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# A Proposal for the Development and Validation of a Diabetic Self-Management Education (DSME) Program

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Abstract

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Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

The World Health Organization has estimated that by 2030, approximately 350 million people will be diagnosed with Type 2 diabetes mellitus (T2DM). Currently, 18.8 million people are diagnosed with T2DM. An additional 7 million people have high blood sugar but have yet to have an official diagnosis of diabetes. The literature supports early identification and prevention are key to reducing the severity of T2DM its complications. The Health Belief Model, the Chronic Care Model and Orem's Theory of Self-Care guided the current proposal, whose purpose was to develop and validate a new T2DM DSME module. A validation of the DSME module was completed by 5 local diabetic clinical experts. Each expert reviewed the DSME modules then completed a 10-question Likert-type scale survey. The survey was used to measure the content amount, ease of use, and visual presentation. Descriptive analysis was employed to analyze these data. Results revealed that all strongly agreed that the education module was easy to read and follow. They also strongly agreed that there was an adequate amount of educational information within the module. Additional comments from the experts resulted in minor revision to the new DSME. A future pilot study comparing current education to the newly validated DSME module will be implemented post-graduation. Changing the diabetic teaching culture into an improved patient focus role has the potential to reduce the economic healthcare impact and empower patients to bring about positive social change. Social change will also improve trust and confidence among patients within the healthcare organization.

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# Dedication

I dedicate this paper to my dedicated, supportive family. I dedicate this proposal to my husband Lyle for his unconditional love, support and encouragement through my schooling endeavors. Without him, obtaining my doctorate would not have been possible. I dedicate this proposal to my son Brandon for his help with my technical and brainstorming needs. I dedicate this proposal to Justin for his insight, courage and perseverance with his own studies and health management. I dedicate this proposal to my daughter Haleigh for her patience and cooperation through the endless hours of schoolwork. In my mother's memory, I will proudly complete this doctoral proposal.

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Section 1: Overview of the Evidence-Based Project

## Introduction/Background

Type two diabetes mellitus (T2DM) is a chronic, progressive health condition that presents a need for ongoing assessment, identification of risks, interventions, education and evaluations to reduce complication. T2DM is the seventh leading cause of the death in the United States (American Diabetes Association (ADA), 2012). Currently, 18.8 million people are diagnosed with T2DM (ADA, 2012). An additional 7 million people have high blood sugars but have yet to have an official diagnosis of diabetes (ADA, 2012). By 2030, the World Health Organization (Healthy People, n.d) estimated that the number of people diagnosed with T2DM will be approximately 350 million.

Healthy People 2020 claimed that their objective is to reduce the economic burden that is caused by T2DM. (U.S. Department Of Health And Human Services, 2013) Effective prevention and education can prevent and delay complications associated with T2DM. According to Evans (2009), managing blood glucose levels may delay complications of diabetes and costs that are associated with diabetes. To maintain tight glycemic control and decrease risks, American Diabetic Association (DATE) has developed practice standards for health care providers to guide their treatment plan for T2DM.T2DM is a disease that cannot be conquered without routine blood glucose testing for all patients. Prevention and early detection for those patients at risk for the development of T2DM will decrease complications of T2DM, reduce hospital inpatient days and further prevent the development of subsequent chronic conditions that could result from T2DM.

## Problem Statement

The clinical practice problem that has been identified for this proposal involves the lack of formal T2DM patient education in a local, senior living community. According to American Academy of Diabetic Educators AADE (2011), fewer than 50% of patients diagnosed with T2DM access DSME. The main proposal goal is to develop a T2DM DSME program. Currently, there is no T2DM education program available for residents living within the local senior living communities. What these residents learn about T2DM, they learn from each other or their healthcare providers. There is a need within the local senior living community for T2DM education. If preventative measures such as T2DM education program can be established, it may delay the development and or progression of T2DM.

## Purpose Statement

The purpose of this proposal is to develop and validate a T2DM diabetes self-management education (DSME) program that will be introduced at a later time to T2DM adult (55+) residents of a local senior living community in Sun City Center, Florida. By empowering T2DM senior residents through a T2DM DSME program, they will exhibit improved HgBA1C levels post education intervention.

## Proposal Objectives

- Develop DSME education module.
- The DSME module will be assessed by ten individuals (validation tool).
- Evaluate the results of the validation tool for the T2DM DSME program and revise the module based on the validation tool results.

## Proposal Question

Does a newly developed and validated T2DM DSME program improve HgbA1C levels at three months post education intervention in T2DM adult residents living in the senior living community in Sun City Center, Florida?

## Needs Assessment

The 2012 ADA Standards of Medical Care in T2DM supports ongoing patient self-management education. To meet these urgent guidelines, health care providers must either provide T2DM education or refer patients for the mandated education (Hass, Maryniak, Beck, Cox, Decker, Edwards, Fisher, Harmon and Youssef, 2012). Simply put, there is no formal T2DM education program available for the residents of Sun City Center, Florida. It is clear that a need exists.

## Frameworks for the Proposal

Three frameworks have been identified to guide the development and implementation of the project proposal for future implementation. All patients are assessed for the ability to provide care for themselves, whether directly or indirectly. Dorothy Orem's Theory of Self-Care provides guidance for patients with the presence or absence of the ability for self-care related to their diagnosis of T2DM (Evans, 2010). Secondly, the Health Belief Model (HBM) is appropriate for the application to the chronic disease management (McEwen & Wills, 2011). The health belief model helps to measure the likelihood of someone acting on their medical condition based on their perception of the disease process (McEwen & Wills, 2011). Lastly, the chronic care model (CCM) is a model of care that provides guidance from acute, episodic illness to

one that focuses on adapting care for a patient with a chronic disease (Stellefson, Dipnarine, & Stopka, 2011). These frameworks will be used to guide the proposed project.

## Nature of the Proposal

The development and validation of a diabetic self-management education (DSME) program are proposed. The findings of the proposed validation will be based on quantitative methods, based on survey for data collection. Analysis of survey data collection will be done using a Likert scale.

## Definition of Terms

*Diabetic Educator:* A healthcare professional who focuses on providing direction for patients who have been diagnosed with T2DM and related conditions to achieve better control.

*DSME:* "Collaborative process through which people with or at risk for T2DM gain knowledge and skills needed to modify behavior and successfully self-manage the disease and its related conditions" (AADE, 2011, p. 24).

*T2DM:* T2DM is a metabolic disorder of high blood sugar levels, insulin resistance and insulin deficiency; the classic symptoms are excess thirst, excess urination, and excessive hunger.

## Significance/Relevance to Practice

The International Diabetes Center and ADA are continually developing new guidelines based on outgoing research for the treatment of T2DM. The Standard of Medical Care in Diabetes Mellitus (DATE) defined T2DM as "chronic illness that

requires continuing medical care and ongoing patient self-management education and support to prevent complications and to reduce the risk of long-term complications." (ADA, 2012, p. 20) The management and treatment of T2DM are based on the 2012 ADA Standards for Medical Care. Updated recommendations come out quarterly as different associations identify new management guidelines. The major focuses of 2012 T2DM management standards were healthy eating, weight control, and medical nutrition therapy. According to Hass et al. (2012), DSME is a critical element of care for all people. For a HgbA1C higher than 6.5%, treatment was recommended starting with metformin. The ADA and the Endocrine Society consensus report on hypoglycemia and diabetes were released on April 23, 2013. The diagnosis of T2DM is now to include the following:

1. HgbA1C equal to or greater than 6.5% equals diagnosis of T2DM.
2. Plasma glucose fasting greater than or equal to 126.
3. Blood sugar greater than or equal to 200 mg at any time.
4. Classic symptoms of hyperglycemia, random glucose of 200 mg or greater.

The consensus report emphasizes that prevention is equally as important as making a diagnosis. Patients who have impaired fasting glucose, impaired glucose tolerance test, or an A1C of 5.7% to 6.4% need to be treated aggressively. In addition, patients who have are obese, those who have progressive hyperglycemia, and those with

a history of gestational diabetes should be treated early. Gathering an accurate past medical history will help to guide treatment. The recommendations are:

1. Documentation of age and characteristic of the onset of T2DM.
2. Eating patterns, physical activity habits, height and weight.
3. Diabetic education history.
4. Previous treatment regimens in response to treatment.
5. Results of glucose monitoring.
6. Documentation of any hypoglycemic episodes.

Lastly, the consensus report recommends early referrals to ophthalmology, podiatry, dietetics for medical nutritional therapy, DMSE, dental referral and mental health, when warranted.

## Evidence-Based Significance of Proposal

Healthy People 2020 established goals to direct healthcare delivery. Increasing the proportion of people diagnosed with T2DM who receives formal diabetic education is one of the Healthy People 2020 goals. AADE (2011) revealed that recent cost-benefit analysis of the impact of DSME demonstrated significant savings. Patients who had received formal T2DM education "used preventative services (A1C levels tested, screening kidney function tests and eye exams) more often and acute care services (ER and inpatient hospitalization) less, then resulting in lower overall healthcare costs" (AADE, 2011, 32).

The goal of DSME encompasses improved quality of life and self-care behaviors, which lead to improvements in multiple clinical attributes and decreased health care

costs. DSME consists of a five step-process: assessment, goal-setting, planning, implementation and evaluation/monitoring. (AADE, 2011)

## Implications for Social Change in Practice

Prevention is a key component of Health People 2020 (Healthy People, n.d.). Preventative measures for all patients can delay a diagnosis of diabetes. There is a strong correlation between obesity and T2DM. The longer that someone is overweight, the more likely that they will eventually be diagnosed with T2DM, heart disease or hypertension. Preventative measures can delay T2DM complications. Diabetics who maintain tight control of blood sugars may delay complications of T2DM and may potentially decrease costs that are associated with T2DM. (Evans, 2009) The ADA has developed practice standards for medical clinicians to guide their treatment plan.

Prevention for population health has three tiers. Primary prevention is those actions that are directed at preventing the onset of the disease. Routine screening for conditions that could become chronic in nature is an example of primary prevention. Healthy People 2020 (U.S. Department of Health and Human Services, 2013) identified primary prevention for T2DM to include those at risk for, impaired glucose and those with a diagnosis of T2DM. Secondary prevention includes early detection and treatment of T2DM. An example would be monitoring fasting glucose, HgbA1C, and serial blood glucose readings. Lastly, tertiary prevention is geared towards slowing down the progression of T2DM. Tertiary prevention includes annual foot exams, eye exams, and lab work every three months.

## Assumptions and Limitations

Less than 50% of T2DM patients in the United States receive DSME (AADE, 2011). Geographic barriers create barriers to access. Rural areas tend to be underserved by diabetic educators. The southern states have the largest percentage of adults that have T2DM in the country. "It will be difficult to meet the goals of Healthy People 2020 when some of the most vulnerable patients do not have access to quality diabetic education." (AADE, 2011)

**Limitations**

The residents of Sun City Center, Florida are a unique group of people. The residents must be at least 55 years of age. Within the confines of the city, residents utilize the use of the golf carts for transportation. The majority of our patients are confined to the city limits of Sun City Ctr., Florida due to physical limitations (poor vision, osteoarthritis, neurological conditions, etc.). In the immediate area, no formal diabetic education programs or certified diabetic educator (CDE) are available for residents. If the service is not available by golf cart, the patients essentially have the education that is provided in the doctor's office as their source of diabetic education.

A fair number of the residents are year-round Florida residents. There are a number of people "snow birds" that are in Florida for 6 months and "up north" for the remainder of the year. There are many concerns with designing and evaluating programs for this group. One concern would stem around residents that are only in the immediate location for a specified number of months. Another concern related to the advanced ages of the residents and the loss of memory that may play a large part in the resident's response to the program. Due to advanced age, there may be a possibility that one or

several participants could die while participating in this proposed program (from comorbid conditions).

Lastly, the older group of patients poses a special set of circumstances. Decreased hearing may cause inaccuracy in telephone interviews. Decreased vision and decreased literacy may not allow patients to be able to fill out questionnaires or surveys without help. Patients with dementia do not have the mental capacity to understand what the questionnaires, surveys or phone interviews are about or how to answer them correctly. In addition, patients who are "snow birds" (up at northern residence for six months and FL residence for six months) may only participate in a portion of the process that would exempt them from the program.

### Summary

Preventative efforts are key for delaying the progression of T2DM. Healthy People 2020 claimed that their objective is to lessen the economic burden that is caused by T2DM. (U.S. Department Of Health And Human Services, 2013). Effective prevention and education can prevent and delay complications associated with T2DM. The introduction of a DSME will provide the key components for patients to be able to manage their diabetes and reduce the chances of complications.

## Section 2: Review of Scholarly Evidence

### Introduction

The purpose of this proposal is to develop and validate a T2DM DSME program for T2DM adult (55+) residents of a local senior living community in Sun City Center, Florida. By empowering T2DM residents through a DSME program improved control

and reduced diabetic complications as compared to standard education. The literature supports early identification and prevention are key to reducing the severity of T2DM and its complications.

## General Literature

The literature supported the need for interventions of T2DM patients. Early identification and prevention is key to reducing the severity of T2DM and its associated complications. One of the initiatives of Healthy People 2020 was to "increase preventative behaviors at persons who are at high risk for diabetes or those with prediabetes" and to "reduce the new cases of diagnosed T2DM in the population." (Healthy People, 2011)

Song and Lipman (2008) defined self-care management of T2DM as "active, responsible process of care in which patients' worked to maintain his or her health in close collaboration with the healthcare personnel." Further definition indicated the daily regimen that diabetics followed to manage their T2DM. The more regimented that a patient was indicated their level of compliance. Factors that seemed to influence compliance were gender, level of maturity, motivation, family and social support.

Aiken, Bingham, &Piette (2005) revealed that positive patient-provider relations led to better glucose control and more positive diabetic outcomes. Additionally, they claimed that T2DM patients are primarily responsible for their illness course. (Aikens, Bingham & Piette, et al., 2005)

## Specific Literature

DSME has been defined as a collaborative process which T2DM patients and those who are at risk for T2DM obtain adequate knowledge and skills needed to change their behaviors and self-manage their disease and related conditions. (AADE, 2011) Multiple authors who have researched diabetes claimed the need to evaluate the ability of the patient to be able to be accountable and to participate in their care. Heinrich, Schaper, and DeVries (2010) discussed interventions that were presented in their research how to be focused on self-management. “Self-management is inescapable and it is a question of how, not whether, patients manage their diabetes” (Heinrich et al., 2010, p. 72). The interventions that they introduced had to be categorized by learning, planning or practicing.

Hanna and Decker (2009) defined self-care adherence or compliance as a tool to guide, assess or measure the patient’s responsibility. The attributes were defined as a process that occurs every day; gradually a change based on the disease process, process with the goal of ownership and involves autonomy and self-care tasks.

Schilling, Grey, and Knafl (2012) defined T2DM education regards to the set of daily activities from taking medications or giving insulin, monitoring, and regulating diet and exercise. Three attributes were identified as process, activities and goals. Adults are responsible for their own self-management. After further research was carried out, Schilling et al. (2012) further clarified the concept of self-monitoring and T2DM. The attributes were narrowed down to the awareness of, interpretation of and response to patient’s manifestation of T2DM. This clarification helps healthcare providers to understand and relate the processes involved in self-monitoring for T2DM.

In an evidence-based practice review by Evans (2010), conducted an 8-week program for their T2DM patients. The program was based on Orem's self-care deficit theory of nursing. The interventions were based on the ADA standards of care. The experimental group had an initial face-to-face office visits with a nurse practitioner. The initial visit was followed by bi-weekly telephone calls to the patients. These phone calls were to aid in the assumption of their diabetic self-care, to encourage adherence with their treatment regimen, address areas of concern and for NP coaching when indicated. A review of the patient's fasting blood sugars was carried out via a tracking system. Based on the findings, medications could be changed or adjusted, diagnostic testing carried out, or referrals could be made when appropriate.

Evans (2010) stated that research proves that blood glucose results as within the normal levels can prevent or delay many of the complications and costs associated with T2DM. The control group for the research received care from the office that followed the ADA standards of care. Their blood glucose results were either called or faxed to the office bi-weekly. The control group did not receive any NP intervention. The evidence-based practice results revealed a 2% decrease in the HgbA1C of the experimental group after having specialized NP intervention.

Sanchez (2011) utilized the Chronic Care Model. Sanchez's goal was to provide T2DM patients with self-management skills. The Plan-Do-Check-Act model was used with shared medical appointments. The planning phase was to determine who would be appropriate to include in self-management program. Patients that were highly motivated and wanted to learn were successful and reducing their HgbA1C. Patients were scheduled

for a 90-minute shared medical appointment where data was collected during the Do phase. During the Check phase, data was analyzed and compared to quality measures. The Act phase implemented the findings of the research to determine areas of improvement for further intervention.

Steinbekk, Rygg, Lisulo, Rise ,and Fretheim (2012) carried out a meta-analysis comparing group based diabetic education versus traditional education obtained during an office visit. The meta-analysis of HgbA1C proved to show a significant improvement in the T2DM that were involved in the group based intervention.

The International Diabetes Center and ADA are regularly developing guidelines based on outgoing research for the treatment of T2DM. The Standard of Medical Care in Diabetes Mellitus defines T2DM as a "chronic illness that requires continuing medical care and ongoing patient self-management education and support to prevent complications and to reduce the risk of long-term complications." (American Diabetes Association, 2012)

## Conceptual Models, Theoretical Frameworks

### Health Belief Model (HBM)

The Health Belief Model (HBM) is appropriate to the chronic disease management. The HBM, a social psychological theory, is used frequently to predict health behaviors (McEwen and Wills, 2011). The HBM assesses the attitudes and beliefs of individuals. The assumption is that people fear having a disease. The HBM helps to measure the likelihood of someone acting on their medical condition based on their understanding of the disease process. If healthcare providers are able to change the

patient's perception, the patient is much more likely to comply with the healthy behaviors and recommendations (McEwen & Wills, 2011)

The concepts involved in the HBM are perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and self-efficacy. A patient's perceived susceptibility of a disease defines the patient's opinion of how likely they are to contract the disease (McEwen & Wills, 2011). The patient's perceived severity of a disease demonstrates their opinion of how serious a condition is and the potential complications (McEwen & Wills, 2011). The appearance of symptoms may increase the level of threat that the patient experiences (McEwen & Wills, 2011). Perceived benefits represent the patient's opinion of how effective a health provider's recommendation is in reducing their risk for complications from the development of diabetes (McEwen & Wills, 2011). The perceived benefits include a reduction of complications or positive response to preventative measures (McEwen & Wills, 2011). Barriers may play a role in patient's behavior (McEwen & Wills, 2011). Perceived barriers are the patient's view of what obstacles stand in the way of achieving health, this could include cost or access to healthcare (McEwen & Wills, 2011). Next, cues to action define a patient's readiness to perform an action and combat previous poor choices (McEwen & Wills, 2011). Lastly, self-efficacy is a subjective measurement of the patient's confidence that they can successfully change their behavior to achieve better health status. The HBM describes a change in unhealthy behaviors to healthy behaviors (McEwen & Wills, 2011).

According to Hodges and Videto (2011), an accurate assessment of the target population is critical. Question the population of what the medical condition means to them. It is also important to assess for barriers early on and able to address possible solutions. To address perceived susceptibility, a researcher must help the client to define their level of risk. Perceived severity recommended actions and consequences of continuing poor health behaviors must be identified. Perceived benefits will become apparent with the description of the desired actions and the positive results that can be expected. Barriers must be identified. Information that the patient believes that is incorrect must be dispelled. Cues to action will support desired behaviors. Ultimately, the benefits of the behavior must be desired and believed to be beneficial. The patient must see the benefits of the behavior change as a positive change.

**Chronic Care Model**

The chronic care model (CCM) is a model of care that provides guidance from acute, episodic illness to one that focuses on adapting care for a patient with a chronic illness. Nurse Practitioners play a large role in the management of chronic diseases. American Association of Diabetic Educators has adopted this model as their choice for management of T2DM. The CCM "encourages self-management and cultivates responsibility for their own health care." (Dancer & Courtney, 2010) The CCM encompasses six elements: (a) health system, (b) clinical information system, (c) decision support, (d) delivery system design, (e) self-management support, and (f) community. Decision support should follow evidence-based practice. Treatment algorithms are utilized to provide direction for care.

The CCM has been used by US primary care settings and has yielded positive results. (Stellefson, Dipnarine, &Stopka, 2013) CCM is a conceptual framework that was developed as a guide for patients with chronic illnesses. Chronic health conditions have become identified as major contributors to the increasing health care costs. In the United States, chronic health conditions account for nearly 70% of all U.S. deaths and 75% of all healthcare expenditures. (Bendixen, 2006) Given the rising age of the baby boomers, chronic illnesses will rise. Disease management is comprehensive, inclusive approach to care. Reimbursement is based on the disease's natural course of progression. Mease (2000) stated that the disease management addresses the chronic disease with maximum effectiveness. Looking at the disease outcomes, regardless of the treatment settings, helps to identify how effectiveness plan of care is for the patient.

The Veterans Administration has implemented the CCM. As a result, they had started to target the veterans that not immobile or lack resources to attend office visits. They implemented a telemedicine program that exhibited many advantages. Veterans that are not able to attend doctor's visits due to impaired mobility are able to participate in a telemedicine program. This subset of the population has a high risk of developing complications or worsening of their medical conditions without the intervention from a health care provider. Remote monitoring detects exacerbations of chronic diseases, reduces hospitalizations and improves the patients' quality of life. The veterans have an increased level of confidence with monitoring their health care in the luxury of their own home. An increased level of independence can be achieved. As a result of the telemedicine program, the VA system has seen a decrease in emergency room visits,

decrease in hospital admissions, and a decrease in days spent in the hospital. Following the example of the VA, the CCM can be extended to into the primary care arena (Glasgow, Fisher, Skaff, Mullan & Toobert, 2007)

**Orem's Theory of Self-Care**

Orem developed two categories of nursing theory that patients can be filtered into while nursing is providing care. The patient will either have a presence or absence of the ability to provide self-care. Nursing bases their interventions and evaluations based on the patient's ability or lack thereof to provide self-care. (Burns & Grove, 2009) The theory of self-care deficit is useful for nursing to develop an understanding of patient's behavior. In relation to patients with diabetes, self-care deficit may be a lack of experience, lack of initiative, poor dietary habits, or lack of funds to purchase needed resources. Nursing developed a relationship with their patients. This trusting relationship helps to gain knowledge of patient status or ability to comply with developing goals.

Key concepts of Orem's self-care deficit include: self-care monitoring, motivation, habits, support from other, ability to maintain self-care, and cognition. (Jaarmasa, Riege, & Stromberg, 2012) All patients are measured, whether directly or indirectly, for their ability to provide care for themselves. The ability to gain and reflect new information is important to assess to ascertain patients cognitive abilities. Safety and security of the patient can be compromised if they are unable to accommodate and learn as they are taught. Self-care behaviors may not noticed as being a deficit unless a nonbiased party is involved to make appropriate assessments. Measurement of cognition maybe evaluated through the use of the Mini-Mental Status Exam (MMSE), psych

nursing evaluations, and interventions include social workers. In regards to diabetic control, diet logs, the ability to check blood glucose and record the findings, and the ability to determine what to do with the findings are critical pieces of information for nursing to assess patient's ability for self-care.

Orem's (1991) model incorporated three theories: theory of self-care, theory of self-care deficit, and theory of nursing systems. The definition of the ability to perform self-care involves a patient's ability to perform activities of daily living. (Evans, 2010) Evans (2010) discussed his research based on Orem's theory. The patients attended an appointment with advanced practice nurse to address their T2DM and develop a plan of care. The plan of care was based on current guidelines from the ADA. The patients were contacted weekly to address the recommendations that had been made. This program evolved over in eight-week period. The study revealed marked improved outcomes in comparison with the control group that did not have the intervention of the advance practice nurse.

## Background and Context

The lack of formal T2DM education in a local, senior living community poses a unique situation. According to AADE (2011), fewer than 50% of patients diagnosed with T2DM access DSME. The present proposal is to develop and validate the T2DM education module. The future proposed goal is to develop and implement a Diabetic Management clinic where T2DM patients will be referred specifically for their diabetic management in an area where T2DM education does not currently exist. Currently, there is no local T2DM education program for residents living within the senior living

communities. What the residents learn about T2DM, they learn from each other or their healthcare providers. There is a need within the local senior living community related to T2DM education. The incidence of T2DM is steadily rising. Preventative measures for senior patients can delay a diagnosis of T2DM.

I will have five local DM experts review the developed T2DM education module. These individuals will be placed in a quiet room and given ample amount of time to review the education module and complete the ten question survey. The data will be collected by the student. The data will be analyzed using Likert scale.

### Section 2 Summary

Diabetic education is necessary for T2DM patients to be successful in their endeavor with self-management of T2DM. A goal for diabetic self-management should "encompass improved quality of life and self-care behaviors that led to improvement in multiple clinical attributes and decreasing health care costs" (AADE, 2011). Cost-benefit analysis has demonstrated that patients who have received DSME tend to use preventative services more and acute care services less often, which leads to a decrease in overall healthcare costs. (AADE, 2011) Basing education programs on the chronic care model and the health belief model shifts towards a framework of adapting care for patients with T2DM.

## Section 3: Approach

### Introduction

The purpose of this proposal is to develop and validate the T2DM education module. A future post validation pilot study is proposed to compare diabetic control in

T2DM senior adult residents of a local senior living community in Sun City Center, Florida before and after implementing a DSME program. Three months after validating the DSME program, it is anticipated that improved HgbA1C levels will result. By empowering T2DM residents through a DSME program, the participants will exhibit improved blood glucose control.

## Population and Sampling

### Population

For the validation of the developed T2DM education module, five local T2DM providers and five T2DM patients residing in a senior community center of Sun City Center, Florida will be invited to review the developed T2DM education module. Marquez Medical Clinic (MMC) is an internal medicine clinic in Sun City Center, Florida. Currently, MMC has just over 1,000 patients that have either a diagnosis of impaired fasting glucose, abnormal glucose or T2DM. The MMC providers implement the up-to-date diabetic guidelines for their patients following the current diabetic ADA guidelines to include quarterly visits with review of the patient's blood sugar, triglycerides, urine microalbumin, HgbA1C and blood pressure. Five providers from this clinic will be asked to review and complete a survey to evaluate the T2DM education module.

The proposed patient population for this proposal are those residents that reside within the senior living community limits of Sun City Center, FL. One must be 55+ to be able to live within the senior living community limits. This population has relatively distinctive characteristics. Some of the people are married, but the majority of them are widowed. Majority of the people are of Caucasian decent. Average annual income is

$50,000. Nearly ½ of the persons in this senior community live independently in adult communities, assisted living facilities or long-term care facilities. The other half maintains their independent residences. Due to the age of the group and their comorbid conditions, there are multiple hospitalizations and deaths that occur each year.

**Sampling**

The group of adults in Sun City Center, FL is considered a population. The patients that are seen as Marquez Medical Clinic (MMC) would be classified as a representative sample of the population of Sun City Center.

Five providers from MMC specializing the treatment and management of T2DM will be identified. Once they have been identified, they will be invited to review the development of the T2DM education module. After they review the module, they will be asked to complete a survey evaluating the educational program.

## Proposed Project Design/Methods

This proposal proposes conducting a validation of the development of T2DM education module. A person participating in the T2DM validation will be asked to complete a survey (Appendix B). The survey will consist of ten questions that the person will answer based on the content, appearance and use of maneuvering through the education module. The participant will rate their responses on a Likert scale (1-5, 1-*strongly disagree*, 2-*disagree*, 3-*neutral*, 4-*agree,* or 5-*strongly agree*).

The future proposal proposes conducting a research pilot using a quantitative method. A person participating in the DSME pilot study will be asked to complete a pre-education survey (see Appendix B). The survey will consist of 10 questions that the person will

answer based on their knowledge prior to the education sessions. The participant will rate their responses on a Likert scale (1-5, 1-*strongly disagree*, 2-*disagree*, 3-*neutral*, 4-*agree,* or 5-*strongly agree*). The participants will take place in the DSME module. Upon completion, they will take a post education survey (see Appendix C). The post education survey will be the same ten questions from the pre-education survey, answers being rated on a Likert scale. The results on the Likert scales will be compared.

The participants will report their HgbA1C levels prior to the education module. The participants will have their hgbA1C levels retested at 6 months post intervention. The HgbA1C results will be compared.

**Intervention**

The proposal will validate the newly developed T2DM education module that will be implemented at a future time point at MMC. Five nursing personnel specialized in T2DM management will be invited to review the developed T2DM education module and complete a ten-statement survey evaluating the module (Appendix A). The validation group will be placed in a quiet room and given plenty of time to review the T2DM education module. Once the review is complete, they will be asked to complete a ten-statement survey evaluating education module.

The future proposed implementation of a DSME program will be carried out in the MMC on identified T2DM participants. The DSME will be divided into four weekly sessions. Each week, participants will meet in a group setting. On the first week of the module, the patients will be given a copy of the education module (see Appendix D).

Each week, the participants will be given printed materials to take home that reflect the highlights of the short, focused lecture for that week. The weekly sessions are as follows:

Week 1 - Diabetic basics

1. What is diabetes?
2. Prediabetes
3. Risk factors

Week 2 - Living with diabetes

1. Diabetes Care Plan
2. What do I do when I am sick?
3. How does travel affect my diabetes?
4. Coping with diabetes

Week 3 - ABCs of diabetes: Guide to Diabetic Care

1. HgbA1C
2. Blood pressure control
3. Cholesterol: HDL, triglycerides, LDL
4. Eye exam
5. Foot exam
6. Diet

Week 4 - Effective health provider visits

1. What to expect when I go to my PCP?
2. Diabetic links

## Data Collection

The proposed data collection will be obtained from the completed surveys of the five participants validating the developed education program. The future proposed data collection of a pilot study will be obtained via a computer generated report will be run to identify patients who live in Sun City Center, Florida and are patients at MMC that have a diagnosis of diabetes and a HgbA1C > 7.0%. The HgbA1C levels will be obtained through MMC. As a condition of participation, patients will be advised that MMC will absorb the cost for the HgbA1C. After the patient list has been populated, patients who meet the criteria will be asked to complete a questionnaire including sex, age, time since initial T2DM diagnosis, last HgbA1C, and willingness to participate in the proposed project. The questionnaires will be collected until twenty patients who meet the criteria have been obtained. A quota sampling will take place in order to adequately represent the general population.

## Data Analysis

Terry (2012) defined inferential statistics as the ability of the researcher to make conclusions based on the results of research. Inferential statistics is used to estimate the likelihood that the results that are found in the sample population will be generalized to a larger population. A Likert scale will be used to compare the validation survey results (see Appendix A). A future *t*-test will be used to compare the differences between the HgbA1C levels pre- and post-education module of the future research pilot study. This comparison will determine whether or not a difference exists. In order to comply of HIPPA and preserve the rights of the participants involved, no names will be recorded.

The data will be recorded in regard to sex of the participant, age of patient, length of time since the patient was diagnosed with T2DM and their HgbA1C levels.

## Project Evaluation Plan

After the data analysis of the survey validation of the T2DM education module has been completed, the module will be reviewed and revised per results. Once validated, the module will be incorporated into future research compared to standard education. At the completion of the proposed DSME program, a process evaluation will take place. The group of adults utilized for the study will be established patients at MMC who reside in Sun City Center, Florida. The proposed process evaluation will take place at the beginning of the DSME program and 3 months after the completion of the program to determine that the program was targeted at the appropriate population.

At the time of enrollment in this future proposed research pilot project, patients will be encouraged to provide a recent HgbA1C. The HgbA1C result prior to the DSME series will serve as a comparison to the HgbA1C 3 months post education program. After the completion of the program, the MMC staff will contact the patient by phone 1 week after the final session to see if the patient has any questions or concerns. If question or concerns arise during the follow-up phone call, the patient will be prompted to come into the office for further one-on-one discussion. The patients will be asked to return to the clinic on monthly intervals post intervention. HgbA1C will be obtained at 3 months post intervention. As a condition of participation, patients will be advised that MMC will absorb the cost of the HgbA1C.

## Proposed Outcome Evaluation

The 3 month post future pilot study data will be reviewed for completeness and accuracy after it has been obtained. The data will be evaluated for areas of weakness. Based on the data evaluation, decisions will be made of whether or not to move forward with a larger scale evaluation of the DSME program versus standard education practice or to revise the currently proposed pilot.

## Section 3 Summary

Early identification and prevention is key to reducing the severity of diabetes and the complications associated with diabetes. Providing T2DM DSME is congruent with the initiatives of Healthy People 2010. Healthy People 2020 initiatives were identify those at high risk for diabetes, encourage preventative behaviors and decrease the number of newly diagnosed diabetics. (Healthy People, 2011) Validation of a newly developed T2DM DSME is also extremely important to the success of the management prevention of T2DM.

The result of future proposed DSME program research pilot study would be difficult to ascertain. Trends would be able to be measured for improvement in labs, blood sugar and blood pressure readings. Patients would be compliant with the Medicare guidelines, ADA guidelines and the American Heart Association guidelines for treatment of diabetes. They would be educated of the basics for diabetic education, either as new information o r a refresher. The impact for insurance may mean better insurance rates or incentives for patients who demonstrate compliance. The involvement in the diabetic program will yield empowerment for the patients as they gain ownership of their chronic medical conditions. The diabetic program will expand as patients have a positive

experience, they will in turn recommend to their friends and acquaintances about the program and its positive attributes. Preventative measures for all patients can improve the prognosis of T2DM, reduce or delay complications, and may potentially decrease costs that are associated with diabetes. (Evans, 2009).

## Section 4: Discussion and Implication of Findings

### Introduction

The purpose of this proposal is to develop and validate a T2DM DSME educational module geared toward T2DM adults, age 55 and older. Empowering through a DSME program, the T2DM patients will exhibit improved blood sugar control. The literature supports early identification and prevention are key to reducing the severity of T2DM and its complications.

### Evaluation/Findings and Discussion

I developed a DSME module. Five nursing experts reviewed the education module. The participants were given the education module individually. Each participant reviewed the education module in an unused exam room as to minimize interruptions. Each participant had a small table and chair. The participants were given the validation tool (Appendix A) to complete. The validation tool consisted of ten statements related to the education module. The statements were related to the appearance of the education module, verbiage and ease of understanding. The validation tool asked the personnel to rate the statements on a Likert scale (1-5, 1-*strongly disagree*, 2-*disagree*, 3-*neutral*, 4-*agree,* or 5-*strongly agree*). The participants' time for completion of the education module and validation tool ranged from 35 minutes to 55 minutes. The participants'

turned in their modules and validation tools to the researcher when they had completed. The results of the validation tool were reviewed. Comments for areas of improvement were welcomed from the personnel.

The findings of the validation tool gave positive feedback for the education module. Comments from the reviewers leaned towards anticipating further in depth diabetic education expounding on the beginning information presented in the education module. Minor content revisions were recommended from the validation tool.

Healthy People 2020 (n.d.) discussed strong recommendations for prevention of chronic diseases. Increasing the proportion of people diagnosed with T2DM who receives formal diabetic education is one of the Healthy People 2020 goals. Preventative measures extended to all patients can delay a diagnosis of diabetes. Implementing preventative measures can delay complications associated with T2DM. Diabetics who maintain tight control of blood sugars may delay complications of T2DM and may potentially decrease costs that are associated with T2DM. (Evans, 2009) The ADA has developed practice standards for medical clinicians to guide their treatment plan. The implementation of DSME encompasses improved quality of life and self-care behaviors, which lead to improvements in blood glucose control and decreased health care costs.

## Implications for Practice/Social Change

The International Diabetes Center and ADA are regularly developing new guidelines based on outgoing research for the treatment of T2DM. The Standard of Medical Care in Diabetes Mellitus defined T2DM as "chronic illness that requires continuing medical care and ongoing patient self-management education and support to

prevent complications and to reduce the risk of long-term complications." (American Diabetes Association, 2012, S10) The management and treatment of T2DM are based on the 2012 ADA Standards for Medical Care. The major focuses of 2012 T2DM management standards were healthy eating, weight control, and medical nutrition therapy. According to Hass et al., DSME is a critical element of care for all people.

Implementing the DSME module at MMC will help to meet the goals of Healthy People 2020 and follow the Standards of Medical Care in Diabetes Mellitus. Providing DSME to MMC patients will assist the prevention of diabetic complications and helping patients to gain better glucose control.

## Impact for Future Research

The purpose of this proposal is to develop and validate the T2DM education module. A future post-validation pilot study is proposed to compare diabetic control in T2DM senior adult residents of a local senior living community in Sun City Center, Florida before and after implementing a DSME program. Three months after validating the DSME program, it is anticipated that improved HgbA1C levels will result. By empowering T2DM residents through a DSME program, the participants will exhibit improved blood glucose control.

The findings of the postvalidation pilot study will be used as the basis for implementation of a Nurse Practitioner run Diabetic Clinic. The Diabetic Clinic will provide diabetic education and diabetic care for residents of Sun City Center, Florida who are either self-referred or referred by their healthcare provider.

## Project Strengths and Limitations

**Strengths**

The strengths of the proposed project meet specific needs of the lack of formal T2DM education in a local, senior living community. Complications of diabetes and impaired sugar may be decreased as the community's awareness increases. The proposed goal is to develop and validate a Diabetic Education Module designed for T2DM patients. Currently, there is no local T2DM education program for residents living within the senior living communities. What the residents learn about T2DM, they learn from each other or their healthcare providers. Preventative measures for senior patients can delay a diagnosis of T2DM.

**Limitations**

Less than 50% of T2DM patients in the United States receive DSME (AADE, 2011). Geographic barriers create barriers to access. Rural areas tend to be underserved by diabetic educators. The southern states have the largest percentage of adults that have T2DM in the country. "It will be difficult to meet the goals of Healthy People 2020 when some of the most vulnerable patients do not have access to quality diabetic education." (AADE, 2011, 50)

The residents of Sun City Center, Florida are a unique group of people. The residents must be at least 55 years of age. Within the confines of the city, residents utilize the use of the golf carts for transportation. The majority of our patients are confined to the city limits of Sun City Ctr., Florida due to physical limitations (poor vision, osteoarthritis, neurological conditions, etc.). In the immediate area, no formal diabetic education programs or certified diabetic educator (CDE) are available for residents. If the

service is not available by golf cart, the patients essentially have the education that is provided in the doctor's office as their source of diabetic education.

A fair number of the residents are year-round Florida residents. There are a number of people "snow birds" that are in Florida for six months and "up north" for the remainder of the year. There are many concerns with designing and evaluating programs for this group. One concern would stem around residents that are only in the immediate location for a specified number of months. Another concern related to the advanced ages of the residents and the loss of memory that may play a large part in the resident's response to the program. Due to advanced age, there may be a possibility that one or several participants could die while participating in this proposed program (from comorbid conditions).

Lastly, the older group of patients poses a special set of circumstances. Decreased hearing may cause inaccuracy in telephone interviews. Decreased vision and decreased literacy may not allow patients to be able to fill out questionnaires or surveys without help. Patients with dementia do not have the mental capacity to understand what the questionnaires, surveys or phone interviews are about or how to answer them correctly. In addition, patients who are "snow birds" (up at northern residence for six months and FL residence for 6 months) may only participate in a portion of the process that would exempt them from the program.

**Recommendations for the Remediation of Limitations**

The recommendations for remediation of limitations refer to the future proposed implementation of a DSME program. Based on the limitations of the residents of Sun

City Center, Florida, the Marquez Medical Clinic is centrally located in the city. The clinic is readily accessible to residents by golf cart and public transportation.

Several limitations cannot be remediated. Residents that are snow birds, being in Florida for 6 months and up north for the remainder of the year will continue this behavior due to climate temperatures, housing obligations, and health-related conditions that prompt their travel. Secondly, due to the average age of the residents of Sun City Center, Florida, deaths may occur. It is unavoidable.

A special set of circumstances exists for the older group of patients. Decreased hearing may cause inaccuracy in telephone interviews. Those residents with decreased hearing could be offered an appointment with the same nurse or medical assistant to fill out the questionnaires or surveys. The patients with dementia may not have the mental capacity to understand what the questionnaires, surveys or phone interviews are about or how to answer them correctly without help. The remediation may be to exclude those patients with an MMSE (mini-mental status exam) of 21/30 or less.

## Analysis of Self

### Scholar

As a scholar, I have been fully vested in the development of diabetic education for the duration of the DNP program. The DSME module has been an eye-opener to the vast array of resources that are available to patients. Unfortunately, the resources are not routinely accessed. It is my intent to put the project proposal into effect after assuring the validity of the education module.

### Practitioner

As a practitioner, the importance of introducing diabetic education cannot be discounted. In the light of recent changes resulting from the Affordable Care Act, prevention has become a major focus for health care providers. The DSME module will fill the void that exists for the patient in Sun City Center. The module will be a starting point upon which education can be expounded.

**Project Developer**

As a project developer, I will have seen the DSME project from planning, development of the DSME module to validating its validity. The DSME module is a starting point for patient education for the residents in Sun City Center, FL. Validation of the DSME module will identify areas of concern or areas that need improvement. The DSME module will serve as a base for more in-depth modules as the demand for such arises.

**Future Professional Development**

The purpose of this proposal is to develop and validate the T2DM education module. A future post-validation pilot study is proposed to compare diabetic control in T2DM senior adult residents of a local senior living community in Sun City Center, Florida before and after implementing a DSME program. Three months after validating the DSME program, it is anticipated that improved HgbA1C levels will result. By empowering T2DM residents through a DSME program, the participants will exhibit improved blood glucose control.

The findings of the post-validation pilot study will be used as the basis for implementation of a Nurse Practitioner run Diabetic Clinic. The Diabetic Clinic will

provide diabetic education and diabetic care for residents of Sun City Center, Florida who are either self-referred or referred by their healthcare provider.

## Section 4 Summary

Prevention and education can prevent the onset of T2DM and delay complications related to T2DM. Healthy People 2020 state that their recommendations will lessen the economic burden caused by T2DM. (U.S. Department of Health and Human Services, 2013) Introducing a Diabetic Self-Managment Education (DSME) program will provide the key components for patients to be able to manage their diabetes and reduce diabetic complications.

# Section 5: Scholarly Product

As an advanced practice provider, professional development is a key component for maintaining national certification. It is my intent to put the project proposal into effect after assuring the validity of the education module.

The proposal for development and validation of the education module would be appropriate data to present in a poster presentation. The poster presentation format is designed to identify key points of the proposal in a manner that will capture the participants' attention while walking by the exhibit. In sections 1-3, evidence is presented to supports the development and validity of education module for delivery to T2DM patients.

Beyond the proposal, a pilot study will be carried out. The pilot study will prove that the implementation of the education module will lead to improvement in HgbA1C numbers. The results of the pilot study would be published. The author has identified

three peer-reviewed journals (The American Journal of Nursing, Journal of Nursing Research and Journal of Professional Nursing) to submit the written project manuscript for publication.

The author's long-term plans are directed toward the implementation of the DSME program at Marquez Medical Clinic. The DSME program will be extended to other medical offices to refer patients specifically for diabetic education.

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Appendix A: Diabetic Self-Management Education Module – Validation Tool

On a scale of 1-5 (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree), please rate the following questions regarding diabetes.

1. The education module looks appealing.
   1 2 3 4 5

2. The education module is easy to follow.
   1 2 3 4 5

3. The education module is easy to read.
   1 2 3 4 5

4. The color scheme of the education module is appealing.
   1 2 3 4 5

5. The words will be easily understood by a layperson.
   1 2 3 4 5

6. The numbers of slides in the education module is adequate (not too many, not too few).
   1 2 3 4 5

7. The slides present sufficient information.
   1 2 3 4 5

8. The slides do not look “too busy”.
   1 2 3 4 5

9. The font large enough to read.
   1 2 3 4 5

10. I would reference the education module again at a later time other than for the class.
    1 2 3 4 5

Appendix B: Diabetic Self-Management Education Module Survey (Pre-DSME)

On a scale of 1-5 (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree), please rate the following questions regarding diabetes.

1. I understand what diabetes means.
   1 2 3 4 5

2. I am comfortable checking my blood sugar.
   1 2 3 4 5

3. I know my HgbA1C number.
   1 2 3 4 5

4. I know what foods I need to eat to keep my blood sugar under control.
   1 2 3 4 5

5. I know what foods will cause my blood sugar to be high.
   1 2 3 4 5

6. I know what to do if my blood sugar is too low.
   1 2 3 4 5

7. I know the risks of my blood sugar numbers being consistently elevated.
   1 2 3 4 5

8. I am comfortable with what to do about my diabetic medicines when I am sick.
   1 2 3 4 5

9. I check my feet daily for sores, blisters or open areas.
   1 2 3 4 5

10. I understand that the more information I can provide, the better care I can receive.
    1 2 3 4 5

Appendix C: Diabetic Self-Management Education Module Survey (Post-DSME)

On a scale of 1-5 (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree), please rate the following questions regarding diabetes.

1. I understand what diabetes means.
   1 2 3 4 5

2. I am comfortable checking my blood sugar.
   1 2 3 4 5

3. I know my HgbA1C number.
   1 2 3 4 5

4. I know what foods I need to eat to keep my blood sugar under control.
   1 2 3 4 5

5. I know what foods will cause my blood sugar to be high.
   1 2 3 4 5

6. I know what to do if my blood sugar is too low.
   1 2 3 4 5

7. I know the risks of my blood sugar numbers being consistently elevated.
   1 2 3 4 5

8. I am comfortable with what to do about my diabetic medicines when I am sick.
   1 2 3 4 5

9. I check my feet daily for sores, blisters or open areas.
   1 2 3 4 5

10. I understand that the more information I can provide, the better care I can receive.
    1 2 3 4 5

Curriculum Vitae

**MELISSA GARRISON, ARNP**

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## EDUCATION

2001 **Master's Degree in Science of Nursing**
Family Nurse Practitioner Track
Andrews University, Berrien Springs, MI

1997 **Bachelor's Degree in Science of Nursing**
Ferris State University, Big Rapids, MI

1997 **Associates Degree in Business Administration**
Kalamazoo Valley Community College, Kalamazoo, MI

1993 **Associates Degree in Science of Nursing**
Kalamazoo Valley Community College, Kalamazoo, MI

## EMPLOYMENT

4/2010-current **Consultant**
**Legal Nurse Consultant**
*Garrison HCS,* Riverview, FL

Duties: On call services for physician as needed to cover local rehab facilities, skilled nursing facilities and assisted living facilities. Provide education for nursing staff and patients. Legal nurse consulting services as needed.

12/08-current **Nurse Practitioner**
*Marquez Medical Clinic, Sun City Center, FL*

Duties: 1) Evaluate, develop plan of care and treat patients with medical conditions and disease states; 2) Provide education for patients, routine and well-patient physicals; 3) Medicare physicals; 4) Order and interpret diagnostic tests; 5) Refer, consult, and collaborate with physicians as indicated; 6) Wound repair: suturing, staples; 7) Lesion biopsy, lesion removal; 8) x-ray interpretation; 9) Work comp evaluation and treatment, case management; 10) Referrals for specialist care as indicated; 11) Dementia

screening; 12) Hospital rounds to provide direction of inpatient acute care; 13) Skilled nursing home and assisted living facility to assess patients and provide direction that plan of care is being carried out; 14) Evaluation and management of acute ailments

1/06-12/08 **Nurse Practitioner**
*Joseph Bruno, MD-PC, Kalamazoo, MI*
*Gull Road Immediate Care, Kalamazoo, MI*

Duties: 1) Evaluate, develop plan of care and treat patients with medical conditions and disease states; 2) Provide education for patients, routine and well-patient physicals; 3) Medicare physicals; 4) Order and interpret diagnostic tests; 5) Refer, consult, and collaborate with physicians as indicated; 6) Wound repair: suturing, staples; 7) Lesion biopsy, lesion removal; 8) x-ray interpretation, cast application; 9) Work comp evaluation and treatment, case management; 10) Colposcopy, cryotherapy as indicated; 11) Evaluation and treatment for immediate care patients

1/93-12/08 **Nurse Practitioner/Registered Nurse**
**Clinical Educator, Supervision**
*Three Rivers Health, Three Rivers, MI*
*Emergency Department and Urgent Care Center*

Advanced Practice Duties: 1) Evaluate, develop plan of care and treat patients with medical conditions and disease states; 2) Provide education for patients, routine and well-patient physicals; 3) Interpret diagnostic tests; 4) Refer, consult, and collaborate with physicians as indicated; 5) Occupational and business health exams; 6) Coordinate education for LPN's, RN's, Advanced Practice Nurses, provide detailed orientation and ongoing educational opportunities to the staff; 7) Mentor, coach and direct nursing students from local universities; 8) Serve on committees: Professional Practice; Education, Retention and Recruitment; Staff Council
Registered Nurse Duties:

- Emergency Room
  *Primary nurse for patients that present to the emergency department for trauma, cardiac events, respiratory difficulties, and other major or minor injuries/illnesses.*

- ICU/CCU
- Sub-acute Physical Rehabilitation
  *Provided collaborative care for patients with history of cerebral vascular accidents (CVA), spinal and head trauma, debilitating illnesses, joint replacements, etc.*
- Medical/Surgical unit
- Pediatrics
- House Supervision
  *Responsible for decision making for the operations and services provided in the hospital setting*.
- Research Project: Pain Management in the Acute Trauma Patient with Musculoskeletal and Soft Tissue Trauma

5/02-4/04 **Family Nurse Practitioner**
*Howe Medical Center, Howe, IN*

Duties: 1) Evaluate, develop plan of care and treat patients with medical conditions and disease states; 2) Provide education for patients, routine and well-patient physicals; 3) Interpret diagnostic tests; 4) Refer, consult, and collaborate with physicians as indicated

2002-11/2007 **Legal Nurse Consultant**
*Garrison and Associates*, Three Rivers, MI

8/01-5/02 **Sexual Assault Nurse Examiner Program Coordinator**
*YWCA of Kalamazoo, Kalamazoo, MI*

Duties: Solely responsible for the program development, problem solving, funding and grants. I attended basic and advanced training courses to learn how to interview and perform the sexual assault examinations on adolescents and adults. I was also responsible to perform the sexual assault exams as indicated. I attended both the Basic and the Advanced Sexual Assault Nurse Examiner Core Courses.

6/00-10/03 **Registered Nurse**
*Borgess Medical Center, Kalamazoo, MI*
*Emergency Room, Pediatrics*

6/90-8/94 **Registered Nurse**
*Borgess Nursing Home, Kalamazoo, MI*

Experience:

| | |
|---|---|
| Registered Nurse (RN) | 1/94-8/94 |
| Licensed practical Nurse (LPN) | 12/92-1/94 |
| Certified Nursing Assistant (CNA) | 6/90-12/92 |

**CERTIFICATIONS**

Family Nurse Practitioner Certification – ANCC
Forensic Nursing Certification
Certified Legal Nurse Consultant (CLNC)
Certified Emergency Registered Nurse (CEN) - previous
Paralegal Certification
Crime Scene Technician Certification

**PROFESSIONAL ORGANIZATIONS**

American Academy of Nurse Practitioners (AANP) member
National Alliance of Legal Nurse Consultants (NALNC)
Gerontological Nurse Practitioner Association (GAPNA)
Florida Nurses Association (FNA) member
Florida Nurse Practitioner Network (FNPN) member

**PROFESSIONAL PRESENTATIONS**

- Systemic Lupus Erythematosus: The Butterfly Affect, poster presentation at the AANP 26th annual conference 2012 in Orlando, FL.

- Early Detection of Systemic Lupus Erythematosus: Case Study in Pediatrics poster presentation at the AANP 24th annual conference 2009 in Nashville, TN and the AANP 25th annual conference 2011 in Las Vegas, NV.

- Successful completion of the Johnson and Johnson Diabetic Institute, San Jose, CA Feb. 2009

- Early Detection of Systemic Lupus Erythematosus: Case Study in Pediatrics speaker at the AANP 23rd annual conference 2008, Washington D.C.

**ACHIEVEMENTS**

- Nominated for the Michigan Nursing Excellence Award for 2008 through Michigan Center for Nursing

- Michigan Nursing Excellence Award 2005 through Michigan Center for Nursing

- Revised the ENA Position Statement for Care of the Sexual Assault Patient in the Emergency Department 2007

**ACTIVE LICENSES**

| State | License | License Number | Exp. Date |
|---|---|---|---|
| **1. FL** | **ARNP** | **9270004** | **4/30/2015** |
| **2. MI** | **RN** | **4704194300** | **03/31/2015** |
| **3. MI** | **NP** | **4704194300** | **03/31/2015** |