



Exploring the Impact of an Interprofessional Care Protocol on the Patient Experience and Outcomes for Seniors with Diabetes

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ABSTRACT

Contemporary healthcare has placed intensified focus on the patient experience. Ultimately the patient experience is influenced by relationships with healthcare providers. In order to make a positive impact on patient outcomes and quality of care, the patient experience must be positive. Interprofessional collaboration is recognized as a key aspect of a culture that fosters patient centered care and a positive patient experience. This quasi-experimental study explores the impact of interprofessional (IP) collaboration to develop a preventive services care protocol for seniors with diabetes. Patients were studied over six months using pre-test and post-test measures. Both quantitative data from clinical outcomes and qualitative data from the Diabetes Quality of Life Questionnaire are used to explore the impact of an interprofessional care protocol on the patient experience for seniors with diabetes. Results of the study, while not conclusive, suggest that significant improvements in blood glucose levels and aspects of quality of life such as perceptions of being able to manage self care and reported feeling ill less often were realized after receiving services that followed the interprofessional protocol. The study offers insights into the importance of interprofessional collaboration as a factor that can enhance the patient experience and presents a continuing education model to facilitate interprofessional collaboration within the healthcare workforce setting.

METHODS

- A quasi-experimental design comparing differences between pre-test and post-test patient outcomes.
- Comparison of differences was based on clinical indicators obtained directly from clinical assessment data, economic indicators and patient perceptions between standard care (baseline) and the interprofessional (IP) care model (intervention).
- The IP protocol visits were provided at a mobile care unit or outpatient clinic
- Data collected at monthly visits over a six month interval.
- Human subjects IRB approval was obtained and the IRB protocol was followed to obtain patient consent.
- Subject recruitment was completed at four senior centers with mobile care unit services and an outpatient community based clinic. The target population for this study was senior clients (age 55 or older) with a diagnosis of diabetes.
- Advance announcements of the study were communicated at community senior centers and the outpatient clinic using posters and flyers, community newspapers and other community locations.
- All subjects provided consent to the study including monthly visits for six months.
- A de-identifying coding process was used to ensure confidentiality of all subject data.
- A general questionnaire was used to obtain demographic information such as age, gender, etc.

RESEARCH QUESTIONS

1. Are there differences in patients' pre-test and post-test clinical metrics based on care delivered by an interprofessional care protocol for seniors with diabetes?
2. Are there differences in patient's pre-test and post-test humanistic outcomes based on care provided by an interprofessional care protocol for seniors with diabetes?

INTERVENTION: IP CARE PROTOCOL

The care protocol was developed by the IP team during a CPE workshop and facilitated team meetings. It was used as the guide by nurses or physicians assistants who provided care at the visits. Elements of the IP care protocol included visual cues such as posters on the exam room walls that illustrate the body systems impacted by diabetes, and a folder with information, worksheets and tools developed by the IP team on aspects of engaging family members for support, diet, exercise, medication management, and foot care. The services provided in the study supplemental to physician care and addressed aspects that improved the overall patient experience.

PATIENT MEASURES

- Clinical, economic and humanistic outcomes were examined for this study.
- Data was collected from patients who received services from the mobile preventive care program at four Senior Centers and one ambulatory clinic.
- The DQOL Brief Clinical Inventory was used to collect self-reported quality of life data.
- Occurrence of ER or hospital admissions and adherence with referral appointments were tracked by survey questionnaire data collected by the researchers at each monthly visit.
- Clinical indicators were measured by direct examination and assessment by nurse or physician assistant providers on the mobile care units or in the clinic.
- Clinical indicators included direct assessment of blood glucose, BP, BMI and foot examination with photographs and self-reported medication compliance.
- Economic indicators include d self-reported occurrence of admissions to ER or hospital and adherence to referral appointments.
- The DQOL measured the humanistic outcomes.

Patient Clinical Outcomes

Patient Characteristic	Visit 1	Visit 6
Weight	198.85	204.75
Body Mass Index	27.14	29.08
Blood pressure systolic	130.62	130.66
Blood Pressure Diastolic	72.77	72.33
Glucose level	156.95	139.25
Medication Compliance	1.81	1.83

Quality of Life: Differences in Scores between Pre-test (Visit 1) and Post- test (Visit 6)

DQOL Survey Item Questions	Mean	Significance (p)
Item 1 How satisfied are you with your current diabetes treatment?	1.50000	.006
Item 2 How satisfied are you with the amount of time it takes to manage your diabetes?	-.90909	.045
Item 3 How often do you find that you eat something you shouldn't rather than tell someone that you have diabetes?	-.50000	.215
Item 4 How often do you worry about whether you will miss work?	.00000	1.000
Item 5 How satisfied are you with the time it takes to determine your sugar level?	-.54545	.082
Item 6 How satisfied are you with the time you spend exercising?	-.18182	.187
Item 7 How often do you have a bad night's sleep because of diabetes?	-.09091	.724
Item 8 How satisfied are you with your sex life?	-.90000	.088
Item 9 How often do you feel diabetes limits your career?	.72727	.104
Item 10 How often do you have pain because of the treatment for your diabetes?	.90909	.085
Item 11 How satisfied are you with the burden your diabetes is placing on your family?	-.45455	.211
Item 12 How often do you feel physically ill?	-.54545	.025
Item 13 How often do you worry about whether you will pass out?	-.18182	.555
Item 14 How satisfied are you with time spent getting checkups for your diabetes?	.00000	1.000
Item 15 How satisfied are you with your knowledge about your diabetes?	.00000	1.000

RESULTS

- The demographics of the patient population. There was fairly equal representation for both genders.
- Although there were few areas of significant changes in clinical outcomes, there was a significant positive trend in the glucose level management that indicated a reduction in fasting glucose levels by 17 points.
- Three factors significantly improved from Visit 1 to Visit 6 over the six months of the study:
 1. Subjects reported a significant improvement in their level of satisfaction with their current diabetes treatment.
 2. Subjects reported significant improvement related to the amount of time required for them to manage their diabetes.
 3. There was a significant decrease in the frequency of times subjects felt physically ill as a result of their diabetes.

CONCLUSIONS

- The results of the study provide evidence of trends that are indicators that interprofessional care does result in improvements in the overall patient experience and positive clinical outcomes. Had the study progressed more improvement may have been recognized.
- Interestingly, all of the subjects in the study were under the care of a physician for their diabetes management. It appears that the IP care protocol addressed areas where patients needed more support than what they had been receiving .
- The impact of the IP care model in this study indicates positive trends in several areas that are significant in terms of how patients experience their general health status and management of their diabetes. This includes significant positive trends for how well prepared they felt to manage their diabetes which is consistent with what is expected from a positive patient experience.
- When patients perceive themselves to be well prepared to manage their chronic conditions, such as diabetes, this improves the patient's overall experience with managing their care and the support they are receiving from care providers. Subjects reported significantly improved perceptions in how well they were managing their diabetes care and the amount of time required to take care of themselves. Further , there was a significant reduction in the amount of times subjects felt physically ill due to their diabetes. These positive trends suggest that there are important benefits that can be achieved from the development and implementation of a truly interprofessional care protocol.
- The development, and use of, an IP care protocol also offers the opportunity for primary care providers to address a broader range of support to their patients by following guides developed from experts in a variety of disciplines outside of their own.
- This study can serve as a framework to advance the work in creating a culture that focuses on the patient experience using IP collaboration as a foundation. Thus narrowing the gap between current practice and the ideal use of interprofessional teams facilitating the development of an IP culture along with the benefits of enhancing the patient experience, and outcomes which can be sustainable in the future.