

CASE STUDY

**Conversational AI Drives  
Behavior Change to Improve  
Diabetes Self-Management**

**Diabetes is an epidemic in the US, with over 30 million adults living with the condition and a further 84 million adults with pre-diabetes. The direct medical costs of diagnosed diabetes are estimated at \$240B annually, with a further \$90B of indirect costs through reduced productivity.**

Healthcare organizations recognize the importance of diabetics and pre-diabetics changing their behaviors to live healthier lifestyles and improve their diabetes self-management to improve outcomes and control costs. However, focusing on patient behavior change is a significant investment, as it usually requires focused 1:1 involvement from care managers to be effective. To improve behaviors at scale, innovative healthcare organizations are leveraging advances in conversational artificial intelligence (Conversational AI) to deliver automated, tailored conversational solutions that extend the care delivery system and drive members to adopt more healthy behaviors.

mPulse Mobile, the leader in conversational AI solutions for the healthcare industry, partnered with a large West Coast integrated delivery network (IDN) to study the impact of AI-powered dialogues to activate members and improve diabetes self-management behaviors. The IDN's target region in Southern California has 49,000 diabetic members, of which 26,000 are considered uncontrolled (HbA1c >7) and 23,000 in control (HbA1c <7). The uncontrolled diabetic members receive focused resources, and Care Managers move 20-25% of targeted uncontrolled diabetics into the controlled range annually. Of the controlled diabetics 24% will have their sugar levels rise to 7 or above by their next A1c check, and 33% will rise above 7 within the next calendar year. The percentage that revert to uncontrolled between A1c visits is termed 'Churn'.

## Goals

The IDN's core objective was to reduce the rate of Churn within their controlled diabetic population. The second objective was to assess the ability of mPulse Mobile's Activation Intelligence product to deliver automated tailored conversations that create an excellent member experience and drive behavior change.

## Execution

The mPulse Mobile solution delivered automated tailored dialogues to controlled diabetic members over a period of 6 months following their A1c test result. Conversations were held in English or Spanish depending on member language preference. Members were opted in by electing to view their A1c result using the text channel, which required successful identity verification directly through text. Following opt-in, members engaged in coordinated conversations that focused on understanding specific psychographic factors and then delivering conversations that addressed the individual needs of members to increase motivation, provide education and improve diabetes self-care. When appropriate, dialogues engaged members about needed care, such as eye and foot exams, based on their care history.

mPulse's Behavioral Science team led the development of the program. Conversational AI allows healthcare organizations to ask questions that reveal insights about key factors that influence member behavior, such as barriers, health beliefs, stage of change and goal setting. Normally these types of insights can only be gathered by trained care staff in 1:1 conversation.

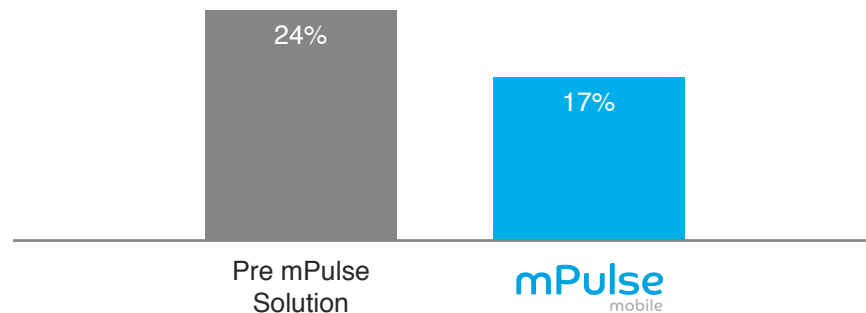
## ACTIVATION INTELLIGENCE

mPulse's Activation Intelligence enables healthcare organizations to deliver tailored conversations to members at scale using the text channel (SMS). The technology uses a wide variety of data including patient-generated data and data from client source systems to build a dynamic Activation Profile for each member in the program. Program dialogues are tailored to the individual based on their Activation Profile and are orchestrated over the duration of the engagement to maximize activation for specific areas of behavior change.

## Results

The mPulse solution activated controlled diabetics and decreased the proportion of members whose A1c levels increased above 7 in the six month period following their previous A1c result. The reduced levels of Churn resulted in over 2,000 additional patients maintaining blood sugar control over the time period of the study.

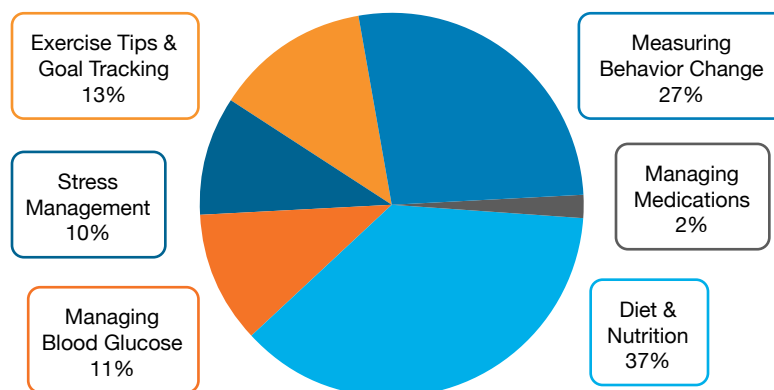
**% OF DIABETIC PATIENTS FALLING OUT OF A1C CONTROL**



Over the course of the study more than 29,000 members were notified about their A1c levels. These members received over 276,000 self-care dialogues, which were automatically assigned using Activation Intelligence. Members received an average of 21 conversations over the course of the 6-month time frame, with a 23.2% overall response rate.

The program included over 400 dialogues covering a broad range of topics relating to diabetes self-management and behavior change. Members were automatically assigned dialogues that were tailored to their specific health needs by leveraging their Activation Profile. The most commonly used dialogues related to Diet & Nutrition followed by Measuring Behavior Change.

**PROPORTION OF TOP 50 DIALOGUES BY TOPIC AREA**



## Behavioral Insights

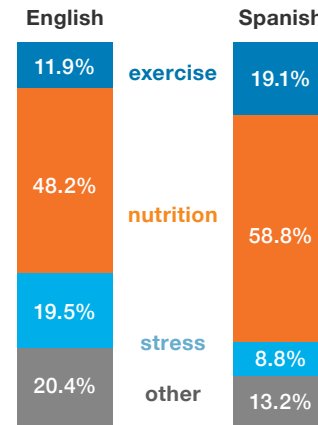
Members were asked what their biggest diabetes management challenges were, with nutrition, stress and exercise the biggest barriers, in that order. There were differences between English and Spanish speaking populations in this area, with English speaking populations having a higher influence of stress.

Asking members about their likelihood to change how they managed their diabetes provided insights about their Stage of Change, an important component of behavior change. Members in pre-contemplation or contemplation stages receive dialogues focused on building awareness to move them to the preparation stage of change. Those in preparation and action stages of change would receive dialogues that encourage goal setting for the following few months.

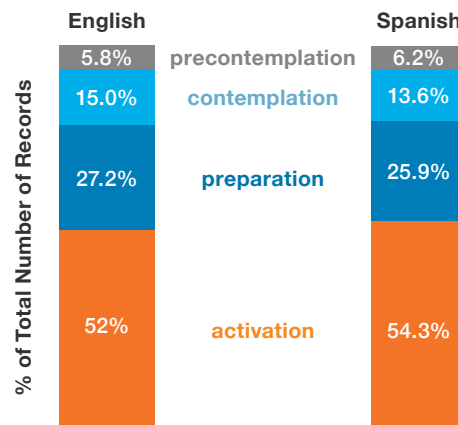
## Conclusion

The study demonstrated mPulse Mobile's Conversational AI solution is a successful approach for driving behavior change for diabetes self-management. The automated solution creates efficiencies by freeing valuable care team resources from manual outreach. Automation also means the solution can easily be scaled to drive behavior change across larger populations.

### DIABETES MANAGEMENT CHALLENGES IN ENGLISH- AND SPANISH-SPEAKING POPULATIONS



### STAGE OF CHANGE IN ENGLISH- AND SPANISH-SPEAKING POPULATIONS



## About mPulse Mobile

mPulse Mobile, the leader in Conversational AI solutions for the healthcare industry, drives improved health outcomes and business efficiencies by engaging individuals with tailored and meaningful dialogue. mPulse Mobile combines behavioral science, analytics and industry expertise that helps healthcare organizations activate their consumers to adopt healthy behaviors.

With over a decade of experience, 100+ healthcare customers and more than 300 million conversations annually, mPulse Mobile has the data, the expertise and the solutions to drive healthy behavior change.

To ask a question or request a call, go to: [mpulsemobile.com/contact](https://mpulsemobile.com/contact)

