

5-3-2022

Formalized Diabetes Education in a Safety-Net Clinic

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Grand Valley State University

Kirkhof College of Nursing

DNP

Project

Haley Wanic

DNP Project

Plan

The following is the DNP Project Plan Defense approved by the Advisory Committee in

November 2021

DNP Project

Plan

Modifications

No modifications were made to the quality improvement project.

DNP Project

Manuscript

Structured Abstract

Uncontrolled diabetes mellitus in a Hispanic population can be helped through a quality improvement project focused on progressive verbal and written diabetes self-management education (DSME) Purpose of this article is to review the background, an organizational assessment, a literature review, results of the quality improvement project that took place at a safety-net clinic in the Midwest. This project included four patients and data was analyzed through descriptive statistics. Results include improved hemoglobin (Hg) A1c, minimal workflow adjustments for providers, completed microalbumins, and written education given to patients. In conclusion, the quality improvement project showed positive trends in outcome measures over a short period of time. Larger sample size needed over a longer period to assess true impact. Implications from this project include creating a billing consent form for future use and enrolling more patients over a longer period to show a larger benefit. Keywords include safety-net clinic, diabetes mellitus, Spanish, quality improvement.

Introduction

The purpose of this article is to review the organization, current peer-reviewed knowledge, and implemented quality improvement project related to formalizing diabetes mellitus type 2 (DMT2) for the Hispanic population in a safety-net clinic in the Midwest of the United States. Hispanic people diagnosed with DMT2 are unlikely to achieve the recommended hemoglobin A1C goal of <7.0%, with less than half of the diagnosed population reaching this goal (Fallas et al., 2020). Physical complications from uncontrolled DMT2 include retinopathy, neuropathy, and nephropathy. Other complications from uncontrolled DMT2 can include increased health care spending, lower quality of life, and increased mortality. Social determinates of health (SDoH) affecting the Hispanic population include, but are not limited to, income, social support, education, and discrimination (Healthy People, 2020).

The safety-net clinic was established in the mid 1990's to serve underprivileged and often uninsured patients. The organization has two employed physicians, one nurse practitioner, one bachelor prepared nurse, two medical assistants, two social workers, and one chaplain. The clinic also relies on volunteers from the surrounding cities to help run the clinic. The organizational framework that was selected to assess the organization was Burke and Litwin (1992). The chosen model succinctly breaks down factors for change as shown in Figure 1. Care management for the Hispanic population with limited resources was the primary phenomenon of interest as many patients at this clinic are disproportionately affected by the social determinants of health as described by Healthy People 2030 (2020).

To better understand the organization, a strength, weakness, opportunities, and threats analysis (SWOT) was conducted at the clinic to assess the organization and is shown in Figure 2.

The SWOT revealed strengths of committed employees, volunteers, and bilingual staff. One weakness included minimally defined operating procedures leading to inconsistent documentation by volunteers. Opportunities include the availability of validated expert DSME curriculum and future grants related to care management. Threats include a patient population with low socioeconomic status and low health literacy. Stakeholders include, but are not limited to, patients, board of directors, providers, insurers, volunteers, and grant donors.

To further guide the quality improvement project, the Chronic Care Model framework was selected (Bodenheimer et al., 2002). This model suggests the health care organization directly affects self-management support, thus improving outcomes. The chosen model succinctly breaks down factors for change as shown in Figure 3. Additionally, a rapid, systematic review of the published literature revealed 12 articles that were applicable to this project. All studies included in the review were conducted in the United States with sample sizes ranging from nine participants to 3,893. Table 1 displays details from each article while Table 2 thematically displays findings and suggested interventions from the literature review. The themes and findings will be explained next.

In relation to Hispanic culture and DMT2, culturally specific food recommendations would be beneficial. Barriers to successful diabetes self-management education (DSME) interventions include screening for mental health and need for additional resources (Allen et al., 2017; Madden et al., 2011). Successful DSME should include family/friends in the education and have the patient partake in goal setting (Rotberg et al., 2016). Maintaining successful DSME should include a maintenance program with a one-hour visit (Prezio et al., 2013; Niemiec et al., 2021). Follow-up and DMT2 control would benefit from in-person visits with phone calls used as reinforcement (Turner et al., 2020).

Methods

Intervention

This quality improvement project intervention was focused on improving diabetes management by patients between their 3-month scheduled appointments through individualized, progressive, written, and verbal education from the care managers through introduction of case management education. The framework and approach that was used to guide this project was the Plan-Do-Study-Act (PDSA) model. The reiterative process of the PDSA cycle is well suited for continued assessment needed for this project. In addition, implementation strategies used for the quality improvement project were assessed from Powell et al., (2015) and include: assess readiness, stakeholder engagement, staff education, workflow adjustments, facilitation, and clinical information systems.

Readiness was assessed via the organizational assessment and interviews with staff and was part of the “plan” aspect of the PDSA cycle. Stakeholder engagement continued to be completed by monthly meetings with staff with project updates by staff and was part of the “plan and act” of the PDSA cycle. Staff education was achieved by meetings with staff/volunteers and creation of written handouts and is part of the “do” part of the PDSA cycle. Workflow adjustments continued through interviewing staff and observational data and is part of the “do, study and act” of the PDSA cycle. Clinical information systems continued to be completed via meetings with staff on how to document/upload/find needed documents and is part of the “plan, do, and study” of the PDSA cycle. Facilitation continued through collaboration on ongoing intervention and monthly check-in meetings and is part of the “plan and act” from the PDSA cycle.

Approach

The longitudinal repeat measure design of the quality improvement project will now be discussed. Before the patient's appointment, chart preparation occurs through the work of college educated volunteers. The electronic medical record (EMR) allows the volunteers to select a "Reason for Visit" thus specifying to the provider the patient's progress in the DSME program. The selection of each appropriate Reason for Visit templates the patient's chart with the appropriate diabetes specific history of present illness, review of systems, diabetic foot exam, and order sets (foot, eye, dental, HgA1c, lipids, microalbumin, and basic metabolic panel). Both the clinic information system and delivery system design aspects of the Chronic Care Model were employed during this part of the quality improvement project. Patients will have an appointment with their provider every three months. At every appointment, they will be given a different educational booklet. At their first appointment, the patients will be given a lifestyle behaviors worksheet and readiness for change worksheet. The self-management support aspect of the Chronic Care Model was employed to help guide this part of the intervention.

The educational booklets shown in Figure 4 were created and provided to the clinic by Novo Nordisk and are available in both English and Spanish which fits this bilingual patient population. While the booklets were created by a drug company, no advertising for any specific medication is included. Content was approved by the American Association of Diabetes Education. Topics include understanding diabetes, meal planning, medications, and importance of checking blood sugar.

The lifestyle behaviors worksheet shown in Figure 5 helps patients understand domains of their life that affect their diabetes which can be changed. Goals are developed with patients and recorded and collated to assess attainment and have concrete milestones for the patient and care team.

The readiness for change assessment tool was filled out to help the provider understand patient motivation specifically related to the lifestyle behavior sheet prior to starting the program. Both the lifestyle behaviors sheet and readiness for change were uploaded into the patient's chart so anyone on their care team can access the information. Access to the two documents saves both the patient and provider time so the information does not have to be regathered. Viewable information creates patient rapport and allows for individualized education.

Inclusion criteria for admittance to the care management program is as follows. If the patient's screening demonstrated a readiness or change and they had a HgA1C of >9%, the patients were referred to care management. These applications were reviewed for approval by the two physicians and the nurse for previous engagement history. If the patient was approved, biweekly phone calls were added for the first month from a care manager regarding personalized education, additional goal setting, or any questions. After the first month, the phone calls were planned to transition to monthly calls.

Measures

The measures chosen for this project are shown in detail in Table 3. Measures included stakeholder engagement with a focus on use of data experts, creation of educational materials for staff, facilitation, and audit/providing feedback. Patient outcomes include HgA1c, blood pressure, and weight. Patient data from the foot exams and microalbumin screens were not measured due to time constraints of the project. Process outcomes included appointment attendance, educational booklet use, phone calls, foot exams, and microalbumin screens in relation to the self-management support and delivery system design aspects of the Chronic Care Model. Process outcomes measures relate to the self-management support and delivery system design aspects of the Chronic Care Model. System outcomes included number of diabetic clinic

visits and internal care manager referrals. Finally, procedural outcomes included new/modified chart prep training and provider workflow which relate to the decision support, delivery system design, and clinical information system aspects of the Chronic Care Model.

Analysis

The data for the four patients was collected manually through the clinic's EHR using the start date of the project as day zero and the end date 90 days post intervention. The Doctor of Nursing Practice (DNP) student ensured that all data was de-identified. The de-identified information was placed in an Excel spreadsheet. Excel was used to create graphs and develop descriptive statistics.

Ethical Considerations

Ethical considerations for this project include de-identified data on a password protected flash drive, reports generated at days 0 and 120, and an approved institutional review board quality improvement review that was received by the university IRB Committee and reviewed by the medical committee of the organization. There were no potential conflicts of interest. Verbal consent from the patients was given to participate in this quality improvement project.

Results

Results for each category of measure will now be discussed. Implementation strategy measures will be discussed first. In relation to use of data experts, pre-implementation had two interactions and post- implementation had six interactions (Figure 7). Involving the organizational data expert into the project helped create future reportability and ownership throughout the organization. Over the course of this project, three items were created to help support education and proper documentation. Facilitation events between the DNP student and the organizational stakeholders such as face to face meetings, emails, and phone calls totaled 30

throughout the duration of the project. Both are shown in Figure 8. A pre and post education survey of office staff was not determined to be essential as many people knew their roles and responsibilities before the DNP student became part of the project.

Patient outcomes included HgA1c, blood pressure, and weight. Due to the small sample size, the basic assumptions needed for a t-test were not met. Because a t-test was unable to be completed, the DNP student was only able to comment on trends in the data. Descriptive statistics were run on the HgA1c for the four patients. The mean HgA1c pre-implementation was 10.7% and mean post-implementation HgA1c was 8.4%. The change per patient is shown in Figure 9. This demonstrates some improvement. The patient outcome of blood pressure is depicted in Figure 10 as a histogram. The mean blood pressure pre intervention was 130/79 and mean post intervention was 134/83. While unable to determine statistical significance, these values remain similar pre and post intervention. Weight changes over the course of implementation are depicted in Figure 11. All patients' weight increased over the three-month implementation process. The mean pre-implementation weight was 187.5 pounds and post-implementation weight was 194 pounds.

Process outcome measures included use of educational booklets, appointment attendance, phone calls, foot exams, and microalbumin. Before the start of this project, no consistent, formal educational booklets were given out to patients. Data determined that each patient was given a booklet at each appointment, making the execution of the use of booklets 100% for the four patients enrolled in care management. Figure 12 shows appointment attendance. All four patients attended their Diabetic Clinic visit during the intervention period, but all were not consistent before the intervention. Of note, all four patients had follow-ups scheduled outside of the intervention period. No phone calls from the care managers were completed during the

intervention period. Limitations for phone calls will be reviewed in discussion. Each patient was expected to have one foot exam completed at their appointment during the intervention period. Figure 13 shows that three of the four patients received foot exams, totaling 75% execution. Each patient was expected to have one microalbumin completed at their appointment during the intervention period. Four of the four patients received a microalbumin point of care test, totaling 100% execution (Figure 14).

Procedure outcomes include chart preparation and provider workflow. The manual chart audit of the care management patients revealed that all four of the charts were prepped correctly. Both providers were in agreement regarding the three questions that were asked regarding workflow: time added to patient encounters was none to minimal, the items needed were accessible, and the items were prepared as needed. Finally, system outcomes measured internal care manager referrals and Diabetic Clinic visits. At the start of this project, there were no internal referrals being made to care management. Post-intervention, 7 referrals were made. While unable to comment on significance, a positive trend can be appreciated. During the intervention period, 140 diabetic patients were seen. After reviewing the 140 diabetic patients' charts that were seen during the intervention period, 90 of the charts were prepped correctly. This was calculated to be a 64% rate of correct chart preparation which is shown in Figure 15.

Discussion

The use of goal setting used in the quality improvement project aligned with literature findings. Goal setting helped the care team and patient have concrete goals to work toward (Rotberg et al., 2016). In-person visits to maintain DSME aligned with literature because while not statistically significant, encouraging trends in HgA1c were noted (Niemic et al., 2021; Prezio et al., 2013; Turner et al., 2020). The literature suggested using phone calls as

reinforcement which cannot be related to the literature because no phone calls were completed during the intervention timeframe (Turner et al., 2020). Phone calls were not completed due to staff contracting COVID-19 and time constraints of the quality improvement project.

Limitations

One significant barrier for this project included having a population of patients that are negatively affected by social determinants of health. Poor SDoH limits the patient's accessibility to the clinic, payment, and health literacy. Additionally, many patients were undocumented immigrants and showed avoidance of formal programming. Two limitations include the short timeframe allowed for this QI project and the COVID-19 pandemic.

The short timeframe allotted for this QI project limited patient enrollment, data collection and ability to show statistical significance related to DMT2 management. COVID-19 affected many of the office staff and key members of the project throughout the duration of this QI project resulting in 10-day isolation, creating a shortage of staff and higher workloads for those who were able to come to work. COVID-19 may also have impacted patient attendance.

Conclusion

Identifying an adherence champion and problem solver to ensure protocols are being followed was key in ongoing sustainability for the QI project. Additionally, continual ownership from employed physicians, regular tracking of data, and future grant application support the project sustainability.

The health clinic should continue PDSA cycles around two per month in concordance with Christoff (2018). A PDSA worksheet from the Institute for Healthcare Improvement was provided to the clinic site to support this recommendation. This project data will provide support for more grants and possible funding for an employed care manager. The potential for this

project to spread to other sites is variable. The DSME concepts for the Hispanic population and readiness for change concept can easily be used in other health systems. However, the measures used and follow-up plan may not be applicable to other health systems.

Implications for Practice and Further Study in the Field

An implication for practice is implementation of a structured, scaffolded DMSE can create positive impacts on patient health. For the health system that the QI project was conducted in, a consent form for billing that patients to sign would allow for billing for care management in the future as that is a requirement from the Centers for Medicare and Medicaid Services. In order to do a more robust study in the future, a larger sample size over a longer period of time should be studied.

Figures

Figure 1. Burke and Litwin

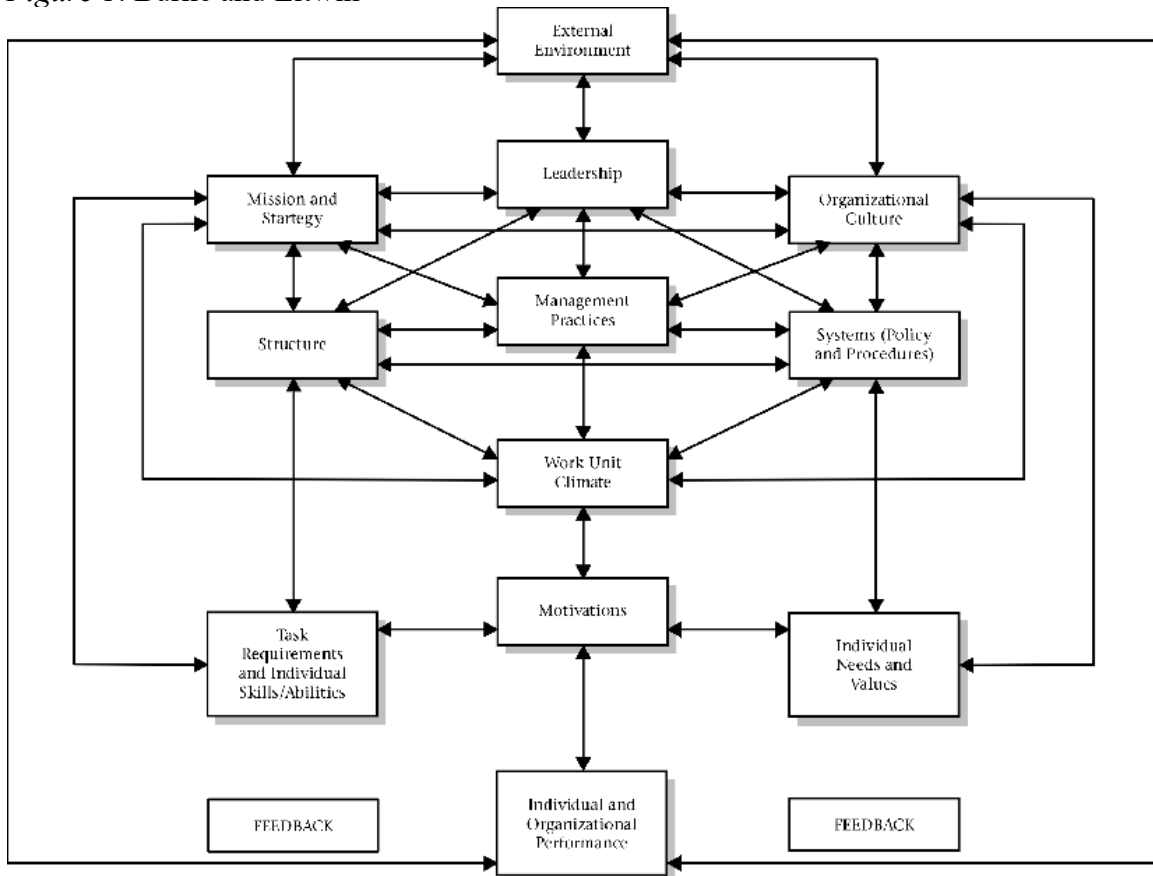


Figure 2. SWOT Analysis

SWOT Analysis	
Strengths	Weaknesses
<ul style="list-style-type: none"> Clearly defined vision and mission Committed employees and volunteers who strive to help the underserved Counseling and spiritual care available onsite Bilingual staff, volunteers, and translators Dental services on site-holistic care 	<ul style="list-style-type: none"> Income largely based on donations Inconsistent documentation due to many volunteers Limited defined standard operating procedures
Opportunities	Threats
<ul style="list-style-type: none"> Support from larger health organizations Availability of expert created curriculum More grants: care management Disease management, population-wide 	<ul style="list-style-type: none"> Revenue can be unstable because it is based on donations/grants Patient population often: non-English speaking, low SES, uninsured, low health literacy

Figure 3. Chronic Care Model

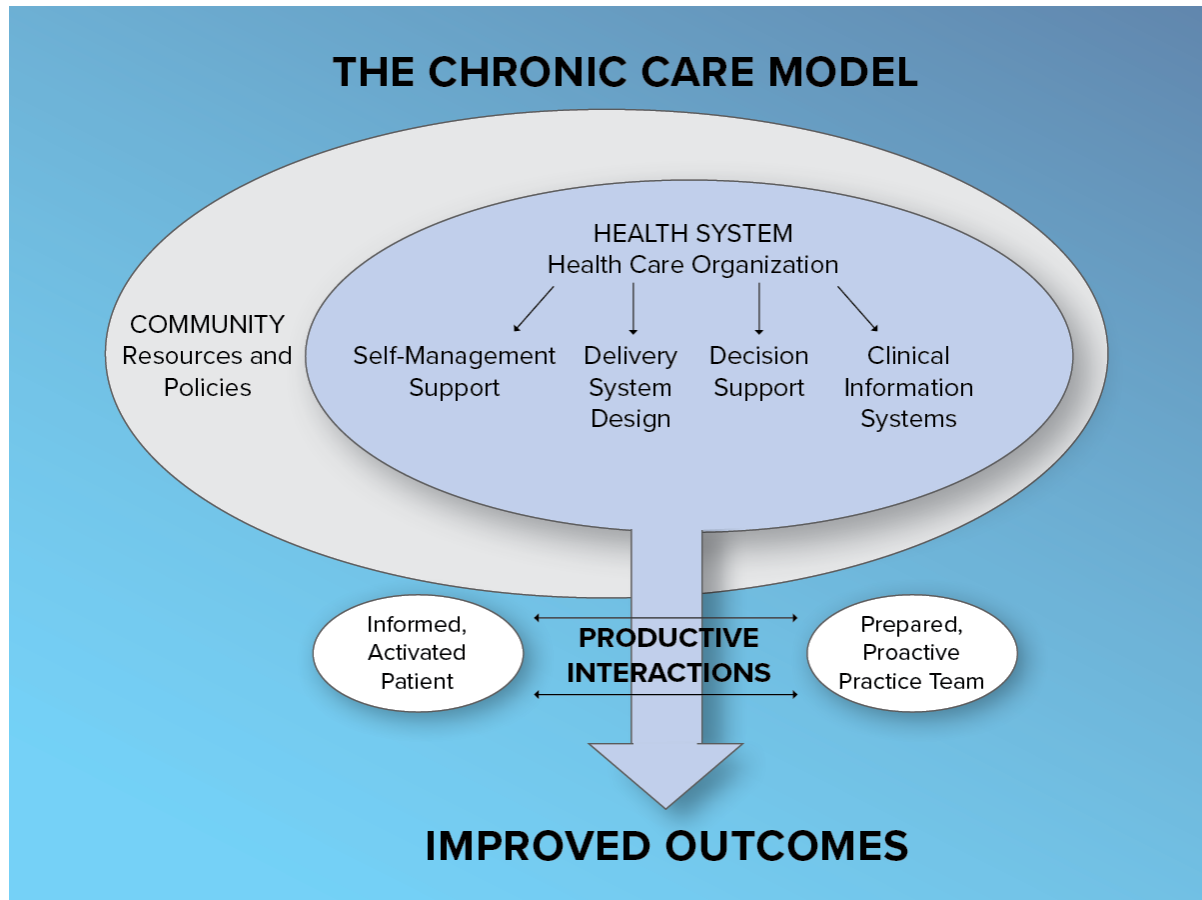


Figure 4. Educational Booklets



Figure 5. Lifestyle Behaviors Worksheet

Lifestyle Behaviors That Impact Your Diabetes: What You Can Do

- **Lowering & Managing Your Hemoglobin A1C (HbA1C):** This blood test will tell you overall how your diabetes is doing and measures your average blood glucose level over the previous 2-3 months.
 - ✓ **Long Term Goal** of someone with diabetes is to have an **HbA1C of <7%**.
 - ✓ **Your HbA1C now:** _____
 - ✓ **Short Term Goal:** _____

- **Increase Your Physical Activity:** Your physical activity now: ___ None ___ Occasional ___ Moderate ___ Heavy
 - ✓ **Long Term Goals:** Participate in 3 days a week (at least 150 minutes/week total) of moderate intensity aerobic physical activity (i.e., walking, jogging, swimming, etc.)
 - ✓ Participate in strength or resistance training at least twice a week
 - ✓ Reduce your time of just sitting. (i.e. no more than 90 minutes of sitting before you get up and move)
 - ✓ **Your Short Term Goal:** _____

- **Weight Loss (if needed):** A healthy weight is important to managing your diabetes. Decrease your body weight as recommended by your health care team. Your Weight Today: _____ Your BMI Today: _____
 - ✓ **Long Term Goals: Weight:** _____ **BMI:** _____
 - ✓ **Your Short-Term Goal: Weight:** _____ **BMI:** _____ A good place to start is to decrease your weight by 5%.

- **Monitor Your Blood Sugar:** Maintain your fasting blood sugar range as recommended by your doctor.
 - ✓ **Target Blood Sugar: 80-130 mg/dL**
 - ✓ **Your Short Term Goal:** _____

- **Eat A Healthy Diet:** Your Diet today: ___ Excellent ___ Very Good ___ Fair ___ Poor
Basic Recommendations:
 - ✓ Maintain optimal weight
 - ✓ Reduce Calories (if BMI is high)
 - ✓ Low Carbohydrate Diet: Limit daily carbs to 100gms/day with no meal or snack greater than 30 grams of carbs
 - ✓ Plant-based diet: high polyunsaturated and monounsaturated fatty acids
 - ✓ **Long Term Goal:** Eating Healthy is critical to taking care of your diabetes.
 - ✓ **Your Short Term Goal:** _____

- **Healthy Sleep Habits:** I currently sleep _____ hours/night.
The quality of my sleep is: ___ Excellent ___ Very Good ___ Fair ___ Poor
 - ✓ **Long Term Goal:** 7 or more hours of quality sleep/night.
 - ✓ **Your Short Term Goal:** _____

- **Social & Behavioral Support:** What kind of emotional and social support do you have in your life today? ___ Excellent ___ Very Good ___ Fair ___ Poor
 - ✓ **Long Term Goal:** Diabetes is a challenging disease and everyone needs good support.
 - ✓ **Your Short Term Goal:** _____

- **Moderate Use of Alcohol:**
 - ✓ **Long Term Goal:** Limit use of alcohol to 1 (women) or 2 (men) standard drinks per day.
 - ✓ **Your Short Term Goal:** _____

- **No Tobacco Use:** ___ do not smoke ___ 1/2ppd ___ 1ppd ___ more than 1ppd
 - ✓ **Do you have any interest in quitting at this time?** ___

Figure 6. Readiness for Change

Readiness to Change Assessment

Readiness to Change Question(s):

“Based the lifestyle behaviors that could help you better manage your Diabetes/Hypertension, are there any changes you feel you are ready to start working on right away?”

Yes _____ No _____ Maybe _____

If yes: *“What particular change(s) are you thinking you can make?”* (Specific goal planning would then be undertaken using Goal sheet.)

“On the following scale, what number best reflects how ready you are to make the change(s) in your behavior?” _____

(1 - not ready, 2 - pre-contemplative, 3 - contemplative, 4- Preparation, 5 – ready/action)

Figure 7. Implementation Strategies – Data Experts



Figure 8. Implementation Strategies – Develop Materials and Facilitation

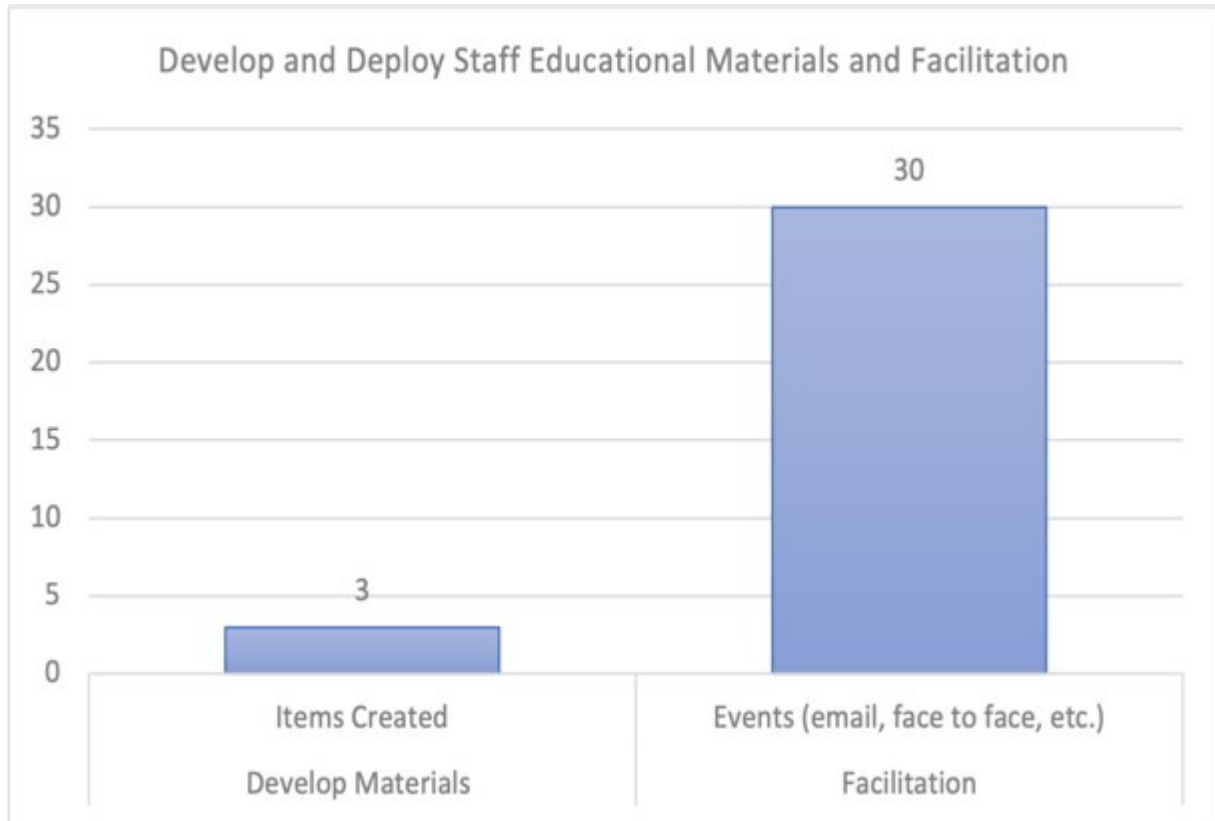


Figure 9. HbA1c

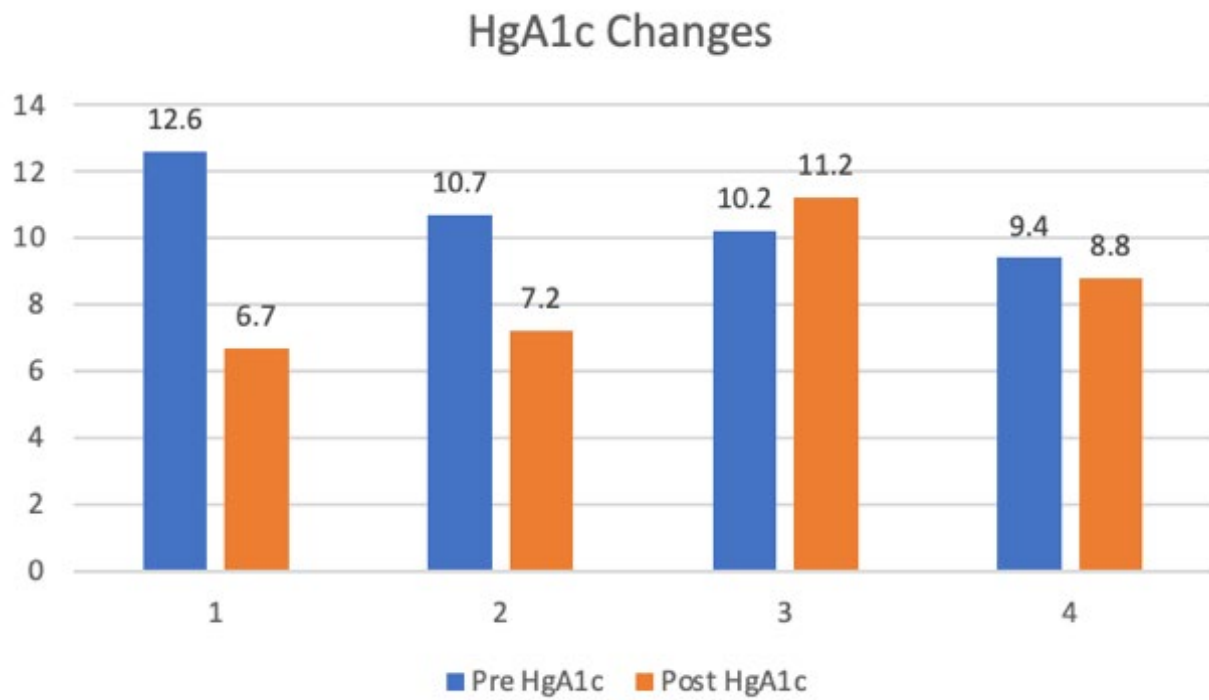


Figure 10. Blood Pressure

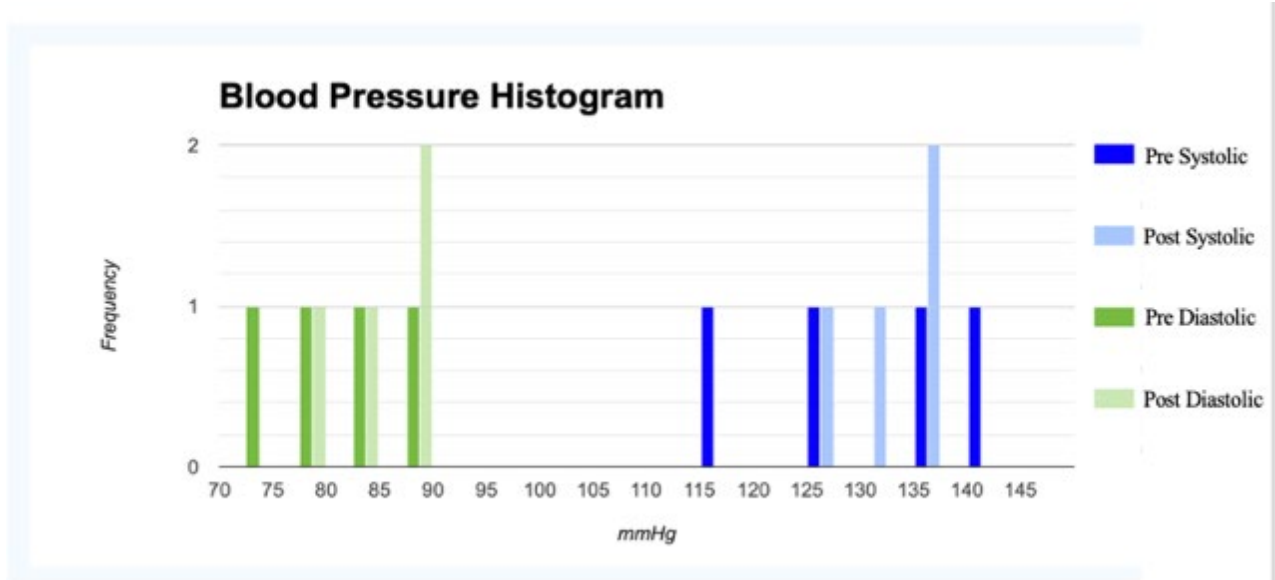


Figure 11. Weight Changes

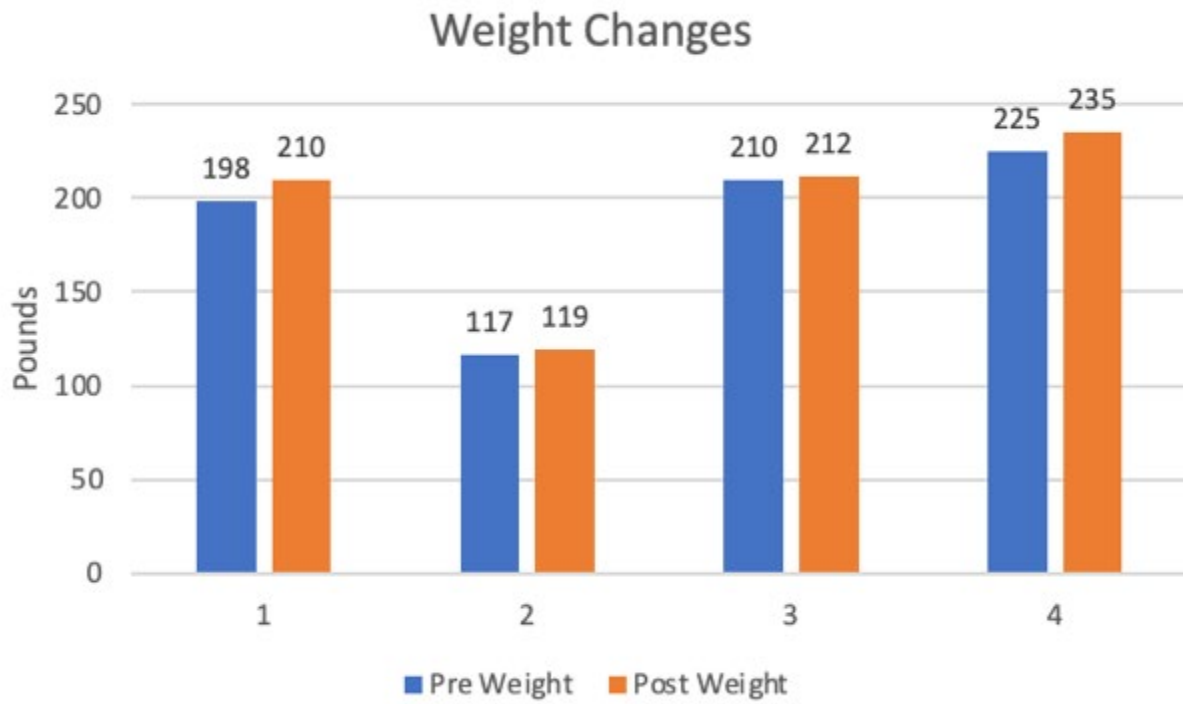


Figure 12. Appointment Attendance

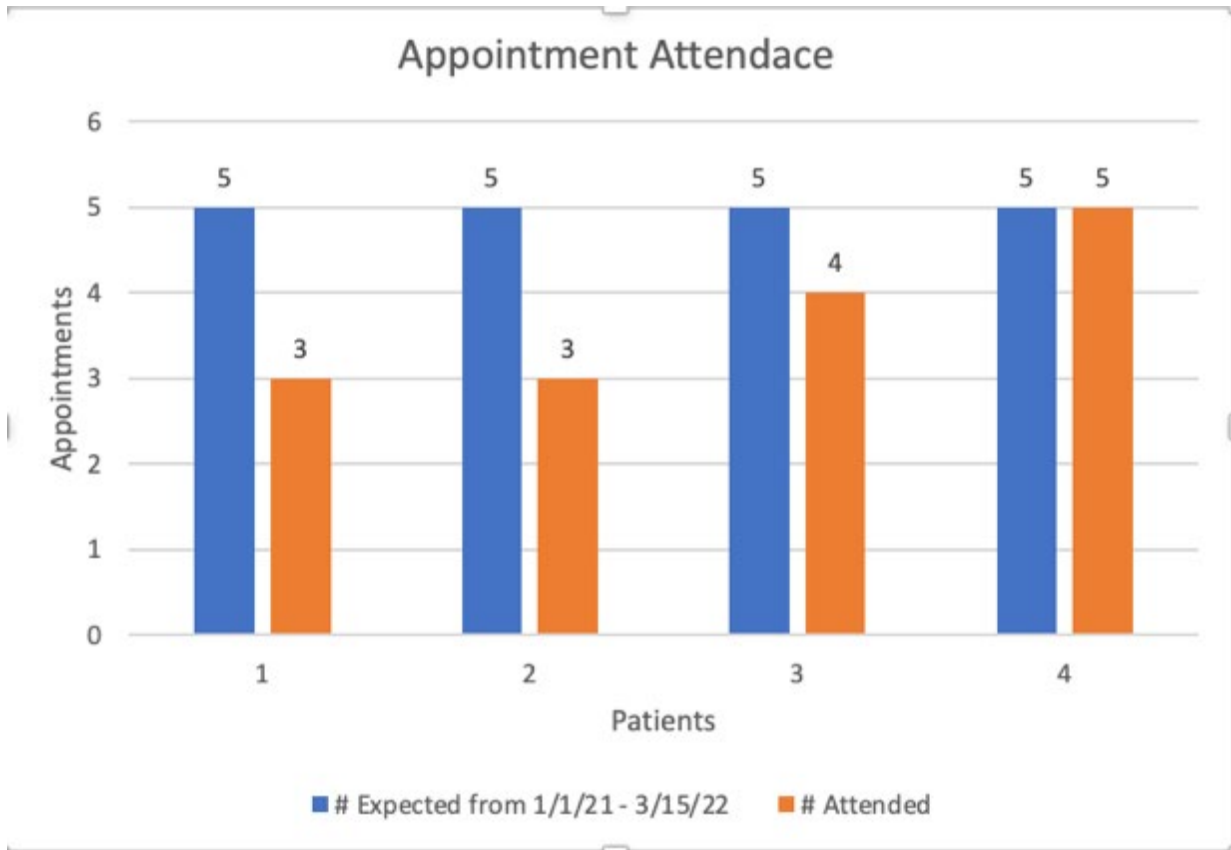


Figure 13. Foot Exams

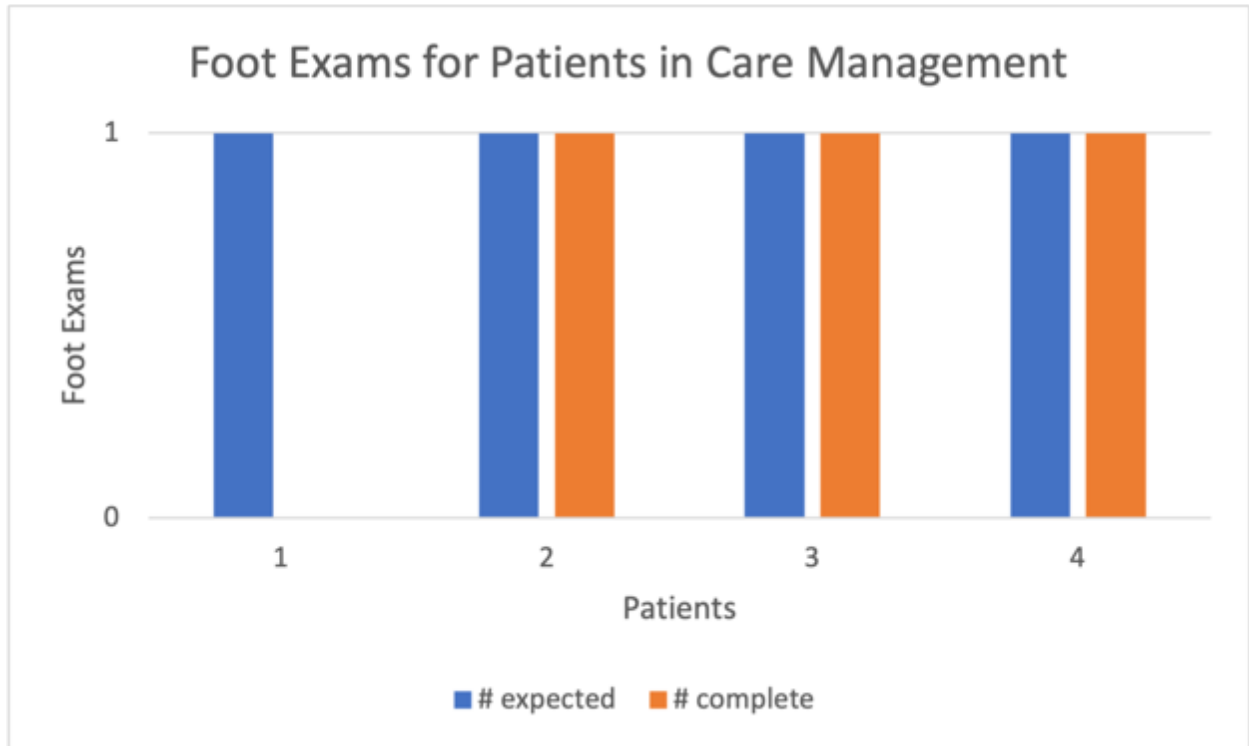


Figure 14. Microalbumin

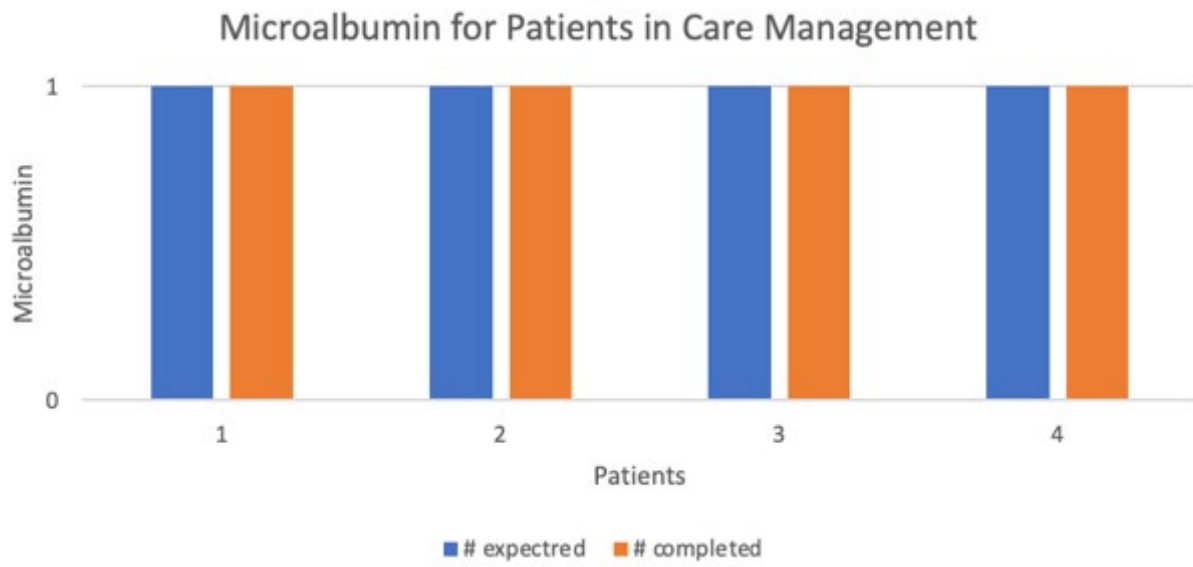
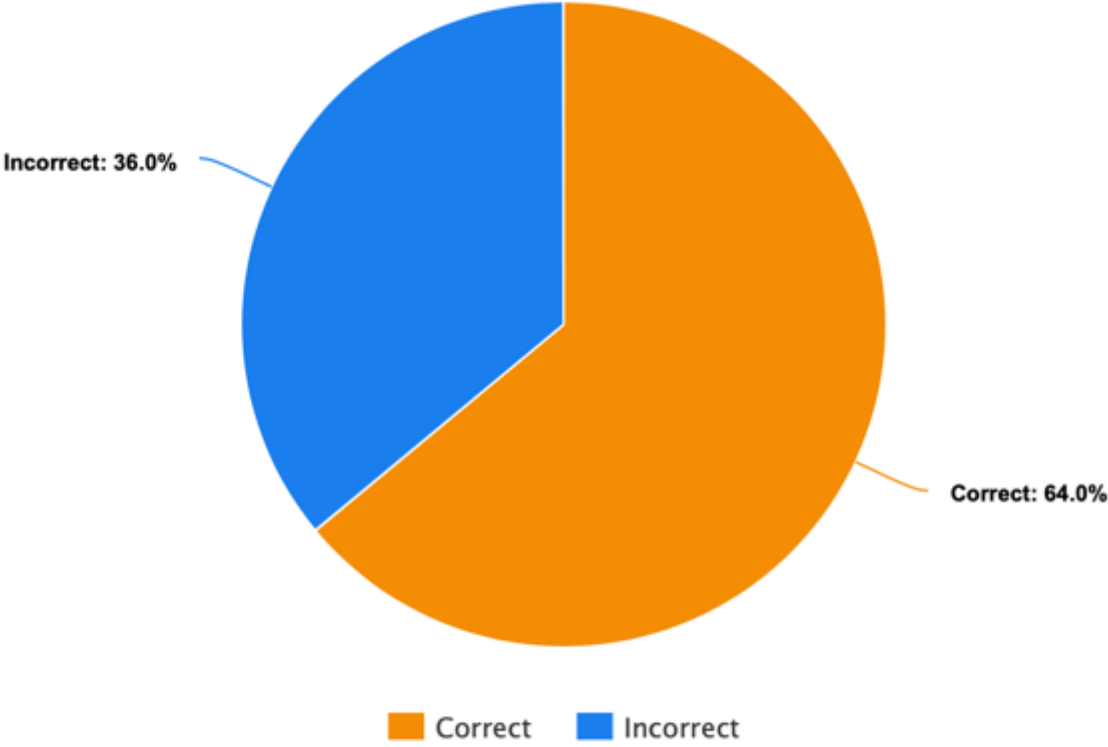


Figure 15. System Outcomes – Diabetic Clinic Visits



Tables

Table 1. Literature Review Table

Author (Year) Purpose	Design (N)	Inclusion Criteria	Intervention vs Comparison	Results	Conclusion
(Gilmer et al., 2007) Cost-Effectiveness of Diabetes Case Management	n = 3,893 Peer-reviewed and validated simulation model of diabetes	People participating in the Project Dulce	Peer-reviewed and validated simulation model of diabetes	Incremental cost-effectiveness ratios of \$10,141, \$24,584, \$44,941, and \$69,587 per QALY gained were estimated for Project Dulce participants versus control in the uninsured, state-funded insurance, and commercial insurance respectively. Project Dulce is a culturally specific diabetes case management and DMSE training program. This study used the Center for Outcomes Research Diabetes Model (peer-reviewed, validated) simulation.	Diabetes case management program was associated with cost-effective improvements in quality-adjusted life expectancy and decreased incidence of diabetes-related complications over patient lifetimes
(Bustamante, 2017) Clinic Workload, Staff Relationships, DMT2 Management	n = 274 survey	Patients: 18 years or older, two or more visits to participating clinics, DMT2 ICD-10 code. Providers: work at one of the 14 participating clinics in California	Intervention: survey with a \$10 incentive to participate	Diabetes care was more consistently provided in clinics with high quality staff relationships and a more manageable clinic workload. Staff relationships, clinic workload, and diabetic care management was defined and measured using questions adapted from the Agency for Healthcare Research and Quality Medical Office Survey on Patient Safety Culture and from the TransforMed Clinician	Focusing efforts on improving practice climate may lead to a more consistent process of diabetes care for patients.

				Staff Questionnaire. Question responses were analyzed using a regression analysis.	
(Carbone et al., 2007) Perspective of DMT2 and Hispanic patients	Patients: 37 Providers: 15 n = 52 Focus groups	Diagnosis of DMT2, being treating at participating clinic, Hispanic descent, and 30-79 years old	Focus groups	Gaps and knowledge base regarding DMT2 causation and self-management were identified: diet, stress, genetics. There was also a notable perception of limited capacity to manage lifestyle due to emotional, environmental, and economic factors.	Insights into knowledge, attitudes, practices, and perceived barriers in Hispanic patients.
(Brunk, 2017) Culturally Appropriate Self-Management Hispanic DMT2	n = 9 Descriptive qualitative design	Hispanic, adults, rural community dwelling, treated at participating clinic	Descriptive qualitative design	Feedback was clustered around four themes: information/knowledge, motivation and barriers to change, experiences with new behaviors, and personal responsibility	Data supports feasibility of adapting a culturally appropriate self-management to patients with low healthy literacy.
(Fallas et al., 2020) Improving DMT2 Self-Care	n = 38 Quality Improvement	Low-income, 18+ years old, A1C greater than 7%, Hispanic	Quality Improvement ; paired pre/post test	Significant improvements were seen for diabetes self-efficacy scores and mean A1C's decreased. Significant improvements were found for mean diabetes self-efficacy scores from before (2.53 ± 0.59) to after (2.91 ± 0.50). DSME was shown to be significant as well (p < 0.001). Mean A1C decreased significantly from before (9.51 ± 1.72%) to after (8.79 ± 1.68%). DSME was significantly changed (p = 0.043) at the end of the 6-month intervention	Peer-led groups were found to be a useful tool for providing diabetes self-management education in clinics serving low-income Hispanic people.

(Allen et al., 2017) Social Distress for DMT2 Hispanics	n = 399 Randomized control trial	18+ years old, Hispanic, DMT2, A1C greater than 7.5%, and provider approval	Randomized control trial	There was a high prevalence of the 20 social distress issues discussed. The intervention significantly reduced social distresses. (The control group had a mean 6.8 ± 4.3 items at baseline and 6.2 ± 4.3 items at 6 months; the intervention group had a mean 7.2 ± 4.5 items at baseline and 5.6 ± 4.6 items at 6 months). The intervention for this study was an internet-based screening tool consisting of 20 questions that was embedded into the care team dashboard to alert the care team of the individualized issues. From there, over the course of 6 months, tailored education and referrals were made.	Social distresses are common for Hispanic patients with DMT2 but can be helped with tailored DM education and referrals to local services.
(Prezio et al., 2013) Determine the impact of a culturally tailored education program on DM in Hispanics	n = 180 Prospective, randomized control	Hispanic, treatment at participating clinics, DMT2 diagnosis	Prospective, randomized control repeated measures design	HbA1c decreased significantly with the patients participating in the intervention. The intervention consisted of the Community Diabetes Education Program over a 12-month timeframe. There were no differences in secondary outcomes such as blood pressure, BMI, or lipid profiles.	Supports the effectiveness of DM education for uninsured Hispanic Americans in lowering A1C levels.
(Niemic et al., 2021) Long-term follow up on lifestyle interventions	n = 27 Uncontrolled clinical trial	Hispanic, safety-net primary care patients, aged 50-64	Uncontrolled clinical trial	Clinically significant changes in systolic blood pressure, stress, and activity satisfaction. Education was on healthy eating and navigating health	Late-midlife Hispanics showed long-lasting improvements in psychological

				care. Long term benefits were assessed (Cohen's $d \geq 0.8$, $p \leq 0.004$) and additional gains being seen after long term follow-up (Cohen's $d \geq 0.4$, $p \leq 0.05$).	and physical health after finishing a program that helps make healthy choices.
(Rotberg et al., 2016) Importance of Social Support in DMT2	n = 248 Descriptive study	Hispanic, 18+ years old, DMT2 diagnosis, enrolled in the Emory Latino Diabetes Education Program	Descriptive study	Patients with low levels of perceived social support had higher levels of A1Cs than those who had higher levels. Both groups lowered A1C levels, however. (A1C of 9.8% to 7.5% and 8.9% to 7.7%, respectively; $p < .001$). Mean level of social support increased from 21 ± 9 at baseline to 29 ± 7 during follow-up ($p < 0.001$)	DMT2 education programs should consider incorporating social support to improve health outcomes.
(Madden et al., 2011) Keys to successful DMT2 Self-Management	n = 26 Cross-sectional, interview	DMT2 diagnosis being treated at a safety-net clinic, 18+ years old, uninsured for 6+ months, English speaking	Cross-sectional, interview-based study	Patients that were more successful at managing their DMT2 reported having family/friends with DMT2 and had learned about the disease from them. This idea impacts the DNP project by encouraging the design to include family/friends when available into the education and follow up appointments.	Patients learned a lot from diabetic family members/friends and interpreted disease-related events as motivational turning points.
(Solorio et al., 2015)	n = 329 Retrospective cohort study	DMT2 diagnosis, between 18-69 years old, speak English or Spanish, Hispanic	Retrospective cohort study	Chronic care coordinator (CCC) intervention led to improvements in number of A1Cs run, retinal/foot exams, and increased PCP visits.	CCC show promise in improving process measures but may not improve metabolic control.

(Turner et al., 2020)	n = 523 Longitudinal study	A1C greater than 9%, clinic care started by January 2013, Hispanic	Longitudinal study; 5 years	Clinic visits, rather than phone call follow ups, had a two-fold increase in efficacy of DMT2 patients' A1C control. (Hazard ratio [HR] 1.45, 95% CI [1.01, 2.09], p = 0.043)	To benefit vulnerable patients with uncontrolled DMT2, in-person visits may be required.
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Table 2. Literature Review Themes

	Findings		Suggested Intervention
Hispanic Culture and DMT2	US often uses individuality theories that don't encompass family	Maintaining Hispanic diet-related to social/spiritual factors	Culturally specific food recommendations
Barriers to Successful Diabetes Self Management Education (DSME)	Income, social support, education, discrimination, limited sick leave, immigration status	Mental health: depression	Screen for depression and anxiety/assess SDoH for need of additional resources
Successful DSME	Key factor is social support	Written short- and long-term goals shared with health team	Include family/friends if available. Goal setting
Maintaining Successful DSME	Benefits of DMSE last around 6 months		Maintenance program – 1 hour visit
Follow-ups and DMT2 control	1 in-person visits with no phone calls	2 in-person visits with or without phone calls	Include at least one in-person visit, phone call used as reinforcement

Table 3. Evaluation and Measures

Category of Measure	Concept Measured	Concept Definition	Data Source	How Measured	Who is Measured	When Measured	Who Measures
Implementation Strategies	Use data experts	Involve, hire, and/or consult experts to inform management on the use of data generated by implementation efforts (Powell et al., 2015).	IT expert at site	Count of interactions	IT expert	Pre: 1/1/21-12/31/21 Post: 1/1-3/15/22	Student
	Develop and deploy staff educational materials	Develop and format manuals, toolkits, and other supporting materials in ways that make it easier for stakeholders to learn about the innovation and for clinicians to learn how to deliver the clinical innovation and distribute educational materials (including guidelines, manuals, and toolkits) in	1. Student 2. Staff	1. # items created 2. Pre/Post education survey	1. Student 2. Staff	1. Pre: 12/21 2. Pre/Post education: 1/22	Student

		person, by mail, and/or electronically (Powell et al., 2015).					
	Facilitation	A process of interactive problem solving and support that occurs in a context of a recognized need for improvement and a supportive interpersonal relationship (Powell et al., 2015).	Student (facilitator)	Count of facilitative events (type: email, phone, face-to-face)	Student	Post: 1/1-3/15/22	Student
	Audit & provide feedback	Collect and summarize clinical performance data over a specified time period and give it to clinicians and administrators to monitor, evaluate, and modify provider behavior (Powell et al., 2015).	EHR (see patient outcomes)	EHR Audit	Patients in Care Management	Post: 1/1-3/15/22	Student
Patient Outcomes	HbA1c	HbA1c change from before implementation to after	EHR	EHR Audit	Pre: Last weight before intervention period	Pre: 2018-20	Student
	Blood Pressure	Blood pressure change	EHR		Post: Patients value at	Post: 1/1-3/15/22	Student

		from before implementation to after			appointment during intervention period		
	Weight	Weight change from before implementation to after	EHR				Student
Process Outcomes	Appointment Attendance	Appointment Attendance to 3-month provider follow-ups	EHR	EHR Audit	Pre: Expected appointment every 3 months from 1/1/2021 – 3/15/22 Post: Actual appointment attendance to every 3 months from 1/1/2021 – 3/15/22	Pre: 1/1/2021-3/15/22 Post: 1/1/2021-3/15/22	Student
	Educational booklet use (Providers)		EHR	EHR Audit	Pre: All diabetics Post: Patients in Care Management	Pre: 2018-20 Post: 1/1-3/15/22	Student
	Phone Calls (Care Manager SW/RN)	Number of phone calls made the patients in care management by care managers (SW/RN)	EHR	EHR Audit	Post: Patients in Care Management	Post: 1/1-3/15/22	Student
	Foot exam	Number of expected foot exams vs the number that was completed	EHR	Manual EHR Audit	Post: Patients in Care Management	Post: 1/1-3/15/22	Student

		for the patients in care management					
	Urine dipstick (MAs)	Number of expected UA's vs the number that was completed for the patients in care management	EHR	EHR Audit	Post: Patients in Care Management	Post: 1/1-3/15/22	Student
Procedure Outcome	New/modified chart preparation	Volunteer's selection of correct Diabetic Clinic visits within the EHR for Care Management Patients	EHR	Manual EHR Audit	Volunteers	Post: 1/1-3/15/22	Student
	Workflow	New preparatory work for volunteers and MA, and new protocol for providers: bring in readiness for change, lifestyle factors, booklets.	Staff	Survey	Providers	Post: 1/1-3/15/22	Student
System Outcomes	Diabetic Clinic Visits	Diabetic appointment (1—4) with provider every 3 months for general patient population	EHR	EHR Audit	All diabetic adults >18yo	Pre: 2018-20 Post: 1/1-3/15/22	Student/IT

		(modifier in Athena [pre-populates order sets])					
	Care Management Referrals	Patients with diabetes with readiness for change of 4—5 and A1c>9 referred to care management	EHR	EHR Audit	All diabetic adults >18yo	Pre: 2018-20 Post: 1/1-3/15/22	Student

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<https://doi.org/10.1007/s10900-020-00849-1>

Formalized Diabetes Education in a Safety-Net Clinic

Haley Wanic

DNP Project Proposal Plan Defense

November 10th, 2021



Acknowledgements

- **Project Advisor:** Dr. Dianne Slager, DNP, FNP-BC
- **Advisory Team:**
 - Dr. Spoelstra, PhD, RN, FGSA, FAAN
 - Dr. Vander Molen, DO
- **Site Expert Implementation Team**
 - Andrea Cervantes
 - Lynette Schreur
- **Student Secured Funding**
 - No funding awarded for this project

Objectives for Presentation

1. Identify 4-5 complications of poorly controlled DM to due impaired self-management
2. Identify 5 pertinent themes from the literature review
3. Clarify a clinical problem
4. Review 5 implementation strategies
5. Review evaluation, measures, and analysis plan

Introduction

- Hispanic people are at a 66% higher risk of developing DMT2 than Caucasians.
- Hispanic people diagnosed with DMT2 are unlikely to achieve the recommended hemoglobin A1C goal of <7.0%, with less than half of the diagnosed population reaching this goal (Fallas et al., 2020).
- Complications include retinopathy, neuropathy, and nephropathy
- Uncontrolled DMT2 with health complications can lead to:
 - increased health care spending
 - lower quality of life
 - increased mortality.
- Social determinates of health (SDoH) affecting the Hispanic population include, but are not limited to, income, social support, education, and discrimination (Healthy People, 2020)

Organizational Assessment

Organizational Framework

- Burke and Litwin
- Change is multifaceted and not always linear
- Burke and Litwin was chosen because the model shows the 12 variables and how they are interconnected to effect change: pertinent areas to this clinic are the mission, leadership, and climate

SWOT Analysis

Strengths

- Clearly defined vision and mission
- **Committed employees and volunteers who strive to help the underserved**
- Counseling and spiritual care available onsite
- **Bilingual staff, volunteers, and translators**
- Dental services on site-holistic care

Opportunities

- Support from larger health organizations
- **Availability of expert created curriculum**
- More grants: care management
- Disease management, population-wide

Weaknesses

- Income largely based on donations
- **Inconsistent documentation due to many volunteers**
- **Limited defined standard operating procedures**

Threats

- Revenue can be unstable because it is based on donations/grants
- **Patient population often: non-English speaking, low SES, uninsured, low health literacy**

Literature Review

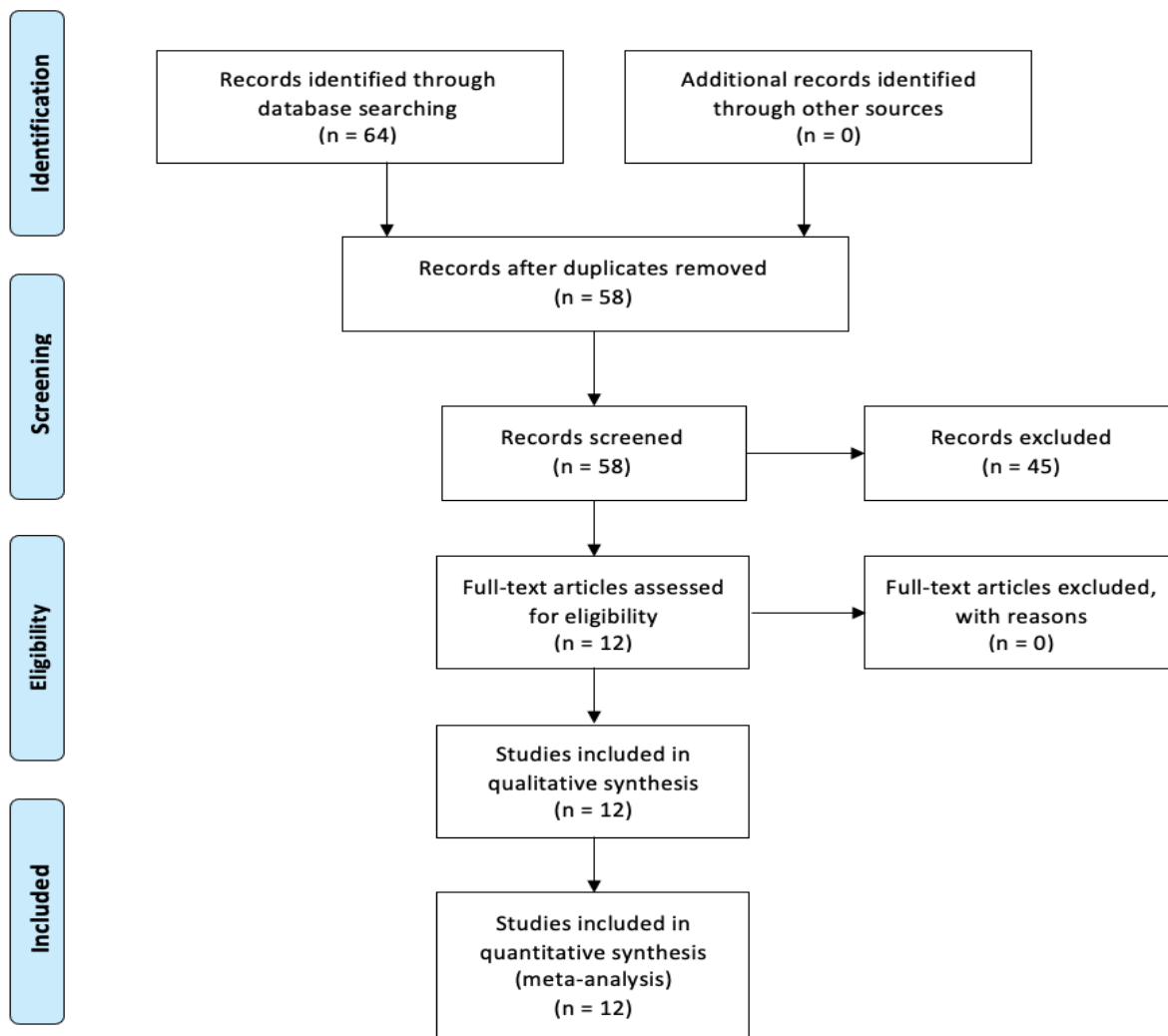
Available Knowledge

Purpose & Aims

1. What are common themes in barriers and successes in DMT2 education particularly in a safety net clinic population with SDoH deficits?
2. What is the documented Spanish population's acceptance of diabetes education?
3. How will clinic staff respond to changed workflow and/or added duties?



PRISMA Figure



Results of Review

- Types: 2 RCT, 2 descriptive qualitative studies, 1 survey, 1 simulated model of diabetes cost, 1 focus group, 1 quality improvement project, 1 uncontrolled clinical trial, 1 cross-sectional interview-based study, 1 retrospective cohort study, and 1 longitudinal study
- Location: United States
- Sample Sizes: 9 to 3,893

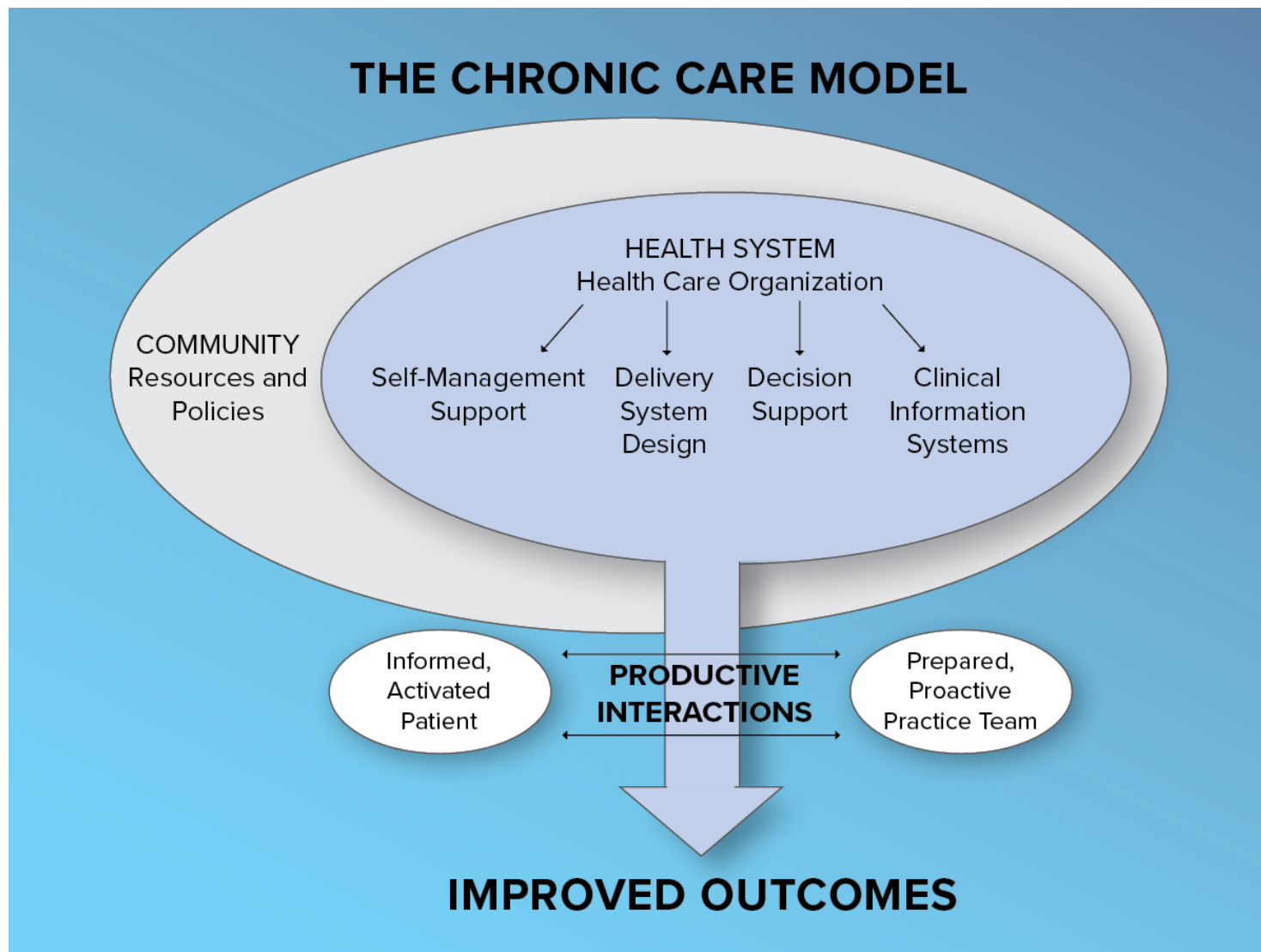
Synthesis of Results

Theme	Findings		Suggested Intervention
Hispanic Culture and DMT2	US often uses individuality theories that don't encompass family	Maintaining Hispanic diet-related to social/spiritual factors	Culturally specific food recommendations
Barriers to Successful Diabetes Self Management Education (DSME)	Income, social support, education, discrimination, limited sick leave, immigration status	Mental health: depression	Screen for depression and anxiety/assess SDoH for need of additional resources
Successful DSME	Key factor is social support	Written short- and long-term goals shared with health team	Include family/friends if available. Goal setting

Synthesis of Results

Theme	Findings		Suggested Intervention
Maintaining Successful DSME	Benefits of DMSE last around 6 months		Maintenance program – 1 hour visit
Follow-ups and DMT2 control	1 in-person visits with no phone calls	2 in-person visits with or without phone calls	Include at least one in-person visit, phone call used as reinforcement

Conceptual Model for Phenomenon



Bodenheimer, T., Wagner, E. H., & Grumbach, K. (2002). Improving primary care for patients with chronic illness: the chronic care model, Part 2. *Jama*, 288(15), 1909-1914.

Clinical Practice Question

- Will implementing care management strategies through patient follow-up calls, educational hand-outs, and verbal education impact participants' body mass index, blood pressure, A1C levels, and appointment attendance?

Purpose and Project Type

- **Describe Purpose**
 - Formalize and improve DMT2 self management education at a safety-net clinic
- **Project Type to address Clinical Question**
 - Quality Improvement

PROJECT PLAN

Project Purpose and Objectives

- **Project purpose: Improve DMT2 control for uncontrolled patients – with an A1c greater than or equal to 9%**
- **Objectives:**
 1. By October 30, 2021, have a dedicated curriculum to follow for care management.
 2. By November 30, 2021, have 5-10 patients enrolled and assigned in the care management program.
 3. By January 31, 2022, complete the first PDSA cycle of implementation
 4. By March 31, 2022, end intervention period and analyze results
 5. By April 30, 2022, disseminate quality improvement project findings and sustainability plan to the project site and GVSU faculty mentors.

Project Design

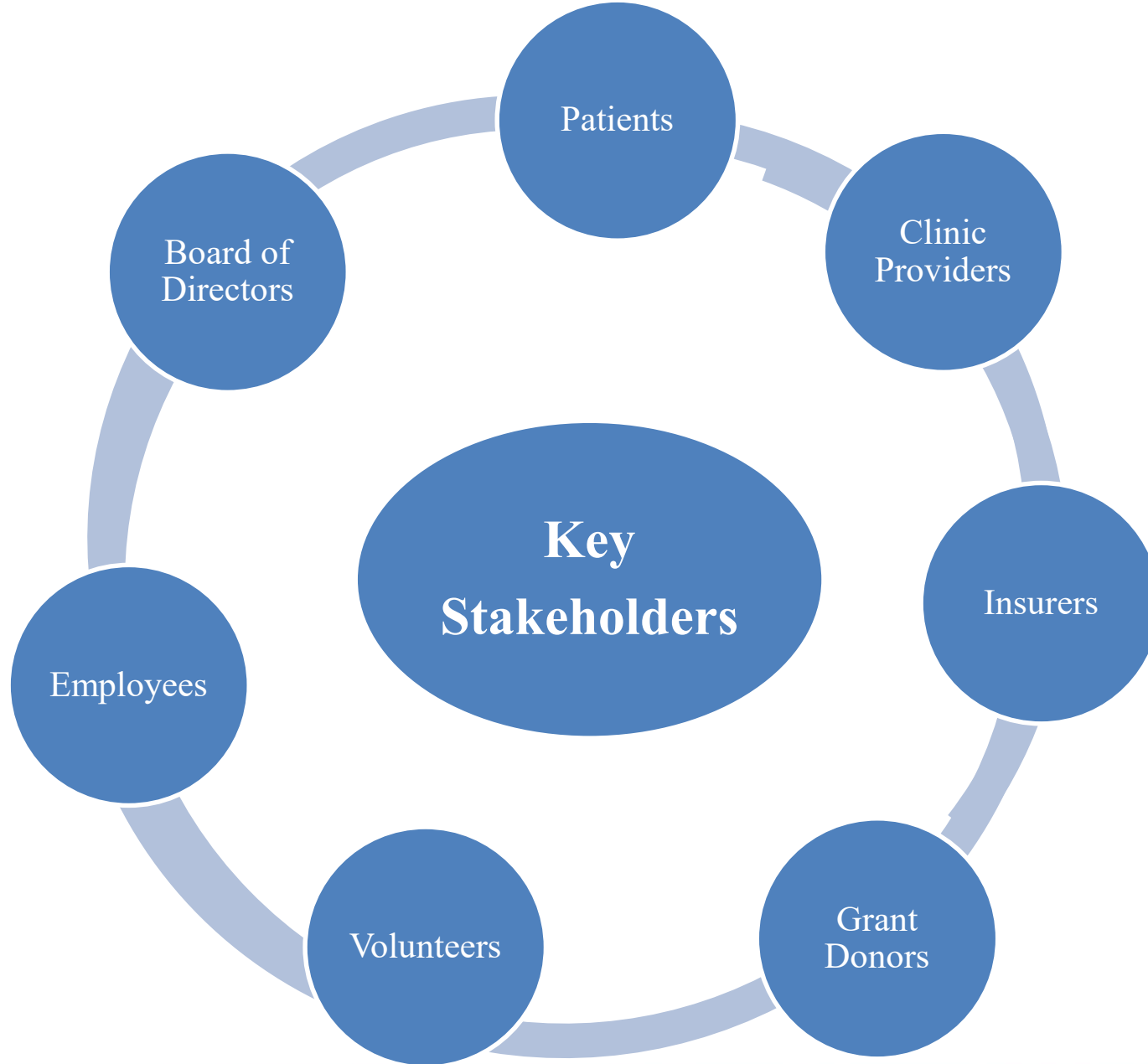
- **Project Design – Quality Improvement**
 - Improve diabetes mellitus type 2 management by patients between their scheduled appointments through formalized individualized, progressive written and verbal education.
 - Measured by potential changes in:
 - HbA1c
 - Weight
 - Blood Pressure
 - Appointment Attendance

Methods: Project Plan

- **Setting and Participants/Stakeholders**
- **Implementation Model/Framework**
- **Plan Objectives & Implementation Strategies with products used**
- **Measures to evaluate clinical question**
- **Data Collection**
- **Analysis plan**

Current State of the Organization: Setting and Participants/Stakeholders

- **Setting:** Safety-net clinic in the Midwest
- **Condition:** Chronic, uncontrolled DMT2 (HbA1c >9%)
- **Participants:**
 - **Providers:** Employed MD/DO and nurse
 - **Patients:** Convenience sample from current health program of uncontrolled diabetic patients at the clinic
 - **Volunteers:** Providers, nurses, medical assistants



Implementation Framework and Approach



Implementation Strategies & Elements

(Powell et al., 2015)

- Assess readiness
- Stakeholder engagement
- Staff education
- Workflow adjustments
- Facilitation
- Clinical information systems

Implementation Strategies

Implementation Strategy	Description	Framework Alignment
Assess readiness	Organizational Assessment Interviews with staff	Plan
Stakeholder engagement	Monthly meetings with staff Project updates with staff	Plan Act
Staff education	Meetings with staff/volunteers Written handouts created	Do
Workflow adjustments	Interview staff Observational	Do Study Act
Clinical information systems	Meet with staff on how to document/upload/find needed documents	Plan Do Study
Facilitation	Collaboration on ongoing intervention Ongoing monthly check-in meetings	Plan Act

Detailed Plan

- Before the patient's appointment, chart preparation occurs through the work of volunteers.
- The EMR allows the volunteers to select a "Reason for Visit" which has the options of: Diabetic Clinic 1-4.
- The selection of the clinic will prepopulate the patient's chart with the appropriate HPI, review of systems, physical exam, and order sets

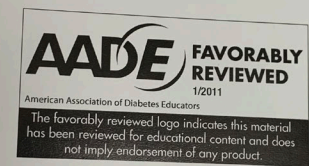
Detailed Plan

- Patients will have an appointment with their provider every 3 months
- At every appointment, they will be given:
 - Educational booklet
 - Lifestyle behaviors worksheet
 - Readiness for change worksheet

Tools – Educational Booklets



Favorably reviewed by:



These Novo Nordisk patient education materials were developed using information from the following sources: American Association of Diabetes Educators, American Diabetes Association, and American Dietetic Association. These booklets do not replace the advice of your diabetes care team. Be sure to consult your diabetes care team regarding your individual diabetes care plan.

Quotes reflect the opinions of the people quoted and not necessarily those of Novo Nordisk. Novo Nordisk does not verify the information in the quotes. Individual results may vary.

Tools – Lifestyle Factors

- **Lowering & Managing Your Hemoglobin A1C (HbA1C):** This blood test will tell you overall how your diabetes is doing and measures your average blood glucose level over the previous 2-3 months.
 - ✓ **Long Term Goal** of someone with diabetes is to have an **HbA1C of <7%**.
 - ✓ **Your HbA1C now:** _____
 - ✓ **Short Term Goal:** _____

- **Increase Your Physical Activity:** Your physical activity now: ___ None ___ Occasional ___ Moderate ___ Heavy
 - ✓ **Long Term Goals:** Participate in 3 days a week (at least 150 minutes/week total) of moderate intensity aerobic physical activity (i.e., walking, jogging, swimming, etc.)
 - ✓ Participate in strength or resistance training at least twice a week
 - ✓ Reduce your time of just sitting. (i.e. no more than 90 minutes of sitting before you get up and move)
 - ✓ **Your Short Term Goal:** _____

- **Weight Loss (if needed):** A healthy weight is important to managing your diabetes. Decrease your body weight as recommended by your health care team. Your Weight Today: _____ Your BMI Today: _____
 - ✓ **Long Term Goals: Weight:** _____ **BMI:** _____
 - ✓ **Your Short-Term Goal: Weight:** _____ **BMI:** _____ A good place to start is to decrease your weight by 5%.

- **Monitor Your Blood Sugar:** Maintain your fasting blood sugar range as recommended by your doctor.
 - ✓ **Target Blood Sugar: 80-130 mg/dL**
 - ✓ **Your Short Term Goal:** _____

- **Eat A Healthy Diet:** Your Diet today: ___ Excellent ___ Very Good ___ Fair ___ Poor
Basic Recommendations:
 - ✓ Maintain optimal weight
 - ✓ Reduce Calories (if BMI is high)
 - ✓ Low Carbohydrate Diet: Limit daily carbs to 100gms/day with no meal or snack greater than 30 grams of carbs
 - ✓ Plant-based diet: high polyunsaturated and monounsaturated fatty acids
 - ✓ **Long Term Goal:** Eating Healthy is critical to taking care of your diabetes.
 - ✓ **Your Short Term Goal:** _____

- **Healthy Sleep Habits:** I currently sleep _____ hours/night.
The quality of my sleep is: ___ Excellent ___ Very Good ___ Fair ___ Poor
 - ✓ **Long Term Goal:** 7 or more hours of quality sleep/night.
 - ✓ **Your Short Term Goal:** _____

- **Social & Behavioral Support:** What kind of emotional and social support do you have in your life today? ___ Excellent ___ Very Good ___ Fair ___ Poor
 - ✓ **Long Term Goal:** Diabetes is a challenging disease and everyone needs good support.
 - ✓ **Your Short Term Goal:** _____

- **Moderate Use of Alcohol:**
 - ✓ **Long Term Goal:** Limit use of alcohol to 1 (women) or 2 (men) standard drinks per day.
 - ✓ **Your Short Term Goal:** _____

- **No Tobacco Use:** ___ do not smoke ___ 1/2ppd ___ 1ppd ___ more than 1ppd
 - ✓ **Do you have any interest in quitting at this time?** ___

Tools – Readiness for Change

Readiness to Change Assessment

Readiness to Change Question(s):

“Based the lifestyle behaviors that could help you better manage your Diabetes/Hypertension, are there any changes you feel you are ready to start working on right away?”

Yes _____ No _____ Maybe _____

If yes: *“What particular change(s) are you thinking you can make?”* (Specific goal planning would then be undertaken using Goal sheet.)

“On the following scale, what number best reflects how ready you are to make the change(s) in your behavior?” _____

(1 - not ready, 2 - pre-contemplative, 3 - contemplative, 4- Preparation, 5 – ready/action)

Tools – Provider Education

Enrolling a New Patient

1. Check if a PCP is assigned
2. Review “Care” on the left-hand side of Athena – if present, patient is eligible

The screenshot displays the AthenaNet interface for a patient named Banking TEST. The patient's information, including contact details and insurance, is shown. A green arrow points to the 'Confidential information' section. Another green arrow points to the 'Care team' section, which is currently empty, with a box labeled 'PCP Needed' next to it. The 'Care Management' section on the right shows a care plan created on 10-01-2020 and care programs including 'Care Management - Longitudinal'. A box with the text 'Episodic: diagnosed Longitudinal: uncontrolled' is also present, with a green arrow pointing to the 'Longitudinal' status.

3. MA/Chart Prep will have selected on “Reason for Visit” HTN Clinic or Diabetic Clinic 1, 2, 3, 4
 - a. This selection will prepopulate appropriate HPI questions, PE, & order sets
 - b. HTN: BMP and BMI
 - c. DM: Foot exam, Dental/Eye screens, and A1c, BMP, Lipids, Microalbumin
 - d. Remember to give them the corresponding educational booklet!
4. Appropriate “Lifestyle Behaviors that Impact your Diabetes or HTN” will be in door, you give to the patient and explain
5. Give patient the “Readiness for Change” form – can be given in room or a later time
6. Referral to Care Management – Pt must have decided on area of lifestyle to change and score 4-5 on readiness for change (Stage 2 HTN or A1c >9%)
 - a. Referral processed by staff
 - b. Patient applicability reviewed by Chris, Laura, and Andrea
 - c. Patient presented at staff meeting for care management assignment

Tools – Care Manager Education

Overview

1. Review Lifestyle Behaviors Checklist for areas patient is interested in changing
2. Review previous call discussion in Athena
3. Collect appropriate education curriculum handout for guidance
4. Complete call
5. Document call in Athena via “Patient Case” which will show in visits
6. Title “Patient Case” per behavior and call number. Example: “BS Monitoring 1”
7. Patient will have appointment with provider every 3 months
8. Patient will have phone calls (10-20min) every 2 weeks x 1 month, then monthly

Behavior			
Weight Loss/Physical Activity	Toolkit 18 – Getting Started with Physical Activity	Toolkit 13 – Protect Your Heart by Losing Weight	Desk Moves
Social/Emotional Support	The Emotional Side of Diabetes		
Blood Sugar Monitoring	Factors Affecting Blood Sugar	Checking Blood Glucose	Tracking Blood Glucose
Diet	Plan Your Portions	Nutrition for Life	
Tobacco/ETOH	All About Quitting Smoking	Alcohol: Is Your Health at Risk?	
Sleep	Sleep Hygiene		
Extra Topics	Skin Care/Infections	Taking Care of Your Feet	Eye Exams

Review

- Chart prep will select appropriate "Reason for Visit"
- The patient is given the 3 items at their visit
 - Educational booklets, lifestyle behaviors, and readiness for change
- Patients who score 3 and below on readiness for change are not referred to care management but will continue to be scheduled for 3-month DM appointments
- If patient scores 4/5 on readiness for change, they will be referred to care management
- Care management consists of:
 - Biweekly phone calls x1 month
 - Then monthly phone calls

Measures and Analysis

Evaluation and Measures

- Patient outcomes: HgA1c, blood pressure, weight, appointment attendance percentage to 3-month provider follow-ups
- System outcomes: Number of diabetic clinic visits and care manager referrals
- Procedural outcomes: New/modified chart prep, provider workflow, social work/nursing workload

Analysis Plan

- Statistical plan
- GVSU Biostats graduate student support
- Use SPSS to run a paired t-test
 - The p value will be set at 0.05
 - Graphs of pre/post intervention measures

Budget, Ethics, Timeline

Proposed Budget & Resources

Cost Mitigation if DMT2 is well-controlled (ADA, 2018; Nguyen, 2020)

1 controlled DMT2 patient	\$10,541
10 controlled DMT2 patients	\$105,410

Expenses for Implementation of Project

Project Manager (DNP Student)	\$20,000 *in kind donation
Physician (Site Mentor)	\$450
RN (x2)	\$700
Social Work (x2)	\$700
Medical Assistants (x2)	\$300
Site meetings \$125/hour x 7 hours	\$875
Statistician \$30/hour x 1 hours	\$30 *in kind donation
Supplies	\$16
Total Expenses	\$3,041

Cost Mitigation of DMT2 Control for 10 Patients over 1 year

\$102,369



Ethical Considerations



DATE: September 23, 2021

TO: Dianne Slager
FROM: Office of Research Compliance & Integrity
PROJECT TITLE: Diabetes Education in a Safety-Net Clinic
REFERENCE #: 22-050-H
SUBMISSION TYPE: IRB Research Determination Submission

ACTION: Not Research
EFFECTIVE DATE: September 23, 2021
REVIEW TYPE: Administrative Review

Thank you for your submission of materials for your planned scholarly activity. It has been determined that this project does not meet the definition of research* according to current federal regulations. The project, therefore, does not require further review and approval by the IRB. Scholarly activities that are not covered under the Code of Federal Regulations should not be described or referred to as "research" in materials to participants, sponsors or in dissemination of findings. While performing this project, you are expected to adhere to the institution's code of conduct and any discipline-specific code of ethics.

A summary of the reviewed project and determination is as follows:

This project is intended to help address a clinical problem at [REDACTED] which includes impaired diabetes mellitus type 2 management by patients between their scheduled appointments. The purpose of this project is to improve the healthcare and health outcomes of patients at this clinic. This project is not designed to create new generalizable, so it does not meet the federal definition of research and IRB oversight is not required.

This determination letter is limited to IRB review. It is your responsibility to ensure all necessary institutional permissions are obtained prior to beginning this project. This includes, but is not limited to, ensuring all contracts have been executed, any necessary Data Sharing Agreements and Material Transfer Agreements have been signed, and any other outstanding items are completed.

An archived record of this determination form can be found in IRBManager from the Dashboard by clicking the "_ xForms" link under the "My Documents & Forms" menu.

If you have any questions, please contact the Office of Research Compliance and Integrity at (616) 331-3197 or rci@gvsu.edu. Please include your study title and study number in all correspondence with our office.

- **Data**

- Reports day 0 and day 120
- Deidentified (name, DOB, DOS)

- **IRB review**

- **No potential conflicts of interest**

- **Data safety**

- Password protected flash drive

Timeline

November
30, 2021,
5-10
patients
enrolled

March 31,
2022,
complete
statistical
comparison

January 31,
2022,
Complete
PDSA cycle

April 30,
2022,
disseminate
project
findings

Sustainability and Summary

Sustainability Plan

- Identify adherence champion (Powell et al., 2015)
- Potential project endurance: high
- Ensure sustainability: continual buy-in from employed physicians, tracking data, grant application
- Continue PDSA cycles (Christoff, 2018)

Summary

- Quality improvement project
- Chronic, uncontrolled DMT2
 - HgA1c, weight, BP, appointment attendance
- Scheduled appointments, phone calls, written/verbal education for 5-10 patients
- PDSA Cycles

Handouts

1. Table of evidence from literature review
2. Educational booklets
3. Readiness for change
4. Lifestyle factors
5. Provider checklist
6. Care manager checklist
7. Evaluation & Measures
8. Operating Budget Plan

References

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