



# Improving Self-Management of Type 2 Diabetes Through Text Messages

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### Problem Description

40M BQ1  
 4,495 members  
 1,400-2,000  
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### Available Knowledge

1. Most people with T2D do not know how to manage their condition. They are often unaware of the importance of diet, exercise, and medication. They are often unaware of the available resources and support groups.

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### Demographics

Age range: 40-70  
 40-50  
 50-60  
 60-70  
 70-80  
 80-90  
 90-100

Gender: 50% Male, 50% Female

Level of Education: High School, College, Postgraduate

### Intervention/Patient Process

1. Initial assessment and patient education.  
 2. Development of a personalized self-management plan.  
 3. Implementation of the plan with ongoing support and monitoring.  
 4. Evaluation of outcomes and adjustment of the plan as needed.

### Results

#### Group Self-Management Scores

Group Scores by Behavior

Behavior	Score
Choking Food	18
Being Late	18
Healthy Eating	18
Taking Medication	18
Monitoring BG	18
Problem Solving	18
Healthy Coping	18

Scores: 47.62 to 30.37  
 41.6% Improvement in Group Self-Management Scores

#### Individual Self-Management Scores

Individual Self-Management Blood Glucose

4/10 Increase Self-Reporting Blood Glucose by 40% in 6 weeks

### Measures

Self-Management Behavior: 7 Questions survey adapted from the AACE Self-Management Questionnaire (SMART)

Diabetic Control: HbA1c: Range of 6.5-9.0 with 1-month follow-up visit

Diabetic Control: Self-Reported: Response to question on self-management survey using range of 1-5

Patient/Provider Satisfaction: Satisfaction survey adapted from the CSDB's four questions

### Results

#### Group and Individual A1c

Change in A1c Group: 8.5% to 7.45%  
 1.3% for group

Change in A1c Individual: 8.5% to 7.45%  
 1.05% for group

AML Pat	A1c Pre	A1c Post	% Change
1	8.5	7.5	11.2
2	8.5	7.5	11.8
3	8.5	7.5	11.8
4	8.5	7.5	11.8
5	8.5	7.5	11.8
6	8.5	7.5	11.8
7	8.5	7.5	11.8
8	8.5	7.5	11.8
9	8.5	7.5	11.8
10	8.5	7.5	11.8
11	8.5	7.5	11.8
12	8.5	7.5	11.8

#### Blood Self-Reported Glucose

Pre-Program: 100-150-200-250-300-350-400  
 Post-Program: 100-150-200-250-300-350-400

Decreased number of patients in the 300-400 range

#### Patient/Provider/Clinician Satisfaction Surveys

Item	Pre-Program	Post-Program
Quality	3.50	4.00
Helped manage diabetes	3.25	3.75
Met Needs	3.25	3.75
Recommended to others	3.25	3.75
Continue to use	3.25	3.75

### Discussion/Summary

0 patients were found to be at risk of patient.

Self-management support should extend beyond a single office visit.

An in-house intervention such as text messaging is a feasible solution if a free, accessible and reliable technology is used.

Long term follow-up will be needed to determine sustainability and ongoing engagement.