



Recruitment Strategies Used in a YMCA-Based Intervention to Prevent Type II Diabetes in At-Risk Youth

Barbara E. Olkiewicz, DO; Patricia E. Soliz, MD; Randa M. Kutob, MD, MPH

Introduction

Type II Diabetes is a serious and costly disease with an estimated prevalence in obese adolescents >12 years of age ranging between 0.4%- 1% in the U.S. (1)

Studies analyzing weight loss interventions in youth are often performed under controlled research settings, missing the opportunity to establish effective community outreach programs.

Recruitment remains a challenging aspect to any study and is a central component to the success of trials involving human subjects. Important factors include: (2)

- Identifying eligible participants
- Obtaining proper informed consent
- Maintaining ethical standards
- Ensuring study goals and design are achieved
- Subject retention

Often times recruitment barriers are not identified in published studies (4) and it is estimated that only 55% of trials are able to recruit their targeted sample size (3).

The YMCA currently has a successful community-based program entitled YMCA's Diabetes Prevention Program specifically for adults

This program has been shown to “reduce the number of new cases of type 2 diabetes by as much as **58%** and by **71%** among adults aged 60 years or older” (5)

The EPIC Kids study is a pilot study which focuses on family and community based interventions for the prevention of type II diabetes in at risk 9-12 year olds.

Our aim was to study program feasibility by describing recruitment by source and identify successful strategies of recruitment.

Methods

Participants were recruited via word of mouth, YMCA emails, YMCA flyers, various local health events, clinician offices and online advertisements.

Children ages 9-12 with BMI > 85th percentile for age and sex were eligible who had 1 of the following T2D risk factors:

- Ethnic minority
- 1st or 2nd degree relative with T2D
- Conditions associated with IR/metabolic syndrome (e.g. acanthosis nigricans, hypertension, dyslipidemia, PCOS, or small for gestational age birth weight, maternal history of T2D or gestational diabetes)

Those who could not commit to weekly sessions or were unable to be reached after 3 phone call attempts were deemed ineligible.

Twelve weekly sessions were held in the Fall of 2015 as well as the Spring of 2016 at a local YMCA facility.

Sessions were led by trained YMCA staff and included interventions targeting increased physical activity and healthy diet choices.

Results

Total of 158 subjects were initially recruited in the Fall study and 52 subjects in the Spring study.

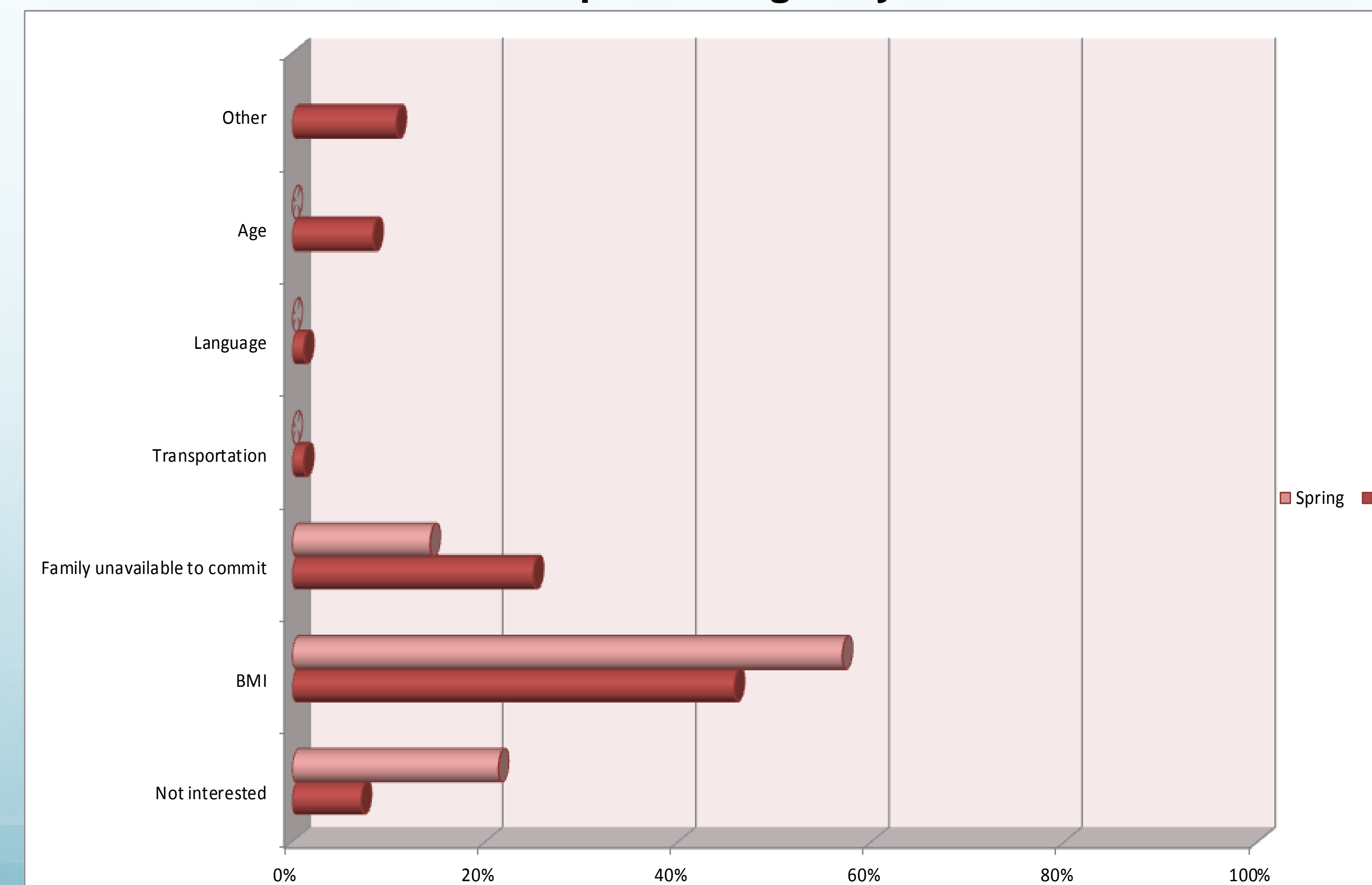
- Fall: 128 were screened for participation while 30 subjects could not be reached despite 3 telephone call attempts.
- Spring: 39 were screened for participation while 12 subjects could not be reached despite 3 telephone call attempts.

Preliminary Demographics Cohort 1 (n=28): 89% Female; 75% White; 71% Hispanic; 7% Black; 4% American Indian; 43% Current/Past Y Members; 86% >95% BMI for Age

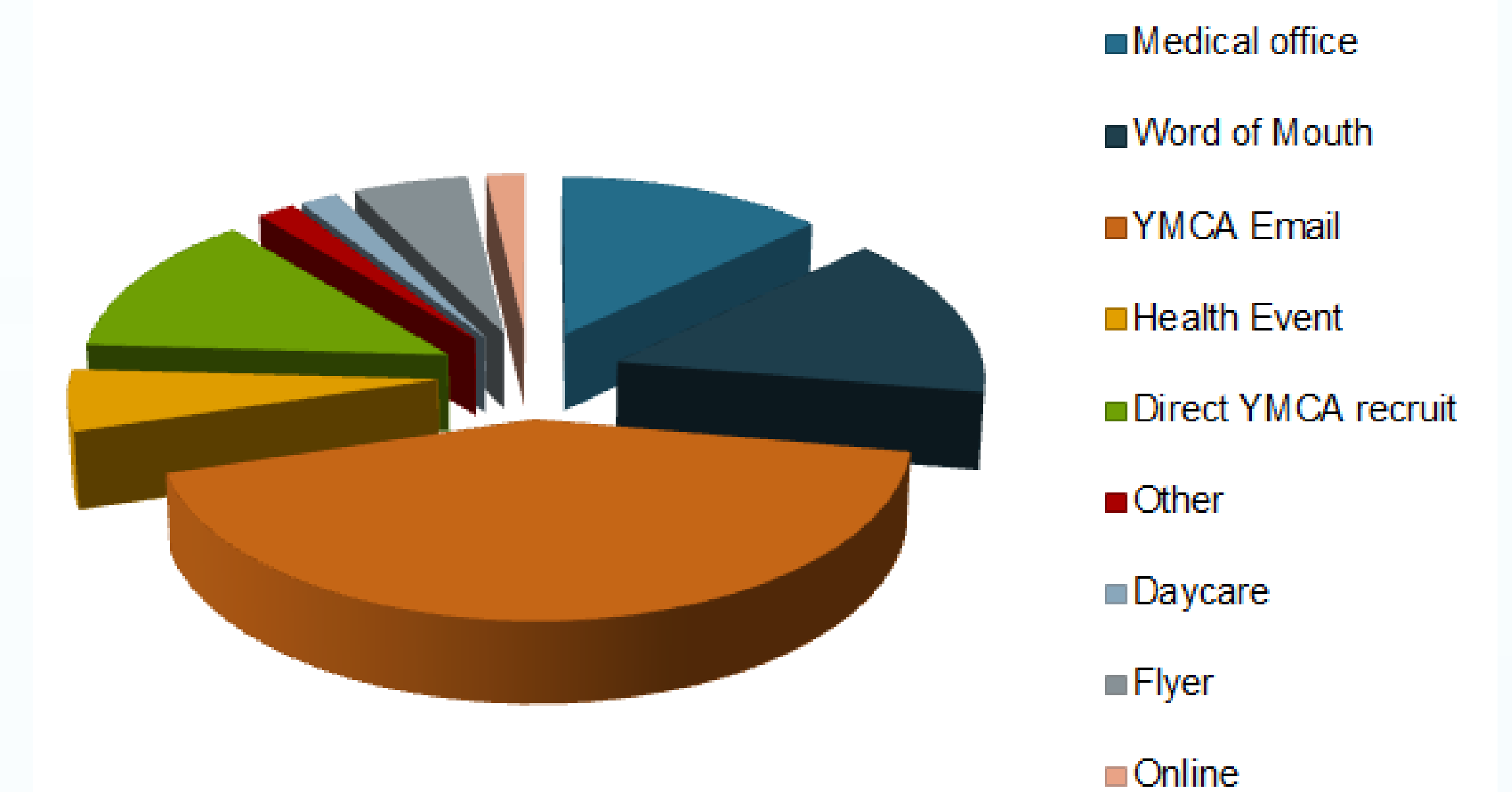
Table 1: Initial Recruitment Source

Source	Screened	Met Criteria	Met Criteria and Enrolled	Enrollment (%)
Flyer	10	3	3	30.0
Health Event	22	6	3	13.6
Daycare	11	1	1	9.1
Medical Office	25	10	7	28.0
Direct YMCA	10	8	7	70.0
Online	3	1	1	33.3
Email	50	29	23	46.0
Word of Mouth	11	9	8	72.7
Other	25	3	1	4.0
TOTAL	167	70	54	32.3

Graph 1: Ineligibility Criteria



Graph 2: Final Enrollment



Conclusions

- The most successful recruitment strategy was YMCA email (41.3%), followed by medical offices (15.0%).
- Least effective recruitment strategy was online (1.8%)
- Word of mouth yielded the highest enrollment percentage (72.7%)
- Other recruitment methods and daycare recruitments led to the least percentage of enrollment (4.0% and 9.1% respectively)
- Email lead to the highest number of screenings and enrollment
- Limitations: Sample size, time frame, varying knowledge of criteria for recruitment (ie physicians not knowing exact recruitment criteria)
- Implications of our study: These results provide insight into specific means of recruitment, both success and failure. These results may help guide future study's with similar aims.
- Recruitment is key for program feasibility.
- Programs like the YMCA can successfully recruit from their email lists of enrolled families.

References

1. Reinehr, T. (2013). Type 2 diabetes mellitus in children and adolescents. *World J Diabetes*, 4(6), 270-281. doi: 10.4239/wjd.v4.i6.270
2. Participant Recruitment for Research. (n.d.). Retrieved April 21, 2016, from <https://healthit.ahrq.gov/ahrq-funded-projects/emerging-lessons/participant-recruitment-research>
3. Pressler, S., Subramanian, U., Shaw, R., Meyer, L., Stoudemire, K., & Gradus-Pizlo, I. (2008). Research in patients with heart failure: Challenges in recruitment. *Am J Crit Care*. 2008 May, 17(3), 198-203. Retrieved April 20, 2016.
4. Sully, B. G., Julious, S. A., & Nicholl, J. (2013). A reinvestigation of recruitment to randomised, controlled, multicenter trials: A review of trials funded by two UK funding agencies. *Trials*, 14(1), 166. doi:10.1186/1745-6215-14-166
5. About the Program. (n.d.). Retrieved May 3, 2016, from <http://www.ymca.net/diabetes-prevention/about.html>.

Acknowledgments

This project was mentored by Dr. Randa Kutob, whose help is acknowledged with great appreciation.

Thank you to the Epic Kids Study Team for providing data for this analysis, specifically thank you to Melanie Hingle, PhD., MPH, RD.