Improving Diabetes Care of Older Adults through Community Health Workers and Telemedicine Access Model (COACH TeAM)

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Background

- Diabetes mellitus (DM) disproportionately affects underserved older adults from rural communities due to social determinants of health (SDOH) and their limited ability to participate in routine care [1,2,5,7,10].
- Evidence-based clinical and community interventions are not widely integrated into the primary care setting.

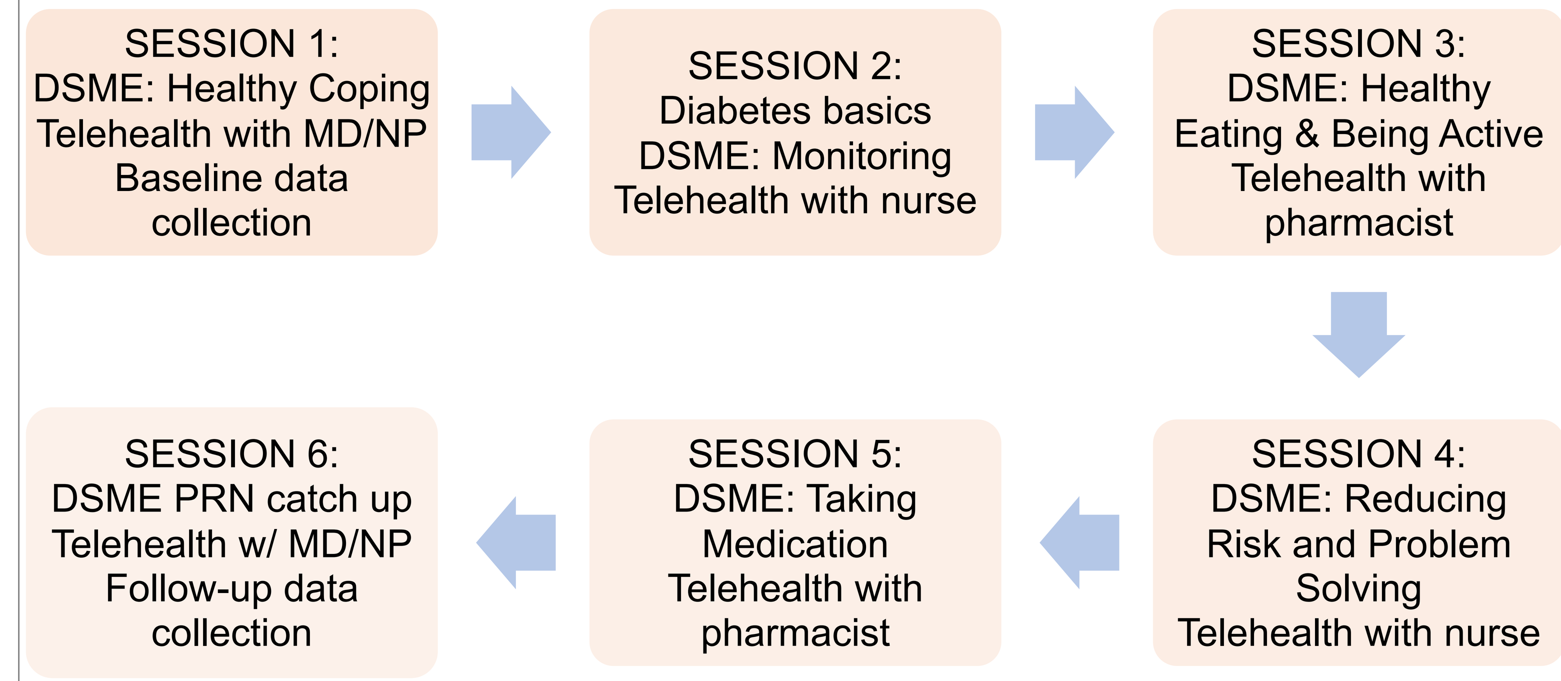
Purpose, Aims, Methods

Purpose: The Diabetes COACH TeAM project integrated telemedicine and community health worker (CHW) interventions to improve access to diabetes care and health outcomes among underserved older adults.

Specific aims/outcomes: Measure the impact of the intervention on:
1. Glycosylated hemoglobin A1C levels
2. Diabetes self-management behaviors using the Summary of Diabetes Self-Care Activities (SDSCA) scale
3. Diabetes knowledge using the Diabetes Knowledge Questionnaire (DKQ)
4. Patient and healthcare provider (HCP) satisfaction levels

Design: Pre-post design, quality improvement project
Setting: Federally Qualified Health Center in southwest Ohio
Sample: Adults aged ≥65 years with DM type 1/2, recent A1C of ≥8%, Clark County residents, and seen within the last 12 months in the clinic.

Interventions: Diabetes self-management education (DSME) through biweekly CHW home visits and same-day telemedicine appointments with HCPs (physicians/MD, nurse practitioners/NP, nurses, or clinical pharmacists) for 12 weeks.



Results

Table 1. Patient Demographics

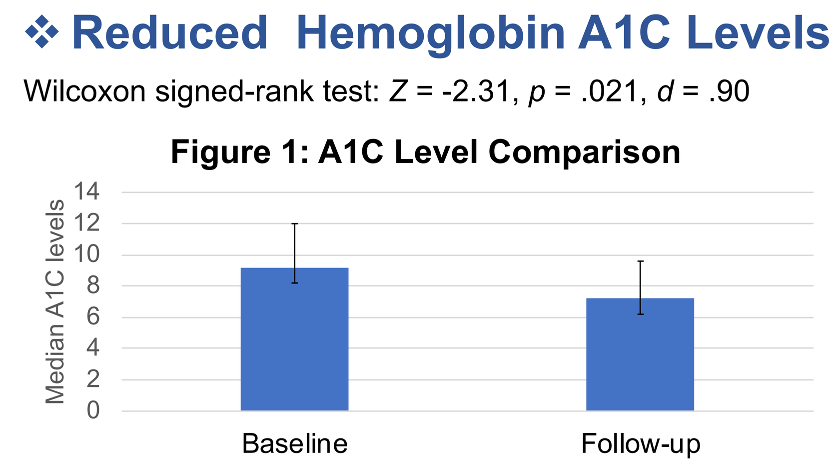
Variable	(N = 12)
Age in years, mean (SD)	68.3 (3.5)
Gender, n (%)	
Male	3 (25)
Female	9 (75))
Race, n (%)	
Black	4 (33.3)
White	8 (66.7)
Insurance, n (%)	
Medicaid	4 (33.3)
Medicare	4 (33.3)
Dual Medicare Plans	2 (16.7)
Commercial Plans	2 (16.7)

SD = standard deviation

Reduced Hemoglobin A1C Levels

Wilcoxon signed-rank test: Z = -2.31, p = .021, d = .90

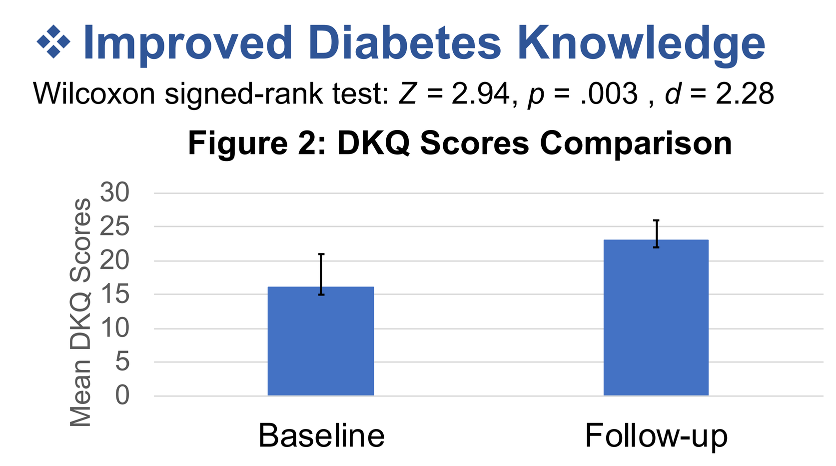
Figure 1: A1C Level Comparison



Improved Diabetes Knowledge

Wilcoxon signed-rank test: Z = 2.94, p = .003 , d = 2.28

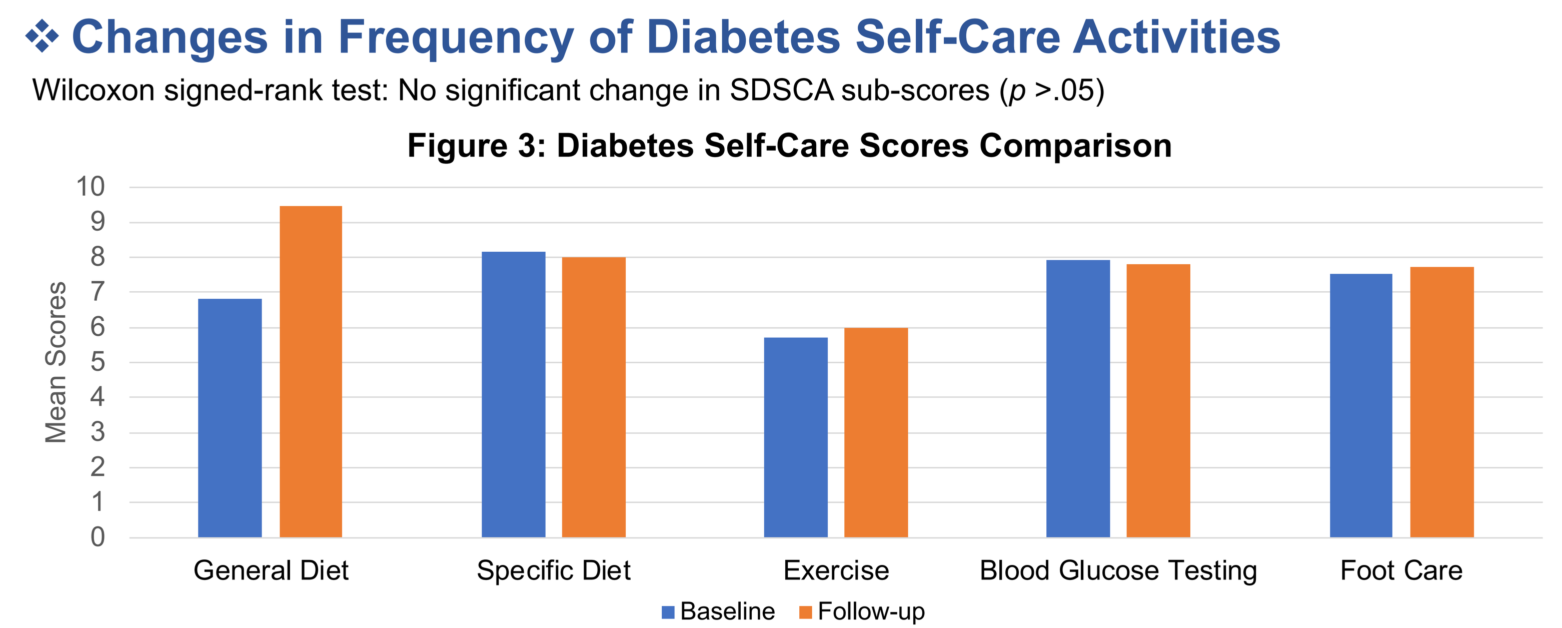
Figure 2: DKQ Scores Comparison



Changes in Frequency of Diabetes Self-Care Activities

Wilcoxon signed-rank test: No significant change in SDSCA sub-scores (p >.05)

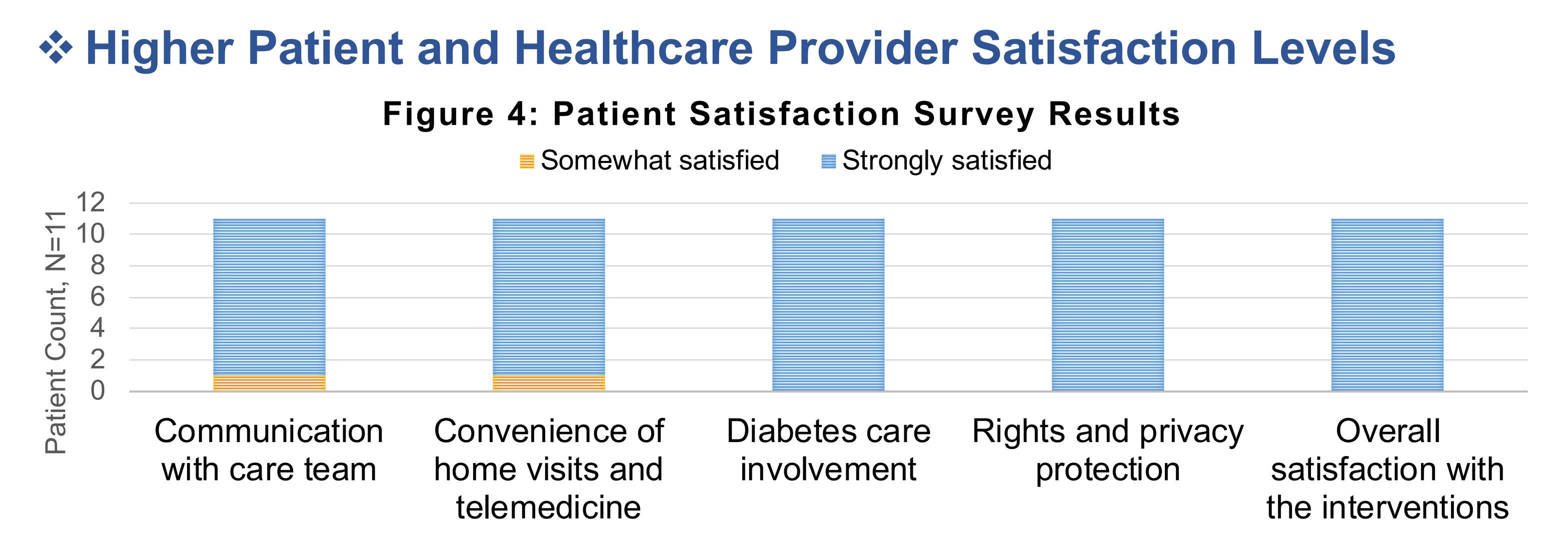
Figure 3: Diabetes Self-Care Scores Comparison



Higher Patient and Healthcare Provider Satisfaction Levels

Figure 4: Patient Satisfaction Survey Results

Figure 5: Healthcare Provider Satisfaction Survey Results



Discussion

CHW home visits and telemedicine interventions resulted in positive outcomes that are consistent with current literature [1,3,4,5,8,9].

The modest increase in diabetes self-care performance scores are clinically significant [6].

Formal training of CHWs in motivational interviewing to influence self-care behavior changes [2,4,8].

The project addressed the SDOH (such as transportation and technology barriers) common to underserved older adults.

CHWs are uniquely positioned to coordinate patient care in a more timely manner [1,2,6,8].

Strengths

- focused on adults aged ≥65 years
- multidisciplinary, collaborative approach
- bridged the gap in diabetes care experienced by underserved older adults
- mobilized existing clinical and community resources to improve access to care

Limitations

- limited generalizability- small sample size
- did not control other confounding factors
- insufficient reliability & subjective nature of the SDSCA tool
- did not explore the potential economic benefits

Conclusion

- The Diabetes COACH TeAM project provided DSME through successful integration of telemedicine and CHW interventions to improve and expand diabetes care for underserved patients aged ≥65 years.
- The interdisciplinary and innovative approach yielded positive outcomes including lower A1C levels, increased diabetes knowledge and self-care behaviors, and higher levels of patient and healthcare provider satisfaction.
- This project developed a patient-centered, equitable, safe and sustainable chronic disease management model for marginalized populations.
- **Future Directions:** Further research is needed to evaluate the cost-effectiveness, long-term health and behavior impact, and sustainability of the project in other primary care settings.

References (Available Upon Request)