Use of Advanced Diabetes Managers for Patients with Type 2 Diabetes in Primary Care

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Introduction

PROBLEM

•Primary care providers treat at least 90% of the diabetics in the United States. Sadly, only 50% of those diagnosed with diabetes type 2 will meet the ADA recommended goal for control which is a Hemoglobin A1c of less than 7.0 (Davidson, 2010).
•Patients with diabetes do not always receive focused diabetes care and management from their primary care provider (Hodgkins, 2009; Myhren-Bennett & Bell, 2017).
•AHRQ (2014) reports that in 2010 there were approximately 209,000 practicing primary care physicians, 56,000 Nurse Practitioners and 30,000 Physician Assistants practicing as primary care providers in the United States.
•A provider who obtains the BC-ADM credential can manage complex patient needs and help patients navigate their disease using therapeutic problem-solving. Working within their scope of practice, BC-ADM providers can adjust and manage medications, treat acute and chronic complications and other co-morbidities, provide lifestyle modification counseling, and address psychosocial issues. They may also participate in research and mentoring (AADE, 2018).

AVAILABLE KNOWLEDGE

• 2006: Researchers found that regardless of the intensity of the care, only a modest number (40.5%) of patients were able to achieve glycemic target goals. The researchers concluded that primary care practice needs to be reengineered to substantially improve diabetes care
• 2010: Studies concluded that the care provided by the nurse practitioner was equal to that of the physician. This conclusion was based on the education transfer, background knowledge and focus on patient care outcomes of the nurse practitioner / significant reduction in HA1c in a group that had a diabetes specialist nurse for six months
•2012: The findings showed that nurse practitioners were more easily accessible and provided the patients a greater sense of security and support, thus empowering patients to take control of their own disease management.
•2014: Shared medical appointments improve biophysical outcomes in patients with diabetes and clinicians who wish to implement them may do so with confidence
•2016: Study found that the autonomy of nurse practitioners led to favorable relationships with leadership and improved teamwork. The authors also recommended that policy change should focus on promoting the autonomy of nurse practitioners / Researchers concluded that the goals of diabetes self-management education (metabolic control, avoidance of complications, enhancement of quality of life, and increased disease knowledge) were met in both groups (physicians and NPs)

RATIONALE

Orem's Self Care Conceptual Framework was used in this project. This theory focuses on four factors: self-care, self-care agency, self-care demands and nursing action. The two methods of diabetes patient care studied in this project, advanced diabetes manager and traditional primary diabetes care, involve the patient being invested in their own disease self-management for them to see success.

AIMS

To determine in patients with Diabetes Type2, how does having an ADM managing the disease compare to traditional care, as evidenced by glucose control measured by HA1c over a three-month time period?

Methods

CONTEXT

❖Privately owned primary care practice located in Wilmington, Delaware
❖ The practice is open to all ages throughout the lifespan and manages acute and chronic conditions and diseases
❖ There are approximately 8800 patients in the practice census; 2100 with diabetes
❖ Four providers in the office: a physician (DO) and three nurse practitioners (NP), each provider has an assigned medical assistant
❖ Resources for diabetes education acquired from the Sanofi program Wellness iN Practice program & website

INTERVENTIONS

Patients in the project were divided between two groups: traditional care and Advanced Diabetes Manager. Patients were randomly assigned to a group based upon appointment availability. The traditional care group received their care from a physician or nurse practitioner. The ADM group received specialized diabetes education and advanced interventions from the Advanced Diabetes Manager NP.

STUDY OF INTERVENTIONS

•First Diabetes education certification 1986
•Many patients do not have access to structured diabetes education programs due to cost, location, etc.
•Less than 1100 person who hold the BC-ADM credential in the US
•49% of BC-ADMs are nurse practitioners
•No information available regarding the impact of the BC-ADM on patients with diabetes
•Diabetes self-management is key to proper care
•Patients have better access to primary care than specialty care

MEASURES & ANALYSIS

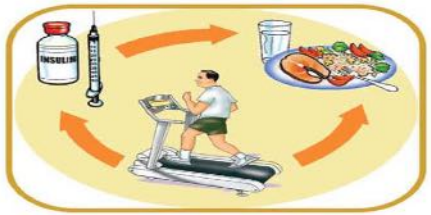
•Data will be analyzed by comparing the Hemoglobin A1c (HA1c) prior to any interventions with the HA1c after three months of interventions.
•Both groups will be compared over the same time period.
•The HA1c will be measures either through standard lab draws at local facilities or through the Afinion H1c assay machine in the office.
•The HA1c has long been considered to be the gold standard in the control and management of diabetes.

ETHICAL CONSIDERATIONS

•Informed consent - established through the use of the consent form. Participants were involved in this project voluntarily and received no incentives for being a part of the project.
•Autonomy - patient decisions were honored throughout the project.
•Justice - no patients were included or excluded from the project based on criteria other than medical status.
•Beneficence - all interventions have been in the best interest of the patient.

Results

- Patients were seen by the provider and a plan was developed for their individual needs.
- The providers were updated on the American Diabetes Association Standards of Care (ADA SOC) for 2018 and plans were based on those standards.
- Patients were started on or continued on medications based on a variety of factors, including, but not limited to: HA1c level, co-morbidities, allergies, tolerance, lifestyle, willingness to use injectables, financial status and insurance coverage.
- The patients in the traditional care group started with an average HA1c of 7.7967 mg/dL, while the BC-ADM group started with an average HA1c of 7.8533 mg/dL.
- After three months, the patients' HA1c levels were retested and results showed that the BC-ADM group had a mean reduction of 0.60322 mg/dL versus the traditional care group which had a mean reduction of 0.36 mg/dL.
- After conducting an independent T-test the t-value was calculated to be 5.06972 and the p-value was significant at .018387. Thus, proving the hypothesis that care received from a certified diabetes manager is more effective at reducing the HA1c over three months than traditional care provided by a non-certified provider.
- Two patients were removed from the study because they were no longer being seen by the practice.
- Unfortunately, during this project, Sanofi defunded the Wellness iNPractice program. The resources are still available on the website but have not been updated to reflect any of the 2018 changes in the ADA SOC or the medication algorithms. Other resources were utilized as supplements to this information.
- The number one challenge for both groups was the cost of desired medications. Although almost all the patients involved in this project have insurance coverage, many medications are not covered or require a high copay.
- Patients in both groups were also offered continuous glucose monitoring (CGM) using the Freestyle Libre device, insurance coverage did affect usage.



Discussion

SUMMARY

This project clearly showed that the use of a Board-certified Advanced Diabetes Manager for the management of type 2 diabetes in primary care reduced the HA1c by a statistically significant amount over the traditional care rendered in primary care by physicians and nurse practitioners who were not certified. A barrier to implementation was patients who did not return in a timely manner for follow up. The medical assistants facilitated participation by contacting patients for follow up appointments and lab work. The cost of the program is minimal and is negated by the billing for diabetes education services. The plan for the future is to introduce this project to the accountable care organization (ACO) for implementation in other offices within the ACO group, thus impacting the overall diabetic population within the group

INTERPRETATION

It has been noted that patients in the BC-ADM group are more compliant with their treatment plan and have returned for follow-up visits at a greater rate than those in the traditional group and those not enrolled in the project. The other providers have begun using the educational materials and techniques provided by the BC-ADM and are having good results as well.

LIMITATIONS

The limitations of this project include: small sample size, limited to only one practice and only one BC-ADM, and short 3 month timeframe.

Conclusions

Diabetes is the 7th leading cause of death in the US and in Delaware the rates of uncontrolled diabetes have not even been measured. This project has shown the effectiveness of the Board Certified Advanced Diabetes Manager in primary care. The use of the BC-ADM will reduce the average HA1c amongst patients with diabetes type 2 This project is a cost effective way to increase patient satisfaction and patient health.

As a result of this project, there is less communication from the third-party insurers regarding patient compliance with the standards of diabetes care, including regular HA1c monitoring, follow-up appointments and mediation management. Many patients have lost weight, have begun lifestyle management programs and are more compliant with medications and provider follow up. Patients are satisfied with having their HA1c tested in the office as opposed to having to go to a lab to have bloodwork drawn.

This project will become a permanent program at the primary care office and continue to serve patients with diabetes type 2.

Contact Information

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