

2018

# Creation of a Diabetic Health Literacy Program for Staff Of a Rural Federally Qualified Healthcare Center

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# Walden University

College of Health Sciences

This is to certify that the doctoral study by

Cathy Jo Jones

has been found to be complete and satisfactory in all respects,  
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Walden University

2018

Abstract

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for Staff of a Rural Federally Qualified Healthcare Center

by

Cathy Jo Jones

MSN, Walden University, 2009

BS Nursing, College of Notre Dame of Maryland, 2006

Project Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Nursing Practice

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August 2018

## Abstract

Adult residents in rural communities have a higher incidence of chronic diseases. This fact coupled with low health literacy and a lack of primary and specialty care services makes the management of diseases such as diabetes difficult. The purpose of this doctoral project was to develop a diabetic health literacy program for staff of a rural federally qualified health care center (FQHC) that is the largest primary care center within a 5-county area in a rural mid-Atlantic region of the United States. Most residents have difficulty understanding diabetic information as it is presented to them, which leads to an increase in nonadherence to treatment plans, decreased health stature, increased comorbidities, and an increase in utilization of emergency room and acute care resources. A prior study of 140 randomized adult diabetic patients was the basis for the need of this project. Designed as a staff development in-service to educate nursing and the care provider team, this program integrated health literacy and therapeutic communication techniques into diabetic care. Using the health literate care model universal precautions approach, the project began as a pilot at one of the FQHC's clinical sites by assessing all patients for health literacy using the Newest Vital Sign screening tool. Staff were instructed on the validity of using health literate therapeutic communications as a bridge to adherence to diabetic treatment regimens. The project has potential to improve the overall health and promote positive social change in the rural community.

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## Dedication

This project is dedicated with extreme gratitude to my family who have steadfastly championed their support during all of my educational efforts. To my husband and best friend John W. Jones who has always believed in me when others and even I myself did not. For my dad and stepmom Glenn and Martha Russell who excitedly shared every new step on this adventure with me. All of my children and grandchildren have always known that I believe that knowledge is power and education is the path to success. But to them, I owe my deep appreciation for allowing me to sometimes be absent while still being a part of their lives to finish this monumental task. To my children, and granddaughters, Casey L. Jones, Sean M. Jones, Jeremy R. Jones, Kellie M. Harring, Lilly A. Jones, you all are loved more than life itself. To my stepson Christopher Morris, and grandsons, CJ Morris, Gunner Morris and Camden Morris I hope to have more time now for us to be together. Thank you my family, my heart and soul.

## Acknowledgments

I would like to express my sincere appreciation to Susan M. Johnson, Jodi Watkowski, and Dr. Katelin Haley who have shared their professional guidance, support, love of, and commitment to rural public health with me. I will be forever grateful to you for assisting me with my endeavors. To Dr. Robert McWhirt, Dr. Oscar (Danny) Lee, Dr. Eric (Stoerm) Anderson and Dr. Janice Long from Walden University, my thankfulness is expressed for supporting my endless questions and concerns during this process. You will always be remembered and valued with extreme adoration.

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## Section 1: Overview of the Staff Development Project

### **Introduction**

The mid-eastern shore of Maryland (ES) includes Caroline, Dorchester, Kent, Talbot, and Queen Anne's counties. The population of the area according to the United States Census (2010) is listed as having 171,461 residents (Maryland Department of Planning, Data Analysis and Projections/State Data Center, 2012). Of these, 104,792 residents live in rural areas that encompass 61.1% of the total five county land acreage (Maryland Department of Planning, Data Analysis and Projections/State Data Center, 2016).

Residents within these rural communities have large disparities, and numerous socio-economic and health-related concerns. Many inhabitants of the area are older than 40, have limited incomes, lower levels of education, limited English proficiency and lack of availability of primary care and specialty healthcare providers (S. Johnson, personal communication, March 3, 2017). Individuals must often travel a great distance to seek care (in some cases 16-60 miles). There are only two hospitals and two free-standing emergency departments that serve the entire 1,800 square mile area (Maryland Healthcare Commission Rural Health Delivery Workgroup, 2017, p. 5).

As a result of many of these limiting factors, the incidence of chronic disease prevalence in the rural ES of Maryland (MD) is at an all-time high. Diabetics on the ES account for 10.7% of the adult population. Adult Marylanders with diabetes account for 7.8% of the total population (Maryland Department of Health Data and Reports, 2017). Since the incidence on the ES is a full two point nine percent higher than the Maryland level, a figure well above the United States National average, further investigation is warranted.

Low health literacy (HL) is a problem for many ES residents. Ratzan and Parker (2005) were quoted by Heinrich (2012) as describing this as the ability of individuals to understand their bodies, basic health information, and the services needed to maintain optimal health (Heinrich, 2012, p. 218). The Institute of Medicine believes low HL to be the causative agent responsible for poor control, treatment and management of chronic diseases such as diabetes (as cited in Eadie, 2014, p. 10). In fact, as many as “1 in 4 Americans” are believed to have low HL (Heinrich, 2012, p. 218).

Doctorate of Nursing Practice (DNP) programs require students to concentrate on a practice focused evidence-based change project that will improve patient outcomes (American Association of Colleges of Nursing Taskforce on the Implementation of the DNP, August 2015, p. 4). An analysis of available data from a Federally Qualified Healthcare Center’s management of diabetic patients and HL interventions. A review of evidence based guidelines assisted in making recommendations and championing a staff development initiative to assist in promoting positive changes to improve patient outcomes.

### **Problem Statement**

Lower HL plagues much of the rural population of the world (Sorensen et al., 2012, p. 2). On the rural ES of MD HL there is an intense problem that affects the diverse residents serviced by a Federally Qualified Healthcare Center (FQHC) (S. Johnson, personal communication, March 3, 2017). Many of the patients have limited English proficiency (LEP), lower educational levels, and low literacy levels. Protheroe et al. (2016) and Shealy and Threat (2016) listed low HL as having a direct correlation with poor chronic disease management.

Diabetes numbers on the ES of Maryland exist in high levels and continue to worsen (Maryland Department of Health Data and Reports, 2017). Much available research found that

providing patient education and information in ways that are both meaningful and readily understood, is essential to management of personal and chronic disease wellness (Leung, Trevena, & Waters, 2016, p. 192). To address these issues, the creation of a diabetic HL initiative for the FQHC served to fill the gap between patient knowledge levels about diabetes as it relates to their personal care management with current practices of care providers.

### **Purpose Statement**

The purpose of this project was to complete a diabetic health literacy staff development program for the mid ES MD primary care offices of a FQHC. An analysis of current practices of staff and care providers as they interact with adult diabetic patients has indicated the need for a change initiative.

HL efforts are not sufficient to meet the needs of the study population. Low HL has been linked to poor chronic disease outcomes and higher mortality rates (Keller, Wright, & Pace, 2008, p. 1272). Sorenson (2012) reported that the Institute of Medicine believes that nearly 50% of all Americans are unable to adequately practice self-care.

Both the American Diabetes Association (2017) and the National Diabetes Education Program (2014) list the frequent monitoring of hemoglobin A1C levels as an essential step in chronic diabetes management. The latest guidelines from the American Diabetes Association (2017) are that these levels remain below 7%. They further suggest that diabetics should be monitored with four provider visits annually with HgbA1C screenings (American Diabetes Association, 2017).

A review of former study data revealed that there are limited amounts of educational initiatives within patient encounters at the FQHC (Jones, 2017). Many providers and unlicensed

assistive staff (medical assistants) report performing educational interventions with diabetic patients. However, it is unclear what the nature of the instruction includes.

Since HL is a known disparity for these FQHC patients, this is troublesome. To guide this effort, a question was developed. What improvements will be made to patient care if staff can communicate to adult diabetic patients using appropriate HL sensitive methods?

### **Nature of the Doctoral Project**

Evidence used for development of this project included data from a former research initiative at the FQHC. Data were obtained using blind chart reviews from the electronic medical records of the first 813 of the 2,167 adult diabetic patients of the agency. One hundred forty patients were randomly selected from the first 813. Seventy data sets were used from those whose HgbA1C improved, and 70 from those who did not improve with education during a provider visit (see Jones, 2017, p. 5). The inclusion period for this research included a one year span ending on September 30, 2017. The purpose of this effort was to determine if education by staff to patients assisted in improvement in outcomes. The results were statistically insignificant.

I also performed a PICO method literature review to determine best practices and available research regarding HL, diabetes management, rural healthcare, and patient education practices. The PICO data are listed as the following:

*P: Patient or population – Rural FQHC patients.*

*I: Anticipated intervention - Evaluation of health literacy & education of adult diabetic patients.*

*C: Comparison group or current standard – increase in/absence of health literacy.*

*O: Outcome desired – Maintains HgbA1C within normal ranges.*

Tonks et al. (2012) discussed diabetes management in rural communities, finding that disparities have not been extensively studied. From the listed previous chart reviews, and data

obtained it is clear that greater educational efforts need to be made to reach the rural FQHC patient.

Many diabetic patients believe that they are controlling their disease well. Ferguson et al. (2015) found that 57-61% of those with up to an eighth grade HL level or lower believe this. When, in fact, their HgbA1C levels are above 8.0% (Ferguson et al., 2015, p. 309). These inaccurate perceptions lead to the understanding that low HL is a contributor to these inaccuracies.

The population of the five county ES study area represents only 2.98% of the total in Maryland, but accounts for 97.44% of the total rural land mass (Maryland Department of Planning, Data Analysis and Projections/State Data Center, 2016). Completion of this HL based initiative can successfully assist staff in identifying and using educational initiatives to present diabetes management methods to patients in HL succinct ways.

### **Significance**

Completion of this DNP project impacts many different stakeholders. Those who were affected include members of the care provider team at the FQHC, rural five county project area residents, families, acute care hospitals (for hospital admits from nonadherence to treatments), and insurance providers.

In this project I focused on diabetes management efforts only. However, the implications for future use at the FQHC may include all chronic disease process HL education. In fact, the methods may be widely used in all patient encounters to share information about care management.

### **Summary**

HL is an essential component of quality self-care for every person worldwide. Unless an individual can adequately understand information presented to them in ways that are meaningful and non-threatening, information is lost. Outcomes then will be poor, may lead to greater mortality and morbidity, and will drive up healthcare expenditures.

To exist in today's information and cost driven healthcare system it is important for the care provider team reach out to patients. This includes providing information at each patient encounter that aligns with evidence-based best practice guidelines that are intertwined with health literacy initiatives (U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, 2010).

This goal of this project is to assist staff in refining diabetic educational initiatives. Through the project I encouraged and instructed staff to use HL friendly methods that will boost patient understanding of diabetes and self-care management. By providing methods that bring education to patients in ways that are understood assures greater participation, compliance with care methods, and an improvement in overall health.

## Section 2: Background and Context

### **Rural Health, Health Literacy and Diabetes**

Rural communities within the eastern shore of MD are fraught with disparities that mirror their counterparts within the remainder of the state and United States (US). Individuals have a higher incidence of chronic diseases, lack of primary and specialty care providers and often have to travel great distances (16-60 miles) to obtain medical care (Maryland Healthcare Commission Rural Health Delivery Workgroup, 2017).

Rural health itself does not have one explicit descriptor. Hart, Larson and Lishner (2005) described that roughly 20% of the populous of the US resides in rural areas. This is further listed as encompassing three fourths of rural areas that make up 75% of the land mass (Hart, et al, 2005).

These factors coupled with lower incomes, low English proficiency, and low educational stature leave residents fraught with low HL. It is difficult for individuals with chronic illnesses to manage their care when these conditions are not present. Adding in the mitigating factor of living with diabetes and not being able to fully understand their body or the disease process is potentially deadly.

To give validity to the care of the rural adult diabetic, this DNP project was developed to assess the research question: *Does creation of a staff development program aimed at improving health literacy communication for the diabetic patient improve patient care?*

Section 2 of this DNP project contains the following topics: concepts, models, and theories; definition of terms, relevance to nursing practice; local background and context; role of the DNP student; and an organized summary.

### **Concepts, Models, and Theories**

Howard Koh, the Assistant Secretary for Health at the United States Department of Health and Human Services (2010) oversaw the creation of a national action plan to tackle low HL. He believed that 9 out of 10 individuals in the US do not understand the care provided to maintain their health. He illustrated that it is the responsibility of all health care providers to provide information that is succinct, meaningful, and easily understood by patients (United States Department of Health and Human Services Office of Disease Prevention and Health Promotion, 2010).

To illustrate the importance HL has on chronic care, I chose the health literate care model (HLCM) to drive this DNP project. This model is based off of the chronic care model which used a “systematic approach” to form community partnerships to tackle chronic diseases (Stellefson, Dipnarine, & Stopka, 2013, p. 1).

Expanding upon the chronic care model, HLCM used a universal precautions approach that infuses HL principles with every step of patient care (Koh, Brach, Harris, & Parchman, 2013, p. 359). This method is unique in that it begs the care provider team to assume low HL for every patient. By doing so, they can provide chronic care educational initiatives to patients that are easily understood (Koh et al., 2013, p. 357).

### **Definitions and Terms**

The following terms utilized for this DNP project may possibly hold different meanings in other contexts:

*Diabetes:* Condition in which the human body does not “properly process food for energy.” The pancreas either does not make enough insulin or lacks the ability to utilize it as well as needed to break down food (Centers for Disease Control and Prevention, n.d.).

*Federally Qualified Healthcare Center (FQHC):* Community based primary care centers in underserved areas that are funded partially by the Health Resources Services Administration (Health Resources and Services Administration, 2018).

*Health literacy:* The overall degree that patients have the capacity to make informed health care decisions based on their ability to obtain, assimilate and understand “basic health information and services” (Koh, 2010, p. iii).

*Hemoglobin A1C (HgbA1C):* A test for the average blood sugar levels over the last 2-3 months. Used to diagnose Type 1 and Type 2 diabetes (Mayo Clinic, 2016, para. 1-2). The current recommendations from the American Diabetes Association are for maintenance of HgbA1C levels below 7% (American Diabetes Association, 2017).

*Rural area:* The term rural area has many different connotations. For purposes of this project, the U.S. Census Bureau descriptor was used. This lists rurality as all of a territory and housing not within an urban area (Health Resources and Services Administration, 2017).

*Rural health:* Primary care and disease management services provided to patients of all ages and cultural backgrounds who reside in a designated rural area.

### **Relevance to Nursing Practice**

It has been shown through many research initiatives that low HL can greatly affect chronic disease management. Ferguson et al, (2015) have directly linked HL to poor diabetes control. The authors have shown that 61% of the studied populous scored at a sixth grade literacy level and believed they were managing their care well (Ferguson et al., 2015). An additional 57% scoring at the seventh to eighth grade level believed they were within acceptable limits. All results showed that low HL contributes to misperceptions about diabetes self-management (Ferguson et al., 2015).

Sand-Jecklin, Daniels and Lucke-Wold (2016) studied HL screening methods. The authors found that patients who had demonstrated low HL had significantly higher emergency department visits and hospital readmissions (Sand-Jecklin, et al, 2016).

It is the responsibility of care providers to assume the responsibility for disseminating information to patients in means that are understood and able to be processed. How can we assure that this is being considered if we are not recognizing low HL limitations (Sand-Jecklin et al., 2016)?

Adding to the disparities that are of concern to the care team are members of the rural study area that have limited English proficiency (LEP). While there are many different language and dialects represented, a large percentage of LEP migrant workers and residents speak only Spanish. Mas, et al (2015) studied an intervention that collaborated between LEP educators and the community. They recommended that to succinctly address low HL needs of the LEP Spanish speaking populous a team approach is needed (Mas et al., 2015).

This doctoral project was designed to address the effect that low HL has on chronic disease management, more specifically diabetes care. Less than effective communication from care team members to the subject patient populous can have disastrous and far-reaching effects.

It is a function of professional nursing staff to care for the patient in an entirely holistic manner. Employing effective communication skills with patients is always an integral part of the nursing process. Assessing the patient fully by considering their HL status will allow the concise education of the adult diabetic patient in ways that are meaningful to them. The care will then be more readily self-important, self-managed, and more cost effective.

### **Local Background and Context**

This FQHC has assumed the role of the lead primary care provider for residents of the five county rural mid ES region. In many cases, this care team may be the only providers the patient interacts with other than within the emergency room setting.

It is difficult to refer someone with limited resources to a specialty care provider that they a) can't afford due to lack of insurance or b) can't gain access to because there are none available within a 100 mile radius (S.M. Johnson, personal interview, September 3, 2017). This is further complicated by a lack of transportation other than that of personal vehicles and limited public transportation (Maryland Healthcare Commission Rural Health Delivery Workgroup, 2017).

When you then add onto the patients' problem list low HL and poor management of diabetes, the effects are concerning. These range from financial to that of resource mis-allocation to pay for ambulance transportation, emergency room visits, and an increase in inpatient hospital utilization.

There were several key terms utilized within this paper. Included were Diabetes, Federally Qualified Healthcare Center (FQHC), Health Literacy, Hemoglobin A1C (HgbA1C), Rural Area, and Rural Health. All of these were defined under definitions and terms.

### **Role of the DNP Student**

As a nurse educator and resident of the five county rural study population area, I am greatly interested in educational initiatives that will bring about positive social change in my community. It has been a personal goal to someday work within the public health realm to give back to my neighbors.

From an observational standpoint, I have long been interested in how low health literacy causes a spiral down of the nursing care process. When this is coupled with rurality there are many challenges.

Assisting the FQHC to begin this HL initiative has allowed them the potential to expand this into other chronic disease processes. Self-education and disease management is an essential link in the healthcare continuum. It is one that I most enthusiastically have grasped.

During this journey, I have realigned some core values and my outlook for the future. Through this project I was made aware of needs greater than that of education.

While trying to remain unbiased, it is quite possible that I avoided literature that was presented on HL issues that were not solely rural related. I even chose to avoid much that has been presented from outside of the US. Performing a self-awareness of these factors has allowed me to consider the foreign country viewpoints. Most did not apply to that being studied, but some were worthy of consideration.

### **Summary**

Subtopics for this DNP section included rural health, health literacy and diabetes; concepts, models and theories; definitions and terms; relevance to nursing practice; local background and context; as well as role of the DNP student. The project was based on the Health Literate Care Model which attempts to use a Universal Precautions approach to health literacy.

Motivation for this project comes with the realization that rural health residents have care disparities that are not being addressed. Creation of this program has allowed the door to be opened to consideration of health literacy and diabetes self-management. Starting the conversation and infusing HL initiatives will surely increase performance outcomes for the rural adult diabetic patient.

## Section 3: Collection and Analysis of Evidence

### **Research Methodology**

I used a mixed methodology for this doctoral project. The focus of the DNP project itself was not to generate new research but to take that which exists and develop it into a useable clinical based change agent. The onus of this project was on the creation of a staff development initiative that sought to improve care provider team communication by improving HL education for the diabetic patient (Walden University, 2017).

### **Introduction**

Residents of the 5 county area of the ES of MD are fraught with socioeconomic and healthcare disparities. Including poor access to primary and specialty care, low HL, and a higher incidence of chronic diseases including diabetes (MD Department of Planning, 2016). Since low HL has been linked to an increase in healthcare expenditure and poor benchmarked outcomes, this initiative serves a very specific need (LeBlanc et al., 2015).

It was the goal of Diabetic Health Literacy 101 to utilize the United States Health Resources Services Administration Health Literate Care Model as a guide. This program infuses HL interventions within every patient encounter in a universal precautions format (Koh et al., 2013). In doing so, every patient is treated as if they have low HL and given information in ways that are meaningful and understood from an individual standpoint. Every interaction along the health care continuum provides information that can be assimilated into a strong personal care foundation.

By teaching staff to address HL concerns, the diabetic information that was disseminated can reach the intended audience (adult diabetic patient of the FQHC) with greater clarity and understanding. Now that this educational initiative is complete, the new methodology and tools

provided can be reinvented by this FQHC to address other chronic care conditions and general healthcare information.

### **Practice-Focused Question(s)**

To address poor HL within the underserved rural mid-eastern shore of MD, this DNP project presented new communication measures to staff of the FQHC. These are intended to be used in every care team member interaction with adult diabetic patients. Staff was educated on methods of boosting understanding of the disease process in this important client base.

The main question addressed was as follows: Will patient care levels of the adult diabetic FQHC patient change after staff has attended the Diabetic Health Literacy 101 in-service?

### **Sources of Evidence**

Before initiating the final program design, Walden University's Institutional Review Board approval was granted (02-28-18-0060498). This approval was for a staff development educational program.

I conducted available literature searches of the thousands of pieces of research and writings on the key terms for this project using CINAHL and Medline databases. Key items of interest and importance were compiled using Walden Library's literature review template.

Incorporated in this project are the newest research and findings of the American Diabetes Association (2017). This research lists the recommendation that HgbA1C levels should be maintained lower than 7% (American Diabetes Association, 2017). There is also the recommendation that diagnosed diabetics should have quarterly re-evaluations by their health care provider with HgbA1C screenings (American Diabetes Association, 2017).

To ascertain if this project was in fact warranted, use of a prior small-scale research study at the FQHC was employed. This was performed via chart reviews of adult diabetic patients who

had an office visit within the last calendar year (ending September 30, 2017). A list of inclusionary patients was given to the researcher by the Director of Population Health (Jones, 2017, p. 3). Data were collected from the electronic medical records (EMR) of the first 813 adult diabetic patients.

From this sample, I performed individual chart reviews, listing if there was or was not education performed at the prior office visit. Those who had an educational effort made by a care team member were recorded. The final inclusionary factor was then separated. Further listed were those who had improvement from the prior HgbA1C level, and those who did not have an improvement. I used Research Randomizer from each sub-grouping to pick 70 patients who had improved, and 70 patients who had not (Jones, 2017).

A final evaluation of each of the 140 patient charts was utilized to come up with data that formed the basis for the needs of this study. Results of this small-scale randomized research study are listed in figures one and two, and form the basis for the overall need for creation of this initiative.

<7	≥7	Low #	High #	Av HgbA1C	Type of Provider				Type of Education						
					MD/DO	PA	NP	RN LPN	No Ed	Diabetes	Diabetic Diet	Wgt. Loss	Meds	Exercise	Blood Sugar
36		5.2	6.9	6.2											
	34	7.0	12.5	8.2											
					<u>21</u>	<u>10</u>	<u>27</u>	<u>1</u>	<u>11</u>	<u>3</u>	<u>44</u>	<u>17</u>	<u>43</u>	<u>27</u>	<u>3</u>
<u>Average HgbA1C improved by = 1.1</u> <u>Overall average HgbA1C level on those in study who improved = 7.3</u>															

Figure 1. Patients with improved HgbA1C levels – N=70

<7	≥7	Low #	High #	Av HgbA1C	Type of Provider				Type of Education						
					MD/DO	PA	NP	RN LPN	No Ed	Diabetes	Diabetic Diet	Wgt. Loss	Meds	Exercise	Blood Sugar
28		5.5	6.9	6.4											
	42	7.0	13.6	8.7											
					<u>25</u>	<u>12</u>	<u>25</u>	<u>0</u>	<u>8</u>	<u>18</u>	<u>50</u>	<u>19</u>	<u>38</u>	<u>41</u>	<u>13</u>
<u>Average HgbA1C worsened by = 0.6</u> <u>Overall average HgbA1C level on those in study who did not improve = 7.7</u>															

Figure 2. Patients without improved HgbA1C levels - N=70

### Analysis and Synthesis

Once it was established that an educational intervention should occur, my full intention was to create a program that would be needed, sustainable, and would serve the goals of the agency well. A needs assessment was performed to illicit what issues were, at large, as well as the motivation of key personnel in the agency (see Hodges & Videto, 2011). I attended management and care team meetings. Operational plans of the agency were viewed, as well as the policies and procedures manual. I also visited the site and viewed the patient workflow.

The medical director, nursing staff and my preceptor all expressed concerns that the patient population was at risk. Challenges that were expressed were the inability of the adult populous to understand and be fully participative in their diabetic care (S. M. Johnson, personal communication, February 26, 2018). This coupled with low health literacy left the patients in need.

I decided to address this issue by creating an in-service for staff on how to best assess and communicate with patients using HL centered therapeutic communication techniques. The creation of the Diabetic Health Literacy 101 (DHL) staff development program was created to encourage HL infusion into every patient interaction. DHL was modeled after the HLCCM by the United States Department of Health and Human Services (Koh et al., 2013, p. 27).

The intervention needed to be concise, and not time prohibitive. Staff were already spread thin, and the agency was not able to provide time away from normal duties to attend the in-service. To pilot this initiative, I decided that the program would only be presented at one of the six clinical offices. The chosen office had a long-standing, but small in numbers staff. There were a total of 14 people who worked at the clinical site (S. M. Johnson, personal communication, February 26, 2018).

To determine how to meet the needs of the in-service and staff, I asked questions to the director of clinical operations and senior site director about scheduling and staffing at the site. Frank discussions with these individuals determined that the best, and least busy days were on Tuesdays and Wednesdays.

We planned for four separate sessions that were operated as a “lunch-n-learn” format over one half hour each on two successive days. Staff was sent an invitation to participate, to bring their lunch and to share in one of the sessions (see Appendix A).

The onus of this initiative was not to reinvent the entire patient interaction continuum. As an FQHC, this agency is well versed in quality matters, benchmarked data and patient satisfaction scores. It was, however, necessary to look at what the clinical sites were currently doing to determine which efforts could be improved upon. Examining other programs initiated by different primary care centers and suggestions contained within the HLCM toolkit afforded this opportunity (Bregga et al., 2015, p. 12).

Since time was a prohibitive factor, the educational intervention needed to be designed to discuss concisely important items and to provide resources amenable to the goals. The DHL in-service was to touch on several core issues. First was defining what health literacy encompasses and how to screen new patients for it using the Newest Vital Sign Tool (NVS) (Pfizer, Inc., 2011,

p. 2). Second was to discuss and share health literate conscious therapeutic communication techniques, including the read-back technique (Koh et al., 2013, p. 362). And lastly, staff was informed of what patients need to know about diabetic care (American Diabetes Association, 2017, p. S50).

Each session needed to adhere to a strict thirty minutes in length (to coincide with the lunch times of staff). Important items were highlighted during the presentation and an informational DHL packet was given to each attendee comprising of key resources. Each packet contained the following items:

- Tri-fold brochure that was designed to share key points with the care provider team (Appendix B).
- Laminated copies of the NVS tool (both English and Spanish versions), instructions for use, and a copy of the scoring sheet (Pfizer, Inc., 2011).
- Copies of forms to be included in the newly created New Diabetic English and Spanish versions packet. These included; Diabetes Self-Management Goals (Appendix C) Diabetic Blood Sugar Tracker (Appendix D), Diabetes: Weekly Blood Sugar and Diet Log (Appendix E), signs and symptoms of hypo/hyperglycemia (Wisconsin Department of Health, 2012), My Plate diet recommendations (United States Department of Agriculture, 2016), Diabetic Resources English and Spanish (Appendix F), and be active adults handouts (United States Department of Agriculture, 2013).

Food is a great motivator to encourage attendance at educational sessions. During each session dessert items were provided (one healthy and one standard choice). I also had giveaways in the form of syringe pens and standard pens that were imprinted with “health literacy matters” on them. All items encouraged participation and attendance at the sessions.

## Resources and Budget

The clinical agency relies on grants, Medicare /Medicaid and private insurance to fund their day-to-day operations. With this being said, the budget has very little room for overages. This meant that any and all funding of products to be utilized (from ink jet cartridges, paper, laminator supplies, folders, desserts, and giveaways) were my explicit responsibility. The agency has committed to continue to utilize the products created, and will make every effort to continue use of the DHL program documents. Total amounts spent for this project equaled \$310.14 (list follows):

- Copy paper = \$11.65
- Ink jet cartridges = \$112.34
- Laminator sheets = \$10.49
- Giveaway pens = \$85.00
- Staff presentation folders = \$11.88
- New diabetic patient folders = \$26.84
- Labels = \$5.94
- Dessert x 2 days = \$46.00

It also is pertinent to discuss the fact that the human cost for this project was not directly quantifiable. Namely, many individuals, including my preceptor needed to devote their time to endless questions and time away from their normal daily duties. The staff, alone, will be responsible for carry through of the objectives by spending additional time screening (3-6 minutes) and communicating with patients.

Prior to the presentation of the program, all content was shared with the Vice President of Quality and Population Health at the agency (my preceptor). Minor suggestions for

improvements to some forms were absorbed and enacted upon prior to creation of the final product.

The medical director of the agency was also consulted to share what the intentions were for the DHL educational program. She expressed her concerns with both myself and preceptor about the use of screening tools for this endeavor and within the agency after completion of the DNP project. Evidence-based reasoning was shared on the tried validity of the NVS tool and resources that were utilized. Approval was garnered and the program was approved to proceed.

### **Summary**

Areas covered within this section of the DNP project included introduction, practice focused question(s), sources of evidence, resources and budget, and summary. As illustrated through the writings and literature, there are gaps in current nursing practice at this agency. Low HL is a huge problem in the world that has been linked to poor outcomes in the adult diabetic patient. This was evidenced by the numbers of individuals who are in poor control of their diabetes in this FQHC on the ES of MD.

## Section 4: Findings and Recommendations

### **Introduction**

I hypothesized that assisting staff to provide more succinct and HL friendly diabetic management information to patients would greatly impact this rural community. The practice focused question strived to illustrate that staff are invested in this effort, and that it truly would make a difference in care of the adult diabetic study populous.

### **Findings and Implications**

Prior to designing the DHL program itself, all staff at the chosen FQHC clinical site were sent an invitation to participate in a pre-session anonymous health literacy survey modeled after the Agency of Health Research Quality health literacy assessment (Jones, 2018) (see Appendix G).

The purpose of the pre-survey was to obtain staff perceptions about where the clinical site currently stands with respect to HL and diabetes interventions. I hoped that I could determine more of their perceived needs. Doing so, would make designing the program itself more meaningful for the nursing staff, care provider team and patients they serve.

After analyzing these results, I found that the 50 question survey had an 85.7% response rate. Only a total of nine of the respondents actually completed all of the questions on the survey (75%). Of those who responded from the care team, most at the study location felt that they already understood what health literacy was, about diabetes care, and were comfortable with what care was being provided to their patients (see Figure 6).

FQHC AHRQ MODELED DIABETIC HEALTH LITERACY PRE- EDUCATION SESSION SURVEY RESULTS

QUESTION #	RESPONSE 1 Our practice is doing this well	RESPONSE 2 Our practice is doing this, but could do it better	RESPONSE 3 Our practice is not doing this	RESPONSE 4 I don't know the answer to this question OR this is not applicable	TOTAL
1	3	6	1	3	12
2	3	3	3	3	12
3	2	8	0	2	12
4	4	5	1	2	12
5	7	4	0	0	11
6	5	6	0	0	11
7	2	7	0	2	11
8	2	4	4	1	11
9	2	5	1	3	11
10	6	4	0	1	11
11	2	7	0	2	11
12	7	4	0	0	11
13	3	5	2	0	10
14	2	4	3	1	10
15	5	5	0	0	10
16	8	2	0	0	10
17	5	4	1	0	10
18	10	0	0	0	10
19	2	3	3	2	10
20	1	4	5	0	10
21	1	3	6	0	10
22	2	5	2	1	10
23	3	6	1	0	10
24	1	9	0	0	10
25	4	5	1	0	10
26	7	3	0	0	10
27	6	4	0	0	10
28	8	2	0	0	10
29	4	5	1	0	10
30	5	5	0	0	10
31	6	4	0	0	10
32	6	3	1	0	10
33	3	6	0	1	10
34	5	5	0	0	10
35	2	5	2	1	10
36	7	3	0	0	10
37	2	7	0	0	9
38	5	4	0	0	9
39	5	4	0	0	9
40	2	7	0	0	9
41	8	1	0	0	9
42	1	2	5	1	9
43	7	1	0	1	9
44	9	0	0	0	9
45	4	5	0	0	9
46	4	3	1	1	9
47	5	3	0	1	9
48	2	4	0	3	9
49	1	6	0	2	9
50	2	6	0	1	9
<b>TOTALS</b>	208/50= 4.16 Mean Median = 4 Mode = 2 Range = 9	215/50=4.3 Mean Median = 4 Mode = 4 Range = 9	44/50=0.88 Mean Median = 0 Mode = 0 Range = 6	34/50=0.68 Mean Median = 0 Mode = 0 Range = 3	502/50=10.04 Mean

(Jones, C., 2018)

Figure 3. FQHC AHRQ modelled pre-education survey results

Two separate post-intervention anonymous surveys were also to be used as an evaluative measure. The first was a five item Likert-type survey created using the online service Survey

Monkey. It was initiated the day staff attended the session (see Figure 7). The rationale for this, was to see how staff viewed the in-service generally. After attending the session 54.5% of the attendees either felt fully knowledgeable about health literacy, or recognized that there was room for improvement. Exactly the same numbers of respondents (54.5%) felt that they either understood fully or had room for improvement the understanding of diabetic care.

**FQHC Post-Diabetic Health Literacy 101 Survey**

QUESTION #	RESPONSE 1	RESPONSE 2	RESPONSE 3	RESPONSE 4
<u>1</u> Prior to attending the diabetic health literacy 101 session, I had a good understanding of diabetes and health literacy.	I was doing this well  <b>2</b>	I was doing this, but could do it better.  <b>3</b>	I was not doing this.  <b>1</b>	I don't know the answer to this question, or this is not applicable.  <b>0</b>
<u>2</u> After attending the Diabetic Health Literacy 101 session, I have a better understanding of patient communication techniques.	I have a good understanding of patient communication techniques.  <b>3</b>	I have an understanding of patient communication techniques, but have room for improvement.  <b>3</b>	I do not have an understanding of patient communication techniques.  <b>0</b>	I don't know the answer to this question or this is not applicable to me.  <b>0</b>
<u>3</u> After attending the Diabetic Health Literacy 101 session, I have a better understanding of adult diabetic patient management.	I understand adult diabetic patient management fully.  <b>1</b>	I understand adult diabetic patient management, but could do this better.  <b>5</b>	I do not understand adult diabetic patient management.  <b>0</b>	I don't know the answer to this question, or this is not applicable to me.  <b>0</b>
<u>4</u> After attending the Diabetic Health Literacy 101 session, I have a better understanding of health literacy for XXXXX Health System patients.	I understand the importance of health literacy for XXXXX Health System patients.  <b>4</b>	I understand health literacy for XXXXX Health System patients, but could improve.  <b>2</b>	I do not understand health literacy for XXXXX Health System patients.  <b>0</b>	I don't know the answer to this question, or this is not applicable to me.  <b>0</b>
<u>5</u> Thank you for your participation in Diabetic Health Literacy 101. Please make any additional comments that you have about diabetic health literacy and methods for improvement on behalf of XXXXX Health Systems patients.	Great Handouts, good eye contact during presentation. ----- Great job, I enjoyed it very much!			
<b>TOTAL # OF ATTENDEES – n= 11</b> <b>TOTAL # OF SURVEY RESPONDENTS – n=6</b> <b>TOTAL RESPONSE RATE = 54.5%</b>				

(Jones, 2018)

Figure 4. FQHC post-diabetic health literacy 101 survey results

The second link to an anonymous online Survey Monkey query, also a 5 question Likert-type scale was sent out approximately one month post intervention. One additional reminder was sent out to complete the survey several days prior to the closing date/time. For this session, similar questions were asked, along with if they had the opportunity to employ any of the HL screenings and techniques during care of their patients. Results of this survey were extremely limited due to the extremely poor response rate (8.3%), with only one attendee answering the survey.

This respondent showed that they had not used the NVS screening tool in practice. Since the survey was anonymous, I could not determine if the respondent was a member of the clinical team, the front desk staff or interpreter staff. It was encouraging to note, however, that they felt well versed in the topics that were presented during the training session (see Figure 8).

XXXXX POST EDUCATION ONE MONTH SURVEY				
QUESTION #	RESPONSE 1	RESPONSE 2	RESPONSE 3	RESPONSE 4
1 After Attending the Diabetic Health Literacy 101 session, I have screened new patients for health literacy using the Newest Vital Sign Tool.	0	0	0	1
2 After attending the Diabetic Health Literacy 101 session, I have communicated with patients in therapeutic ways to address health literacy.	1	0	0	0
3 After attending the Diabetic Health Literacy 101 session, I have utilized more concise and appropriate communication with adult diabetic patients.	1	0	0	0
4 After attending the Diabetic Health Literacy 101 session, I have a better understanding of health literacy for XXXXX System patients.	1	0	0	0
5 Thank you for your participation in Diabetic Health Literacy 101, Please make any additional comments that you have about diabetic health literacy and methods for improvement on behalf of XXXXX System patients.	0	0	0	0
<b>Totals</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>
N=1 ** Statistically Insignificant Results # of employees = 14 # attendees at DHL 101 session = 12 Response Rate = 8.3%				

(Jones, 2018)

Figure 5. Diabetic Health Literacy 101 One Month Post Education Survey.

## Recommendations

Upon completion of this project, the agency is electing to continue to pilot the DHL initiatives as well as the NVS screening tool at the chosen site. The new diabetic packet that was created was given to staff to disseminate and explain to newly diagnosed diabetics at the FQHC. They are in the planning stages of deciding to bring the DHL initiative to the additional five clinical sites.

It would be my recommendation that the agency continue with the project and perform a reevaluation of patient charts at four months, six months and one year post educational intervention. The purpose of this would be to continue with the research in an effort to boost health care, social justice and evidence based practice in the rural ES of MD. As a supporter of this effort, I have volunteered post DNP completion to assist the FQHC with this endeavor.

### **Strengths and Limitations of the Project**

#### **Strengths**

Overall strengths of the DHL project include the ability to engage staff of the study clinical site in a new method of conversation and patient care. By illustrating what HL measures are and their importance, staff is now thinking about how to improve these efforts for their patients. The care team also has a standardized evidence-based process that will address HL initiatives as well as succinct and consistent presentation of diabetes information.

The just now created New Diabetic Packets provide information in HL friendly ways that are evidence based, easily reproduced, and standardized for all of the organization. HL Information that is most successful relies on the ease of use to be beneficial for patients.

Another huge strength is the fact that increasing HL communication methods for all patients across the FQHC continuum will assist not only in diabetic patients, but potentially all patients. This would be true for both adult and pediatric patients. Providing information for

patients that is in a pro-HL considering way, will increase their understanding of the disease process.

Chronic medical conditions are a huge drain on resources (both human and financial). By replicating the educational program to include other chronic disease processes, care can be provided by the FQHC that is HL centered and meaningful. This in turn will emphasize, through research, Walden's goal one to leverage this across communities (Walden University, 2017, p. 9). All chronic diseases can benefit from improvement of the overall health within this rural community.

### **Limitations**

When this project was originally created, I was interested in learning if the DHL program would show a direct influence on improvement of HgbA1C levels in the adult diabetic patient. HgbA1C levels are those that show an average in blood glucose levels for a two to three month period (National Institute of Health: National Institute of Diabetes and Digestive and Kidney Diseases, 2018, para. 2). The staff educational presentation of DHL was completed on May 15, 2018. Final survey evaluations were due by June 16, 2018.

With this in mind, it would have been impossible to complete a full-fledged re-evaluation during the timeline for this program. The program design was inclusive of sharing educational and communication initiatives. It would not be prudent to fully suggest that these alone would directly affect HgbA1C levels.

Even if all patients educated by staff after completion were re-evaluated by the recommended three months span of time, there would be little to no guarantee that HgbA1c levels would be appraised, let alone improved. This was a major limitation for evaluation of the success of this initiative, causing a re-evaluation of the writings.

Other limitations were in the small sample size that was being evaluated. With a maximum of only 14 individuals as part of the study population, there was no way to have a statistically significant quantitative review of the findings.

Another concern was that a program that would not allow release time of staff to attend an educational session would place constraints on the overall effectiveness. Namely, it is very difficult to introduce a new topic and to present large amounts of information within a relatively short (30 minutes) time span. This, was hopefully overcome by creation of the DHL trifold brochure and the employee handouts packet.

One last limitation is contained within the actual provision of potential information to the patient population in general. This rural community has patients who have many different cultural and LEP concerns. The agency has an on-staff interpreter. But, it would be impossible to provide handouts and information in every possible language and dialect. Perhaps creation of some additional packets in a few of the more prevalent language/dialects would be of assistance.

### **Next Steps**

This staff development in-service has only begun the HL infusion at this FQHC. This initiative was seen as an opening to a broader intervention and study for the rural ES populous. Continuation of this effort by the agency and expansion to the other multiple clinical sites would aid in HL and diabetic communication friendly efforts.

It is my full intention to continue to champion this cause on a volunteer basis. Once spread agency wide, a deeper delving and compilation of HgBA1C scores post four months is warranted. There is also a great opportunity for further studies (both qualitative and quantitative) that would garner more data.

Once the initiative has expanded within the FQHC's adult diabetic patient, expansion may also be championed. This initiative that utilized HL friendly staff communication techniques to patients could benefit all chronic disease processes.

### **Summary**

Objectives created for this DHL program were to increase HL therapeutic communication methods among the members of the nursing staff and health care team at this FQHC. Evidence based literature has shown the importance of providing health care information to patients that is both succinct and easily understood (Agency for Healthcare Research and Quality, 2015, p. 2). Residents of the study populous (rural ES of MD), are both diverse and fraught with disparities that are made even worse by lower HL.

By challenging the current modalities with new methods that DHL had as its premise, the education of staff could increase adult diabetic understanding of their disease process. Once the methods are fully integrated at the study site, then agency wide, integration into other chronic disease processes would be possible.

The end result of this method, has the potential to change rural health initiatives and decrease health care expenditures across the realm of this FQHC. Since the rural arena is very good at sharing resources, DHL has the potential to spread from the FQHC to private physician practices, acute care hospitals, and free-standing urgent care centers. Cost savings, decreases in hospital admissions, and an elevation in patient ability to self-manage their chronic health conditions is exciting to envision.

## Section 5: Dissemination Plan

### **Dissemination Plan**

I presented this project to the clinical site study group in May 2018. The products were disseminated in 1 of 4 possible 30 minute lunch-and-learn format sessions. This method was selected to allow for greater participation and minimal disruption to the work flow of this busy FQHC center.

Terhaar and Wilson (2016) illustrated the point that a set of objectives should be drafted for educational interventions to allow for a very clear message about what the learner can expect (White, Dudley-Brown, & Terhaar, 2016, p. 217). The objectives created for this in-service were as follows:

1. Staff will learn how to screen patients for health literacy.
2. Staff will be informed and participate in methods for increasing health literate communication.
3. Staff will review key information to share with adult diabetic patients at the FQHC.
4. Staff will express an understanding of key communication and diabetic tools to be used for adult diabetic patients of the FQHC.

DHL was begun as a pilot HL initiative at one of the smaller sites that has a very stable staff. The implications for further dissemination are being encouraged. It will be my full intention to work with the agency on a volunteer basis to ensure success of this initiative.

Results of these findings will be shared with my preceptor and the medical director of the FQHC. I would like to make myself available to the team to answer questions, being supportive and available to see this program into full implementation across all clinical sites.

### **Analysis of Self**

Beginning the quest for completion of this DNP project had some very surprising and life-changing moments for me. I have long been interested in the public health arena, but spent the majority of my career in acute care and academia in urban MD. I was most fortunate to contact my preceptor and the FQHC over 1.5 years ago.

The FQHC was very welcoming to me and had expressed very explicit needs with respect to HL and educational endeavors at their rural primary care location. Since I was a new member of this same community, I was most eager to delve into rural public health in an outpatient care environment.

What ensued for me was being allowed to sit at the table where public health and policy changes are made. Through my preceptor, I was present at local, state, and federal collaborative meetings and teleconferences. I learned much about the behind the scenes operations, budgets, grants, population health and even how to present oneself in political arenas.

I found things that were in stark contrast to those I had long embraced in an acute care setting. Along with these realizations came the understanding that my rural community is really very different than the urban community I had been accustomed to for most of my career. There are many disparities, and many needs that are not the same as those in urban MD.

Being a nurse is ultimately participating and embracing care for the whole persons we serve. This includes the realization that while we cannot always fix all that is wrong with an individual we can make a significant difference. Rural health, and particularly the care provided to my community by this FQHC team looks at the whole person, and seeks to improve upon their current situation. They champion causes of a very diverse and underserved population, in very budget and resource cognizant ways.

Health literacy is a worldwide problem, made more complicated by chronic diseases such as diabetes. When you add to that rurality and inaccessibility and limitations to care, the problem is so much greater.

This HL effort is one that I have embraced through research and evidence based findings. I have a new-found passion for providing care that is sorely lacking in the rural environment. Helping to improve the HL levels of my community has been a supreme accomplishment for my career, this agency, and the residents who are being served. I am forever grateful for this experience to assist in changing the social construct and overall health of the entire mid ES of Maryland.

### **Summary**

This DNP project was created to address low health literacy levels within adult diabetic patients of a rural FQHC. Lower HL is linked to poor diabetic control, increased health care expenditures, increased hospital emergency room utilization and an increase in comorbidities.

The goal of the FQHC is to use HL improvement methods to reach patients at their most basic levels. Providing HL healthcare resources and communication methods to this rural, underserved populous will assist patients in boosting self-management. Changing how information is presented to patients and supporting them in utilization of these resources has been the goal of this program. The journey to an improved health literate community has begun, and will continue.

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## Appendix A: Lunch-n-learn flyer

# Lunch-n-Learn Diabetic Health Literacy 101

Bring your lunch....  
dessert provided

Tuesday— May 15th 12 & 12:30pm

Wednesday— May 16th 12 & 12:30pm

## Spring

### Lunchtime Education:

1. How to screen patients for health literacy.
2. How to increase communication.
3. Help patients to understand diabetes.
4. Steps YOU can do to improve patient care.



Sponsored by:

Cathy J. Jones, MSN, RN, CNE

Doctorate of Nursing Candidate

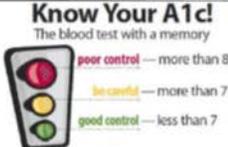
Walden University



## Appendix C: Diabetes self-management plan English and Spanish

**Diabetes Self-Management for (Patient Name):**

Diabetes is a very serious disease which can cause damage to the blood vessels and nerves leading to the brain, eyes, heart, kidneys, toes and feet. **YOU, the patient, are the most important person to manage your diabetes.** Your care team will offer support and guide you as you manage your diabetes. The following goals will help you to gain and maintain diabetic control, reducing damage to your blood vessels and nerves.

Please choose goals you are willing to work on to manage your diabetes		Yes	No
	<p><u>Goal 1:</u> I will work hard to keep my HgbA1C below 7.</p>		
	<p><u>Goal 2:</u> I will exercise (walk) 30 minutes ____ days per week. If I notice chest pain, shortness of breath, or chest tightness, I will seek medical attention.</p>		
	<p><u>Goal 3:</u> I will check my feet daily. If I notice a sore or irritation, I will seek medical attention. I will visit the Podiatrist (foot doctor) yearly, or as instructed.</p>		
	<p><u>Goal 4:</u> I will follow my low fat diabetic diet to reduce my blood sugar and cholesterol.</p>		
	<p><u>Goal 5:</u> I will try to reach my ideal body weight. I will lose ____ pounds before my next office visit.</p>		
	<p><u>Goal 6:</u> I will take a baby aspirin or coated aspirin every day.</p>		
	<p><u>Goal 7:</u> I will stop smoking.</p>		
	<p><u>Goal 8:</u> I will have an eye exam every year (or as indicated by my doctor).</p>		
	<p><u>Goal 9:</u> I will check my blood sugar as instructed, and will call if the results are staying below 70 or above 180.</p>		
	<p><u>Goal 10:</u> I will talk about how diabetes makes me feel to my family, friends, &amp;/or my Minister, Preacher, Priest, Rabbi or Counselor. I will attend a diabetes support group.</p>		

**Reference**

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### Automanejo de la Diabetes

La diabetes es una enfermedad seria que puede causar daño a los vasos sanguíneos y a los nervios conductivos al cerebro, ojos, corazón, riñones, pies y dedos de los pies. **USTED es la persona más importante para manejar su diabetes.** Su equipo de cuidado le ofrecerá soporte y lo guiará durante el cuidado de su diabetes. Las metas indicadas a continuación le ayudarán a obtener y mantener el control de su diabetes, reduciendo el daño a sus vasos sanguíneos y a los nervios.

Por favor escoja las metas en las cuales usted está dispuesto a trabajar para controlar su diabetes		Si	No
<p><b>Know Your A1c!</b> The blood test with a memory</p> <p>poor control — more than 8 fair control — more than 7 good control — less than 7</p>	<p><u>Meta 1:</u> Yo trabajaré duro para mantener mi HgbA1C por debajo de 7.</p>		
	<p><u>Meta 2:</u> Yo haré ejercicios (caminar) 30 minutos ____ días a la semana. Si yo noto dolor en el pecho, falta de aire, o apretazón en el pecho, yo buscaré atención médica.</p>		
	<p><u>Meta 3:</u> Yo me chequearé los pies diariamente. Si yo veo una llaga o irritación, yo buscaré atención médica. Yo visitaré al Podiatra (médico de los pies) anualmente o como me haya sido indicado.</p>		
	<p><u>Meta 4:</u> Yo seguiré una dieta diabética baja en grasa para reducir la azúcar y el colesterol en mi sangre.</p>		
	<p><u>Meta 5:</u> Yo trataré de alcanzar mi peso ideal. Yo bajaré ____ libras antes de mi próxima visita a la oficina.</p>		
	<p><u>Meta 6:</u> Yo tomaré una aspirina de bebé o una aspirina cubierta todos los días.</p>		
	<p><u>Meta 7:</u> Yo dejaré de fumar</p>		
	<p><u>Meta 8:</u> Yo tendré un examen de los ojos todos los años (o como sea indicado por mi doctor).</p>		
	<p><u>Meta 9:</u> Yo me chequearé la azúcar en la sangre tal como me sea indicado y yo llamaré si los resultados se mantienen por debajo de 70 o por arriba de 180.</p>		
	<p><u>Meta 10:</u> Yo hablaré con mi familia, amigos, Pastor, Predicador, Sacerdote, Rabino o Consejero sobre como me siento con la diabetes. Yo atenderé los grupos de soporte para la diabetes.</p>		

Reference

Health, C. C. (n.d.). Diabetes Self Management Goals Spanish. In *New Diabetic Packet* (n.d.). Denton, MD: Author.





### Historial del Azúcar en la Sangre en Diabetes

**Nombre del Paciente:**
**Fecha de Nacimiento:**

Semana Empezando	Domingo		Lunes		Martes		Miércoles		Jueves		Viernes		Sábado	
	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después
Desayuno														
Almuerzo														
Cena														
Hora de Acostarse														
Semana Empezando	Domingo		Lunes		Martes		Miércoles		Jueves		Viernes		Sábado	
	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después
Desayuno														
Almuerzo														
Cena														
Hora de Acostarse														
Semana Empezando	Domingo		Lunes		Martes		Miércoles		Jueves		Viernes		Sábado	
	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después
Desayuno														
Almuerzo														
Cena														
Hora de Acostarse														
Semana Empezando	Domingo		Lunes		Martes		Miércoles		Jueves		Viernes		Sábado	
	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después	Antes	Después
Desayuno														
Almuerzo														
Cena														
Hora de Acostarse														

#### Reference

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Appendix E: Diabetes weekly blood sugar and diet log English and Spanish



**Diabetes: Weekly Blood Sugar and Diet Log**

Patient Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

<u>Week of:</u>	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Blood Sugar before breakfast							
What I ate for Breakfast							
Blood sugar before lunch							
What I ate for lunch							
What I ate for a Snack							
Blood Sugar before dinner							
What I ate for Dinner							
Blood Sugar at Bedtime							
What I ate for a late night Snack							

Reference

Health, C. C. (n.d.). Diabetes: Weekly Blood Sugar and Diet Log. In *Diabetes: Weekly Blood Sugar and Diet Log Spanish* (n.d.). Denton, MD: Author.



**Diabetes: Diario Semanal de la Dieta y la Azúcar en la Sangre**

Nombre del Paciente: \_\_\_\_\_ Fecha de nacimiento: \_\_\_\_\_

<u>Semana de:</u>	Domingo	Lunes	Martes	Miércoles	Jueves	Viernes	Sábado
Azúcar en la sangre antes del desayuno							
Lo que comi en el desayuno							
Azúcar en la sangre antes del almuerzo							
Lo que comi en el almuerzo							
Lo que comi de refrigerio							
Azúcar en la sangre antes de la cena							
Lo que comi en la cena							
Azúcar en la sangre al acostarme							
Lo que comi de refrigerio tarde en la noche							

Reference

Health, C. C. (n.d.). Diabetes: Weekly Blood Sugar and Diet Log. In *Diabetes: Weekly Blood Sugar and Diet Log Spanish* (n.d.). Denton, MD: Author.

## Appendix F: Diabetic resources English and Spanish




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**DIABETIC RESOURCES**


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**Remember..... Routine follow-up is important for your diabetic and general health!!!!**

Administrative Offices 301 Anywhere Street XXXXXXXX MD 12345 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXXXXX Medical & Dental Center 933 South Xxxxx Street – Unit XX XXXXXXXX MD 67891 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXXXXX Dental Center 503 A XXXXX Street XXXXXXXX, MD 23456 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXXXXX Medical Center 503 A XXXXX Street XXXXXXXX, MD 78912 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx
XXXXXXXX Medical Center 609 XXXXXXX Street XXXXX, MD 34567 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXX Pediatrics 522 XXXXXXX Lane Suite 100 XXXXXX, MD 89012 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXXXXX Medical & Dental Center 215 XXXXXXX Circle XXXXXX, MD 34567 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXX Medical & Dental Center 316 XXXXXXX Road XXXXXX, MD 89123 Phone: 410/XXX-XXXX Fax: 410/XXX-XXXX

**LOCAL HEALTH DEPARTMENTS**

Caroline County Health Department 403 South 7 <sup>th</sup> Street Denton, MD 21629 Phone: 410/479-1882	Dorchester County Health Department 3 Cedar Street Cambridge, MD 21613 Phone: 410/228-3223	Kent County Health Department 125 South Lynchburg Street Chestertown, MD 21620 Phone: 410/778-1350
Queen Anne's County Health Department 206 N. Commerce Street Centerville, MD 21617 Phone: 410/758-0720	Talbot County Health Department 215 Bay Street - Suite 1 Easton, MD 21601 Phone: 410/820-6940	



## RECURSOS DIABETES

**Recuerde... ¡Seguimiento de rutina es importante para su salud general y diabética!!!!!!**

**Recuerde... ¡Seguimiento de rutina es importante para su salud general y diabética!!!!!!**

Administrative Offices 301 Anywhere Street XXXXXXXX MD 12345 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXXXXXX Medical & Dental Center 933 South Xxxxx Street – Unit XX XXXXXXXX MD 67891 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXXXXXX Dental Center 503 A XXXXX Street XXXXXXXX, MD 23456 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXXXXXX Medical Center 503 A XXXXX Street XXXXXXXX, MD 78912 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx
XXXXXXXXX Medical Center 609 XXXXXXX Street XXXXXX, MD 34567 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXX Pediatrics 522 XXXXXXXX Lane Suite 100 XXXXXX, MD 89012 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXXXXXX Medical & Dental Center 215 XXXXXXXX Circle XXXXXX, MD 34567 Phone: 410/XXX-xxxx Fax: 410/XXX-xxxx	XXXXX Medical & Dental Center 316 XXXXXXX Road XXXXXX, MD 89123 Phone: 410/XXX-XXXX Fax: 410/XXX-XXXX

### LOS DEPARTAMENTOS DE SALUD LOCALES

Condado de Caroline Departamento de salud Calle 403 sur 7 Denton, MD 21629 Teléfono: 410/479-1882	Condado de Dorchester Departamento de salud 3 Cedar Street Cambridge, MD 21613 Teléfono: 410/228-3223	Condado de Kent Departamento de salud 125 South Lynchburg Street Chestertown, MD 21620 Teléfono: 410/778-1350
Condado de Queen Anne Departamento de salud 206 N. Commerce Street Centerville, MD 21617 Teléfono: 410/758-0720	Condado de Talbot Departamento de salud 215 Bay Street - Suite 1 Easton, MD 21601 Phone: 410/820-6940	

## Appendix G: AHRQ modelled pre-intervention survey

	<b>AHRQ Diabetic Health Literacy Assessment</b>
<b><u>XXXXX Community Health - Pre-Educational Intervention Survey.</u></b>	
<p><b>Thank you for taking the time out of your busy professional life to participate in this Diabetic Health Literacy project. The purpose of this initiative is to provide a staff-development educational in-service aimed at boosting health literacy interventions for adult diabetic patient's of XXXX. Please take a few minutes to honestly answer these pre-educational intervention questions. Your responses will assist me to provide information that will be both helpful and meaningful for XXXX employees and patients. Thank you for your time! - - Cathy J. Jones, MSN, RN,CNE - Walden University Doctorate of Nursing Practice Candidate -- precepted by S.J. XXXXXXXX, RN, MPH</b></p>	
<p><b>Contact Information: Cathy J.Jones, MSN, RN, CNE cjones@XXXXXXhealth.org</b></p>	
<p>This Primary Care Health Literacy Assessment helps practices and clinics examine how they are performing in key areas that influence patient understanding, navigation, and self-management. Use it to identify priorities for improvement and find tools that will help XXXX to make improvements.</p>	
<p>Please select one answer that most accurately describes your practice:</p>	

All questions had the following 4 options:

- Our practice is doing this well
- Our practice is doing this, but could do it better.
- Our practice is not doing this.
- I don't know the answer to this question OR this is not applicable.

1. Our practice regularly re-assesses our health literacy environment and updates our health lite improvement goals.
2. All staff members of the clinical facility have received health literacy education.
3. All levels of practice staff have agreed to support changes to make it easier for patients to navigate, understand, and use health information and services.
4. All staff members understand that limited health literacy is common and can affect all individuals at one time or another.
5. All staff members speak clearly (e.g., use plain, everyday words, and speak at a moderate pace).
6. All staff members listen carefully to patients, without interrupting.
7. All staff members limit themselves to 3-5 key points and repeat those points for reinforcement.
8. All staff members use audio/video materials and/or visual aids to promote better understanding (e.g., food models for portion sizes, models of body parts, instructional health videos).
9. Our practice ensures patients have the equipment and know-how to use recommended audio-visual materials and internet resources.
10. All clinicians talk with patients about any educational materials they receive during the visit and emphasize the important information.
11. All staff members ask patients to state key points in their own words (i.e., use the teach-back method) to assess patients' understanding of information.
12. Clinicians routinely review with patients all the medicines they take, including over-the-counter medicines and supplements, and ask patients to demonstrate how to take them.
13. Our practice routinely provides patients with updated medicine lists that describe in easy-to-understand language what medicines the patient is to take and how to take them.
14. Staff members contact patients between office visits to ensure understanding or to follow up on plans made during the visit.
15. Staff members assess patients' language preferences and record them in the medical record.

16. Our practice always uses appropriate language services (e.g., trained medical interpreters, trained bilingual clinicians, materials in other languages) with patients who do not speak English very well.
17. Our practice is able to respond to phone calls in the main languages spoken by our patients.
18. Staff members offer everyone help (e.g., filling out forms, using patient portal), regardless of appearance.
19. At least one staff member knows how to assess, prepare, and simplify written materials so they are easier to read.
20. Our practice gets patient feedback on written materials.
21. Our practice assesses whether written materials are easy to understand.
22. Our practice's patient education materials are concise, use plain language, and are organized and formatted to make them easy to read and understand.
23. If appropriate, our written materials are available in languages other than English.
24. Our practice's forms are easy to understand and fill out, and collect only necessary information.
25. Lab and test results letters are concise, use plain language, and are organized and formatted to make them easy to read and understand (e.g., avoid the use of "positive" or "negative" results).
26. The name of the practice is clearly displayed on the outside of the building and signs are posted throughout the office to direct patients to appropriate locations (e.g., practice entrance, restrooms, check-in, check-out, lab, etc.).
27. The walls and bulletin boards are not covered with too many printed notices. It is easy for anyone to pick out the important information.
28. Office signs use large, clearly visible lettering and plain, everyday words such as "Walk-in" and "Health Center" rather than formal words such as "Ambulatory Care" or "Primary Care Practice."
29. Office signs are written in English and in the primary languages of the populations being served (e.g., if most of the patients speak English or Spanish, signs are written in English and Spanish).
30. Our practice creates an environment that encourages our patients to ask questions (e.g., asking "What questions do you have?" instead of "Do you have any questions?") and get involved with their care.
31. Clinicians help patients choose health improvement goals and develop action plans to take manageable steps towards goals.
32. Clinicians consider their patients' religion, culture, and ethnic customs when devising treatment options.
33. Our practice follows up with patients to determine if their action plan goals have been met.
34. Clinicians write precise instructions for taking medicine that are easy-to-understand (e.g., "take 1 pill in the morning and 1 pill at bedtime" instead of "take twice daily").
35. Staff members discuss different methods for remembering to take medicines correctly and offer patients assistance setting up a system (e.g., pill box, medicine chart).
36. Our practice requests feedback from patients.
37. Staff members assess patients' ability to pay for medicines.
38. Staff members connect patients with medicine assistance programs, including helping them fill out applications as needed.
39. Staff members assess patients' non-medical barriers and take initiative to address them and provide appropriate referrals or extra support as needed.
40. Staff members ask patients if they have trouble reading or understanding and using numbers.
41. Our practice maintains an up-to-date list of community resources and refers patients as needed.
42. Staff members help patient's access adult literacy and math programs.
43. Our practice shares important referral information, (e.g., reason for referral, pertinent medical history, test results) directly with other health care clinicians.
44. Staff members offer patients help with referrals, such as making an appointment.
45. Staff members confirm patient follow through after a referral is made.
46. The patient care team provides diabetes care information to diagnosed patients at every visit.
47. Diabetic patient HgbA1C levels are screened at each visit according to established protocols.
48. I feel comfortable speaking with patients about diabetes management at every visit.
49. Diabetic patients fully understand all verbal and written diabetes management information provided to them at XXXXX.
50. Patient HgbA1C levels are maintained within acceptable ranges at XXXXX.