

Text2QuitSM: Interim results from an ongoing study of a personalized, interactive mobile health smoking cessation program

Introduction:

Text2QuitSM is a personalized and interactive mobile health program for smoking cessation. Text2Quit sends text messages and e-mails timed around a participant's quit date over the course of a 4 month period.

Messages include

- pre- and post-quit educational messages
- peer ex-smoker messages
- medication reminders
- relapse messages
- multiple opportunities for interaction

Text2Quit also includes an online portal where participants can log on to access resources, manage settings and review their reported data.

Researchers at The George Washington University are currently conducting an independent evaluation on the impact of Text2Quit on abstinence. This report, developed by Voxiva's research team, summarizes the interim results published by GW of the ongoing study.

Methods:

Between May 19, 2011 and September 23, 2011, 200 participants were recruited into the randomized trial, after Institute Review Board (IRB) approval from The George Washington University.

Eligibility criteria included:

- consumption of ≥ 5 cigarettes per day
- minimum of 18 years old
- not pregnant
- planning to quit in the next month
- regular use of e-mail and text messaging
- subscribed to an unlimited text message plan

Participants were randomly assigned to a control group (n=98) or intervention group (n=102).

Control group: occasional text messages encouraging user to visit smokfree.gov and complete study surveys

Intervention group: Access to Text2Quit, including text messages, email, and website

A baseline survey (n=200) was completed at the time of enrollment and included the collection of demographic and smoking characteristics of participants, as well as information that would be used in the tailoring of the

Text2Quit program. Information on smoking habits, abstinence rates and use of the system was captured from 80.1% of participants via telephone interview 4 weeks after enrollment (n=161).

Abstinence rates were self-reported and defined as not smoking over the prior 7 days.

Results:

The intervention group was **65% more likely to be abstinent** at 4 weeks compared to the control group. 34.2% of the intervention group (n=27) was abstinent 4 weeks after recruitment compared to 20.7% in the control group (n=17). The number of consecutive days quit was also higher in the intervention group (9.4 days) compared to the control group (6.5 days). Further, the intervention group was more likely to use pharmacotherapy (40.5%) than the control group (32.9%).

Participants were highly engaged in the program and 82.4% of the intervention group used the interactive text message features. Participation in reading the content was equally high. 83.5% of the intervention group read all or most of the text messages. 79.7% read all or most of the e-mails and 51.9% had visited the Text2Quit website in the past week.

Abstinence rates of 34.2% were comparable with other research studies on text message-only based quit smoking interventions. A UK-based study¹ showed self-reported abstinence of 28.7% at 4 weeks and a New Zealand study² showed self-reported abstinence rates of 28.0% at six weeks.

Detailed results are shown at Annex A.

Note: Data is from Abroms L, Ahuja M, Kodl Y, Windsor R. "Text2Quit: Results from a Pilot of an Interactive mHealth quit smoking program" presentation on December 5, 2011 at the mHealth Summit in Washington DC. The randomized control trial is funded by a grant and AARA supplement to Dr. Lorien Abroms, from National Cancer Institute of the National Institutes of Health (5K07 CA124579-02).

References

¹ Free C, Knight R, Robertson S, et al. Smoking cessation support delivered via mobile phone text messaging (txt2stop): a single-blind, randomised trial. *Lancet* 2011; 378(9785):49-55.

² Rodgers A, Corbett T, Bramley D, Riddell T, Wills M, Lin R-B, Jones M. Do u smoke after txt? Results of a randomized trial of smoking cessation using mobile phone text messaging. *Tob Control*. 2005;14:255-26.

Annex A: Research results

	All (n=200)	Intervention Group (n=102)	Control Group (n=98)
Mean age	34.8	34.9	34.7
Gender (%)	54 (27)	20 (19.6)	33 (33.7)*
Male	146 (73)	82 (80.4)	65 (66.3)
Female			
Race/Ethnicity (%)	168 (84)	91 (89.2)	77 (78.6)
White			
Education (%)			
Some High School	10 (5.0)	5 (4.9)	5 (5.1)
High School Grad	26 (13.0)	12 (11.8)	14 (14.3)
Some College/Trade	106 (53.0)	55 (53.9)	51 (52.0)
College Grad	38 (19.0)	21 (20.6)	17 (17.3)
Graduate School	20 (10.0)	9 (8.8)	11 (11.2)
Presence of smoker in living situation (%)	101 (50.5)	54 (52.9)	47 (48)
Average # of texts sent or received/day	20 (SD=26.7)	15.7 (SD=17.1)	26.2 (SD=32.9)*
Mean # of cigarettes/per day	16.6 (SD=7.7)	16.2 (SD=7.3)	16.9 (SD=8.1)
Mean number of past quit attempts	5.2 (SD=7.9)	4.3 (SD=4)	6.2 (SD=10.5)*
Mean baseline nicotine dependence (FTQ)	5.5 (SD=2.2)	5.5 (SD=2.1)	5.5 (SD=2.3)

	Intervention Group (n=79)	Control Group (n=82)
Not smoked in the past 7 days (%)	27 (34.2)	17 (20.7)~
Made at least one quit attempt (%)	65 (82.3)	69 (84.1)
Mean cigs/day	5.3 (SD=7.7)	8.2 (SD=7.9)*
Consecutive days quit	9.4 (SD=8.9)	6.5 (SD=8.3)*
Used NRT or other pharmacotherapy (%)	32 (40.5)	27 (32.9)
Read the texts (all/most vs. other) (%)	66 (83.5)	N/A
Read the emails (all/most vs. other) (%)	63 (79.7)	N/A
Visited the website (in last week vs. other) (%)	41 (51.9)	N/A

	Intervention Group (n=79)	Control Group (n=82)
The program gave me confidence that I can quit smoking.	4.1 (SD=0.7)	3.3 (SD=1.2)***
The program made me think that it was worthwhile for me to quit.	4.4 (SD=0.7)	3.9 (SD=1.2)***
The program made me feel that someone cared if I quit.	4.3 (SD=0.9)	3.3 (SD=1.4)***
The program made me feel that I knew the right steps to take to quit.	4.2 (SD=0.7)	3.5 (SD=1.4)***
The program was helpful in getting me to try to quit smoking.	4.1 (SD=1.0)	3.4 (SD=1.2)***
I liked the Text2Quit program/I liked Smokefree.gov.	4.2 (SD=1.1)	3.7 (SD=1.2)*

~ p=.055

* p<.05

*** p<.0001