Addressing Access to Diabetes Education in a Rural Hispanic Population

Scott Webster, BSN, RN, DNP candidate

University of Utah

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Executive Summary

Diabetes education continues to demonstrate improved outcomes in the increasing population of patients with diabetes. Despite research clearly supporting diabetes education, many adults in Utah do not access diabetes self-management education. Additionally, Hispanic adults have significant barriers to accessing language appropriate and culturally sensitive diabetes self-management. When accessed, appropriate diabetes education helps to improve outcomes of Hispanic adults.

The purpose of this project was to improve access to language appropriate, and culturally sensitive diabetes education in a Hispanic population in rural Utah. The first objective was to assess the barriers in this specific population. Participants from the community completed a brief survey on their perception of barriers to access to diabetes education. After assessing the barriers to accessing diabetes self-management education in a sample of rural Hispanic patients, I developed a model of access appropriate for the population in collaboration with content experts and a diabetes education center. Barriers included location, cost, schedule, transportation, lack of time, etc. Local resources such as employers were valuable assets in overcoming barriers to access.

Santaquin Pharmacy and Diabetes Center has a diabetes education program geographically located in the community for which the model of access has been developed. The program has experience providing language appropriate and culturally sensitive diabetes education to the Hispanic community. I partnered with this program to provide improved access to appropriate diabetes education to this Hispanic rural community.

A model of access was created using an employer model of access. A diabetes education course could be held during lunch in the classroom of a local employer. A certified diabetes educator, fluent in Spanish and with experience in Hispanic culture, would conduct the class. A short satisfaction survey was created for the class to improve the model of access, should Santaquin Pharmacy and Diabetes Center decide to implement the model independent of this project. At the conclusion of the project, results will be disseminated. This project may help diabetes education programs improve access to similar populations.

Through this project, I was able to successfully identify an appropriate diabetes education program to collaborate on the project, have assessed the barriers to access in the target population, and have developed a model of access to diabetes education. With the information and tools provided, a pilot class could easily be planned and carried out by a diabetes education program. An abstract has been written to disseminate findings of this project to the Utah American Association of Diabetes Educators Fall conference.

An employer based diabetes education model of access to diabetes education may improve the health of Hispanic individuals with diabetes in a rural Utah community. It may also contribute to lower cost to community payers, individuals, employers, and to the local healthcare system. Other rural diabetes education programs may also benefit from this project.

My project committee includes:
Project Chair: Nancy Ann Allen PhD, ANP-BC
Program director: Barbara Wilson, PhD, RN, Associate Dean, Academic Programs
Executive Director, MS & DNP Programs: Julie Balk DNP, APRN, FNP-BC, CNE
Content experts:
Lucinda Ross MSN, ANP-BC
Eileen Deleeuw MS, RD, CDE

Table of Contents

Problem Statement

Diabetes education improves clinical outcomes of patients with type 2 diabetes (Metghalchi et al., 2008). However, approximately 40% of adults with diabetes have never received diabetes education (Utah Department of Health, 2014a). This may be for a variety of reasons. Some of the possible factors include education, proximity to health services, general health, employment demands, depression, cost, lack of time, family or child care, fear, and others (Adams et al., 2013; Brown et al., 2015). The Hispanic population faces additional barriers to receiving education, such as language and cultural barriers. When diabetes education is provided with cultural and language sensitivity, clinical outcomes are improved in the Hispanic population (Metghalchi et al., 2008). However, if culturally appropriate diabetes education is not available, or not accessed, the potential benefits are not realized.

In the United States, the prevalence of diabetes mellitus type 2 is increasing disproportionately in the Hispanic population (Bennett & Calles-Escandon, 1991). In Utah, approximately 12% of Hispanic adults have diabetes, while only 7.3% of non-Hispanic adults in Utah have diabetes (Utah Department of Health, 2013a). This project aimed to determine the barriers to accessing diabetes education in members of the Hispanic community in the rural tri-county areas of Utah, Juab, and Sanpete counties.

Clinical Significance & Policy Implications

Like many patients with diabetes, Hispanic patients fail to understand what diabetes is, how to manage it, and what can happen if it continues untreated (Cersosimo & Musi, 2011). If a failure to deliver appropriate diabetes education to the Hispanic community continues, adverse outcomes related to diabetes will persist and worsen (Metghalchi et al., 2008). The providers in

Utah continue to see patients with complications of unmanaged diabetes, sometimes requiring referral to a hospital (Utah Department of Health, 2013b).

Employers are often the source of health insurance to individuals. When many employees do not receive treatment for a chronic illness like diabetes, complications and missed work eventually increases costs to employers and individuals. While some individuals may have the benefit of health insurance, others face medical costs alone. (Cersosimo & Musi, 2011; American Diabetes Association, 2014).

The primary stakeholder in this project is the rural Hispanic population in a rural community in the intermountain west. Non-patient stakeholders include the local diabetes education program and the primary care providers in a rural area of the intermountain west, employers in the same area, and possibly nearby hospital emergency departments. Other indirect stakeholders may be identified in the future, such as contributing community organizations.

Diabetes was the sixth leading cause of death in Utah in 2012, causing 539 deaths (4.5% of all deaths in Utah) (Utah Department of Health, 2014b). However, diabetes remains one of the leading causes of heart disease and stroke in the United States, being a leading cause of both morbidity and mortality (ADA, 2014). Diabetes education has potential to directly and indirectly influence the health of the Hispanic community.

Project Objectives

The purpose of this project is to deliver culturally and language appropriate diabetes education to a rural Hispanic population of Utah, Juab, and Sanpete counties.

Objectives:

1. Identify barriers to accessing diabetes self-management education in a rural Hispanic population.

2. Identify a culturally appropriate and language sensitive diabetes education program that is appropriate for a rural Hispanic population.

3. Implement a model of access to a diabetes self-management education program acceptable to a Hispanic population.

4. Write a Project Chair approved abstract on the developed model of access to diabetes education prepared for submission to the Utah Diabetes Update, or similar conference.

Literature Review

Accredited diabetes education programs are scarce in rural areas of Utah. According to the American Association of Diabetes Educators [AADE] and the American Diabetes Association [ADA], very few programs exist south of Utah County, and even fewer provide education in Spanish (J. Webster, personal communication, September 1, 2014). I performed two separate searches for accredited diabetes education programs and diabetes educators. The first was on the website of the ADA for accredited diabetes education programs in the state of Utah. I performed a second search on the website of the AADE for accredited diabetes educators within the state of Utah, and within 50 miles of Santaquin, Utah. Santaquin Pharmacy and Diabetes Center is located in rural Utah serving a Hispanic population, is accredited by the AADE, and employs an experienced, Spanish-speaking diabetes educator (J. Webster, personal communication, September 1, 2014).

Other literature was obtained through searches on the University of Utah's library databases. Literature searches were performed through the Spencer S. Eccles Library. Search terms included "diabetes education," "Hispanic," "rural," "community," "outcomes," and "prevention." Search results were narrowed by peer reviewed articles in the last twenty years.

Some articles were specifically sought at the suggestion of content experts familiar with important literature in the field of diabetes education.

Background

Diabetes mellitus type 2 is a complex, and chronic illness that is rapidly increasing in prevalence. In the United States in 2012, an estimated 29.1 million people were living with diabetes. Also in 2012, approximately 1.7 million people in the United States were newly diagnosed with diabetes (ADA, 2014).

The financial cost, cost in deaths, and cost in complications is staggering. In 2012, the ADA estimated the total cost of diabetes in those diagnosed to be 245 billion dollars. The direct medical costs of caring for diabetes that year was estimated to be 176 billion dollars. Diabetes contributed to over 234 thousand deaths in 2010, and even this figure may be grossly underreported. Diabetes remains one of the major risk factors for heart attacks, stroke, retinopathy, kidney disease, and amputations (ADA, 2014).

While diabetes is not a condition that can be cured, evidence supports that prevention and management with diet, exercise, and medications have the potential to improve length and quality of life, and reduce the risk of complications. Important clinical disease indicators such as hemoglobin A1c, blood glucose, and body mass index are improved with appropriate intervention, most notably lifestyle modification (diet and exercise) and pharmacologic treatment (Diabetes Prevention Program Research Group, 2009). In order to improve length and quality of life, as well as reduce risk factors, health providers and diabetes educators instruct patients with diabetes and those at risk for diabetes how to manage modifiable risk factors (Standards of medical care in diabetes-2014, 2014). The AADE has identified seven behaviors of self-care that should be targeted for lifestyle change: healthy eating, being active, monitoring, taking

medication, problem solving, reducing risks, and healthy coping (n.d.). Even with evidence to support the benefit of diabetes self-management training, many adults at risk for diabetes and adults with diagnosed diabetes do not receive the training (Utah Department of Health, 2014a).

Diabetes and Ethnic Groups

Some ethnic groups are at a higher risk for diabetes, and diabetes related complications (Metghalchi et al., 2008). Studies investigating differences in incidence of diabetes and diabetes complications generally attribute the differences to genetic characteristics, cultural differences, and socioeconomic conditions. The Hispanic population is at an increased risk for diabetes mellitus type 2 (Cersosimo & Musi, 2011). The Hispanic population also has a higher risk for complications than non-Hispanics, such as cardiovascular and cerebrovascular accidents, retinal damage, peripheral neuropathy, and others (Metghalchi et al., 2008).

Hispanic Barriers to Diabetes Education

In addition to higher risk for diabetes and complications, the Hispanic population faces barriers to receiving appropriate diabetes self-management training. Barriers to accessing diabetes education may be related to various individual components, but are likely a combination. Barriers most commonly include, but are not limited to, access to a culturally sensitive training program, language barriers, and low socioeconomic status (Cersosimo & Musi, 2011). These barriers contribute to situations that compound the inconvenience of accessing care. For example, low socioeconomic status often leads to multiple family members working multiple jobs with long and irregular hours. Lack of time and/or energy due to work schedule and family care responsibilities are among the top barriers. Hispanic women are often felt to have increased time constraints because of cultural gender roles (Brown et al., 2015).

Other cultural barriers contribute to failure to access diabetes education. Putting the needs of family member ahead of one's own needs is expected. Providers might not understand the difficulty of making time and financial sacrifices to benefit one's own health. Changing family routines and customs such as diet or schedule may be seen as selfish or unacceptable. The cost of diabetes education and treatment is a known barrier, but it may be culturally more significant than many providers realize, since it displaces much needed financial resources from other family members (Brown et al., 2015).

A large proportion of Hispanics do not speak English, or have very limited English proficiency (Cersosimo & Musi, 2011). This interferes with communication with the health care providers, and has been shown to have a negative impact on clinical outcomes in this population (Cersosimo & Musi, 2011). Cultural barriers also lead to misconceptions about healthcare, medications, and disease processes. Socioeconomic barriers lead to a decrease in access to care, education, transportation, scheduling flexibility, and contribute to the increased incidence of diabetes and complications (Cersosimo & Musi, 2011).

Strategies for Overcoming Barriers to Diabetes Education

Some strategies to overcome socioeconomic barriers include lowering costs of insurance, helping to increase insurance coverage to minorities. Other models of access include providing transportation to diabetes education classes, creative scheduling to minimize the number of visits, or adjusting education location closer to the target population (Cersosimo & Musi, 2011). Designing a model of access to care allows for creative innovation. A promising innovation that addresses many of the barriers to accessing diabetes education in the Hispanic population is workplace education programs (Brown et al., 2015). By collaborating with employers, diabetes education classes may be taught at places of employment. Classes could be taught using

company space during meal breaks, before or after work, or during other times as allowed. Practically, this model would likely address barriers such as time or scheduling constraints, the classes would only be as long as breaks allow, and there would likely be very few scheduling conflicts. Culturally, this model may have significant advantages in the Hispanic population, such as subverting some of the cultural barriers and even addressing some cost issues simultaneously (Brown et al., 2015). A weakness of this model is that this model only captures the section of the population that has employment. However, accessing one segment of the Hispanic population may be a powerful tool in accessing other segments due to strong cultural emphasis on referrals from friends and family (Brown et al., 2015).

Providers or educators fluent in the target language are invaluable in overcoming language barriers to the target population (Corkery et al., 1997). However, since this is not usually the case, another option in many locations would be by training providers and educators in the appropriate use of *trained* interpreters. Like language barriers, native providers and educators most effectively overcome cultural barriers. The effective alternative is cultural training and experience (Bennett & Calles-Escandon, 1991). If Hispanic patients can access culturally sensitive diabetes self-management programs in a language they understand, i.e., Spanish, evidence shows clinical outcomes are improved (Corkery et al., 1997; Metghalchi et al., 2008).

Theoretical Framework

The Health Belief Model has been used for decades to describe how and why people participate in health-related behaviors. This model was developed using psychological and behavioral theory, and describes basic beliefs that influence decisions and actions (Janz &

Becker, 1984). This model applies to many areas of health behaviors, and was appropriate for my project on health promotion and prevention.

Individual health behavior is based on only a few core beliefs: the value of a goal, and the estimated likelihood of achieving that goal. The goal in health behavior is usually to avoid illness or improve health, and much depends on the individual's estimation of the likelihood that illness will be avoided, or wellness achieved with associated behavior. In developing these beliefs, the individual assesses the perception of susceptibility, severity, benefits, and barriers. Additionally, one must usually experience a stimulus to action, such as experience of symptoms. One must believe that one is at risk for an adverse health condition, judge the severity of the condition to be worth preventing, and believe that the preventive action is attainable and provides sufficient benefit to be worth the cost (Janz & Becker, 1984).

In my project, I sought to decrease the cost (barriers) of a health behavior that was shown to be effective in the target population for preventing illness, and increasing wellness (Cersosimo & Musi, 2011). By decreasing the perceived cost, it should increase the number of individuals who participate in the health behavior.

Through a literature review, I have investigated many proposed and tested methods of overcoming barriers. The barriers I plan to minimize are access to care, cost, lack of time, language, and cultural barriers. By doing this, I hope to increase the behavior in the target population of enrolling in, and completing a diabetes education program.

Implementation and Evaluation

Objective 1

After receiving exempt status from the IRB at the University of Utah, implementation began by identifying potential participants in the survey to identify barriers to accessing diabetes

education in a rural Hispanic population in Utah. As the principle investigator, I adapted a survey produced in Spanish from the Utah Department of Health to assess perceived barriers to accessing diabetes education in this population, along with some demographic questions (Appendix A). Potential participants were identified from a pool of Hispanic patients referred to a community diabetes education center by local providers. These patients were contacted by the certified diabetes educator at Santaquin Pharmacy according to identified patient contact preferences, where available. After 15 completed surveys were obtained, information was analyzed to identify perceived barriers to diabetes education, and any major differences from published literature.

Objective 2

Santaquin Pharmacy and Diabetes Center is a community diabetes education center accredited by the AADE. Diabetes education classes are based on the AADE 7 Self-Care Behaviors (n.d.). All services and materials are available in Spanish, and the certified diabetes educator is fluent in Spanish and has years of experience with Hispanic patients from this rural community. This program is the only diabetes education program in the rural community.

Objective 3

In collaboration with Santquin Pharmacy and Diabetes Education Center, faculty, and content experts, a model of access has been identified and tailored to address barriers identified by the initial survey. Published literature supports models of access to diabetes education in the workplace (Brown et al., 2015); however, this requires significant collaboration with employers. Due to unforeseen time requirements for collaboration and planning with a local employer, implementation of the model of access was not possible within the time constraints of this project. An employer was identified to which Santaquin Pharmacy and Diabetes Center could

propose the model of access for employees and family members of employees to diabetes education classes at the place of employment.

The identified collaborating employer has already implemented an innovative model of access to a primary care provider for employees and their family members. An on-site Doctor of Nursing Practice heads a health team that offers completely free healthcare to employees and immediate family members. They already participate in health promotion programs including classes at work for weight loss, cardiovascular health, ergonomics, financial planning, and others. This specific setting is ideal for implementation of our model of access for several reasons. The employer is supportive of innovative ways to improve employee health. The patient population is approximately 400 employees, with over 60% Hispanic/Latino. Without availability of specific data on prevalence of diabetes in this employee population, the nurse practitioner reports treating Hispanic patients with diabetes or prediabetes nearly every day. Hispanic patients seen at the clinic commonly have a body mass index over 30, among other risk factors (K. Wosnik, personal communication, March 21, 2015). According to the ADA, approximately 17% of Hispanics/Latinos in the US have diabetes (Schneiderman, 2014). Even though employees have access to free medical care at the on-site clinic, between 80% and 90% of employees have health insurance that pays for diabetes education, making the model financially sustainable for the diabetes education center, if they were to implement the model.

Previous attempts at diabetes education classes within this organization have been largely unsuccessful. However, the health professionals in the organization do not speak Spanish, nor are they familiar with Hispanic/Latino culture. Furthermore, the certified dietician that usually teaches the class is not a certified diabetes educator (K. Wosnik, personal communication, March 21, 2015).

While implementing the model of access to the diabetes education class was not feasible for this project, the tools have been provided to Santaquin Pharmacy and Diabetes Center to facilitate implementation in the future. A model of access has been created, an employer has been identified, and a satisfaction survey (Appendix B) has been created to facilitate quality improvement. The satisfaction survey was originally produced in English by the principle investigator and the community diabetes education center and was translated to Spanish by a certified Spanish translator in Research Translation and Interpretation Services at the University of Utah. All surveys were anonymous.

Objective 4

An abstract outlining the surveys and model of access has been written and approved by the Project Chair. The project with associated materials has been disseminated to three community diabetes education centers. The abstract may be submitted to the Utah Diabetes Update, or similar local conference to disseminate findings to other similar community diabetes education programs, providers, and educators. Our findings may assist in improving other diabetes education programs with rural Hispanic patients. A brief overview of project objectives, implementation, and evaluation of objectives can be seen in Table 1.

Table 1

Implementation and Evaluation of Objectives

	Objective	Implementation	Evaluation
1	Identify barriers to accessing diabetes self-management education in a rural Hispanic population.	After submitting my project to the IRB for approval, between 6 and 12 Hispanic patients with diabetes were contacted and asked what they perceive as barriers to receiving diabetes education and what might help overcome those barriers. The survey was in Spanish, and was by distributed in person by the diabetes	Received 15 responses to barriers from Hispanic patients in a rural Utah community.

		education program to which they have been referred.	
2	Identify a culturally appropriate and language sensitive diabetes education program that is acceptable for a rural Hispanic population.	Santaquin Pharmacy and Diabetes Center has a diabetes education program accredited by the AADE and the Utah Department of Health. Classes are based on the AADE 7 Self-Care Behaviors. All services and materials are available in Spanish. The certified diabetes educator is also fluent in Spanish and has years of experience with Hispanic patients from this rural community. This program is the only diabetes education program in the rural community.	A culturally appropriate and language sensitive diabetes education program for a rural Hispanic population was identified by October 15, 2014.
3	Implement a model of access to a diabetes self-management education program acceptable to a Hispanic population.	Analyzed findings from the interviews on barriers implemented in objective 1. The information collected was evaluated, in part, by the diabetes education program to assess feasibility and timing. It was determined that a workplace model of access addressed many of the barriers of the Hispanic community and is feasible for the diabetes education center. Developed an employer model of access to care for diabetes education, developed assessment tools, created an implementation plan.	Report the number of Hispanic patients who attend, and those who complete the diabetes education program. Collect a patient satisfaction survey for future improvement of program. See results section for necessary revisions based on findings of objective 1.
4	Write a Project Chair approved abstract on the developed model of access to diabetes education prepared for submission to the Utah Diabetes Update, or similar conference.	Write a Project Chair approved abstract on developed model of access to diabetes education.	An abstract has been written for presentation to an AADE conference. The project has been shared with three community diabetes education centers.

Results

After receiving exemption from the IRB at the University of Utah, surveys were distributed to potential participants in a rural Hispanic population. Objective number one was

met after receiving 15 completed surveys. Potential participants were identified by a community diabetes education center in rural Utah, and the center was instrumental in meeting this objective.

All participants were Hispanic adults who have been referred for diabetes education by a healthcare provider. Of the 15 completed surveys, 53% (8/15) were male, 47% (7/15) were female. The age range was from 35-79 years. Fifty-three percent (8/15) of participants were from 35-49 years, 33% (5/15) were from 50-64 years, and 13% (2/15) were from 65-79 years. Twenty-seven percent (4/15) had private insurance, and 73% (11/15) had no insurance. Sixty percent (9/15) lived within 10 miles of their diabetes healthcare provider, 20% (3/15) lived between 10-29 miles, seven percent (1/15) lived between 30-49 miles, and 13% (2/15) did not respond to the question. Sixty-seven percent (10/15) of participants had been diagnosed with type 2 diabetes, 13% (2/15) did not know what type they had, seven percent (1/15) had "pre-diabetes," seven percent (1/15) had type 1 diabetes, and seven percent (1/15) had gestational diabetes. The age at diagnosis for those diagnosed ranged from 27 years to 56 years with a mean of 39.3 years (SD=9.24).

Fifty-three percent (8/15) had participated in some diabetes education, 27% (4/15) had not participated in any diabetes education courses, seven percent (1/15) could not recall if they had participated, and 13% (2/15) did not answer the question. Of those who participated in some diabetes education, 50% (4/8) reported having completed a diabetes education program, 38% (3/8) did not complete the diabetes education program, and 13% (1/8) did not respond to the question. Of those who did not report having completed a diabetes education program, there were four reports that lack of time was a barrier, and three reports that cost was a barrier. Three individuals reported that they did not know why they had not completed a diabetes education program. There were two reports that the schedule of the classes were a barrier. One individual

reported that the information of the classes was not relevant; another reported that the distance to the class was a barrier, and one did not know about the classes. One individual who reported not having completed a diabetes education program did not respond to questions about barriers.

Sixty percent (9/15) of participants reported a preference for group classes, seven percent (1/15) preferred individual classes, while 33% (5/15) reported "no preference." Sixty percent (9/15) of participants reported being "very motivated" to control their diabetes, 33% (5/15) were "somewhat motivated," and seven percent (1/15) reported "not motivated."

The results of this survey are useful in the context of this project. The literature presents a helpful picture with insight into the barriers to accessing diabetes education in the Hispanic population (refer to page eight). Additionally, there are innovative solutions with some reported success in overcoming those barriers (refer to page nine). The purpose of the survey was to assess how this specific samples of Hispanics fit into the larger populations addressed by the literature. It is reasonable to conclude from the survey that the barriers to accessing diabetes education faced by this rural Hispanic sample are similar to the barriers reported in the literature.

After analysis of the literature and information in the surveys, and discussion with content experts and collaboration with the community diabetes education center, a model of access was developed. A workplace centered diabetes education course is the most feasible for the diabetes educator, while addressing many of the barriers in this population. A workplace diabetes education class would have the convenience of location for the participants, a cost sharing with the employer, and allows for sustainability in the future.

To disseminate the model of access, an abstract was written and approved by my project chair. The appropriate channels can now be identified for submission of an abstract for presentation at the next conference. Additionally, three community diabetes education centers

have received the project information and tools created to facilitate implementation of the model should they decide it is both feasible and applicable to their patient population.

Unexpected Results

The surveys and a conversation with the diabetes educator distributing the questionnaires revealed an unexpected finding. Although some of the participants reported completing an entire diabetes education course, the diabetes educator who distributed the surveys reported personal knowledge that some of these had not even enrolled in a class, much less completed it. While the survey did not specifically address knowledge of diabetes education, it is likely that some patients do not know that the diabetes curriculum builds on new knowledge each of the weeks, necessitating attendance at each class over a series of weeks to complete diabetes education. Some patients may believe they have completed the diabetes education curriculum when they have not.

Limitations

The results of the surveys completed in this project have some limitations, such as the limited information collected from a small sample size. However, the barriers of lack of time and cost are not only some of the most common barriers from the literature, but also encompass many, more specific barriers, and are therefore addressed by many models of access, such as workplace models (Brown et al., 2015).

Recommendations

Based on the findings from the literature review and the survey results, a pilot class should be planned and implemented by an accredited diabetes education program. Additionally, after the initial pilot class, utilizing our model of access, the program should be evaluated and modified to fit the needs of the community. If the evaluation suggests improvement and

sustainability, the project should be continued and, if possible, expanded to other available workplaces with populations that may benefit. This plan includes a satisfaction survey with the intent to improve upon the modified model of access. Evaluation must be continued and included in future diabetes education classes with rural Hispanic patients. The identified barriers or resources of the community diabetes education center may change over time, and will require continued modification to maintain feasibility for the community diabetes education center and accessibility for the patients. Continuing assessment of patient satisfaction and completion rates will help a program to evolve to meet the needs of the community, and remain sustainable for their business model.

This type of model could be applied in other community settings, and with the cooperation and collaboration of other employers and providers. Many barriers, such as language and cultural barriers, lack of time and cost are likely to be shared by other rural Hispanic communities. An assessment of other barriers would need to be made to identify other barriers, such as location. This project has the potential to be implemented in and benefit other communities.

Doctor of Nursing Practice Essentials

This project was completed in partial fulfillment of the requirements of the Doctor of Nursing Practice degree. To maintain quality and consistency of graduate programs, professional organizations strive to identify essential educational cores that must be addressed in every program. For the Doctor of Nursing Practice degree, the American Association of Colleges of Nursing has identified eight core competencies that must be addressed in accredited doctoral programs (American Association of Colleges of Nursing, 2006). Specific emphasis is given to certain essential competencies, depending on the specialization of the doctoral degree. This

project addresses several core competencies, specifically those pertaining to the Advanced Practice Nursing specialty with emphasis in Primary Care.

This project addressed a need in clinical care that directly affects the well-being of patients with a chronic condition for which there is no definitive cure (Diabetes Prevention Program Research Group, 2009). Conducting a literature review required proficiency in Essential III: Clinical Scholarship and Analytical methods for Evidence-Based Practice (American Association of Colleges of Nursing, 2006). The knowledge in this domain allowed review and analysis of published literature for clinical value in the context of this specific project.

Providing accessible diabetes education to a population with identifiable barriers is a critical part of changing behavior and interaction of patients with the environment to normalize an otherwise life-changing situation. Even without being able to cure a pathological process, treatment and prevention of diabetes requires a holistic approach and thorough knowledge of factors that contribute to disease progression. This facet of the project addresses Essential I: Scientific Underpinnings for Practice, and Essential V: Health Care Policy for Advocacy in Health Care (American Association of Colleges of Nursing, 2006).

Identifying the need in the community and potential solutions to that problem was central to this project. Additionally, it was necessary to understand the systems involved in changing a model of access for a specific population, and identify possible changes in systems to improve quality of patient care. In order to facilitate change, collaborating with different organizations, such as providers, and disciplines is a key component. The most important domains for this project were Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking and Essential VI: Interprofessional Collaboration for Improving Patient and

Population Health Outcomes. Knowledge in these areas was critical to the implementation of this project (American Association of Colleges of Nursing, 2006).

Finally, Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health and Essential VIII: Advanced Nursing Practice was embodied by the purpose of this project (American Association of Colleges of Nursing, 2006). The published literature supporting the implementation of accessible diabetes education in Hispanic populations to improve health and prevent disease is overwhelming (Metghalchi et al., 2008; Diabetes Prevention Program Research Group, 2009).

These Essentials are important contributors in identifying populations that would benefit from this project, and developing therapeutic interventions based on evidence, developing a relationship fostering trust with patients, and developing a model that can be evaluated for sustainable quality improvement.

Conclusion

Diabetes mellitus type 2 is a costly chronic condition that is increasing in prevalence across the nation (ADA, 2014). The increasing prevalence and associated complications are disproportionately affecting Hispanic populations (Bennett & Calles-Escandon, 1991). Some of these complications can be prevented with appropriate care, but the Hispanic population faces significant barriers to accessing that care (Metghalchi et al., 2008). If these barriers are overcome, patients are more likely to access care, and outcomes in the Hispanic population are improved (Corkery et al., 1997; Metghalchi et al., 2008). Improvement in clinical outcomes in this population could have a beneficial effect on the health system in our area, including providers, payers, patients, and even employers (Utah Department of Health, 2013b).

This project assessed the barriers in a rural Hispanic population, and designed a model of access to overcome some of the barriers to accessing diabetes education. While the project was successful, a pilot class should be implemented and must continue to be accessible to the rural Hispanic community to meet the needs of the community. In order to be sustainable, continuing assessment of community needs and barriers must be made by the community diabetes education center. The tools and information provided in this project have designed a sustainable health resource for this community.

References

Adams, K. F., Sperl-Hillen, J. M., Davis, H., Spain, V., Hanson, A. M., Fernandes, O. D.,…Beaton, S. (2013). Factors influencing patient completion of diabetes self-management education. *Diabetes Spectrum, 26*(1), 40-45. Retrieved from http://care.diabetesjournals.org.ezproxy.lib.utah.edu/content/20/3/254.full.pdf+html.

American Association of Colleges of Nursing. (2006). The essentials of doctoral education for advanced nursing practice. Retrieved from http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf

American Association of Diabetes Educators. (n.d.). AADE7: Self-care behaviors. Retrieved from http://www.diabeteseducator.org/ProfessionalResources/AADE7/.

American Diabetes Association. (2014). Statistics about diabetes. Retrieved from http://www.diabetes.org/diabetes-basics/statistics/.

Bennett, P. H., & Calles-Escandon, J. (1991). Diabetes in Hispanic Americans: Introduction. *Diabetes Care*, *14*(7), 616-617. Retrieved from http://care.diabetesjournals.org.ezproxy.lib.utah.edu/content/14/7/616.

Brown, S. A., Garcia, A. A., Steinhardt, M. A., Guevara, H, Moore, C., Brown, A., Winter, M. A. (2015). Culturally tailored diabetes prevention in the workplace: Focus group interviews with Hispanic employees. *The Diabetes Educator.* Advance online publication. doi: 10.1177/0145721714567233.

Cersosimo, E. & Musi, N. (2011). Improving treatment in Hispanic/Latino patients. *The American Journal of Medicine, 124*(10S), S16-S21. Retrieved from http://www.mdconsult.com.ezproxy.lib.utah.edu/das/article/body/443083502-2/jorg=journal&source=&sp=24589810&sid=0/N/921878/s0002934311006267.pdf?issn=0002-9343.

Corkery, E., Palmer, C., Foley, M. E., Schechter, C. B., Frisher, L., & Roman, S. H. (1997). Effect of a bicultural community health worker on completion of diabetes education in a Hispanic population. *Diabetes Care, 20*(3), 254-257. Retrieved from http://care.diabetesjournals.org.ezproxy.lib.utah.edu/content/20/3/254.

Diabetes Prevention Program Research Group. (2009). 10-year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcomes Study. *The Lancet, 374*(9702), 1677-1686. doi: 10.1016/S0140-6736(09)61457-4.

Janz, N. K., & Becker, M. H. (1984). The health belief model: A decade later. *Health Education Quarterly, 11*(1), 1-47. Retrieved from http://heb.sagepub.com.ezproxy.lib.utah.edu/content/11/1/1.full.pdf+html.

Metghalchi, S., Rivera, M., Beeson, L., Firek, A., Leon, M. D., Cordero-MacIntyre, Z. R., & Balcazar, H. (2008). Improved clinical outcomes using a culturally sensitive diabetes education program in a hispanic population. *The Diabetes Educator, 34*(4), 698-706. Retrieved from http://tde.sagepub.com.ezproxy.lib.utah.edu/content/34/4/698.full.

Schneiderman, N. (2014). Prevalence of diabetes among Hispanics/Latinos. Retrieved from http://www.diabetes.org/newsroom/press-releases/2014/diabetes-among-hispanics-all-are-not-equal.html.

Standards of medical care in diabetes-2014. (2014, January). *Diabetes Care, 37*(Supplement 1). doi: 10.2337/dc14-s01.

Utah Department of Health. (2014a). Fact sheet: Diabetes self-management education. Retrieved from http://utah.ptfs.com/awweb/pdfopener?sid=C46A2F37D7D4D6A271288D73DE3276CA&did=68682&fl=%2Fpublications%2Fpdf%2Fdc048591.pdf.

Utah Department of Health, Center for Health Data and Informatics, Office of Vital Records and Statistics. (2014b). Data List [Table]. *Query Results for Mortality ICD-10 Query Module for Utah Counties and Local Health Districts*. Retrieved from http://ibis.health.utah.gov/indicator/view_numbers/DiabPrev.UT_US.html.

Utah Department of Health, Division of Disease Control and Prevention, Bureau of Health Promotion, Healthy Living Through Environment, Policy and Improved Clinical Care. (2013a). Data and Confidence Limits for Percentage of Utah Adults With Diabetes (Age-adjusted) by Ethnicity, 2009-2012. Retrieved from http://ibis.health.utah.gov/indicator/view_numbers/DiabPrev.Eth.html.

Utah Department of Health, Center for Health Data and Informatics, Office of Health Care Statistics. (2013b). PHOM Indicator Report of Ambulatory Care Sensitive Conditions: Diabetes Hospitalizations Among Adults. Retrieved from http://ibis.health.utah.gov/phom/view/ACS_DiabHosp.html.

Appendix A

Survey of Barriers (Spanish)

La Universidad de Utah, trabajando con Santaquin Pharmacy estámos interesados en mejorar el acceso a Programas de Autocontrol de la Diabetes en Utah, y cuáles son los obstáculos a inscribirse en un Programa de Autocontrol de la Diabetes. ¿Podría tomarse aproximadamente cinco minutos para responder algunas preguntas? Muchas gracias de anticipo.

Si tiene preguntas relacionadas a la encuesta, por favor comuníquese con Scott Webster, investigador principal de ésta inquesta, por email a buceoscott@gmail.com o por teléfono al 801-367-3737. Si está interesado en aprender más acerca de cómo inscribirse en un Programa de Autocontrol de la Diabetes, por favor contacte a Santaquin Pharmacy al teléfono 801-754-1141.

1. ¿Cuál es su sexo?

   Masculino _____ Femenino_____

   1. ¿Qué categoría describe mejor su edad?

      18-34 _____

      35-49 _____

      50-64 _____

      65-79 _____

      80 o más _____

      Otra ____

2. ¿Cuál de los siguientes seguros tiene usted actualmente? (Puede marcar más de una respuesta)
   - No tengo seguro _____
   - Medicare _____
   - Medicaid _____
   - Seguro privado _____
   - Por medio de mi trabajo _____
   - Un seguro que yo compro por mi parte _____
   - Administración para Veteranos (VA) _____
   - Indian Health Service _____
   - Otro _____

3. ¿Qué distancia viaja por lo general para ver a su proveedor del cuidado de la diabetes?
   - Menos de 10 millas _____
   - 10-29 millas _____
   - 30-49 millas _____

50 millas o más _____

4. ¿Qué tipo de diabetes tiene usted?
   Pre-diabetes _____
   Diabetes tipo 1 _____
   Diabetes tipo 2 _____
   Diabetes de Gestación _____
   No tengo diabetes o pre-diabetes _____
   No sé _____
   Otro_____

5. ¿Qué edad tenìa usted cuando lo diagnosticaron con diabetes? _____

6. ¿Le ha dicho su médico o profesional de la salud del Programa de Autocontrol de la Diabetes o el participar en clases de educación de la diabetes?
   Si _____
   No _____
   No estoy seguro/No recuerdo _____

7. En los últimos tres años, ¿Ha participado en clases de autocontrol de la diabetes? Esto pudo ser en grupo o individualmente. La clase no tiene que ser con Santaquin Pharmacy.

   Si _____POR FAVOR CONTINÚE

   No _____POR FAVOR PASE A LA PREGUNTA 14

   No estoy seguro/No recuerdo _____POR FAVOR PASE A LA PREGUNTA 14

8. Usualmente una clase de autocontrol de la diabetes incluye 10 horas de educación. ¿Participó todas las horas que se ofrecieron?

   Si, todas _____ POR FAVOR PASE A LA PREGUNTA #14 EN LA PAGINA 5

   Si, Casi todas ___Por favor continúe

   No _____ Por favor continúe

9. ¿Cuáles de las siguientes fueron razones por las que no participó en todas las horas? (Marque todas las que se apliquen)

   No me gustó uno de los locales _____

   Falta de tiempo _____

   Costo _____

   Horario de clases _____

La información no era relevante para mí _____

Distancia para manejar _____

Idioma _____

Mal clima _____

No tuve el apoyo de mi familia _____

No me gustan clases en grupo_____

No sé_____

Otra: _____

10. ¿Usted prefiere clases en grupo o individuales cuando aprende de la diabetes?

Grupo _____

Individual _____

No tengo preferencia _____

No sé _____

11. ¿Qué tan probable sería que usted le recomendara a alguien con diabetes una clase de autocontrol de la diabetes?

No hay probabilidad_____

No muy probable _____

Algo probable_____

Muy probable _____

No estoy seguro(a) _____

12. ¿Qué tan motivado está usted para controlas su diabetes?

No estoy motivado _____

Algo motivado _____

Muy motivado _____

13. ¿Tiene otros comentarios, preguntas, o preocupaciones relacionadas al programa de autocontrol de la diabetes?

¡Gracias por su participación!

Por favor continúe aquí si usted **no** ha recibido clases de autocontrol de la diabetes en los últimos tres años

14. ¿Cuáles de las siguientes fueron razones por las que no participó en un Programa de Autocontrol de la Diabetes? (Marque todas las que se apliquen)

No me gustan clases individuales _____

Ya he tenido clases de autocontrol de la diabetes _____

No lo cubre el seguro _____

Costo _____

Horario de clases _____

La información no era relevante para mí _____

Distancia para manejar _____

Idioma _____

Mal clima _____

No tengo el apoyo de mi familia _____

No me gustan clases en grupo_____

No sé_____

Otra: _____

15. ¿Usted prefiere clases en grupo o individuales cuando aprende de la diabetes?

Grupo _____

Individual _____

No tengo preferencia _____

No sé _____

16. ¿Qué tan probable sería que usted le recomendara a alguien con diabetes una clase de autocontrol de la diabetes?

No hay probabilidad_____

No muy probable _____

Algo probable_____

Muy probable _____

No estoy seguro(a) _____

17. ¿Qué tan motivado está usted para controlas su diabetes?

No estoy motivado _____

Algo motivado _____

Muy motivado _____

18. ¿Tiene otros comentarios, preguntas, o preocupaciones relacionadas al programa de autocontrol de la diabetes?

19. ¿Hasta qué nivel de educación ha recibido usted?

_____

¡Gracias por su participación!

Appendix B

Satisfaction Survey (Spanish)

Encuesta de evaluación del programa

Gracias por participar en este programa. Apreciamos sus comentarios.

1. En general, ¿Cuán satisfecho está con el programa de autogestión de la diabetes?

Muy insatisfecho	Insatisfecho	Neutro	Satisfecho	Muy satisfecho
1	2	3	4	5

2. ¿Qué tan fácil fue asistir al programa?

Muy fácil	Fácil	Neutro	Difícil	Muy difícil
1	2	3	4	5

3. ¿Qué tan probable es que usted refiera a alguien a este programa de educación sobre la diabetes?

No lo haré	No es probable	Neutro	Probable	Muy probable
1	2	3	4	5

4. ¿Cuál fue el obstáculo más grande para que usted asistiera a este programa?

____Cuidado de niños

____Costo

____Lugar

____Duración de la clase

____Número de clases

____Hora del día

____Clase en grupo (Preferiría tener consultas individuales)

____Otro

_____

_____

5. ¿Cuál es la cosa más importante que usted aprendió de este programa?

---

6. ¿Qué haría más fácil para que se inscriba o asista al programa?

____Cuidado de niños

____Reducir el costo

____Un lugar más conveniente (¿En dónde?)_____

____Más clases que duren menos

____Menos clases que duren más

____Diferente hora del día

____Grupo más pequeño de pacientes

____Clases individuales

____Otro

_____

_____

7. Por favor, comparta cualquier idea que tenga para hacer que sea más fácil inscribirse o asistir a la clase.

_____

_____

_____

_____

8. ¿Qué otros comentarios tiene?

_____

_____

9. ¿Quién lo refirió a este programa?

Appendix C

Defense Presentation

Diabetes Education in a Rural Hispanic Population

Scott Webster, BSN, RN, Frederick Q. Lawson Graduate Fellow
University of Utah

In partial fulfillment of the requirements for the Doctor of Nursing Practice degree

Partially funded by a health resources services administration advanced education nursing graduate traineeship to the University of Utah College of Nursing

October 2, 2014

Background

- **US prevalence of diabetes mellitus increased from 8.3% to 9.3% (25.8 million-29.1 million) 2010-2012** (ADA, 2014)
- **Utah prevalence of type 2 diabetes mellitus Hispanic population 11.7% vs. Non-Hispanics 7.3% in 2009-2012** (Utah Department of Health, 2013)
- **Hispanic populations face barriers to diabetes education: socioeconomic, access, language, and cultural** (Cersosimo & Musi, 2011)
- **Hispanic populations also risk diabetes-related complications: renal disease, amputation, and neuropathy** (Metgalchi et al., 2008)

Problem Statement

- **Hispanic adults with type 2 diabetes are not accessing available diabetes education in a rural Utah community** (J. Webster, personal communication, August 20, 2014)
- **Approximately 40% of adults with diabetes in Utah have never received diabetes education** (Utah Department of Health, 2014)
- **The purpose of my project is to provide culturally sensitive and language appropriate diabetes education to a rural Hispanic population *that will be utilized***

Significance & Clinical Implications

- **Rural Hispanic population will have a culturally sensitive diabetes education program that addresses barriers to access**
- **Providers in rural central Utah area will have a more useful, culturally appropriate resource that better meets the needs of patients**
- **Culturally sensitive diabetes education, *if accessed*, has the potential to improve clinical outcomes of Hispanic patients, i.e., decrease complications and morbidity related to diabetes mellitus type 2** (Metgalchi et al., 2008)

Objectives

Objective #1: Identify barriers to accessing diabetes self-management education in a rural Hispanic population

Objective #2: Identify a culturally appropriate and language sensitive diabetes education program that is appropriate for a rural Hispanic population

Objective #3: Implement a model of access to a diabetes self-management education program acceptable to a Hispanic population

Objective #4: Write a Project Chair approved abstract on the developed model of access to diabetes education prepared for submission to the Utah Diabetes Update, or similar conference.

Theoretical Framework

- **The Health Belief Model is appropriate for health promotion and prevention** (Janz & Becker, 1984)
- **The individual evaluates health goals, perceived risk, cost, benefit, and barriers** (Janz & Becker, 1984)
- **Lowering the cost and/or barriers will increase the likelihood of engaging in health behaviors**

Literature Review

- Cultural and language sensitive diabetes education for Hispanic patients results in improved clinical outcomes (Metghalchi et al., 2008)
- Common barriers to accessing diabetes education in Hispanic populations include socioeconomic barriers, availability of programs, language barriers, and cultural differences (Cersosimo & Musi, 2011)
- Effective strategies for overcoming barriers to care improve access to care and positively impact clinical outcomes (Corkery et al., 1997; Metghalchi et al., 2008)

Implementation & Evaluation

	Objective	Implementation	Evaluation
1	Identify barriers to accessing DSME in a rural Hispanic population	IRB approval Survey between 6 and 12 Hispanic patients with diabetes on perceived barriers Identify manageable barriers	Receive at least 6 responses to barriers from Hispanic patients in a rural Utah community
2	Identify culturally appropriate and language sensitive diabetes education program acceptable for rural Hispanic population	Santaquin Pharmacy and Diabetes Center has diabetes education program accredited by the American Association of Diabetes Educators, has certified diabetes educator fluent in Spanish years of experience with Hispanic patients from this rural community	A culturally appropriate and language sensitive diabetes education program for a rural Hispanic population will be identified

Implementation & Evaluation

	Objective	Implementation	Evaluation
3	Implement model of access to diabetes self-management education program acceptable to Hispanic population	Incorporate survey findings from implementation of objective 1. Information collected will be evaluated, in part, by the diabetes education program to assess practicality and timing of implementation	Statistically report number of Hispanic patients who enroll, attend, and complete the diabetes education program, track reasons for noncompletion
4	Write a Project Chair approved abstract on the developed model of access to diabetes education prepared for submission to the Utah	Write a Project Chair approved abstract on developed model of access to diabetes education.	Write an abstract for presentation to an AADE conference.

Summary

- Rural minority populations are in need of innovative solutions to overcome barriers to receiving diabetes education to improve clinical outcomes
- In rural Utah, barriers to accessing culturally sensitive diabetes education must be addressed to improve clinical outcomes of the rural Hispanic population
- If this project is successful, results will be important to other rural Utah Hispanic communities offering diabetes education programs

Acknowledgements

- **Committee:**
  - **Project Chair: Nancy Ann Allen PhD, ANP-BC**
  - **Program director:**
  - **Executive Director, MS & DNP Programs: Julie Balk DNP, APRN, FNP-BC, CNE**
- **Content Experts:**
  - **Lucinda Ross MSN, ANP-BC, CDE**
  - **Eileen Deleeuw MS, RD, CDE**

References

American Diabetes Association. (2014). Statistics about diabetes. Retrieved from http://www.diabetes.org/diabetes-basics/statistics/.

Cersosimo, E. & Musi, N. (2011). Improving treatment in Hispanic/Latino patients. *The American Journal of Medicine, 124*(10S), S16-S21. Retrieved from http://www.mdconsult.com.ezproxy.lib.utah.edu/das/article/body/443083502-2/jorg=journal&source=&sp=24589810&sid=0/N/921878/s0002934311006267.pdf?issn=0002-9343.

Janz, N. K., & Becker, M. H. (1984). The health belief model: A decade later, *Health Education Quarterly, 11*(1), 1-47. Retrieved from http://heb.sagepub.com.ezproxy.lib.utah.edu/content/11/1/1.full.pdf+html.

Metghalchi, S., Rivera, M., Beeson, L., Firek, A., Leon, M. D., Cordero-MacIntyre, Z. R., & Balcazar, H. (2008). Improved clinical outcomes using a culturally sensitive diabetes education program in a hispanic population. *The Diabetes Educator, 34*(4), 698-706. Retrieved from http://tde.sagepub.com.ezproxy.lib.utah.edu/content/34/4/698.full.

Utah Department of Health, Division of Disease Control and Prevention, Bureau of Health Promotion, Healthy Living Through Environment, Policy and Improved Clinical Care. (2013). Data and Confidence Limits for Percentage of Utah Adults With Diabetes (Age-adjusted) by Ethnicity, 2009-2012. Retrieved from http://ibis.health.utah.gov/indicator/view_numbers/DiabPrev.Eth.html.

Appendix D

Poster Presentation

Facilitators and Barriers to Accessing Diabetes Education in a Rural Hispanic Community

Scott Webster, BSN, RN, DNP Candidate University of Utah College of Nursing

UNIVERSITY OF UTAH COLLEGE OF NURSING

PURPOSE & OBJECTIVES

The purpose of this project is to improve access to language appropriate, and culturally sensitive diabetes education in a rural Hispanic population.

- Objective #1: Identify barriers to accessing diabetes self-management education in a rural Hispanic population.
- Objective #2: Identify a culturally appropriate and language sensitive diabetes education program that is appropriate for a rural Hispanic population.
- Objective #3: Implement a model of access to a diabetes self-management education program acceptable to a Hispanic population.
- Objective #4: Submit a developed model of access to diabetes education to the Utah Diabetes Update, or similar conference.

BACKGROUND

Hispanic patients have an increased incidence of diabetes and complications from diabetes

Diabetes education improves clinical outcomes of patients with diabetes type 2

Hispanic patients face additional barriers to accessing diabetes education, including language and cultural barriers, cost, lack of time, familial responsibilities, and others

Culturally sensitive and language appropriate diabetes education can improve clinical outcomes in Hispanic patients with diabetes

COMMITTEE

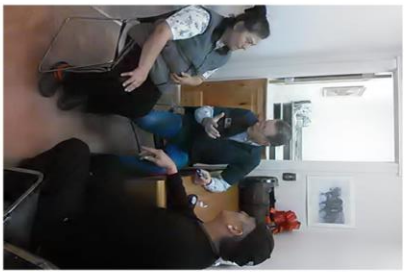
Project Chair: Nancy Ann Allen PhD, ANP-BC
Content Experts: Lucinda Ross MSN, ANP-BC, CDE
Eileen Deleeuw MS, RD, CDE

IMPLEMENTATION

A survey was adapted from the Utah Department of Health and distributed to Hispanic adults referred to a community diabetes education center

Literature and survey results were analyzed and barriers to accessing diabetes education were identified

A model of access was developed to overcome identified barriers. A workplace model of access overcomes many of the barriers, such as cost, location inconvenience, and others



MODEL OF ACCESS

- Pilot class with local employer
- Over 240 Hispanic employees
- Insurance & In-House Provider
- Lunchtime diabetes education class
- Need for language and culturally sensitive DE classes

RESULTS

- N=15 Hispanic adults referred for diabetes education
- Of 15 participants 53% (8/15) were male, 47% (7/15) were female
- Adults were 53% (8/15) age 35-49, 33% were (5/15) age 50-64, and 13% (2/15) were age 65-79
- 27% (4/15) had private insurance, and 73% (11/15) had no insurance
- 60% (9/15) lived within 10 miles of their healthcare providers, 27% (4/15) lived farther than 10 miles from their provider, and 13% (2/15) did not respond
- A majority (60%, 9/15) reported being "very motivated" to control their diabetes, 33% (5/15) were "somewhat motivated," and 7% (1/15) reported "not motivated."
- 60% (9/15) preferred group classes, 33% (5/15) had no preference, and 7% (1/15) preferred individual classes
- The most common barriers reported were "lack of time" and "cost."
- Other reported barriers included, "schedule of class," "distance," "information seems irrelevant," and "not aware of classes."
- These findings are consistent with published literature

DISCUSSION

- Findings from this study support published barriers in Hispanic diabetes education
- One successful solution is a workplace diabetes education model

CONCLUSION

By adapting our model of access to diabetes education to the workplace, we hope to be able to increase enrollment and completion of diabetes education in our community

Appendix E

Conference Abstract

FACILITATORS AND BARRIERS TO ACCESSING DIABETES EDUCATION IN A RURAL HISPANIC COMMUNITY

Author: Scott Webster BSN, RN, DNP Student University of Utah College of Nursing, Nancy Allen, PhD, ANP-BC, project chair

Abstract:
PURPOSE: The purpose of this project was to improve access to language appropriate, and culturally sensitive diabetes education in a Hispanic population in rural Utah. OBJECTIVES: 1) Identify barriers to accessing diabetes self-management education in a rural Hispanic population, 2) identify a culturally appropriate and language sensitive diabetes education program that is acceptable for a rural Hispanic population, and 3) implement a model of access to a diabetes self-management education program acceptable to a Hispanic population. DESCRIPTION: One group prospective feasibility study. Inclusion criteria: Spanish-speaking Hispanic adults referred to diabetes education. Participants from the community completed a brief survey on their perception of barriers to access to diabetes education. Perceived barriers were analyzed and a model of access was developed to address identified barriers. RESULTS: 15 participants, 8 male, 7 female. Age range 35-79 years. 4 had private insurance, 11 had no insurance. 9 lived within 10 miles of their diabetes healthcare provider, 3 lived between 10-29 miles, 1 lived between 30-49 miles, 2 did not respond to the question. 10 participants had type 2 diabetes, 2 did not know what type they had, 1 had "pre-diabetes," 1 had type 1 diabetes, 1 had gestational diabetes. The age at diagnosis ranged from 27-56 years with a mean of 39.3 years (SD=9.24). Of those who did not report having completed a diabetes education program, there were four reports that lack of time was a barrier, and three reports that cost was a barrier. 3 individuals reported that they did not know why they had not completed a diabetes education program. There were two reports that the schedule of the classes were a barrier. One individual reported that the information of the classes was not relevant; another reported that the distance to the class was a barrier, and one did not know about the classes. One individual who reported not having completed a diabetes education program did not respond to questions about barriers. 9 participants reported a preference for group classes, 1 preferred individual classes, 5 reported "no preference." 9 participants reported being "very motivated" to control their diabetes, 5 were "somewhat motivated," and 1 reported "not motivated." These results indicated that an employee based model of diabetes education may be a solution to the identified barriers. CONCLUSIONS/IMPLICATIONS FOR PRACTICE: Hispanic patients face significant barriers to accessing diabetes education. Literature supports modified models of access to overcome barriers to access to improve clinical outcomes. A pilot study should be planned, implemented, and evaluated to assess effectiveness of model and possible modifications to the model. This study has been disseminated to local diabetes education centers and may be presented at the

conference about the feasibility and satisfaction of employer model of access for improving access by Hispanic patients to diabetes education. If successful, other education programs may improve access by implementing similar models.