



# Assessing the Effectiveness of Partners in Quitting, A Text Message-Based Smoking Cessation Program

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## Abstract

This article will discuss the implementation of Partners in Quitting, a new text message-based smoking cessation program. It will also provide preliminary data on client engagement rates, program effectiveness, and program challenges. Partners in Quitting is an outreach program under The GW Healing Clinic (run by The George Washington University School of Medicine). The GW Healing Clinic is a program that provides free health and social services to patients in the Washington, D.C. area. It specifically works with the D.C.-based organization, Bread for the City. Partners in Quitting provides an evidence-based, easily accessible, and comprehensive smoking cessation program to the clients of Bread for the City.

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It has been shown that using text messaging as a tool to promote smoking cessation and health behavior change has been successful and well received among many populations. In one recent study in New Zealand, participants with an interactive personalized text message cessation program for one month had an average abstinence rate of 28% compared to 13% among those who did not receive the text message program.<sup>1</sup> Another recent study analyzed the text message smoking cessation program, Text2Quit, and found abstinence rates of 11.1% among participants of the program versus 5.0% among the control group who did not receive the text messages and were instead referred to the national Quitline.<sup>2</sup>

Partners in Quitting is an outreach program under The GW Healing Clinic, a student-run free clinic of The George Washington University (GWU) School of Medicine. The GW Healing Clinic provides free health and social services to clients in the Washington, D.C. area and specifically works with the D.C.-based organization Bread for the City. The main goal of Partners in Quitting is to provide

clients of Bread for the City with an evidence-based, comprehensive smoking cessation program that eliminates common barriers to smoking cessation counseling, such as cost, time, and transportation. Participants are recruited within Bread for the City using a variety of methods including flyers, blog posts, and physician or social worker referrals. Interested clients are sent to the Bread for the City Resource Help Desk, where they meet with the resource coordinator to hear about the program, consent to the study portion of the program, and enroll. Clients have the option to participate in the program and opt out of the research component.

Prior to enrollment, the resource coordinator conducts a motivational interviewing session with each client and asks questions to determine which “Stage of Change” the client is currently in. Prochaska’s Stages of Change Model (also called the Transtheoretical Model) has been widely used for years to assess an individual’s readiness to undergo a health behavior change, particularly in the field of smoking cessation.<sup>3</sup> The Stages of Change are as follows: pre-contemplation,

contemplation, preparation, action, maintenance, and relapse (which is not itself a stage but instead a transition point back to an earlier stage). The stages do not necessarily occur in order or exclusively from one another. Based on current data comparing smoking cessation success to Stages of Change, we encourage clients to at least be in the contemplative stage before beginning *Partners in Quitting*.

If the client has consented to be involved in the research study, they will also fill out a pre-intervention survey that collects data on demographics and baseline smoking behaviors. Participants are included on a rolling basis, which gives them the freedom to choose a quit date that works best for their schedule. For example, once they undergo the initial intake and enrollment process, some clients choose to begin the program right away, while others may wait several weeks to give themselves time to prepare.

The text message content was created by a GWU medical student using evidence-based resources, including: the NIH's smoking cessation database [Smokefree.gov](http://Smokefree.gov), the program *Text2Quit* (designed by Dr. Lorien Abrams, a professor in the GWU School of Public Health and Health Services), and a Northwestern University-based cessation program called *Chicago Quits*. The text messages are sent and received through an online platform created by *CareMessage*, a company that connects health institutions with innovative mobile- and web-based health communication programs.

Participants receive daily text messages, first preparing them for their quit date and then helping them to maintain abstinence. The text messages are sent for a total of six weeks. The messages provide participants with tools to recognize triggers, fight cravings, substitute smoking for healthier activities, and improve self-efficacy. Some of the messages are interactive and prompt the participant to respond to a multiple-choice or true/false question. This interactive component was created to maintain engagement as

well as to assess for progress in acquiring cessation competency. Based on the participant's answer, the program will generate a response back to acknowledge that the client's answer was correct or provide the correct answer. Participants can also "Text Me" to ask questions or receive personalized, one-on-one counseling. The number of text messages sent to clients per day depends on their stage in the program. For example, during the time when they are near their quit dates, they will receive up to seven messages per day, but most days average three to five messages. Clients are also given quit supplies that have been shown to help fight cravings.

Currently, the data regarding the superiority of in-person versus mobile and web-based smoking cessation interventions are inconclusive. However, it is evident that the interventions with the most success are using a comprehensive, multi-faceted approach.<sup>4</sup> Therefore, we decided to offer participants the option to attend voluntary face-to-face group counseling sessions every other week run by *Bread for the City's* social worker. We will be analyzing data from individuals who only participated in the text message component versus individuals who participated in both the text message and in-person counseling components to see if there are statistically significant differences in outcomes.

To date, twenty-nine clients have completed the program and five clients have withdrawn from the program. The most common reasons for clients withdrawing from the program were: not feeling ready to quit, too busy to engage in the program, or disliking the frequency of the text messages. The program has a 100% user activation rate, meaning all clients, even those who ended up opting out, have replied to at least one text message. In addition, *Partners in Quitting* has an 80% engagement rate (the sum of the number of messages requiring a response which have been responded to and number of messages not requiring a response in comparison to the total messages sent) and an 83% correct response rate (percent of questions the participant got correct).

Currently, our most challenging task is post-program follow-up to assess for program effectiveness. Only seven out of the twenty-nine clients took the post-intervention survey, so we are currently unable to make any accurate conclusions regarding the effectiveness of the program in helping clients decrease cigarette intake or maintain abstinence. So far, based on attempts to contact previous clients, two clients have confirmed that they have not smoked a cigarette since they participated in Partners in Quitting and have attributed their abstinence directly to the program. Other clients reported smoking fewer cigarettes than they had before the program began and that they are now more aware of their smoking behaviors. One former client said: “They [the texts] always seem to come at the right time. I found them very helpful and saved the good ones so I could read them again later.” Another client discussed the bi-weekly in-person meetings that were held at Bread for the City: “I was already pro/con on whether I should or shouldn’t...the moment I came in, very positive, well maybe this is that sign I was looking for.”

Quitting smoking is not an easy task. We are hopeful that Partners in Quitting will continue to aid clients during this crucial time by providing continuous support, information and resources, and direct outlets to counseling opportunities.

Our main goals for the upcoming year are to increase enrollment via a formal referral system with the assistance of the health care personnel at Bread for the City. We will also be focusing on strategies to

increase participation and follow-up. For example, while the pre-intervention survey will still be done in paper form during the initial intake session, the post-intervention survey questions have now been converted to text message format and will be sent immediately following the last program text message. We will also be conducting a quality improvement focus group to assess client satisfaction regarding the quantity, frequency, and quality of the text messages sent.

As CareMessage, Bread for the City, and the GW Healing Clinic continue to support our endeavors, we are able to focus on strategies to reach the goals listed above and continue to optimize the quality and sustainability of the program.

## References

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