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### Type 2 Diabetic Education Benchmark Study

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Type 2 Diabetic Education Benchmark Study  
A Paper Submitted in Partial Fulfillment of the Requirements  
For NURS 5382: Capstone  
In the School of Nursing  
The University of Texas at Tyler  
by  
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### **Executive Summary**

Type 2 diabetes is a global problem, and newly diagnosed people may struggle managing their disease. In addition to managing their diabetes, patients are attempting to learn lifestyle and dietary changes to better their health. People have many misconceptions when it comes to a diabetic diet. Newly diagnosed Type 2 diabetics have multiple visits to their primary care providers and hospitalizations due to difficulty with managing their sugars and the complications that come from high glucose levels. By enhancing the education providers deliver to their patients, these visits could be reduced. Reducing visits to providers and hospitals will reduce cost for patients, providers, hospitals, and insurance companies. This will also help reduce comorbidities that come from elevated glucose levels, in addition to reducing strain on the family of the patient. This implementation will be inexpensive, simple to complete, and easy to collect data to evaluate the success.

### **Rationale for the Project**

For type 2 diabetics, diet may play the largest role in managing their disease process. Managing diet not only helps to control carbohydrate and sugar intake but can also help patients to control cholesterol levels and lose weight (Delahanty, 2021). If evidence-based change on diet education is not implemented, patients will continue to eat their diets they believe to be healthy, even when they might not be. They will increase the chance of complications, increasing health care spending and visits to primary care providers and hospitals. According to Sami et al. (2017), over “50% of people with diabetes die of cardiovascular disease” (p. 65). Type 2 diabetics also suffer from diabetic retinopathy, peripheral neuropathy, limb amputations, and end stage renal disease. Diabetes self-management education forms the base for diabetic patients to build on the knowledge of their disease. Patients who have the knowledge necessary to manage their disease are shown to have lower blood sugar glucose and A1c levels, better quality of life, and a reduction in health care spending (Chester, et al., 2018). It is the job of primary care providers to give patients the tools needed to manage their health the best they can.

### **Literature Synthesis**

Diabetes self-management is key in keeping blood sugar levels within optimal range. In the six studies reviewed, interventions were implemented to see if blood sugar levels or A1c was lowered more than they would with the traditional method of education of the facility or clinic the studies were completed at. The education provided in the studies ranged from mobile phone applications, to one on one, to support groups. Most all studies showed at least some decrease in A1c or blood glucose, if not a significant decrease from the control groups. Intervention groups tended to have a higher compliance with their diets, and the one quantitative study showed that when providers and patients work together to tailor their education and treatment, outcomes are

improved (Espinosa et al., 2020). A good mix of evidence was obtained, including a prospective cohort study, two experimental randomized controlled trials, two quasi-experimental, and a qualitative descriptive study. The descriptive study was a good addition to the evidence showing that patients are receptive to being educated on their disease process and management (Espinosa et al., 2020). None of the studies put the participants at risk for harm and they were all feasible to complete the implementation.

### **Project Stakeholders**

The stakeholders this implementation will affect include a lot of groups. The main groups that will have a reduction in costs include primary care providers in clinics, as well as insurance companies and hospitals. Management and leaders must be encouraging and energetic with providers to encourage the culture for change. Type 2 diabetics and their family members will be affected in the change as well, with the increase in knowledge on diabetic diet comes a decrease in healthcare costs due to elevated glucose, and an increase in quality of life for everyone involved in the Type 2 diabetic patient's life.

### **Implementation Plan**

The plan would begin with the clinical data for the facility already reviewed to get a baseline number to go back and compare to as far as blood sugar glucose and HbA1c reduction. One important aspect of implementation is the assessment of collaborators to ensure they are ready and able to assist in implementing the change (Melnik & Fineout-Overholt, 2019). Then, a diabetes educator would be hired to come in and educate staff on the most current guidelines on diabetic diets and management and provide printed handouts for patients. These educational handouts on diabetic diets and management will be readily available in clinic rooms and stations for staff. When a patient is seen who has been diagnosed with type 2 diabetes for less than 2

years, detailed verbal education will be given to the patient and any family present. Informational handouts written at a fifth-grade level with easy-to-understand graphics and pictures will be given for the patient to take home. This will continue for five weeks or until the patients next appointments. At the follow-up appointments, records of blood sugar checks will be reviewed, as will labs the day of the appointment for fasting blood sugar glucose and HbA1c. A questionnaire will be given to the patients to assess whether they read and utilized the handouts given or not, and if they remembered and understood the verbal education they received at their initial visit. All this information will be compiled and compared to the initial data and the process will be re-evaluated and changes made if necessary. If a significant improvement in blood sugar management is seen, the implementation will be put in place permanently. If not enough improvement is seen, a revision may be implemented after a review of the questionnaire and determination of what changes should be made. These changes may differ, based on clientele at each individual facility.

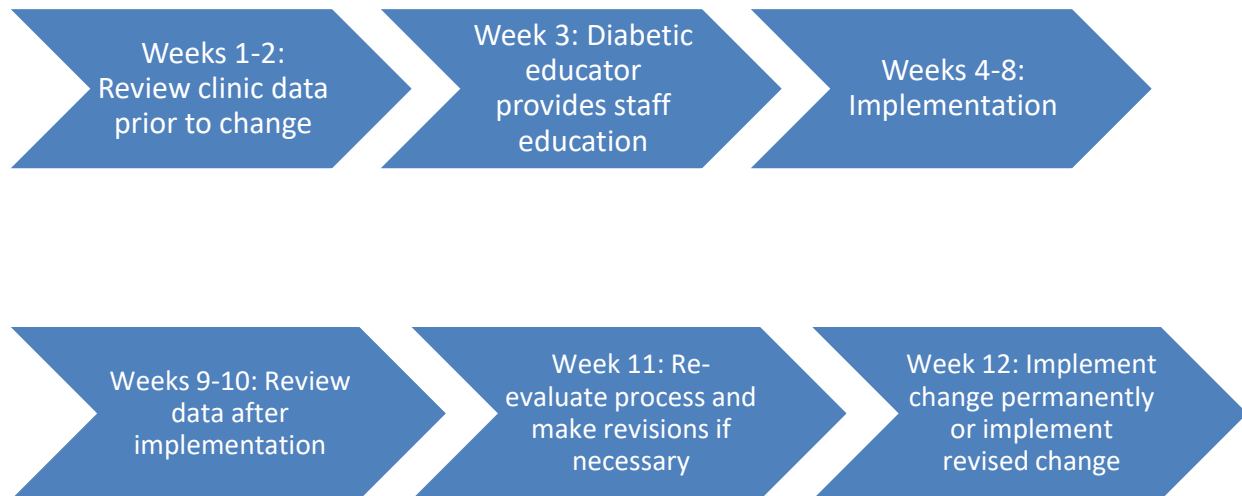
### **Timetable/Flowchart**

#### **Timeline:**

- Weeks 1-2: Review clinic data prior to change
- Week 3: Educate staff
- Weeks 4-8: Implementation
- Weeks 9-10: Review data after change
- Week 11: Re-evaluate process and make revisions if necessary
- Week 12: Implement change permanently or implement revised change



### Flowchart



### Data Collection Methods/Planned Evaluation

When implementing evidence-based change, an important step is to have an evaluation plan in place to ensure the change was successful. This implementation is intended to change patients' knowledge of their type 2 diabetes diagnosis and treatment. Based on that knowledge, there is a hope to improve the patients' blood sugar numbers significantly compared to prior to the change implementation. Kennedy et al. (2020) created an evaluation plan to occur a year after the change. They utilized surveys, interviews, and clinic data in their plan to determine if the change was a success. In the study by Sharma et al. (2017), their group evaluated interactions with participants and how that created change in their project. They reviewed responses from the people participating, and data including indicators of positive change and consequences that were not accounted for prior to implementation.

To prove this change as a success would begin with the evaluation of data from prior to implementation to the current date, including labs for type 2 diabetics to determine A1c and blood sugar glucose levels have dropped significantly compared to prior to implementation. To determine descriptive statistics, the number of newly diagnosed type 2 diabetics within the last 2 years in the clinic will be reviewed, and A1c, fasting blood sugars, and random blood sugars will be assessed. Inferential statistics can be obtained by reviewing the data during the implementation and after to make predictions on how blood sugar glucose levels will continue to drop in newly diagnosed type 2 diabetics with the continuation of the change implemented. The knowledge that the change worked would be gleaned with a decrease in A1c by 10-20% from the patient's initial visit to 3 months after the change was implemented.

To evaluate this process, clinical staff would receive a survey to complete anonymously on if they found the process easy to implement into their daily interactions with patients, if they felt patients were engaged in the teaching, and if they felt they would continue with the change from here on out. If the change could not be enacted for any reason, the education of staff from a diabetic educator with educational handouts for patients would still have a positive impact on patients. Staff would be educated on the most current information for managing type 2 diabetes and have up to date information to deliver to their patients.

### **Cost/Benefit Discussion**

There are no major costs to bringing this change to the clinic. The only costs would be paying a diabetic educator and paper and ink cost for printouts. Most educational documents are found online for free from reputable sources. Ongoing costs would consist of the same; diabetic educator to train new providers and update staff on current changes, paper, and ink.

Benefits to this implementation include a reduction in spending for healthcare for the diabetic patient. The saving of lives is an immeasurable benefit that bears the most significance for implementing this change.

### **Discussion of Results**

This benchmark project should be successful once it is able to be implemented into practice. This was unable to be implemented due to lack of newly diagnosed type 2 diabetics at the current location but will be able to be implemented in the future. An improvement in blood sugar glucose levels should be significant once the change is made.

Managing diabetes takes a lot of work and education on the part of the provider and the patient. Ensuring optimal education is available and the patient is receptive will assist in minimizing blood sugar and A1c levels. Being able to provide educational handouts a patient can understand and continuing to educate patients can make a significant difference in a reduction. Making the change is not very costly or time consuming, so with enthusiastic collaborations it should be a successful implementation.

### **Conclusions/Recommendations**

Sustaining the change and encouraging providers to continue will be important. Hailemariam et al. (2019) completed a systematic review to see what strategies were utilized for sustaining evidence-based implementation. Interestingly, the most common theme for sustainment was continued education with supervision and feedback. For diabetic education change, this would be the best way to go about sustainment. Providers and participants in the change project may fall back on old ways or forget about the change, or even run out of time to continue with it. Annual continuing education is recommended, as are monthly chart reviews to determine if staff is notating the correct type of education provided to patients. Through monthly

chart reviews, interventions can be made quickly with bringing it to the provider's attention and reeducate if necessary. Finally, a willingness to adapt to change is required. Information is constantly changing and being updated, so it's imperative that providers are willing to adapt and improve their education provided to patients based on guidelines that are current at the time. Hopefully with these strategies for sustainment in place, this change will remain in place and benefit patients for many years to come.

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