



Evaluating HALT: A Digital Program to Reduce Prediabetes and Type 2 Diabetes Risk

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Background

In the United States, around thirty-six million people are predicted to meet the criteria for prediabetes by 2045. Prediabetes is a condition where blood sugar levels are higher than normal but not over the clinical threshold for type 2 diabetes diagnosis.^{1,2} Indeed, 1.2 million Americans are diagnosed with prediabetes and type 2 diabetes every year, resulting in substantial individual health risks.¹ Prediabetes and type 2 diabetes decrease an individual's life expectancy by two years and eight years, respectively.² Further, both prediabetes and type 2 diabetes increase the risk of heart disease and stroke.¹

To support individuals who have been diagnosed with or are at risk of developing prediabetes or type 2 diabetes,³ the National Diabetes Prevention Program (DPP) of the Centers for Control and Prevention offers a 12-month program to help users make sustainable lifestyle changes.^{4,5} These changes are designed to slow the onset of type 2 diabetes and manage the adverse side effects of living with type 2 diabetes.³ However, this program is mainly offered in person – at specific times and in pre-determined locations. These constraints limit participation, especially among people with caregiving duties, variable work schedules, a lack of transportation, or who live in rural communities.^{6,7} To increase access to quality prediabetes information, ProVention Health Foundation (ProVention), a public health foundation focused on promoting disease prevention, created the Health and Lifestyle Training (HALT) program.⁸

HALT mirrors the benefits of and offers a nearly identical curriculum to the 12-month, in-person DPP, while being delivered through a flexible, asynchronous, online platform. HALT provides users with weekly educational video content, food tracking with an assigned health coach, ways to interact with other HALT users, and different ways to track physical activity. HALT is available to users who are both high risk for and previously diagnosed with prediabetes via provider referral or self-referral.⁸



To better understand HALT's user experience and overall satisfaction, ProVention partnered with KDH Research & Communication (KDHR) to develop and explore the results of an online market research survey. KDHR is an Atlanta, GA-based small business with a longstanding history of successful program development and evaluation across a broad spectrum of public health topics.

Specifically, for the HALT study, KDHR created three market surveys to collect input from three audiences (see Table 1), analyzed the data from the surveys, and reported on the findings, including HALT program satisfaction, types of organizations using HALT, and recommendations from users of the HALT program.

Methods

KDHR used Alchemer, an online survey provider, to program the market research survey for the three audiences. The administered surveys measured HALT's usability, overall impact, and user satisfaction by rating levels of agreement on a 10-point Likert scale (i.e., 1 = lowest level of agreement, 10 = highest level of agreement). KDHR used convenience sampling to recruit a total of 69 respondents to complete the market research survey: 41 individual users, 21 delivery organizations, and seven state licensees (Table 1). Respondents completed the one-time survey that took less than 20 minutes to finish.

Data collection for the HALT study was open from April 24, 2023 to June 12, 2023. KDHR used STATA 16 to conduct all analyses. Data from the survey are presented in this brief in two different ways: 1) as percentages of the total number of individuals that answered each question (e.g., 85% of respondents reported a positive change); and 2) as ratings on the 10-point Likert scale described above, where higher ratings represent higher levels of agreement (e.g., respondents rated high confidence using HALT with an average rating of 8.4 out of 10.)

Findings

Individuals

Most of the individual users found HALT easy to use (indicated by an average rating of 8.0/10 on the Likert Scale) and easy to interact with coaches with coaches on the platform (9.0/10). They also indicated likeliness to recommend HALT to family and friends (8.5/10). Further, most individual users felt confident using HALT (8.4/10), increasing the likelihood that they would engage with the life-changing interventions supported by the HALT platform.

Most notable, however, were the overall reports of health improvements after participating in the HALT program. Almost 85% of respondents reported that they experienced a positive change in their overall health since they started using HALT, and on average they rated HALT as a 7/10 when asked if HALT helped them navigate the obstacles traditionally barring them from attending in-person DPPs. With the added benefits of the HALT delivery methods, 87.2% of individual users reported being satisfied with the program as a whole – including communication with their coaches.

Table 1: HALT market study respondents

1. Individual users: People who use the HALT app
2. Delivery organizations: Lifestyle coaches; state/county health department employees; and employees of health systems, clinical organizations, and community-based organizations that encourage individuals to use the HALT app.
3. State licensees: Administrators at the state level who train delivery organizations and individual users.

Delivery organizations and state license holders gave us additional insight into the ease of delivery of the HALT app and ease of use.



Delivery Organizations

Twenty-one delivery organizations across six states [Arkansas (1), Florida (1), Hawaii (3), Nebraska (6), North Dakota (4), and Pennsylvania (6)] responded to the survey. Remarkably, all 21 organizations agreed that HALT not only benefited their respondents but also would be useful in reaching more individual users in rural communities. Additionally, over 90% of delivery organizations believed that HALT increases their ability to reach many communities and individual users, increasing the likelihood of use for those traditionally excluded from in-person courses due to scheduling conflicts.

While most of the delivery organizations (85.7%) found the self-paced capability of HALT desirable when compared to similar programs, they were less inclined to believe (4.8/10) that individual users would finish the entire program.⁹ As previous studies reflect, a positive relationship with HALT engagement is conducive to markedly improved overall health results.

State licensees

Among the seven state licensees, 85.7% worked with their respective state or county health departments, and 100% worked with rural populations. All state licensees agreed that HALT would be effective in reaching individual users in communities similar to their own. Most of the state licensees reported that HALT (8.3/10) was easy to roll out in their state, and that they viewed HALT as a valuable tool to reach isolated rural community members (9.0/10). Also, state licensees believe that HALT addresses an overlooked gap in the market for diabetes prevention education (9.1/10).

When considering the access to and usability of HALT, state licensees rated HALT's need for ongoing technical support very low (1.8/10), and most agreed that the support available for the platform when needed was very good (9.4/10). To increase the number of individual users, most state licensees did indicate they would find additional marketing tools to promote HALT beneficial (8.4/10).

Discussion

The overall positive response to the HALT platform from survey respondents across the three groups speaks highly of the potential effectiveness of the program. Delivering the HALT materials through a self-paced, easy-to-use, online method allows a larger group of hard-to-reach populations to engage with health-changing prediabetes education.¹⁰ These populations include, but are not limited to, those who live in isolated, rural areas; those who have limited access to transportation; and those who have variable schedules due to caregiving duties and/or work. HALT allowed delivery organizations and state licensees to engage with individual users who are traditionally harder to reach, and those individuals agreed that HALT made it much easier to communicate with their health coaches, delivery organizations, and other HALT users.

KDHRC also confirmed that HALT extends the reach of the DPP and is considered a useful tool for all survey audiences. At the same time, KDHRC discovered that marketing tools for delivery organizations and state licensees could bring further awareness to potential users. For example, materials with languages and images tailored to a rural community could lead to an increase in app use.

Finally, results suggest that integration of technology to track health metrics, including weight loss and Body Mass Index (BMI), would support a quantitative understanding of the impacts of HALT on users' health and health behaviors. Most individual users reported perceived health improvements especially with increased HALT participation, but verifiable health data is needed to substantiate findings on a larger scale.

Due to the high-risk nature of prediabetes¹¹ and the overwhelming number of people who are at-risk of



developing the condition,¹² a far-reaching dissemination of ameliorative information is imperative. Through programs like HALT, necessary health information can be delivered in a self-paced, digestible, and measured manner allowing users to more easily adapt to helpful lifestyle changes.¹³ Increased access to diabetes prevention information via platforms such as HALT stand to decrease the overall likelihood of being diagnosed with prediabetes and Type 2 diabetes,¹⁴ and understanding user feedback on the strengths and weaknesses the intervention can help tailor materials for the most widespread and high-fidelity adoption.

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