EVALUATION AND ANALYSIS OF A PROFESSIONAL CONTINUOUS GLUCOSE MONITORING PROGRAM AT A FAMILY MEDICINE CLINIC

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INTRODUCTION

- Approximately 11.3% of the population in the United States has diabetes
- Continuous glucose monitor (CGM) systems help manage diabetes and provide more efficient and less demanding monitoring
- CGMs provide real-time tissue glucose levels along with CGM-specific data that can be utilized to create individualized treatment plans to achieve glycemic control goals
- Evidence on the effectiveness of an interprofessional experience on educating family medicine residents on how to utilize and interpret CGMs is lacking
- An interdisciplinary CGM-focused clinic that consists of CGM placement and interpretation visits was started at a Family Medicine Clinic (FMC) in February2022 by pharmacists with medical residents and medical students integrated into it

OBJECTIVES/AIMS

- To analyze the clinical outcomes in our patient population pre-CGM and post-CGM clinic (i.e. HbA1c change, DM-specific preventative measures, co-management of comorbidities, medication changes)

METHODS

Design

- Single-center, retrospective, cohort study
- Patients were identified by being seen in the CGM Clinic for CGM placement, for which a database was created
- Data was manually extracted from patient's EMR

Inclusion Criteria

- Patients in the CGM Clinic between February 2022 – August 2024

Exclusion Criteria

- Patients who did not attend the CGM interpretation visit (data excluded from post-CGM information)

Statistical Analysis

- Descriptive statistics
- As appropriate, Chi-squared test & Fisher's exact test (follow-up vs no follow-up), and McNemar's test (comparison of placement and interpretation data)

Outcomes

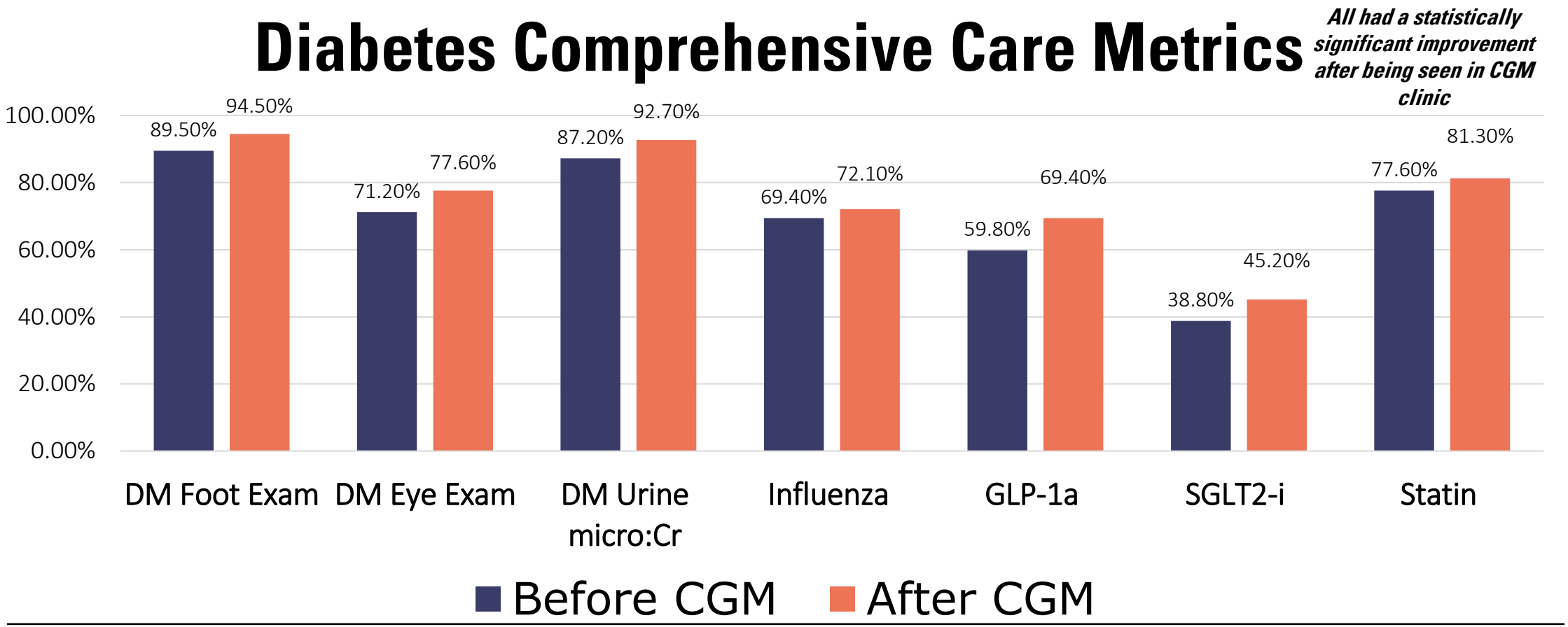
- A1c, CGM data, DM-specific screenings/preventive services, medication changes

RESULTS

Characteristic	With Follow-up	Without Follow-up	P-value
Patients	219 (80.2%)	54 (19.8%)	
Age	53.8 +/- 13.4	57.5 +/- 13.5	**0.042**
Sex			0.559
Male	68 (31.1%)	19 (35.2%)	
Female	151 (68.9%)	35 (64.8%)	
Race			0.387
Caucasian	30 (13.7%)	7 (13%)	
African-American	181 (82.6%)	44 (81.2%)	
Insurance			**0.033**
Commercial	80 (36.5%)	14 (25.9%)	
Medicare	67 (30.6%)	26 (48.2%)	
Medicaid	62 (28.3%)	9 (16.7%)	
Tricare	7 (3.2%)	1 (1.9%)	
Uninsured	3 (1.4%)	4 (7.4%)	

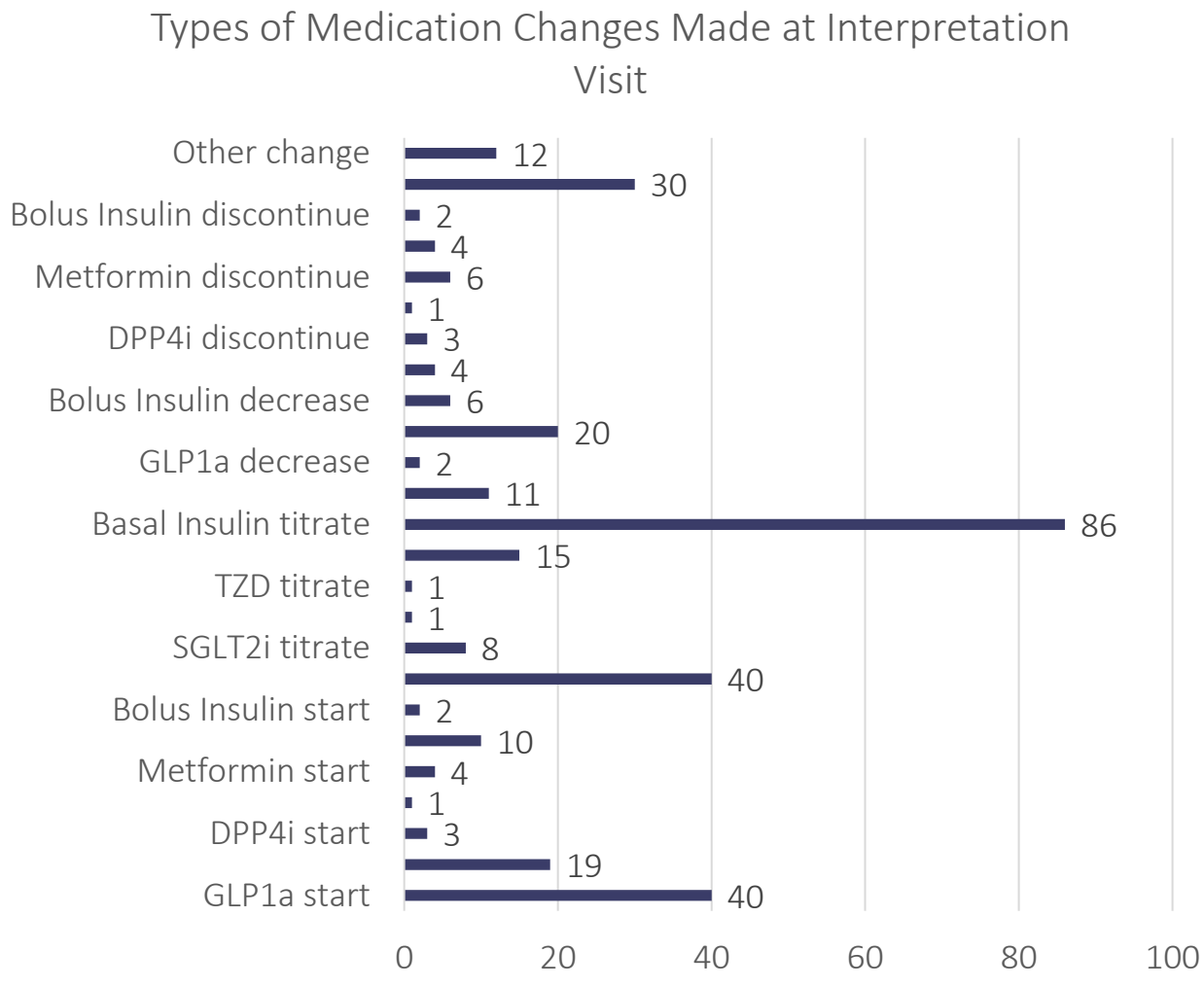
Baseline HbA1c	10.1% +/- 2.5
Follow-up HbA1c	8.7% +/- 2.2
Total Change (*)	-1.4% +/- 2.1 ($p < 0.001$)

RESULTS


Diabetes Comprehensive Care Metrics
All had a statistically significant improvement after being seen in CGM clinic
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
89.50%
94.50%
71.20%
77.60%
87.20%
92.70%
69.40%
72.10%
59.80%
69.40%
38.80%
45.20%
77.60%
81.30%
DM Foot Exam
DM Eye Exam
DM Urine micro:Cr
Influenza
GLP-1a
SGLT2-i
Statin
Before CGM
After CGM

RESULTS

Comorbidity	Medication	Baseline	Follow-up	P-value
CKD				
(N=57)	GLP-1a	31 (54.4%)	41 (71.9%)	**0.002**
	SGLT2-i	20 (35.1%)	27 (47.4%)	**0.008**
	ACE-i/ARB	38 (66.7%)	37 (64.9%)	0.317
Heart Failure				
(N=41)	GLP-1a	27 (65.9%)	30 (73.2%)	0.180
	SGLT2-i	19 (46.3%)	22 (53.7%)	0.180
	ACE-i/ARB	32 (78%)	32 (78%)	1.000
ASCVD				
(N=69)	GLP-1a	42 (60.9%)	48 (69.6%)	**0.014**
	SGLT2-i	36 (52.2%)	45 (65.2%)	**0.003**
	Statin	58 (84.1%)	61 (88.4%)	0.392
	ACE-i/ARB	53 (76.8%)	53 (76.8%)	1.000



DISCUSSION

- After patient's were seen in the interdisciplinary CGM-focused clinic, patients continued to experience an average reduction in their A1c of 1.4%, which is comparable to being on metformin (monotherapy), GLP-1 agonists (i.e. dulaglutide, exenatide extended release, liraglutide).
- Compared to data from February 2022 through August 2024, the average A1c reduction was the same, indicating the consistency and reliability of the intervention throughout the years.
- For preventative screenings, there was a statistically significant increase before and after participating in the CGM clinic. This has a meaningful impact on our community because of the zip code's high prevalence of diabetes and its associated complications compared to the nation

FUTURE DIRECTIONS

- Future directions of this project will include assessing how confident residents feel with CGM counseling and CGM application before and after participating in the CGM clinic.
- This study will be continued to assess the clinical outcomes for patients to also include DM-related hospitalizations (i.e. amputations), the educational impact of the CGM clinic on residents, and/or financial reimbursement outcomes.

REFERENCES

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- Diabetes Technology: Standards of Care in Diabetes—2023. Diabetes Care 1 January 2023; 46 (Supplement 1): S111–S127.

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