

Spring 5-19-2016

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Webster, Stacie, "Helping Diabetic Patients Reduce Their HbA1c by Follow-Up Phone Calls, Every Two Weeks" (2016). *Master's Projects*. Paper 288.

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Helping Diabetic Patients Reduce Their HbA1c by Follow-Up Phone Calls, Every Two Weeks

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Clinical Leadership Theme

This project will focus on the Clinical Nurse Leader (CNL) essential of *Quality Improvement and Safety*. I will use the CNL competency of using performance measures to assess and improve the delivery of evidence-based practices for this project. I aim to assist diabetic patients in our Primary Care practice to reduce their Hemoglobin A1c (HbA1c) to <8% by increasing awareness of how their behavior affects their overall wellbeing. HbA1c measures blood glucose control in type 1 and type 2 diabetics. I will be working closely with 20 diabetic patients to help them identify what actual, and perceived barriers, are preventing them from managing their diabetes well.

Statement of the Problem

I'm currently working in a primary care office that is associated with a large urban hospital. Recent Healthcare Effectiveness Data and Information Set (HEDIS) scores indicated approximately 44% of the diabetic patients in our practice have a HbA1c > 8%. This information was conveyed to the providers and myself, and we decided to collaborate and form our coalition to identify individual goals for these diabetics. This data created an urgency to help our patients better manage their diabetes.

Project Overview

The long term goal is to reduce the number of patients with a HbA1c > 8% by 25% in the next year. According to the American Diabetes Association (ADA) (2016), A1C reflects the average blood glucose over several months and has a strong predictive value for diabetes complications. I intend on helping the patients in our practice achieve improved glycemic

control to minimize the risk of associated complications. I am initially focusing on 20 patients for close following. Identifying patients who want to take control of their care is crucial to achieving success. Patients are being asked to record their blood glucose 2-3 times a day and I follow up with them through phone calls, approximately every 2 weeks. Barriers will need to be identified and tools to overcome these barriers will be provided. The process will end individually, once the patient has proven they can successfully manage their diabetes. This will be manifested by proof of their ability to maintain a $HbA1c \leq 7\%$ as recommended by the ADA (2016).

Rationale

According to the National Committee for Quality Assurance (NCQA) (n.d), the HEDIS scores are one of the most widely used sets of health care performance measures in the United States. The NCQA also states diabetic patients in the U.S. who manage their diabetes well could prevent an estimated 14,000 heart attacks, strokes, or amputations at a cost savings of \$573 million. Patients could also avoid 6.8 million reduced capacity days or sick days (NCQA, n.d).

Schaffer (2016) reports a middle-aged U.S. adult with diabetes will develop a disability six to seven years earlier than an adult without diabetes and spend more years in a disabled state. Housden, Wong, & Dawes (2013) report for every 1 percent reduction in a HbA1c, there is a 37% decrease in microvascular complications. The risk of developing eye, kidney, and nerve disease is reduced by 40 percent with a decrease in HbA1c.

The primary care practice in which I work was recently provided data from the HEDIS set and our data revealed almost 44% of the diabetic patients seen in this practice have a HbA1c $>8\%$ (Appendix A). This was averaged from data provided from three main insurance providers

(Appendix B). By working on this process, we expect improving glycemic control will minimize the risks of cardiovascular, kidney and retinal disease. According to the Centers for Disease Control (CDC) (2001), people with diabetes need adequate patient education and social support in order to be successful. Providers also need support to educate, monitor, and manage these patients.

This project could have a greater affect if I had additional time to connect with more patients. I'm currently dedicating approximately one hour a day to make my calls. The average nurse makes \$40 an hour. If I was able to invest 4 hours a day at that rate, it would cost the hospital approximately \$9,600 a year. This is a relatively low fee compared to what it would cost the hospital for admissions, readmissions and complications from diabetes. According to the ADA (2013), the total costs of diagnosed diabetes in the United States in 2012 was \$245 billion, \$176 billion for direct medical costs and \$69 billion in reduced productivity. This is a significant burden imposed on society and does not reflect the cost of undiagnosed diabetes or pain and suffering.

The hospital network also receives incentive payments from insurance companies based on our HEDIS score. The incentive program recognizes and rewards practices for providing cost-effective care to its members. Each incentive component has a dollar value determined by the practice's percentile score in quality performance. That score is multiplied by the average monthly number of members. Because 44 % of our patients have poor control of their diabetes, we're technically losing the practice income. There are 24 total measures that are calculated into the HEDIS score and each insurance company provides incentives at different rates. As reported in our last staff meeting, there is potentially \$2 million of incentive money from insurance providers available to our practice if we ranked in the 80th – 89th percentile. The practice

benefits from improved performance and the patients benefit by achieving optimal level of health.

My goal is to identify patients who want to take control of their care once provided the right information and support. Our goal for improved quality measures align with the Institute of Medicine (IOM's) aim to use a Patient-Centered approach. We are a Patient-Centered Medical Home practice that provides care to adults ages 18 and older. It is important to work on this now because trends have indicated the incidences of diabetes will continue to increase and so will the prevalence of complications (NCQA, n.d).

Methodology

Kotter's Eight Steps to Change is the change theory I am following. As indicated in steps one and two, the data revealed many of our patients in our practice are poorly managing their diabetes and showed there was a significant need for improvement. This created an urgency for us to help them better manage their disease. Leadership provided this information to the providers and myself, and it was decided to collaborate and identify individual goals for these diabetics.

In step three, according to Kotter (n.d) a vision is to be created. We currently envision 10% of these diabetics to have a 10% reduction in their A1c in 3 months. According to Davidson, et al. (2011), managing a change implementation requires an understanding of potential resistance. In steps four and five, I've communicated this vision to the patients and decided to focus strongly on those who have expressed a desire to increase their compliance to reach this goal. Our short term wins are manifested when a decline in daily glucoses are reported in the every-two-week follow-up calls. Kotter has stated many projects fail because victory is

declared too early. I have learned that this is an important step that could prevent us from getting to the 8th and final step of making the changes stick.

With the help of the primary care providers, we were able to identify 20 patients who are poorly managing their diabetes. There are many patients who meet this criteria but I decided to start with a smaller group. I've met some initially after their routine visit, and for others, my first contact was over the phone. I introduced myself and explained my role and purpose of my contact. They have all agreed to allow me to remain in contact and most seemed really excited by the process. I have a calendar to help me keep track of who needs to be called and I created an Excel spreadsheet to record actions done and actions needed to be done.

It was during these calls that I was able to identify barriers and help them through it. I am a liaison between the patient and their provider, or the patient and the pharmacy, or their insurance supplier. One patient had gastrointestinal distress from her medication and was taking it every other day. I was able to discuss this with her provider and her medication was changed and is better tolerated. Another patient couldn't afford the insulin she was prescribed. I contacted her insurance company and was able to identify which insulins were on their preferred formulary and her regimen was changed as well.

My goal is to call them every two weeks to discuss the importance of diet and life style changes and medication compliance. It is crucial to also provide support to the family and care takers. Educational materials and dietary guides are provided to supplement what has been taught. These tools help them to make healthy choices in their daily lives. I'm also available to schedule patients in the office for face-to-face interaction, without charge. I've provided my

direct phone number for easier access to contact me. Surprisingly, I have not identified any obvious trends when identifying barriers.

According to the CDC (2001), people with diabetes need adequate patient education and social support in order to be successful. Providers also need support to educate, monitor, and manage these patients.

At this point, I am only able to dedicate one hour a day to make these calls and I am averaging 2-3 calls a day. My immediate goal is to keep track of glucose logs and monitor for a reduction in their daily blood glucoses. Inconsistent high or low blood sugar results are reported to the provider, and adjustments in their medication can be made if indicated. Daily blood glucoses that show a declining trend should result in a lower HbA1c in 3-4 months. The ADA (2014) suggests an estimated average glucose of 154 should correlate with an HbA1c of approximately 7% and I will use this as a guide (Appendix C). I will maintain close contact with them until their HbA1cs are < 8% and they have demonstrated they can maintain this measure on their own.

Data Source/Literature Review

My PICO question is: In Einstein Internal Medicine, how does having a registered nurse providing educational support in-between visits to diabetic patients, compare to no further office contact until the next office visit, influence a reduced HgbA1c over the next 6 months? My plan is to guide these patients to self-manage their diabetes by making bi-weekly calls during the process. I will also assist the Diabetic CRNP in the monthly diabetic shared visits in our office.

The literature that I reviewed all indicate self-management is an important skill for patients with diabetes. According to a study conducted by Niknami et al. (2014), self-care for diabetics improve quality of life and is cost effective. This study was aimed to determine the impact of self-care education programs on reducing HbA1c in type 2 diabetic patients. Chen et al. (2013) conducted a study to explore the behaviors of diabetic patients and determined the impact of a telehealthcare program. They found there was a significant difference in blood glucose levels between the beginning and the end of the patient participation, and the differences between the overall HbA1c was also significantly lower.

The ADA published a report, *Standards of Diabetic Care (ADA, 2016)* and it found that ongoing patient self-management education and support are critical to preventing acute complications and reducing the risk of long-term complications. Reducing the economic burden of diabetes and improving the quality of life of diabetics is also a Healthy People 2020 goal as recommended by the U.S. Office of Disease Prevention and Health Promotion (ODPHP, 2016).

Stellefson, Dipnarine, & Stopka, (2013) conducted a randomized controlled study in academic affiliated primary care practices and private primary care practices. The objective of the study was to describe how researchers applied the Chronic Care Model to manage diabetes in primary care settings. It was found that primary care, office-based diabetes self-management education, improved patient outcomes.

Along with the counseling the patient receives in the office, they are encouraged to establish themselves with an endocrinologist and utilize services offered by the certified nurse diabetic educators and shared diabetic group visits. Research articles have been obtained that give legitimacy to the impact shared visits have on improving diabetes management. Housden,

Wong, & Dawes (2013) conducted a systematic review and meta-analysis to measure the effect of group medical visits on improving outcomes in patients with diabetes. They recognized patients who participated in these shared visits, did have a decrease in their HbA1c and reported improvements in quality of life, as measured by the Diabetes Quality of Life Questionnaire. The duration of treatment was also found to have had a greater effect on their HbA1c. There was a decrease in their HbA1c of 1% for every year a patient participated.

Timeline

I began to identify eligible patients and provided some outreach in the office the 2nd week of January, 2016. My initial contact with 20 patients was complete by the 1st week of February, 2016. During each bi-weekly call, I review and log their reported blood glucose, preferably the levels measured before breakfast and dinner. This will be an on-going project. I will continue to monitor the trends in their blood glucose because most will not have a repeat HbA1c until their 3-4 month follow-up visit with their provider.

Expected Results

I expect 25% of the diabetic patients that I am monitoring closely will have a reduction in their HbA1c within the next 6 months. At least 5 out of the 20 patients have expressed a real desire to change their lifestyle and have demonstrated changes in their behavior. Their reported blood sugars have also trended down. I also expect to have a greater turn-out for the group diabetic visits. I have learned some diabetic patients don't want to be changed and it is important for me to focus on those who do want assistance in this transformation.

I am uncertain of the impact I can have on the entire practice. There are 5 providers and thousands of patients and one registered nurse. Because I have other responsibilities, I cannot

connect to all of the patients. A reduction of some of my duties or the addition of staff would be required for a larger impact.

Nursing Relevance

We began this improvement initiative to guide patients to take control of their health. Our ultimate goal is to assure that most diabetic patients in this practice receive Diabetic Self-Management Education and support. The current process has the patient following up with their PCP in 3-4 months and may possibly have a consult to the diabetic educator or endocrinologist. There is no follow-up between appointments with the PCP.

As a Patient-Centered Medical Home, we want our patients to be an empowered member of their care team. We hope to encourage more patients to utilize our support services such as the diabetic group visits. These interactive visits are an opportunity to have them be engaged in their progress which has been found to increase their compliance and outcomes. We have the opportunity to offer more diabetic support to patients who are covered under one particular insurance provider, because they do not charge a co-pay for their members to see specialist. This allows them to see the endocrinologist or diabetic CRNP at no additional cost or participate in shared group visits and receive one-on-one care in our diabetic institute. We're also hoping this will reduce the no-show rate to the specialist.

Summary Report

I'm currently working in a primary care office which is inside a busy, level one trauma center on the Philadelphia campus. This hospital is among a larger healthcare network with hundreds of primary care practices all over Southeastern Pennsylvania and has 150 years of

service to the community. Einstein Healthcare Network is a private, not-for-profit organization and is the largest independent academic medical center in Philadelphia which trains more than 400 residents in 30 accredited programs.

This adult primary care practice sees approximately 2,000 patients a month which is staffed with 5 medical providers, 6 medical assistants and myself. The role of the RN was created approximately 2 years ago to provide the doctors more clinical assistance. We are a Patient-Centered Medical Home practice and we were recently presented with HEDIS scores which indicated approximately 44% of the diabetic patients in the practice have a HgbA1c > 8%.

Our aim is to assist diabetic patients in our primary care practice to reduce their Hgb A1c to < 8%. The process began with us identifying the patients who met this criteria. Actual and perceived barriers have been identified and tools to overcome these barriers were provided. I captured a small group initially to identify effective and ineffective actions. Because there are a large number of patients who meet this criteria for improvement, it is important for me to recognize those who don't care to make any changes at this time and to concentrate on those who do, in order to capture more patients.

I have several other work responsibilities so the number of patients that I reach out to will slowly increase, based on time. I will end individually, once these patients have proven they can successfully manage their diabetes and are able to maintain an A1c \leq 7%.

By working on this project, I expect the improvement of glycemic control will minimize the risks of cardiovascular, kidney and retinal disease. It is important to work on this now because trends have indicated the incidences of diabetes will continue to increase and so will the prevalence of complications (NCQA n.d). Our data revealed almost 44% of the diabetic patients

seen in this practice have a Hgb A1c >8%. As the CNL, it would be my responsibility to interpret this data and develop a plan to help these patients improve their future health.

We began this improvement initiative to encourage patients to take control of their health. Our goal is to increase their awareness of how their behavior affects their overall wellbeing. I have stressed the importance of compliance with medications and diet, and encouraged them to take an active role in the process.

The providers, the CRNP and I met to identify patients who are not managing their diabetes well. There are many patients who meet this criteria but I decided to start with a group of twenty. I've met some initially after their routine visit, and for others, my first contact was over the phone. I have a calendar to help me keep track of who needs to be called and I created an Excel spreadsheet to record actions done and actions needed to be completed.

It is during these calls that I am able to identify barriers and help them through it. I am a liaison between the patient and their provider, or the patient and the pharmacy, or their insurance supplier.

Out of the 20 patients who were initially agreeable to help, I have been able to closely follow six of those patients. The others have since declined my assistance. The phone number for one person is no longer in service and one gentleman left the practice. I have since added additional patients but not long enough to have data for this project. The remaining six, from the original group have all done considerably well and report reduced daily blood glucoses, increased physical activity and are making better dietary choices (Appendix D). One person had a repeat A1C recently resulted. On February 2, 2016 it was 9.0%. On March 22, 2016 it was 8.5% and on April 26, 2016 it had reduced to 7.6%. He has significant hip pain and is in need of a replacement. It was required for him to get his A1C below 8% in order to qualify for surgery.

Regardless of the motivation, he has totally committed to being better and is looking forward to having a better quality of life after the surgery. He has expressed full intentions to maintain his new lifestyle of being more active and eating better. He has lost 15 pounds in this time frame and his insulin requirements have decreased. Two others have joined the gym and one takes walks outside, twice a day, weather permitting.

Another gentleman had an initial A1c of 9.4% in February and he reportedly joined the YMCA at that time. He recently had a visit with his primary care physician because of episodes of hypoglycemia. His glucose logs showed these episodes were frequent and labs, including an A1C were ordered. His A1C resulted on 4/29/16 at 7.1%. His insulin dosage has been reduced as a result which has made everyone involved very happy of his progress. I will be presenting the details of this project in the next Diabetes Neighborhood Meeting later this month.

From our conversations, I know this small group is all very motivated for different reasons and have expressed appreciation for having the support to be better. One gentleman expressed my frequent inquiries help keep him accountable because he knows I'll be calling to check on his progress. I don't know if it's a coincidence or not, but all of the ladies in my group have all dropped off.

Nurses have recently been added to the primary care practices and not all practices currently have an RN. Because I am the only RN with five providers, sustaining my project will be a challenge, if I should leave. I'm currently maintaining close contact with a relatively small group of diabetic patients. Most come to a visit, receive diabetic education and prescriptions, and won't get any additional support for the next 3-4 months at their next visit. Many within my group appreciate having this extra support, managing such a complicated disease.

In our monthly RN meetings, I have shared the process with the other nurses, but it is not a part of a standard routine throughout the practices. There isn't enough staff at this time for all nurses to dedicate an hour or more to conduct the outreach sessions. Honestly, the hour I commit is not enough to address a large percentage of the diabetics.

I believe once the practices are adequately staffed and the ancillary staff are all trained to work at the top of their skill level, guiding this group of patients could occur consistently and become standardized throughout the practices. My hope is to be able to dedicate one full shift a week strictly to diabetes management. This would allow me additional time to reach more patients.

According to King and Gerard (2013), obtaining measurements immediately after the change help determine the effect. I started capturing patients in February and these patients will be returning for their 3-4 month follow-up visits in the next month or two. I can see from their reported glucose logs that their blood glucoses are decreasing, but I won't see HbA1c results until those visits.

With each PDSA cycle, I will continue to learn what is working and I will continue to share this with my colleagues, in hopes that we will all have an impact in our communities. The CNL is to collaborate with healthcare professionals to plan, implement, and evaluate an improvement opportunity (AACN, 2013). This is our opportunity to help our patients to take control of their health and commit to the decision to work on achieving and maintaining an optimum level of wellness.

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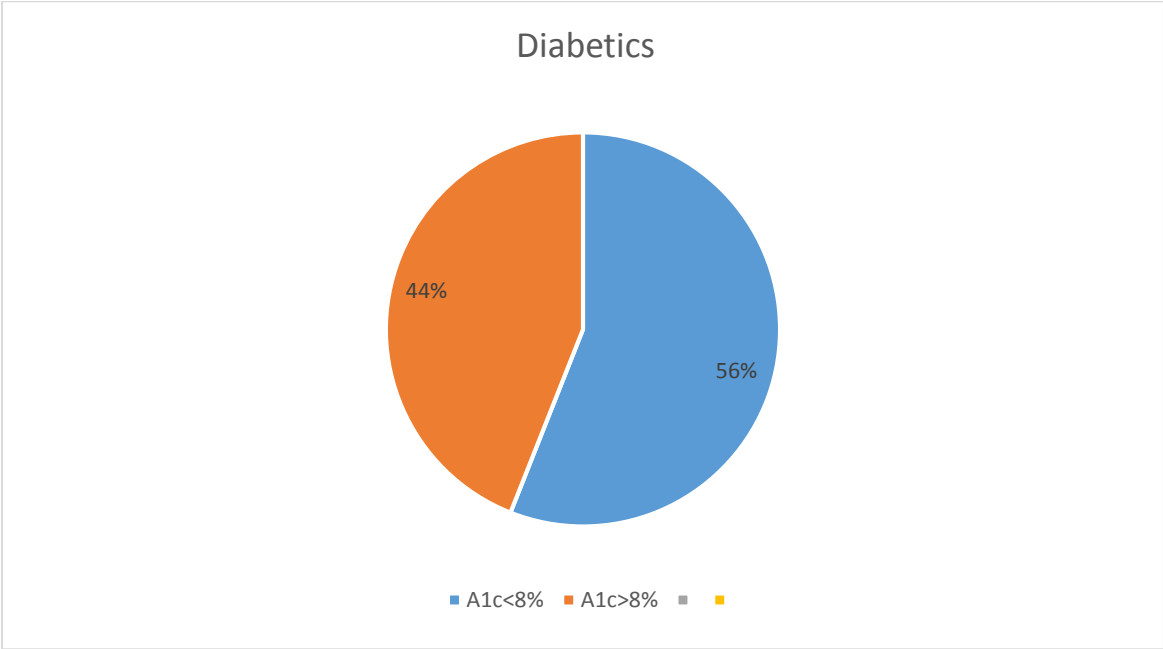
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Appendix A

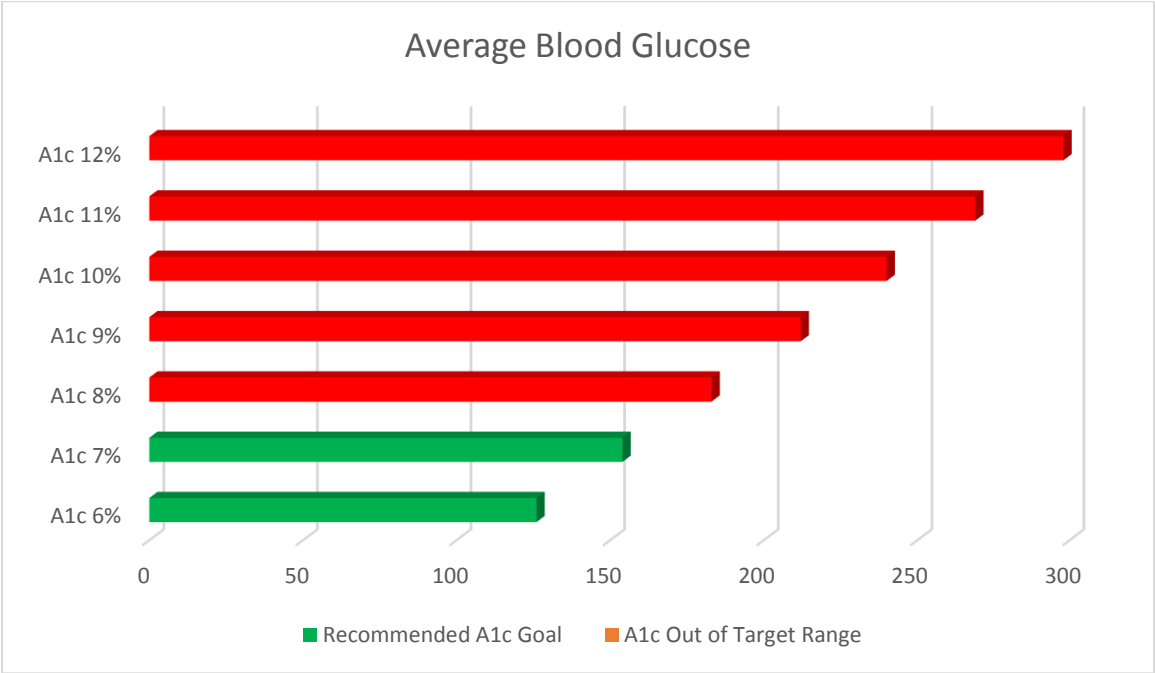


Appendix B

Diabetes: HbA1c Control (<8%)			
	2013	2014	2015
HealthPartners	20%	14%	46%
IBC-KHPE	0%	39%	62%
KeyFirst	54%	60%	61%

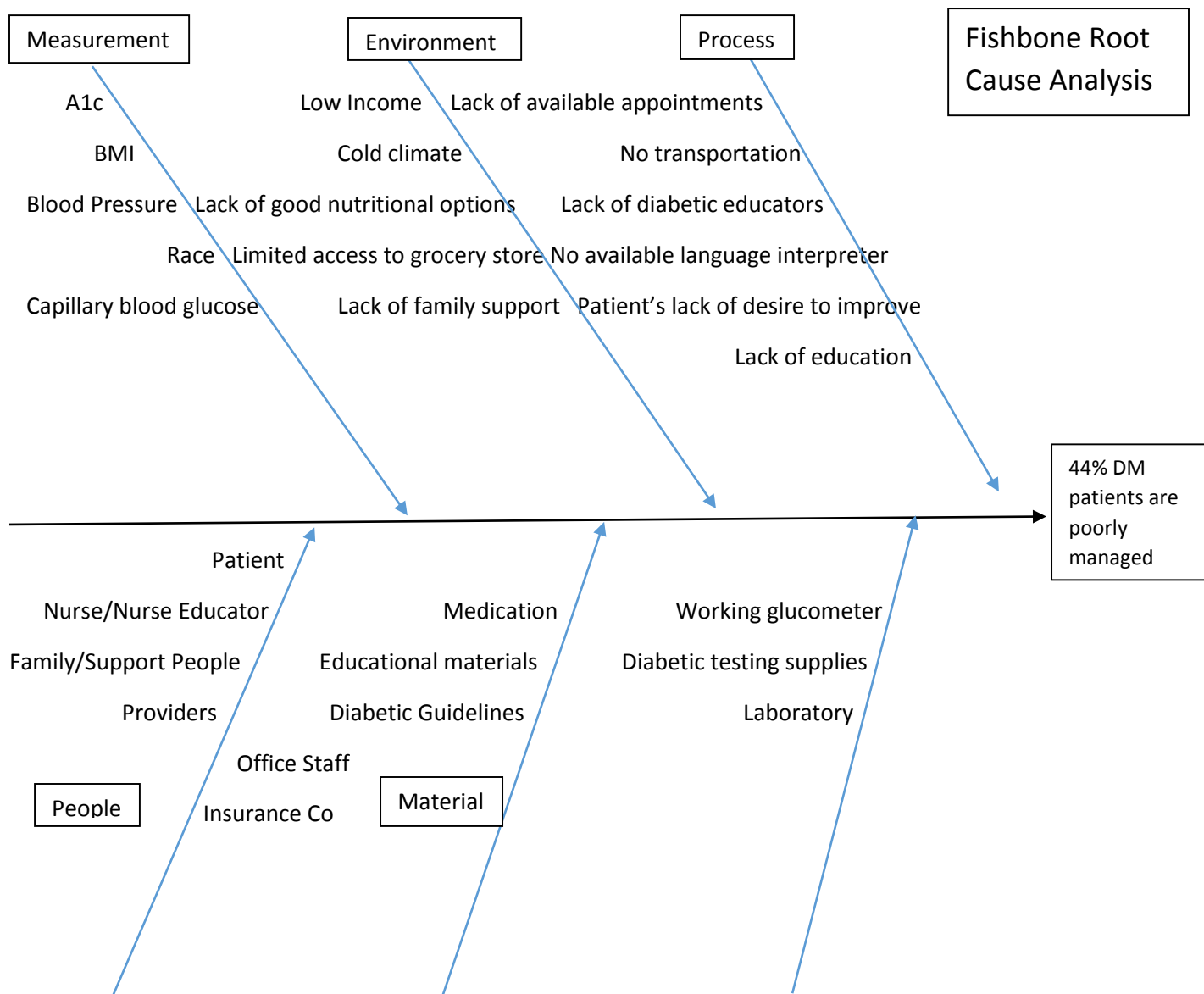
This data was obtained from the practice's HEDIS scorecard from the past 3 years.

Appendix C



Note. The Estimated Average Glucose is from the American Diabetes Association (2014).

Figure 1



Pharmacy

Equipment

Figure 2. SWOT Analysis

HELPFUL	HARMFUL
<p data-bbox="381 1119 581 1167">Strengths</p> <ul data-bbox="277 1236 779 1598" style="list-style-type: none"> <li data-bbox="277 1236 779 1377">• No co-pay for specialty visits for HealthPartners patients <li data-bbox="277 1394 779 1430">• Shared diabetic visits <li data-bbox="277 1446 779 1482">• Electronic documentation <li data-bbox="277 1499 779 1598">• Patients who want to have better health 	<p data-bbox="933 1119 1179 1167">Weaknesses</p> <ul data-bbox="873 1236 1375 1661" style="list-style-type: none"> <li data-bbox="873 1236 1375 1272">• Lack of office staffing <li data-bbox="873 1289 1375 1430">• Limited amount of time to reach out to the patients. <li data-bbox="873 1446 1375 1545">• High co-pay requirements to see specialist <li data-bbox="873 1562 1375 1661">• Existing complications from diabetes

Opportunities	Threats
<ul style="list-style-type: none"> ● On site Endocrinologist and CRNP ● Improved patient outcomes ● Less health complications from diabetes ● Improved healthcare performance measures ● Improved patient centeredness 	<ul style="list-style-type: none"> ● Costs to see specialist ● Limited insurance coverage ● Lack of familial support ● Lack of patient desire to be better ● Lack of grocery stores in area

Appendix D

