

# Assessing the Implementation of a Diabetes Prevention Program in a Student-run Free Clinic Setting

Nicole Kloosterman, BS, Sushmitha Divakar, BS, Meredith C. Huszagh, BA, Jeremy B Hatcher, BS, Carolina G. Grimaldi, BS, Daniel Carranza-Leon, MD, Xuanyi Li, Lina Suleiman, Ph.D, Rosette J. Chakkalal, MD, Kevin D. Niswender, MD, Ph.D

## Introduction

- The Diabetes Prevention Program (DPP) was created to address the growing burden of Type 2 Diabetes in the United States.
- This program has proven effective in preventing or delaying the development of Type 2 diabetes in at-risk individuals.<sup>1</sup>
- Low-resource and minority communities are among those at the highest risk for the development of Type 2 Diabetes.<sup>2,3</sup> However, they often have limited DPP participation due to cost and program accessibility.<sup>4</sup>
- We implemented the first student-run DPP program for uninsured patients at Shade Tree Clinic.
- This aim of this study was to assess the acceptability, feasibility and appropriateness of a student led DPP program.<sup>5</sup>

## Methods

### Student Leadership Structure:

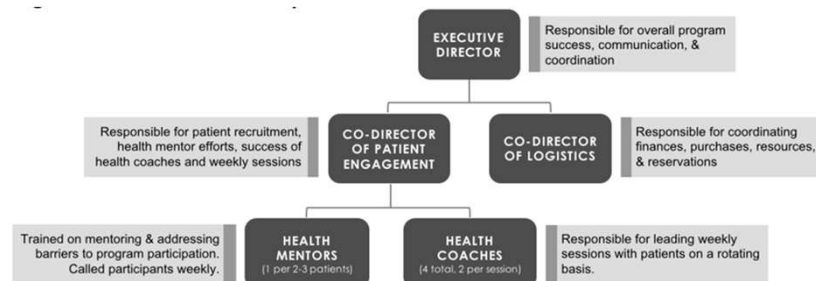
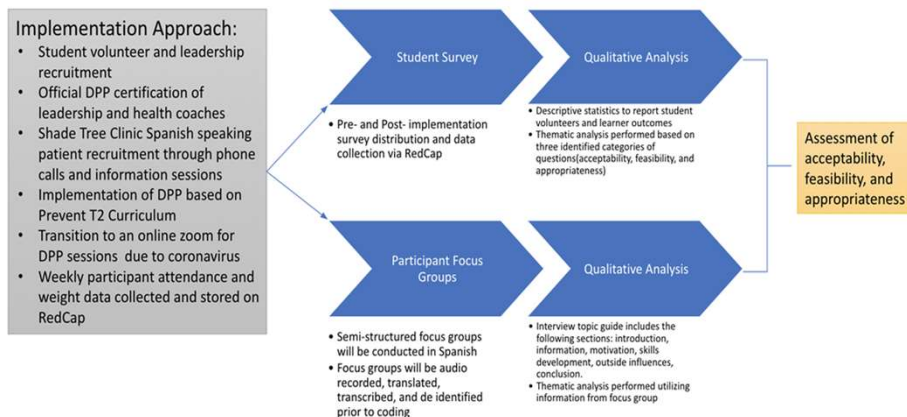


Figure 1 Student volunteers were recruited to fill five unique roles in the student-led DPP.

### Implementation Approach and Assessment:



## Results

- A total of 17 participants attended 16 weekly sessions (6 in-person and 10 Zoom sessions)
- Each participant attended 9.4 sessions (SD 2.1). There were 9.2 participants per in-person and 10.5 per Zoom session.
- Students spent between 0.5 to 5 hours per week dedicated to the DPP.
- 76.5 % of patients (n= 13) achieved the 5% weight loss goal.

### Acceptability:

- 100% (n=10) of students leaders believed that the program was successful and should continue for this patient population.
- Strengths of the program included: consistency, sense of community amongst participants, social support, common goal-setting, resources provided
- Weaknesses of the program included: collaboration with other mentors, participant adherence, extended time frame, clear expectation of student role, organization amongst leadership, competing student interests, limited recruitment of patients

### Adoption:

- Facilitators of successful adoption cited by students included: financial funding, readily available patient pool, and faculty commitment and guidance

### Appropriateness:

	Degree of Comfort (0= least comfortable 100=most comfortable)	
	Pre Survey (n=14)	Post Survey (n=10)
How comfortable do you feel providing motivational interviewing to a patient seeking to make lifestyle changes?	68.0	76.0
How comfortable do you feel talking to a patient about barriers to lifestyle change?	67.5	86.0
How comfortable do you feel talking to a patient about their exercise habits?	70.0	80.0
How confident do you feel coaching a patient about the risks of developing diabetes?	61.0	76.5
How knowledgeable do you feel regarding the practical challenges faced by low-income patients trying to make exercise and diet-related lifestyle changes?	61.0	85.0

Median values reported.

## Next Steps

- Complete data collection and qualitative analysis of student survey results
- Conduct audio recorded spanish participant focus group interviews and qualitative analysis to understand participant experience of implementation
- Utilize data to inform new cycles of the student-run DPP at Vanderbilt and expand the student-run DPP program to other schools

## Acknowledgements/Funding

The Diabetes Prevention Program (DPP) at Shade Tree Clinic was funded using a Vanderbilt Institute of Clinical and Translational Research, VR53470 Grant Award. We would also like to thank Dr. Carolyn Audet at the VUMC Department of Health Policy for her expertise and guidance in developing this project.

## References

1. Diabetes Prevention Program Research Group. 10-year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcomes Study. *Lancet* 2009;374(9702):1677-1686. [https://doi.org/10.1016/S0140-6736\(09\)61457-4](https://doi.org/10.1016/S0140-6736(09)61457-4)
2. Agarwal E, Allebeck P, Hallqvist J, Moradi T, Sidorchuk A. Type 2 diabetes incidence and socio-economic position: A systematic review and meta-analysis. *Int J Epidemiol* 2011;40(3):804-818. <https://doi.org/10.1093/ije/dyq293>
3. Grintsova O, Maier W, Mielck A. Inequalities in health care among patients with type 2 diabetes by individual socio-economic status (SES) and regional deprivation: A systematic literature review. *Int J Equity Health* 2014;13(1):1-14. <https://doi.org/10.1186/1475-2875-13-43>
4. Probstfield JL, Fyfe RL. Strategies for recruitment and retention of participants in clinical trials. *JAMA - J Am Med Assoc* 2011;306(16):1798-1799. <https://doi.org/10.1001/jama.2011.1544>
5. Proctor E, Silmere H, Raghavan R, et al. Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. *Adm Policy Ment Health*. 2011;38(2):65-76. doi:10.1007/s10488-010-0319-7