

Statistical Analysis Plan

Official Title: Telemedicine for Reach, Education, Access, and Treatment- Ongoing (Treat-On) Study

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Statistical Analysis

We expected to enroll 50 participants into the intervention and compare to a retrospective usual care group (control) that was also anticipated to include 50 participants. Control participants were identified from a pre-existing data set.

A control group was selected from individuals who had previously participated in the *Diabetes High Risk Initiative*. Propensity score matching was used to form pairs of intervention and control participants. Specifically, a greedy matching procedure with a matching caliper of 0.2 of the standard deviation of the logit of the propensity score was used to create pairs. For a participant in the intervention group, the closest control participant within the specified caliper distance was selected for matching. Factors selected *a priori* for inclusion in the propensity score included several covariates known to be possible correlates of HbA1c: race (White and non-white), ethnicity, age, body mass index (BMI), baseline HbA1c, and gender. Standardized mean differences were then calculated to examine the balance between the two exposure groups. Variables with standard mean differences <0.1 were considered to be balanced.

Baseline characteristics of the intervention and control group as well as those who met and did not meet their diabetes self-management goal were presented using measures of central tendency (median, interquartile range) for continuous variables and number and percentage for categorical variables. Comparisons were made using the Wilcoxon rank sum and chi-sq tests. To examine the change in HbA1c over time, mixed model regression was employed. Since the baseline characteristics achieved a good balance, those variables were not entered into the propensity score matched model.

A secondary analysis, using only the participants in the intervention group (n=42), was performed to examine the difference in HbA1c and survey scores for self-care, diabetes distress, empowerment, and the TUQ between those that met their diabetes self-management goal versus those that did not. Similar analyses methods were used except the mixed models were adjusted for age, race, BMI, gender. P-values <0.05 was considered significant. Finally, acceptability and feasibility of the intervention were examined at the end of the study (at month 12) using descriptive statistics. All analyses were carried out using SAS 9.4 (Carey Institute Inc).