Clinical and Economic Impact of a Collaborative Pharmacist-Endocrinology Practice Structure On People With Diabetes

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Introduction

Approximately 11.3% (37.3 million) of Americans were diagnosed with diabetes in 2019, with an additional 1.4 million new diagnoses occurring every year. Subsequently, $327 billion dollars in costs related to diabetes were spent in 2017. Furthermore, the growing prevalence of diabetes is met with an ongoing shortage of primary care and endocrinology providers. As a result, healthcare practices need to implement innovative practice structures to properly address the prevalence of diabetes in the US. This poster explores this topic by reviewing the clinical and economic impact on people with diabetes after implementing a clinical pharmacist and outpatient endocrinology practice structure.

Objectives

Primary

- To assess change in A1C post pharmacist implementation
- To assess change in Time in Range post pharmacist implementation

Secondary

- To assess percent of patients meeting glycemic goals
- To analyze cost saving post pharmacist implementation

Methods

This study was a single-center, retrospective, observational cohort of people with diabetes at UH Diabetes and Metabolic Care Center from August 2022 to March 2023. Patients who were managed by the clinical pharmacist were enrolled if they met both the inclusion and exclusion criteria. Baseline demographics, A1C, and Time in Range was collected for all patients. Cost savings were calculated using A1C estimates established by Lage et al.

Inclusion

- ICD-10 code for Diabetes
- Age 18 years or older
- Had >1 visit with the clinical pharmacist
- Had >1 visit with endocrinology provider prior to PharmD

Exclusion

- Pregnant during the study period
- Dialysis
- Not having an A1c Pre or post pharmacist intervention

Results

Table 2: Baseline Characteristics (n = 75)

Age(years) mean (SD)	55 (14.0)
Male, n (%)	26 (34.6)
Race (%)	
White	33
Black	25
Mean number of pharmacist visits (SD)	4 (1.8)
Type of diabetes (%)	
Type 1	30.2
Type 2	69.8
Using CGM, n (%)	40 (53.3)

Primary Objectives

Figure 1: Mean Change in HgbA1c

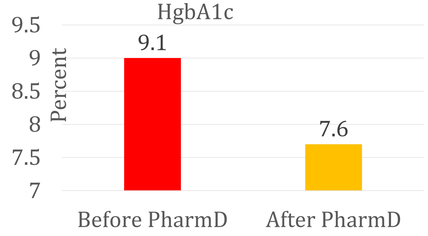

Table 2: CGM Data (n=27)

	Before	After
30 Day Time in Range	57%	71%
60 Day Time in Range	56%	69%
90 Day Time in Range	57%	69%

Secondary Objectives

Figure 2: Patients meeting specified HgbA1c Target (%)

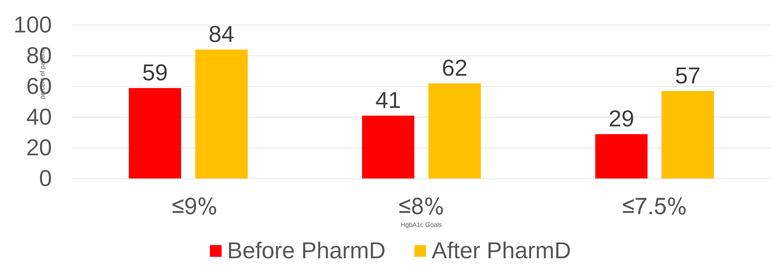

Table 3: Cost reduction based on A1c change

Total All-Cause Amount Saved	$43,286
Total Diabetes Related Cost Saved	$74,262

Discussion

With the increase prevalence of diabetes in the United States, healthcare practices must adopt new practice structures to best serve patients. The University Hospitals Diabetes and Metabolic Care Center has a unique practice structure that consists of endocrinologists, nurse practitioners, physician assistants, diabetes educators, and clinical dietician that are involved in collaborative team-based care. Our study suggest that the implementation of a clinical pharmacist trained in advanced diabetes management to this practice structure further leads to improvements in A1C and Time in Range in a complex patient cohort. The pharmacist worked under a collaborative practice agreement that allowed for independent medication prescribing, dose adjustment, and lab ordering. These clinical improvements lead way to cost saving measures as well as billing opportunities that can help justify the cost of implementing a clinical pharmacist. Limitations of our study include the short duration of the study period, small CGM cohort, and predominance of patients with T2DM. Regardless the current data suggests the addition of a clinical pharmacist leads to improvements in important clinical outcomes.

Conclusions

The data suggests that the implementation of a clinical pharmacist working under a collaborative practice agreement to an endocrinology practice promotes improvements in A1C and Time in Range in a complex patient cohort. This provides evidence that team-based care and expanded scope of practice for pharmacists improve patient care.

References

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