conclusion
Ali, M. K., Singh, K., Kondal, D., Devarajan, R., Patel, S. A., Shivashankar, R., ... Tandon, N. (2016). Effectiveness of a multicomponent quality improvement strategy to improve achievement of diabetes care goals: A randomized, controlled trial. *Annals of Internal Medicine, 165(6),* 399-408. doi:10.7326/M15-2807	Level I A	A multi component quality improvement (QI) strategy improves patient outcomes vs the usual care	Parallel, open-label, pragmatic randomized, controlled trial Intervention group had 575 and control group were 571	There was improved Hb A1Cs., blood pressures, LDL, and patient satisfaction in the intervention group	Multicomponent QI improves diabetic patient outcomes in resource-challenged clinics. Structured monitoring and treatment intensification by providers yielded positive patient outcomes vs treatment at the discretion of the clinic providers

American Diabetes Association (2020). Standards of medical care in diabetes-2020: Abridged for primary care providers *Clinical Diabetes 38(1):* 10-38. https://clinical.diabetesjournals.org/content/38/1/10	Level IV A v	Purpose: Abridged version of the Standards of medical care with evidence-based recommendations most pertinent to	Expert opinion based on research evidence	Patients with diabetes and hypertension at lower risk for cardiovascular disease (10-year ASCVD risk <15%), keep a blood pressure target of <140/90 mmHg All patients with ASCVD scores > 20%, should take high-intensity statins and lifestyle modification. Annual retinal eye exam Educate about tobacco cessation, -Hb A1C individualized up to < 8%	Guidelines should be interpreted and individualized based on comorbidity, and coexisting diseases, and age. Current Standards containing the EB recommendations most pertinent to primary care. High-quality care is a priority, and providers are held accountable

Cheung, A., Stukel, T. A., Alter, D. A., Glazier, R. H., Ling, V., Wang, X., & Shah, B. R. (2017). Primary care physician volume and quality of diabetes care: A population-based cohort study. *Annals of Internal Medicine, 166(4),* 240-247. doi:10.7326/M16-1056	Level II A	Does a positive patient volume and quality of care relationship exist for the outpatient management of chronic diseases?	A population-based cohort study of 1,018, 647 adults with diabetes in 2011 who received care from 9014 primary care physicians	The higher the volume of ambulatory patients, the lower the quality of care In contrast, higher diabetes-specific volume was associated with better quality of care across all 6 indicators	Providers in busy primary care ambulatory settings delivered lower-quality diabetes care due to limited time to focus on complex patients Busy providers with diabetes-specific experience delivered higher quality care Therefore, programs to support providers with a low volume of diabetic patients may improve care.

Edmunds, M. W. (2017). Caring for patients with diabetes is a good role for NPs. *Journal for Nurse Practitioners*, *13*(3), A23. https://doi-org.ezp.waldenulibrary.org/10.1016/j.nurpra.2017.01.017	Level V	Purpose: Article shows that the training and nursing experience make NPs ideal providers for challenging Diabetic patients	Individual expert based	Due to the growing incidence of diabetes in the US, NPs will encounter complex diabetes cases	NPs should be equipped with advanced assessment skills to provide EB care for complex diabetic patients
HRSA (2019). About HRSA. Retrieved from https://www.hrsa.gov/about/index.html	Government website	Purpose: HRSA mission is to improve patient outcomes and reduce health disparities through access to quality care	N/A	N/A	The FQCLL must meet HRSA expectations because. HRSA funds the clinic

Hsu, T., Lee-Hsieh, J., Turton, M. A., & Cheng, S. (2014). Using the ADDIE model to develop online continuing education courses on caring for nurses in Taiwan. *The Journal of Continuing Education in Nursing*, *45*(3), 124-31. doi: http://dx.doi.org.ezp.waldenulibrary.org/10.3928/00220124-20140219-04	Level III C	The ADDIE framework was used to determine the problem, design online learning, how the education was implemented and evaluation steps	N/A	The online continuing education for nurses was successfully planned and implemented using the ADDIE model.	There were few participants, but they gained knowledge about appropriate behavior during patient care. The ADDIE model was useful while planning the online staff education
Jeffery, A.D., Longo, M.A, & Nienaber, A. (2015). *Staff educator's guide to professional development: Assessing and enhancing nursing competency.* Indianapolis: IN: Sigma Theta Tau International.	Book	N/A	N/A	N/A	The five steps of this model are analysis, design, development, implementation, and evaluation. The model has extensively been used to develop staff education activities

Joseph, J. M., Johnson, P. J., Wholey, D. R., & Frederick, M. L. (2015). Assessing diabetes care disparities with ambulatory care quality measures. *Health Services Research, 50*(4), 1250-1264. doi:10.1111/1475-6773.12277/M17-0655	Level II A	To identify and describe racial/ethnic disparities in overall diabetes management	A multivariate logistic regression to estimate the odds of achieving A1C <8 percent, LDL cholesterol <100 mg/dl, blood pressure <140/90 mmHg, tobacco-free, and daily aspirin Large health system in Minnesota n = 22,633.	Although the health system has above-average health scores for diabetes care, significant disparities by race/ethnicity were identified	Implementing standard care for diabetes management within an organizational system may reduce racial/ethnic disparities
Koonce, T. Y., Giuse, N. B., Kusnoor, S. V., Hurley, S., & Ye, F. (2015). A personalized approach to deliver health care information to diabetic patients in community care clinics. *Journal of the Medical Library Association: JMLA*, *103*(3), 123–130. http://doi.org/10.3163/1536-5050.103.3.004	Level II B	Does personalized approach to deliver health care information to diabetic patients in community care clinics improve patients' knowledge	Quasi experimental study	There was increased knowledge for diabetic patients after use of appropriate teaching materials	Exposure to educational materials targeted to patients' literacy level leads to a significant increase in knowledge about diabetes

Lu, S.-C., Cheng, Y.-C., & Chan, P.-T. (2016). Using ADDIE model to develop a nursing information system training program for new graduate nurse. *Studies in Health Technology and Informatics, 225*, 969–970. Retrieved from https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=mnh&AN=27332436&site=eds-live&scope=site	Level III C	Purpose: To develop a nursing information system training program, at a local community teaching hospital	ADDIE model was used for staff education- with a small number of participants	There was significant improvement in the nurses' technology skills after education.	The ADDIE model offers a task-oriented framework for developing staff educational programs
Mehrotra, A., Burstin, H., & Raphael, C. (2017). Raising the bar in attribution. *Annals of Internal Medicine, 167*(6), 434-435.	Level IV	Purpose: Attribution models to determine which provider is responsible for a patient's care from both the quality, and payment perspective.	N/A	N/A	U.S. Department of Health and Human Services set over 90% of Medicare payments to quality by 2018

Minnesota Community Measurement (2019*). Optimal Diabetes Care Specifications 2019 Report Year* Retrieved from .https://www.health.state.mn.us/data/hcquality/measures/docs/fnl01odc.pdf	Level IV	Government website with EBCDC in alignment with the ADA (2020)	N/A	Comprehensive diabetes care performance measures	Optimal Diabetes Care Specifications 2020 Report Year
Nelson, E., Bobade, R., Hunt, V., & Mundi, M. S. (2018). Optimizing adult diabetes care in community health. *Journal of the American Association of Nurse Practitioners*, *30*(8), 443. Retrieved from https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=edb&AN=131123180&site=eds-live&scope=site	Level II B	To decrease the percentage of patients with a hemoglobin A1C > 8%	A convenience sample of 103 patients with DM were selected and cared for by an Endocrinologist NP and nurse educator	Diabetic patients who sought care had reduced A1Cs from 9.0% ± 1.8% to 8.3% ± 1.7% (*p* value < .001). Patients who did not seek care did not get significant change in their HbA1c from 9.8% ± 3.1% to 9.4% ± 2.7% (*p* value = .61).	Diabetes can be well controlled by monitoring established key measures for glycemic control (based on hemoglobin A1c [HbA1c]), blood pressure control, lipid control (based on low-density lipoprotein [LDL]), tobacco use, and aspirin usage

Nichols, A. (2017). Changes in knowledge, skills, and confidence in fieldwork educators after an evidence-based practice short course. *Open Journal of Occupational Therapy (OJOT), 5(1),* 1-14.	Level IV	Does EBP improve knowledge and skills for fieldwork educators?	3-hour short course about EBP	Participants had improved knowledge and skills (3.75%) and confidence (17.99%) from pretest to posttest.	The use of EBP leads to improvement in knowledge, skills, and confidence
Ogrin, R., & Barrett, E. (2015). Clinical leadership and nursing. *Australian Nursing & Midwifery Journal, 23*(2), 45.	Level IV	N/A	N/A	To improve efficiency and effectiveness of care, nurses should get involved to play leadership roles	Building and maintaining relationships, encouraging contribution from others, creating clear direction and the ability to be a role model

Seol, H., Thompson, M., Kreider, K. E., & Vorderstrasse, A. (2017). Diabetes self-management quality improvement initiative for medically underserved patients. *Journal of Nursing Care Quality*,*32*(3), 272-279	Level II C	Evaluation of the implementation and impact of a provider delivered DSME intervention on patients' glycemic control as represented by post intervention HbA1c.	Quasi experiment	Improved glycemic control due to efficacy of the intervention on improvement in self-management behaviors and glycemic control among, without substantially changing provider visit time or workload. Diabetes disproportionately affects the minorities EBP led to improvement in patient outcomes	Patient education and collaboration between a patient and a provider in treating diabetes leads to improved lives for patients with diabetes.

Towne, S. D, Bolin, J., Ferdinand, A., Nicklett, E. J., Smith, M. L., & Ory, M. G. (2017). Assessing diabetes and factors associated with foregoing medical care among persons with diabetes: Disparities facing American Indian/Alaska native, Black, Hispanic, low income, and southern adults in the U.S. (2011-2015). *International Journal of Environmental Research and Public Health*, *14*(5), 464. https://doi-org.ezp.waldenulibrary.org/10.3390/ijerph14050464	Level III A	Identify individual - and place-based factors associated with diagnosed diabetes and forgone medical care among those diagnosed with diabetes	The Behavioral Risk Factor Surveillance System (2011–2015) was used to identify factors associated with self-reported diabetes diagnoses (ever diagnosed) among U.S. adults	Racial and ethnic minority groups, and those with lower incomes and education had higher chances of developing diabetes ($p < 0.01$) Chances of having diabetes were also high for those living in rural areas	Identifying high risk groups helps to inform programs designed to prevent diabetes.

Warren, J. I., McLaughlin, M., Bardsley, J., Eich, J., Esche, C. A., Kropkowski, L., & Risch, S. (2016). The strengths and challenges of implementing EBP in healthcare systems. *Worldviews on evidence-based nursing, 13(1*), 15-24. doi:10.1111/wvn.12149	Level II A	To evaluate the strength of and the opportunities for implementing evidence-based nursing practice across a diverse 9-hospital system	A cross-sectional survey of 6,800 registered nurses (RNs), done to identify attitudes, beliefs, and perceptions toward organizational readiness and implementation of EBP	The ability to implement EBP was extremely low among the respondents	Culture change at the organizational, management, education, and patientcare levels is essential Nurse leaders of a multihospital should share a vision and be able to bring it to fruition

Dang, D., & Dearholt, S. (2017). Johns Hopkins nursing evidence-based practice: Model and guidelines. 3rd ed. Indianapolis, IN: Sigma Theta Tau International

Appendix C: Johns Hopkins Nursing Evidence-Based Practice

Evidence Level and Quality Guide

Evidence Levels	**Quality Ratings**
Level 1 Experimental study, randomized controlled trial (RCT) Explanatory mixed method design that includes only a level I quantitative study Systematic review of RCTs, with or without meta- analysis	**QuanNtitative Studies** **A. High quality**: Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence. **B. Good quality**: Reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence. **C**. **Low quality or major flaws**: Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn
Level II Quasi-experimental study Explanatory mixed method design that includes only a level II quantitative study Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis **Level III** Nonexperimental study Systematic review of a combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only, with or without meta-analysis Exploratory, convergent, or multiphasic mixed methods studies Explanatory mixed method design that includes only a level III quantitative study Qualitative study Meta-synthesis	**QuaLitative Studies** No commonly agreed-on principles exist for judging the quality of qualitative studies. It is a subjective process based on the extent to which study data contributes to synthesis and how much information is known about the researchers' efforts to meet the appraisal criteria. *For meta-synthesis, there is preliminary agreement that quality assessments of individual studies should be made before synthesis to screen out poor-quality studies1*. **A/B High/Good quality** is used for single studies and meta-syntheses2. The report discusses efforts to enhance or evaluate the quality of the data and the overall inquiry in sufficient detail; and it describes the specific techniques used to enhance the quality of the inquiry. Evidence of some or all of the following is found in the report: • Transparency: Describes how information was documented to justify decisions, how data were reviewed by others, and how themes and categories were formulated. • Diligence: Reads and rereads data to check interpretations; seeks opportunity to find multiple sources to corroborate evidence.

	• Verification: The process of checking, confirming, and ensuring methodologic coherence • Self-reflection and scrutiny: Being continuously aware of how a researcher's experiences, background, or prejudices might shape and bias analysis and interpretations. • Participant-driven inquiry: Participants shape the scope and breadth of questions; analysis and interpretation give voice to those who participated. • Insightful interpretation: Data and knowledge are linked in meaningful ways to relevant literature.
QuaLitative study Meta-synthesis	**C. Low quality: s**tudies contribute little to the overall review of findings and have few, if any, of the features listed for high /good quality.
Level IV Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence Includes: • Clinical practice guidelines • Consensus panels/position statements	**A High quality:** Material officially sponsored by a professional, public, or private organization or a government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise clearly evident; developed or revised within the past five years **B Good quality:** Material officially sponsored by a professional, public, or private organization or a government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise clearly evident; developed or revised within the past five years **C Low quality or major flaws:** Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy: no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the past five years

Level V Based on experiential and non-research evidence Includes: • Integrative reviews • Literature reviews • Quality improvement, program, or financial evaluation • Case reports Opinion of nationally recognized expert(s) based on experimental evidence	**Organizational Experience (quality improvement, program, or financial evaluation)** **A High quality**: Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial, or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence **B Good quality**: Clear aims and objectives; consistent results in a single setting; formal quality improvement, financial, or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence. **C Low quality or major flaws**: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial, or program evaluation methods; recommendations cannot be made **Integrative Review, Literature Review, Expert Opinion, Case Report, Community Standard, Clinician Experience, Consumer Preference** **A High quality**: Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field **B Good quality**: Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions **C Low quality or major flaws**: Expertise is not discernable or is dubious; conclusions cannot be drawn

Dang, D., & Dearholt, S. (2017). Johns Hopkins nursing evidence-based practice: Model and guidelines. 3rd ed. Indianapolis, IN: Sigma Theta Tau International.

Appendix D: Curriculum Plan

Student: Christine Nsubuga
Title of Project: Staff Education about the American Diabetes Association Standards of Medical Care

Problem: The problem identified in this DNP project was the lack of uniform EB care for diabetic patients in the FQHCLL practice for which this project was developed. The clinic has a 50% provider turnover rate for 2015-2020, and there were no standard practice guidelines for diabetes management as new providers come and go.

Purpose: The purpose of this DNP project was to plan, implement, and evaluate a staff education project on the use of evidenced based care for the management of the diabetic patients

Practice Focused Questions: What evidence from the literature supports the use of EBP guidelines for comprehensive diabetic care in a clinical setting? Does an educational program about evidence-based diabetic care directed towards clinic staff increase knowledge about EBP guidelines for the care of the diabetic patient?

Objectives: At the conclusion of this educational experience the learner will be able to:	Content Outline	Evidence from Literature Review Matrix)	Method of Presenting	Method of Evaluation Pre/posttest Item	Grade The Evidence
1. Explain the significance and the purpose of the SEP about diabetes	Introduction A. Project significance a) Diabetes is the seventh leading cause of death in the United States US estimated annual cost is 245 billion b) Diabetes affects over 29 million Americans and threatens 86 percent of the population (pre-diabetic).	a) Joseph, Johnson, Wholey, & Frederick, (2015) b) Joseph et al., (2015)	PowerPoint Presentation (PP) Slide 3 PP slide 3	a) Question 1 b) Question 2	a) Level II A Level II A
	c)The minority and medically underserved populations are disproportionately affected by this disease	c) Seol, Thompson, Kreider, & Vorderstrasse (2017) c) Town et al, (2017)	PP slide 3	c) Question 7	Level IIA
	d) Diabetes is commonly identified in primary care settings	e) Cheung et al., (2017)	PP Slide 4	Question 2	Level IIA
	e) Controlled diabetes leads to healthy people living longer	e) Cheung et al., (2017)	PP slide 4	Question 8	Level IIA
	f) Treatment is a challenge, but the quality of care is measured and publicly reported		PP Slide 4	Question 2	

	B. Purpose of the curriculum a). Introduce ADA Standards of Medical Care in Diabetes	ADA (2020)	PP slide 5	Questions 3, 4, 5, 6, 8, & 9	Level IV A
	b) Increase knowledge about quality EB diabetes care		PP slide 5	Questions 1-10	
2. Define ADA Standards of Medical Care in Diabetes (ADA, 2020) as recommended by current reliable sources	Standards of Medical Care in Diabetes Simultaneous management of risk factors that lead to diabetes complications Making sure that all diabetic patients are monitored for the following: Annual vision screening Annual nephrology screening BP < 140/90 Hg A1C < 8% LDL < 100 Statin and Aspirin if indicted Tobacco use	American Diabetes Association (2020) HRSA (2019) Minnesota Community Measurement (2019) HRSA (2020)	PP slide 6 Questions 3, 4, & 6 PP slide 6 to 8	Questions 1-10	Level IVA
3. Identify the clinical practice problem	De-identified data showing limited use of EB diabetes management.	De-identified data from charts at the clinic provided by the Clinical Director	PP Slide 10	Question 10	
4. Explain why ADA guidelines should be incorporated into their practice	a) ADA has been shown to improve patient outcomes, morbidity, and mortality rates.	a) American Diabetes Association. (2020). a) Ali et al, (2016) a) Cheng et al., (2017)	PP Slide 11	a) Questions 8	a) Level IV A & Level a) level II A

	b) HRSA requirement for funding the FQHCLL	HRSA (2019)	PP Slide 11	, b) Question 3	
	c) The performance measure scores at the clinic fall below the recommended state and federal standard averages	c) Minnesota Community Measurement (2019). c) Minnesota Health Scores (2018)	PP Slide 9 with Oral presentation and discussion	Question 9	
	d) Improve future public reports that meet the state and national benchmarks.	HRSA (2020)	PP Slide 11	Question 3, 4, & 5	
	e) Introduce consistent diabetes care at the clinic recommended for quality improvement	e) American Diabetes Association (2020) e) Warren et al., (2016	PP slides 6, 7, 8, & 9	Question 3, 4, & 8	Level IV A

Dang, D., & Dearholt, S. (2017). *Johns Hopkins nursing evidence-based practice: Model and guidelines.* 3rd ed. Indianapolis, IN: Sigma T

Appendix E: Curriculum Plan Evaluation by Content Experts

Date: 3/16/2020

Student: Christine Nsubuga

Name of Reviewer: #1

Products for Review: Curriculum Plan, Complete Curriculum Content, Literature Review Matrix

Instructions: Please review each objective related to the curriculum plan, content, and matrix. The answer will be a met or not met with comments if there is a problem understanding the content or if the content does not speak to the objective. At the conclusion of this educational experience, the participant will be able to:

Objective Number	Objective Statement	Met	Not Met	Comment
1	Explain the significance and purpose of the SEP on diabetes			
2	Describe the ADA (2020) guidelines			
3	Identify the clinical practice problem			
4	Explain why ADA guidelines should be incorporated during routine diabetes patient encounters at the clinic			

Moon/May 2020

Appendix F: Pretest/Posttest

Pretest/ Posttest: Staff Education about the American Diabetes Association Standards of Medical Care

Student Name: Christine Nsubuga
Date: 3/16/2020

1. How is diabetes ranked as one of the leading causes of death in the Unites States?
   a) Second
   b) Seventh
   c) First
   d) Sixth

2. Which of the following describes diabetes as a general problem affecting the U.S.? (Circle all that apply)
   a) Diabetes affects over 29 million Americans and threatens 86 percent of the population (pre- diabetic).
   b) Diabetes is identified in primary care settings.
   c) Though treatment is a challenge the quality of care is measured in health care. facilities and publicly reported.
   d) The estimated annual cost for diagnosed diabetic patients in the United States is 245 billion.

3. Which evidence-based comprehensive diabetes management guidelines are both ADA and HRSA recommendations known to improve the diabetic patient outcomes, morbidity, and mortality rates? (Circle all that apply)
   a) Routine follow up appointments for diabetic patients with Hg A1C > 8%.
   b) Management and monitoring blood pressures to keep <140/90.
   c) Statins and anti-platelets prescriptions for diabetic patients unless contraindicated.
   d) Ensure annual vision and nephrology screening.

4. Which of the following does NOT describe comprehensive diabetes care?
   a) Comprehensive diabetic performance measures recommended by the HRSA and MNCM.
   b) Standards of diabetes medical care recommended by the ADA.
   c) Practice guidelines for primary care clinics only.
   d) Performance measures that emphasize health outcomes and the value of care delivered to patients.

5. According to the ADA (2020) standards of medical care, which of the following clinicians is MOST recommended to perform an initial dilated and comprehensive eye

examination within 5 years after the onset for type 1 diabetes and at the time of diagnosis for type 2?

a) Any provider during a routine office visit.
b) An ophthalmologist or optometrist.
c) Medical assistants or nurses during a routine office visit.
d) Primary doctors only during a physical exam.

6. Proper documentation to show interventions that support diabetic performance measures associated with quality care is a HRSA expectation for FQHCLLs.

a) True
b) False

7. Diabetes disproportionately affects the minority and medically underserved populations. For this clinic, the UDS public report in 2018 showed that 60 % of the 386 diabetic patients at the FQHCLL had uncontrolled diabetes.

a) True
b) False

8. Consistent use of evidence -based clinical practice guidelines have been shown to improve diabetic patient outcomes and simultaneously reduce risk factors that lead to diabetes complications.

a) True
b) False

9. Incorporating the best evidence practice at the clinic is relevant because: (Circle all that apply).

a) The ADA guidelines recommend consistent diabetes care for quality improvement.
b) Despite financial challenges, the FQHCLL must meet a HRSA requirement of providing quality primary care to underserved people.
c)The clinic's diabetic health scores fall below the state and national benchmarks a situation that violates the HRSA expectations.
d) Better reimbursement and financial status.

10.Current diabetic practice concerns at the clinic include the following (Circle all that apply).

a) Low health scores that fall below the state and national benchmarks.
b) Risk for potential financial impact.
c) Violation of the HRSA expectations.
d) Need to increase the use of evidence-based guidelines during diabetic patient care.

Appendix G: Pre/Posttest Content Validation by Content Experts

Title of Project: Staff Education about the American Diabetes Association Standards of Medical Care
Student: Christine Nsubuga

Respondent No. (A, B, C)

Accompanying Packet: Curriculum Plan, Pretest/Posttest with answers, Pretest/Posttest Expert Content Validation Form
INSTRUCTIONS**:** Please check each item to see if the question is representative of the course objective and the correct answer is reflected in the course content.

Test Item #

	1	2	3	4
1	Somewhat Relevant	Relevant	Very Relevant	Not Relevant
Comments:				
2				Not Relevant
	Somewhat Relevant__	Relevant___	Very Relevant	
Comments:				
3				Not Relevant
	Somewhat Relevant	Relevant	Very Relevant	
Comments:				
4				Not Relevant
	Somewhat Relevant	Relevant	Very Relevant	
Comments:				
5.				Not Relevant
	Somewhat Relevant__	Relevant___	Very Relevant__	
Comments:				
6				Not Relevant
	Somewhat Relevant	Relevant	Very Relevant	
Comments:				
7				Not Relevant
	Somewhat Relevant	Relevant	Very Relevant	
Comments:				
8				Not Relevant
	Somewhat Relevant	Relevant	Very Relevant	
Comments:				
9				Not Relevant
	Somewhat Relevant	Relevant	Very Relevant	
Comments:				
10				Not Relevant
	Somewhat Relevant__	Relevant	Very Relevant__	
Comments:				

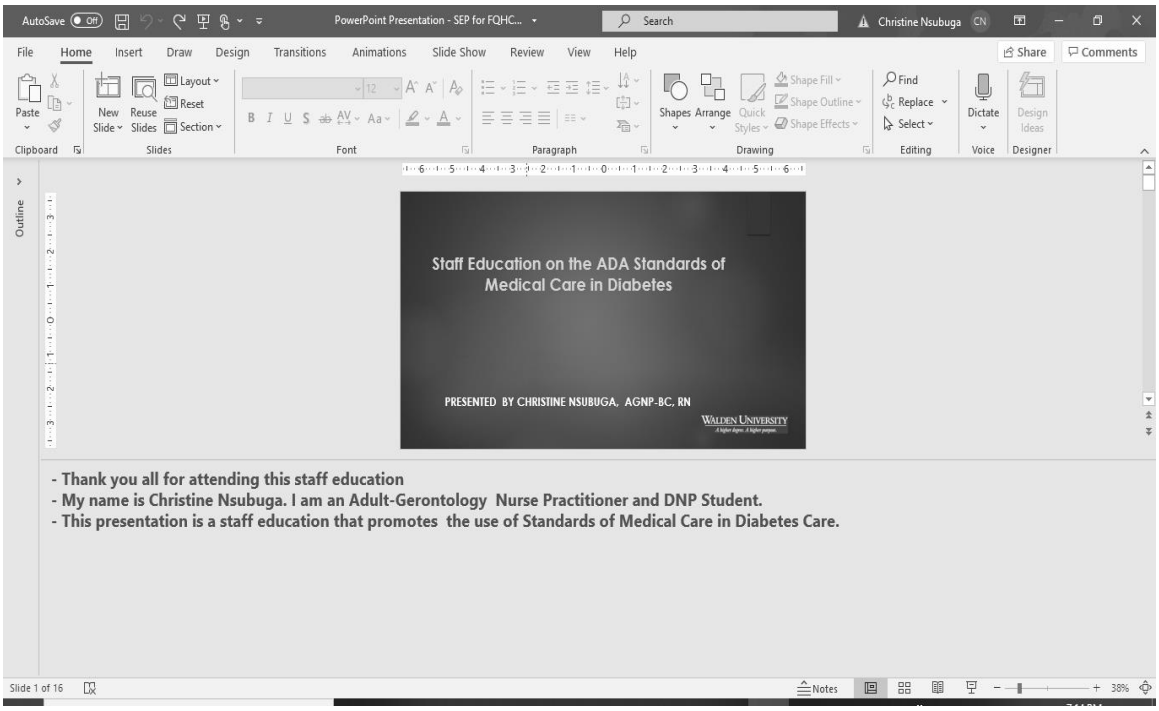
Appendix H: Curriculum Plan Evaluation by Content Experts Summary

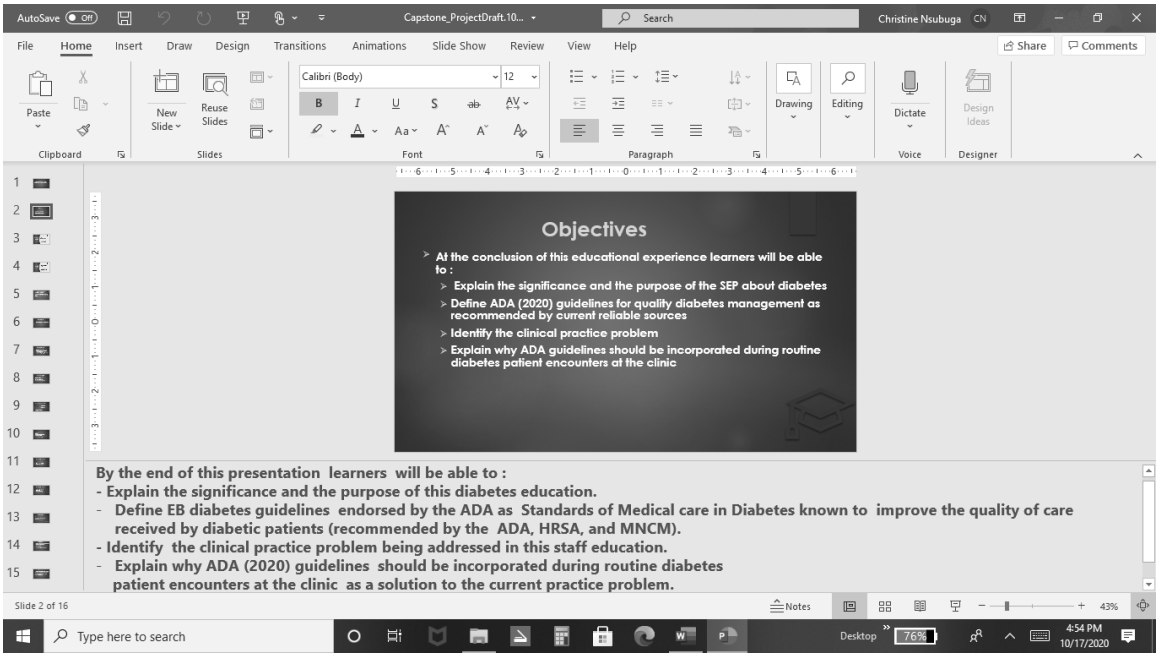
Met = 1 Not Met = 2
At the conclusion of this educational experience, learners will be able to:

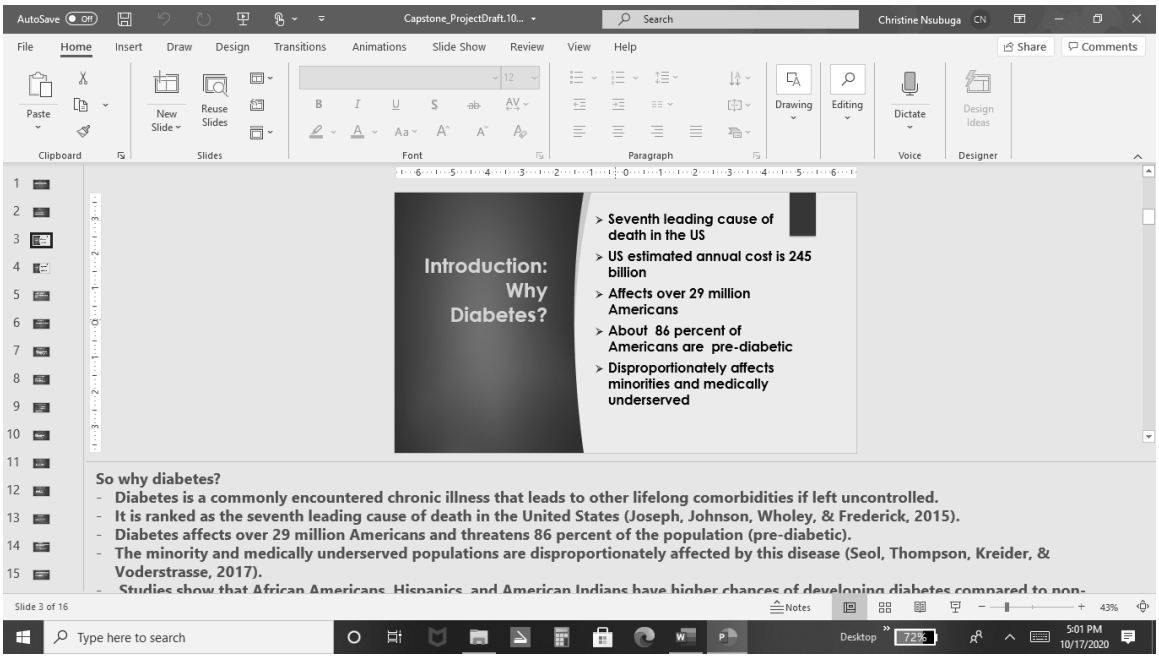
Objective Number and Statement	Evaluator A	Evaluator B	Evaluator C	Average Score
1. Explain the significance and purpose of the SEP on diabetes	1	1	1	1
2. Define ADA Standards of Medical Care in Diabetes (ADA, 2020)	1	1	1	1
3 Identify the clinical practice problem	1	1	1	1
4. Explain why ADA guidelines should be incorporated into the FQHCLL practice	1	1	1	1

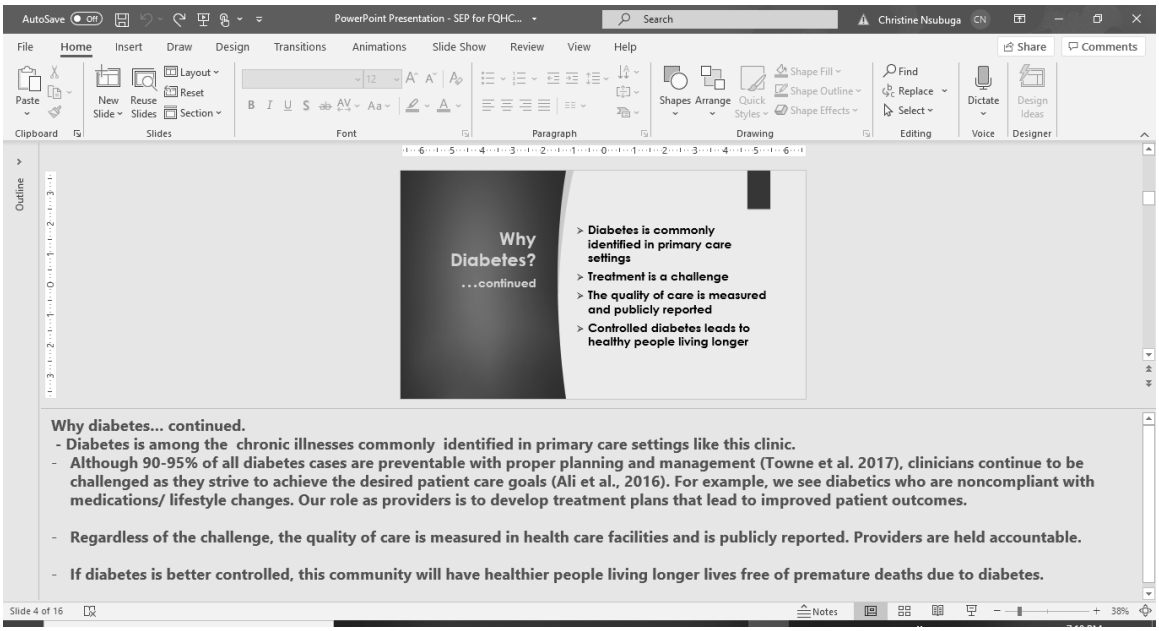
Moon (August 2019),

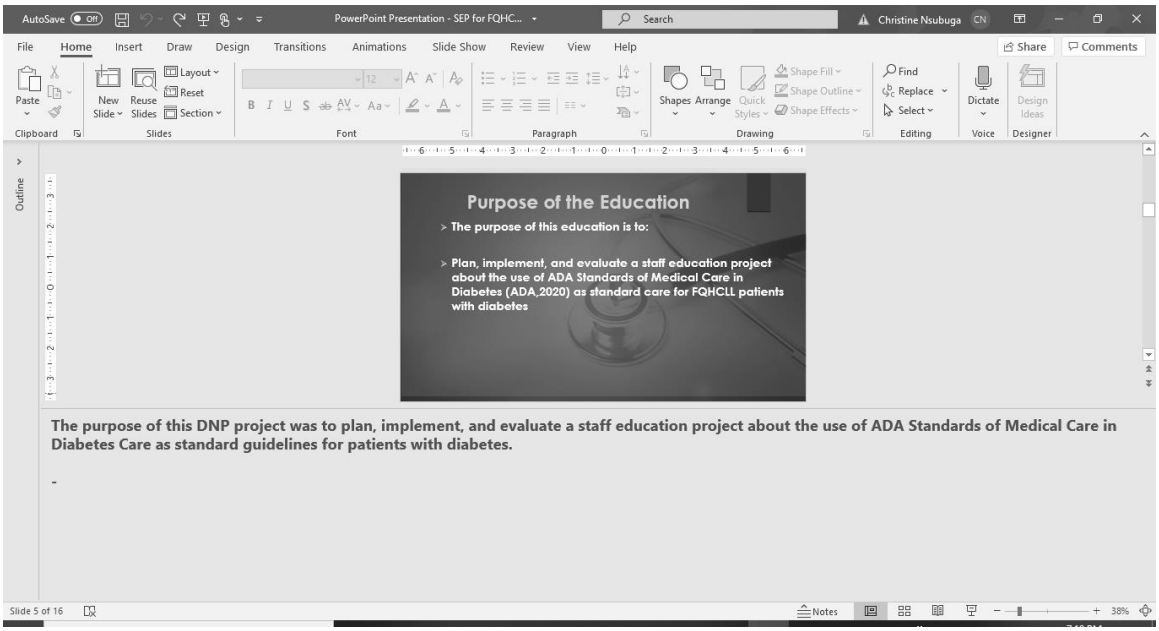
Appendix I: Presentation of Education Program

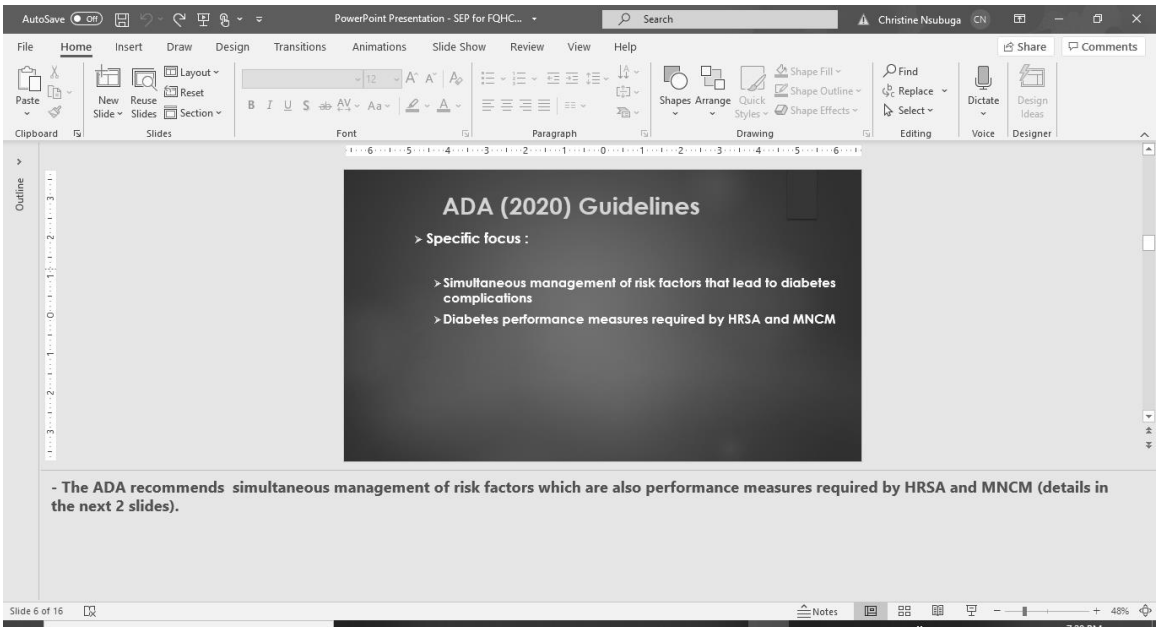


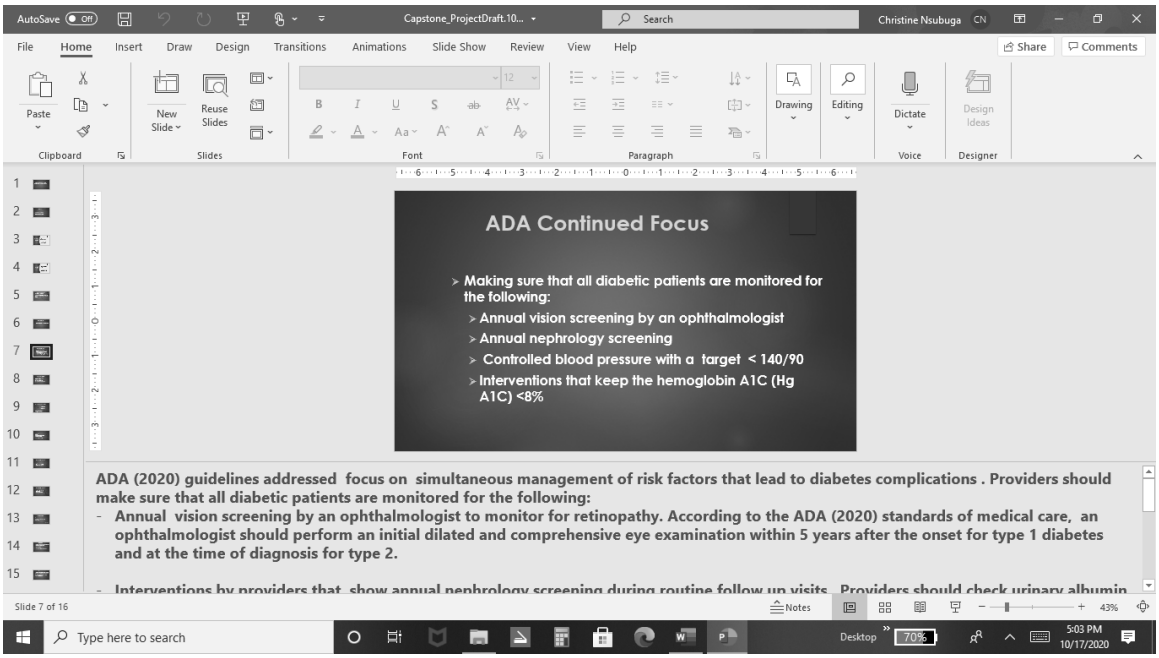



Introduction: Why Diabetes?
Seventh leading cause of death in the US
US estimated annual cost is 245 billion
Affects over 29 million Americans
About 86 percent of Americans are pre-diabetic
Disproportionately affects minorities and medically underserved
So why diabetes?
- Diabetes is a commonly encountered chronic illness that leads to other lifelong comorbidities if left uncontrolled.
- It is ranked as the seventh leading cause of death in the United States (Joseph, Johnson, Wholey, & Frederick, 2015).
- Diabetes affects over 29 million Americans and threatens 86 percent of the population (pre-diabetic).
- The minority and medically underserved populations are disproportionately affected by this disease (Seol, Thompson, Kreider, & Voderstrasse, 2017).


Why Diabetes? ...continued
Diabetes is commonly identified in primary care settings
Treatment is a challenge
The quality of care is measured and publicly reported
Controlled diabetes leads to healthy people living longer
Why diabetes... continued.
- Diabetes is among the chronic illnesses commonly identified in primary care settings like this clinic.
- Although 90-95% of all diabetes cases are preventable with proper planning and management (Towne et al. 2017), clinicians continue to be challenged as they strive to achieve the desired patient care goals (Ali et al., 2016). For example, we see diabetics who are noncompliant with medications/ lifestyle changes. Our role as providers is to develop treatment plans that lead to improved patient outcomes.
- Regardless of the challenge, the quality of care is measured in health care facilities and is publicly reported. Providers are held accountable.
- If diabetes is better controlled, this community will have healthier people living longer lives free of premature deaths due to diabetes.


Purpose of the Education
The purpose of this education is to:
Plan, implement, and evaluate a staff education project about the use of ADA Standards of Medical Care in Diabetes (ADA,2020) as standard care for FQHCLL patients with diabetes
The purpose of this DNP project was to plan, implement, and evaluate a staff education project about the use of ADA Standards of Medical Care in Diabetes Care as standard guidelines for patients with diabetes.
-
Slide 5 of 16

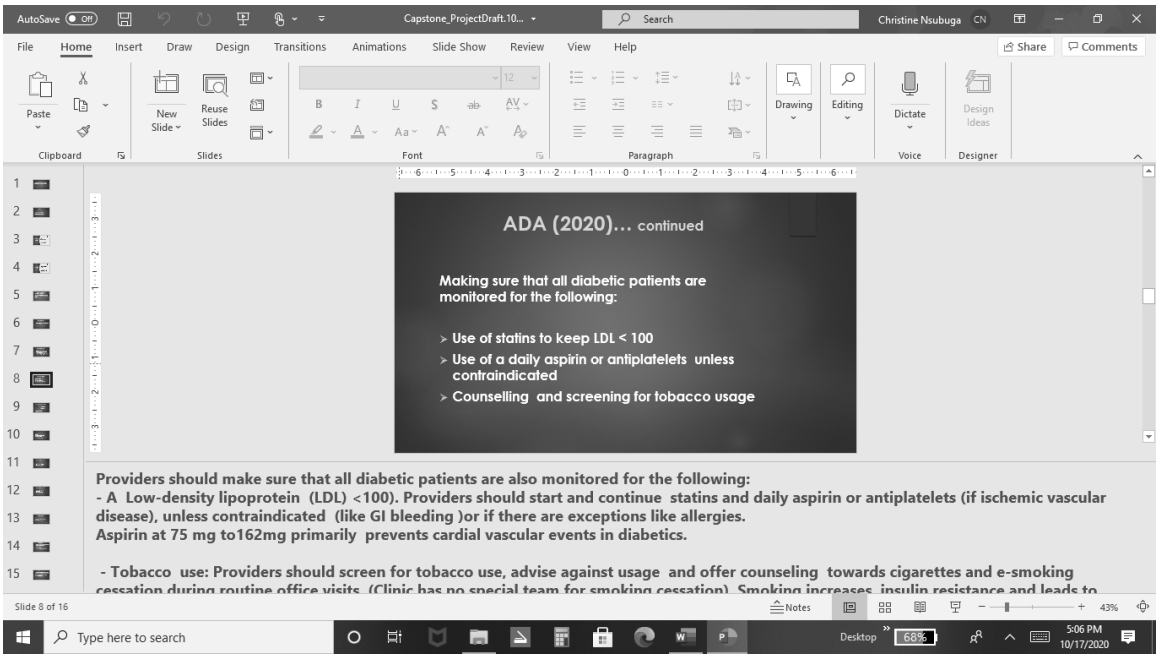

ADA (2020) Guidelines
Specific focus :
Simultaneous management of risk factors that lead to diabetes complications
Diabetes performance measures required by HRSA and MNCM
- The ADA recommends simultaneous management of risk factors which are also performance measures required by HRSA and MNCM (details in the next 2 slides).
Slide 6 of 16



ADA (2020) guidelines addressed focus on simultaneous management of risk factors that lead to diabetes complications . Providers should make sure that all diabetic patients are monitored for the following:

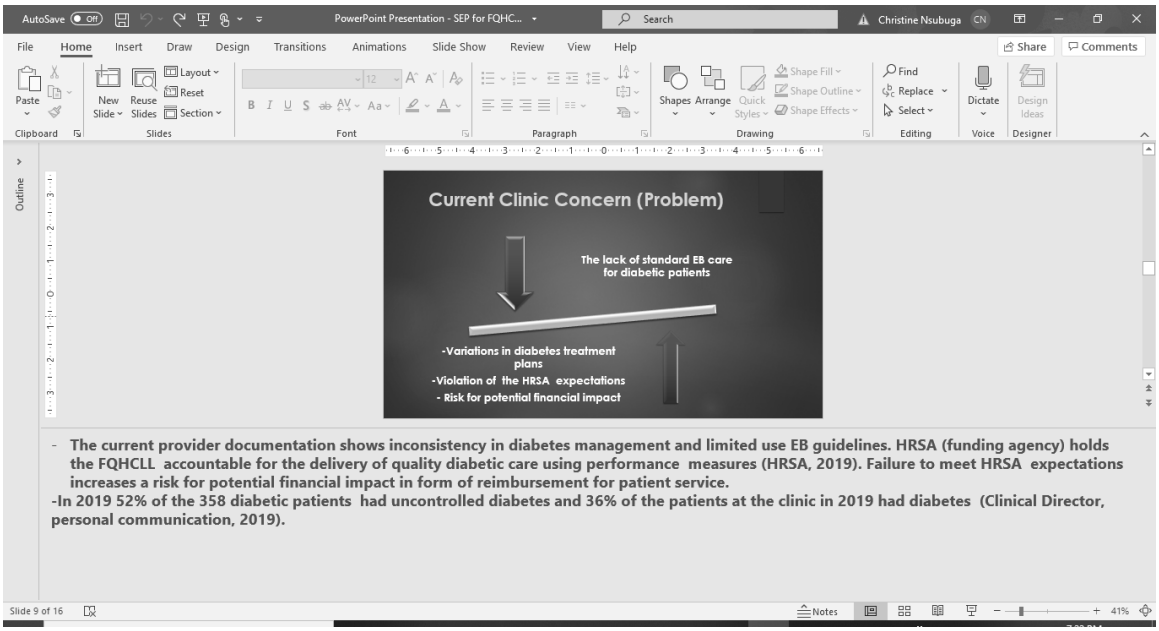
- **Annual vision screening by an ophthalmologist to monitor for retinopathy. According to the ADA (2020) standards of medical care, an ophthalmologist should perform an initial dilated and comprehensive eye examination within 5 years after the onset for type 1 diabetes and at the time of diagnosis for type 2.**

- **Interventions by providers that show annual nephrology screening during routine follow up visits . Providers should check urinary albumin**



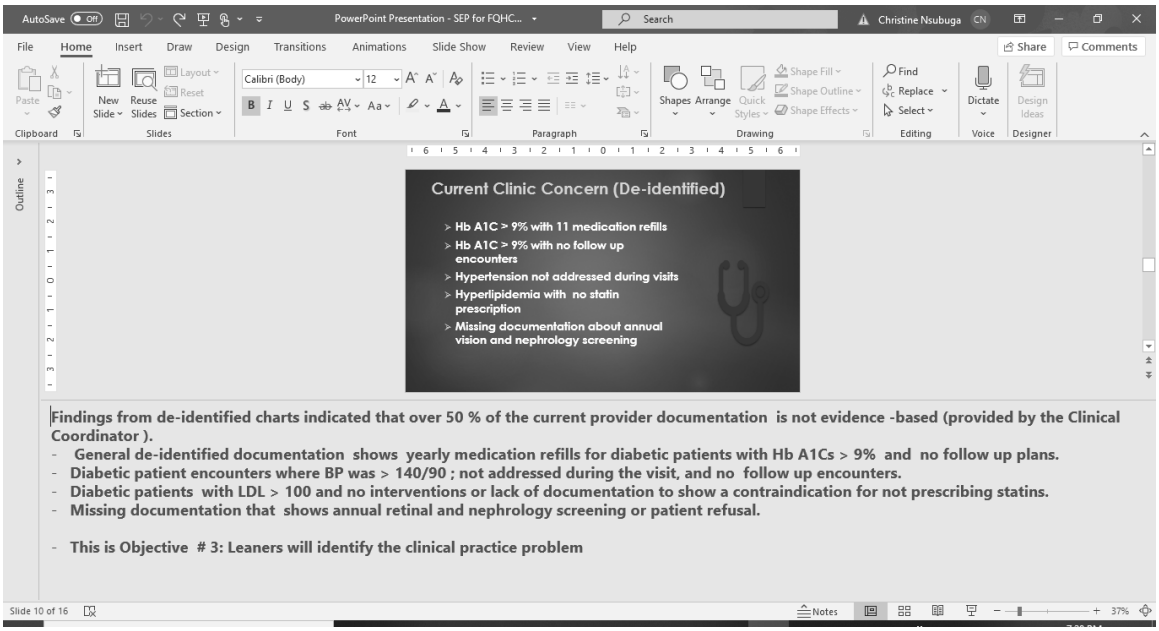
Providers should make sure that all diabetic patients are also monitored for the following:
- A Low-density lipoprotein (LDL) <100). Providers should start and continue statins and daily aspirin or antiplatelets (if ischemic vascular disease), unless contraindicated (like GI bleeding)or if there are exceptions like allergies.
Aspirin at 75 mg to162mg primarily prevents cardial vascular events in diabetics.

- Tobacco use: Providers should screen for tobacco use, advise against usage and offer counseling towards cigarettes and e-smoking cessation during routine office visits. (Clinic has no special team for smoking cessation). Smoking increases insulin resistance and leads to



- **The current provider documentation shows inconsistency in diabetes management and limited use EB guidelines. HRSA (funding agency) holds the FQHCLL accountable for the delivery of quality diabetic care using performance measures (HRSA, 2019). Failure to meet HRSA expectations increases a risk for potential financial impact in form of reimbursement for patient service.**

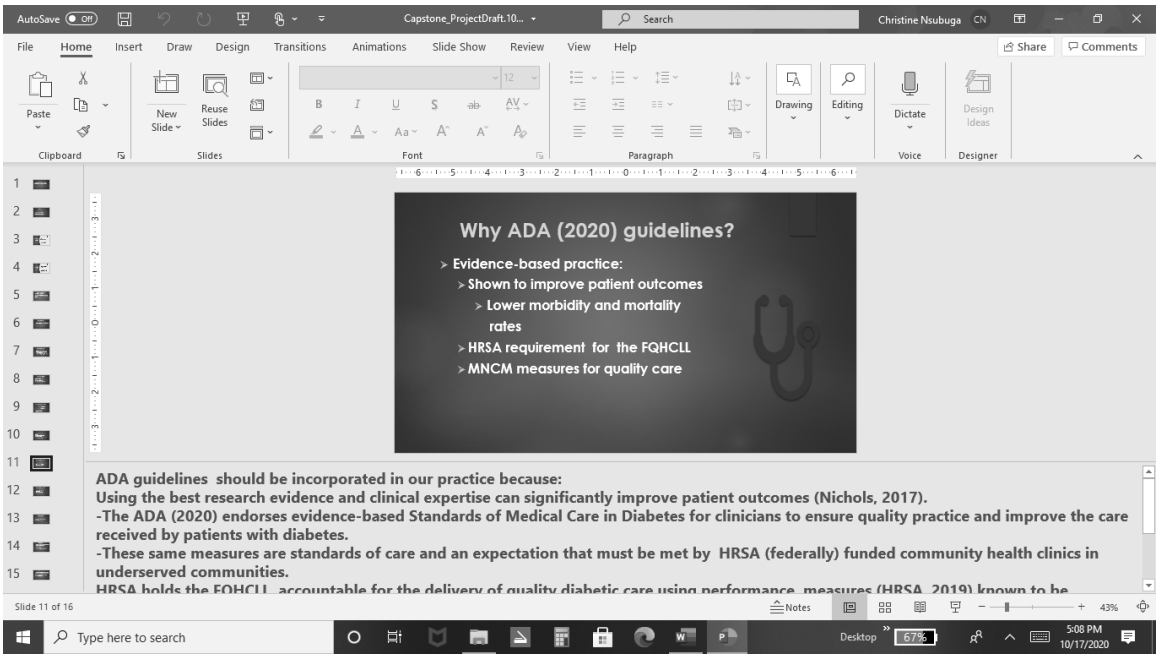
-In 2019 52% of the 358 diabetic patients had uncontrolled diabetes and 36% of the patients at the clinic in 2019 had diabetes (Clinical Director, personal communication, 2019).

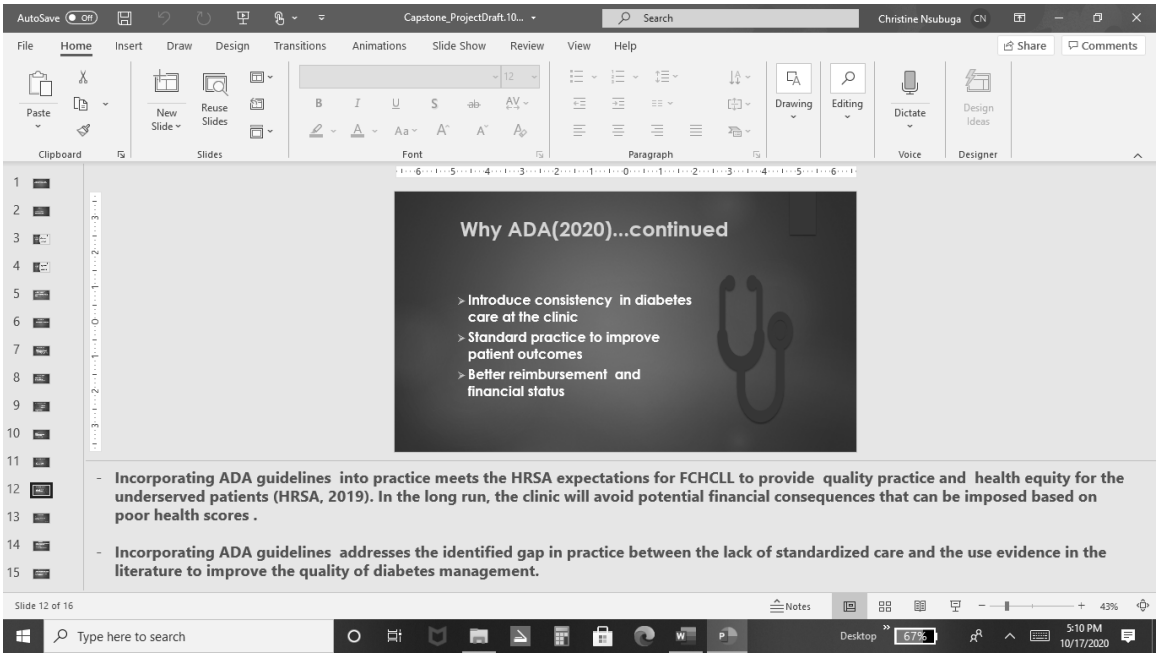


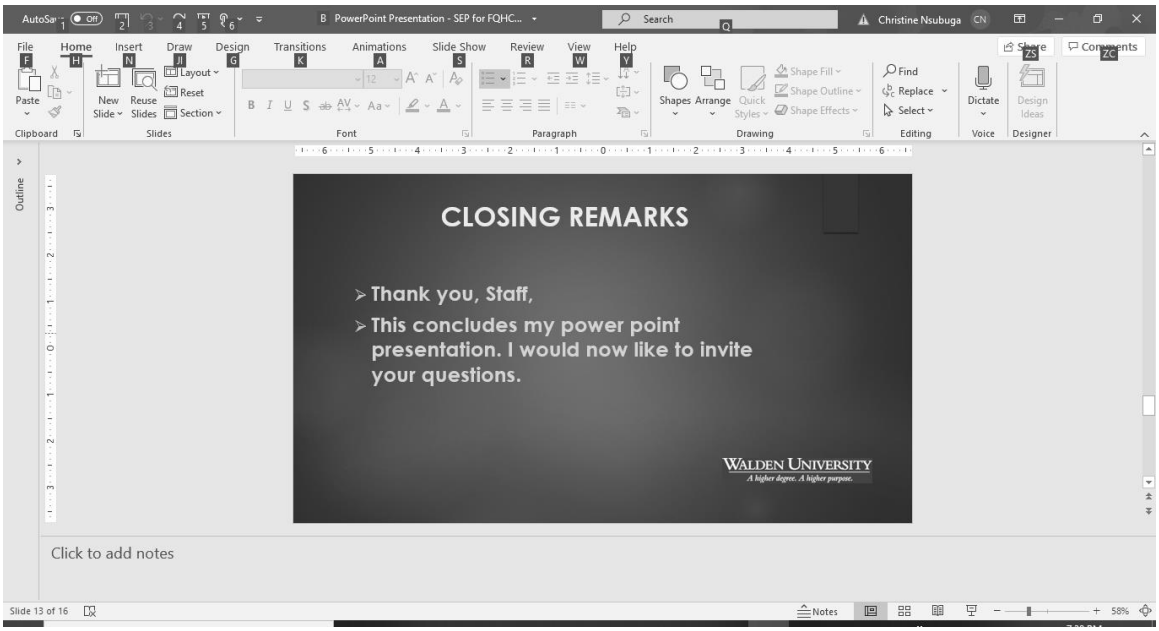
Findings from de-identified charts indicated that over 50 % of the current provider documentation is not evidence -based (provided by the Clinical Coordinator).

- **General de-identified documentation shows yearly medication refills for diabetic patients with Hb A1Cs > 9% and no follow up plans.**
- **Diabetic patient encounters where BP was > 140/90 ; not addressed during the visit, and no follow up encounters.**
- **Diabetic patients with LDL > 100 and no interventions or lack of documentation to show a contraindication for not prescribing statins.**
- **Missing documentation that shows annual retinal and nephrology screening or patient refusal.**

- **This is Objective # 3: Leaners will identify the clinical practice problem**


Why ADA (2020) guidelines?
Evidence-based practice:
Shown to improve patient outcomes
Lower morbidity and mortality rates
HRSA requirement for the FQHCLL
MNCM measures for quality care
ADA guidelines should be incorporated in our practice because:
Using the best research evidence and clinical expertise can significantly improve patient outcomes (Nichols, 2017).
-The ADA (2020) endorses evidence-based Standards of Medical Care in Diabetes for clinicians to ensure quality practice and improve the care received by patients with diabetes.
-These same measures are standards of care and an expectation that must be met by HRSA (federally) funded community health clinics in underserved communities.
Slide 11 of 16


Why ADA(2020)...continued
Introduce consistency in diabetes care at the clinic
Standard practice to improve patient outcomes
Better reimbursement and financial status
- Incorporating ADA guidelines into practice meets the HRSA expectations for FCHCLL to provide quality practice and health equity for the underserved patients (HRSA, 2019). In the long run, the clinic will avoid potential financial consequences that can be imposed based on poor health scores .
- Incorporating ADA guidelines addresses the identified gap in practice between the lack of standardized care and the use evidence in the literature to improve the quality of diabetes management.
Slide 12 of 16


CLOSING REMARKS
Thank you, Staff,
This concludes my power point presentation. I would now like to invite your questions.
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A higher degree. A higher purpose.
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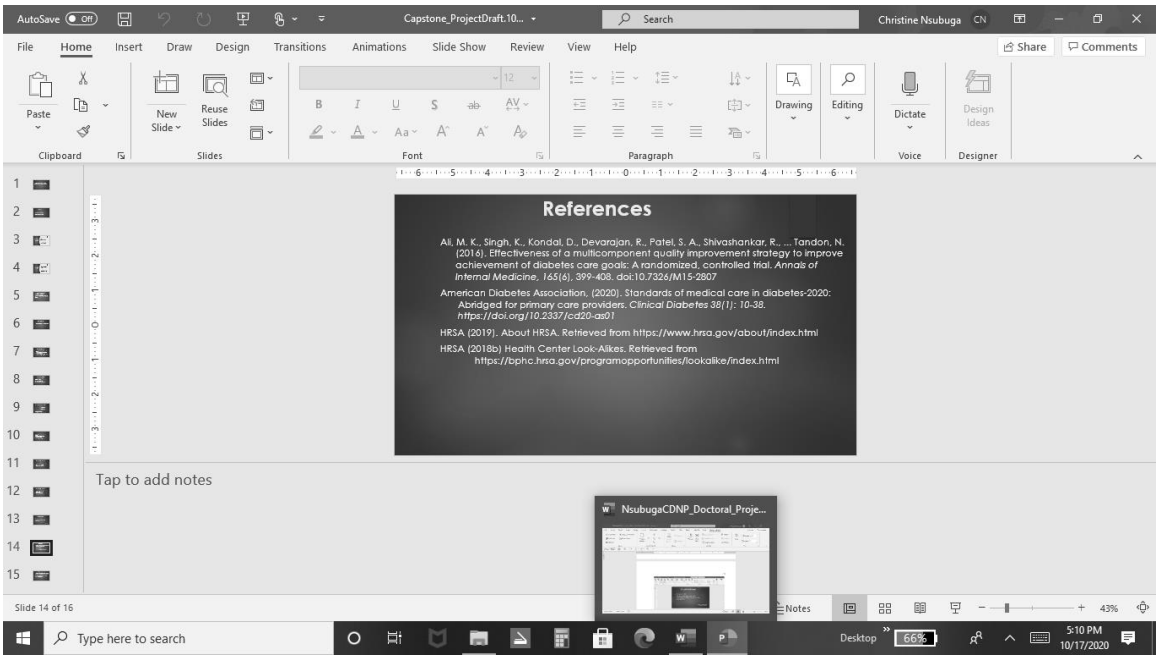
Slide 13 of 16


References
Ali, M. K., Singh, K., Kondal, D., Devarajan, R., Patel, S. A., Shivashankar, R., ... Tandon, N. (2016). Effectiveness of a multicomponent quality improvement strategy to improve achievement of diabetes care goals: A randomized, controlled trial. Annals of Internal Medicine, 165(6), 399-408. doi:10.7326/M15-2807
American Diabetes Association, (2020). Standards of medical care in diabetes-2020: Abridged for primary care providers. Clinical Diabetes 38(1): 10-38. https://doi.org/10.2337/cd20-as01
HRSA (2019). About HRSA. Retrieved from https://www.hrsa.gov/about/index.html
HRSA (2018b) Health Center Look-Alikes. Retrieved from https://bphc.hrsa.gov/programopportunities/lookalike/index.html
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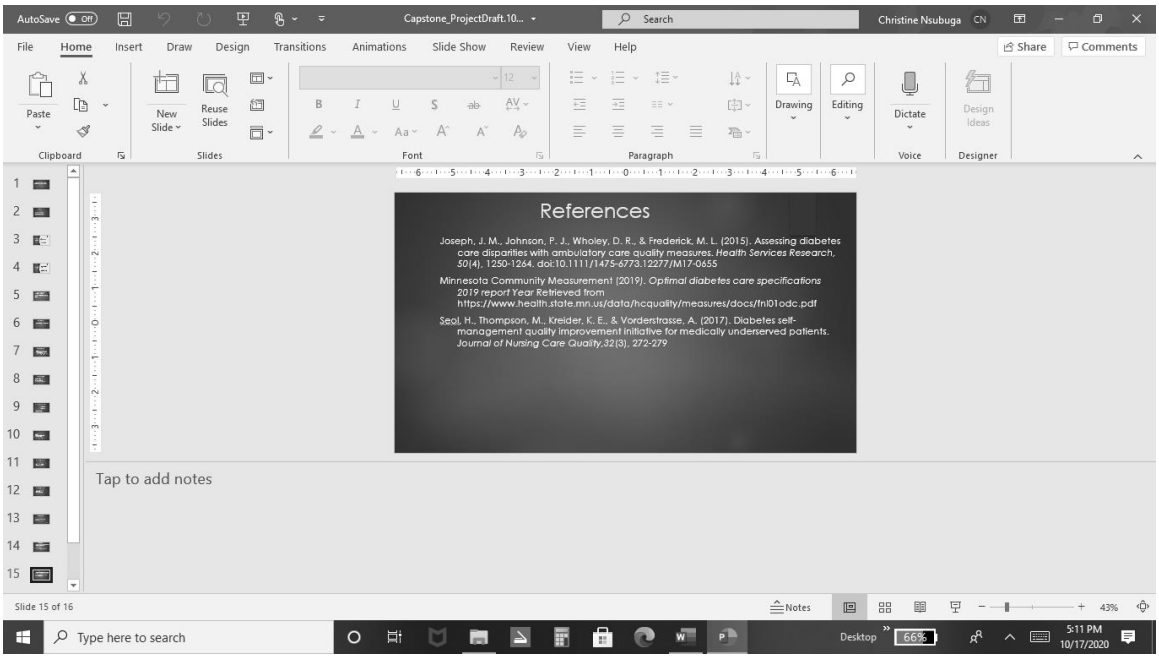
References
Joseph, J. M., Johnson, P. J., Wholey, D. R., & Frederick, M. L. (2015). Assessing diabetes care disparities with ambulatory care quality measures. Health Services Research, 50(4), 1250-1264. doi:10.1111/1475-6773.12277/M17-0655
Minnesota Community Measurement (2019). Optimal diabetes care specifications 2019 report Year Retrieved from https://www.health.state.mn.us/data/hcquality/measures/docs/InI01odc.pdf
Seol, H., Thompson, M., Kreider, K. E., & Vorderstrasse, A. (2017). Diabetes self-management quality improvement initiative for medically underserved patients. Journal of Nursing Care Quality,32(3), 272-279
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