

A Pilot Randomized Controlled Trial Comparing Reach and Engagement of Two Text Messaging Programs in Medicaid Smokers: Text&Quit and Text4Coach



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BACKGROUND

- Although overall smoking rates have declined in the United States, socioeconomic disparities in smoking rates persist.
- Text messaging programs have wide reach and accessibility and have been proven to help smokers quit, but programs have not been tested within health systems.
- We developed two distinct SMS-based programs for reaching out and engaging Medicaid smokers who were admitted to the emergency department.

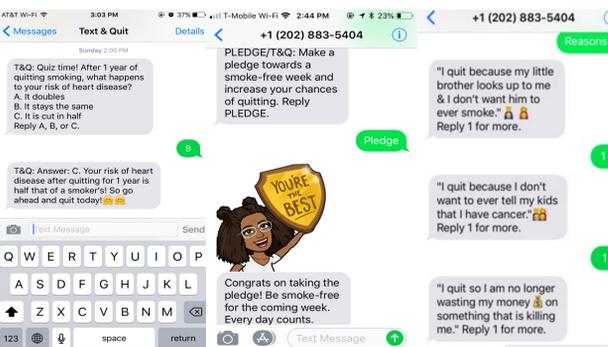
OBJECTIVES

This study aims to evaluate the feasibility and acceptability of two automated text messaging programs aimed at smoking cessation among Medicaid smokers admitted to a urban hospital emergency department.

PROGRAMS

Text&Quit (T&Q)

- Texting program that consists of automated and interactive text messages about quitting smoking.
- Program initially sends messages to encourage a participant to set a Quit Date.
- Once a Quit Date is set, messages are timed around this date and counsel participants on quitting smoking.



Text4Coach (T4C)

- Texting program that sends messages to connect participants to quitline phone counseling at their state quitline.
- Once participant agrees to connect, quitline referral is made by program.

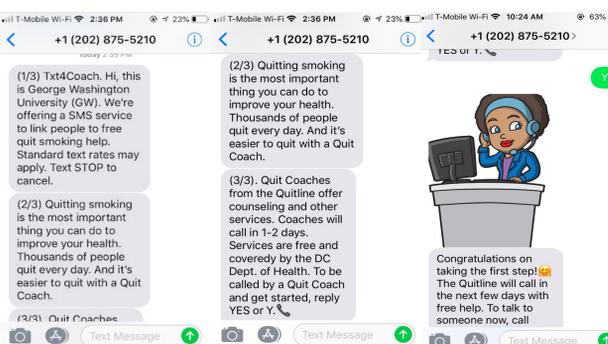


Table 1: Comparison of program characteristics

	T&Q	T4C
	Automated counseling	Quitline referral
Purpose of program		
Number of days	21	21
Scheduled messages	170	16
Scheduled messages: Quit Date protocol	102	-
Scheduled messages: No Date protocol	50	-
Other (i.e. quizzes, keywords, tracking)	35	-

METHODS

Design.

- Pilot randomized controlled trial (RCT).
- Participants randomized to T&Q or T4C.
- Followed up at three weeks.

Participants (n=80). Participants recruited from the emergency department at an urban hospital.

Eligibility.

- Participant is eligible if:
 - Patient is between ages of 18 and 64
 - Patient is insured by DC Medicaid
 - Patient smokes cigarettes daily
 - Patient has a working cell phone with unlimited text messaging

Procedure. Patients were asked if they were interested in participating in a study on quitting smoking, and if yes, were screened for the study. Eligible participants provided informed consent before completing the baseline survey. After completion of baseline survey, participants were randomized to either T&Q or T4C. Participants were followed up at 3 weeks post-enrollment.

Measures. The baseline survey collected demographics, smoking behaviors, knowledge and utilization of Medicaid-covered treatment, and thoughts about quitting. The follow-up survey assessed smoking outcomes including 7-day point prevalence abstinence (ppa), quit attempt, changes in cigarettes smoked per day, and overall engagement and satisfaction with the program.

Analysis. The number of participants eligible to enroll and receive messages, participants' liking of the programs, and 7-day point prevalence abstinence were examined and compared across both groups.

RESULTS

- 80 participants were enrolled, with equal numbers randomized to each arm.
- 69 out of 80 participants (86.25%) completed the follow-up.
- At baseline, there were no significant differences in demographics or smoking characteristics between study arms.

Table 2: Baseline demographic and smoking characteristics of participants

	Total (n=80)	T&Q (n=40)	T4C (n=40)
Age, mean (SD)	42.24 (11.55)	42.38 (12.38)	42.1 (10.83)
Gender, n (%)			
Male	31 (38.75)	17 (42.50)	14 (35)
Female	49 (61.25)	23 (57.50)	26 (65)
Education, n (%)			
Less than high school	20 (25)	11 (27.50)	9 (22.50)
High school or more	60 (75)	29 (72.50)	31 (77.50)
Race, n (%)			
African-American	72 (90)	36 (90)	36 (90)
Other	8 (10)	4 (10)	4 (10)
Employment, n (%)			
Employed (full/part-time)	36 (45)	20 (50)	16 (40)
Unemployed	44 (55)	20 (50)	24 (60)
Annual income, n (%)			
Up to \$15,000	44 (55.7)	19 (48.72)	25 (62.50)
Greater than \$15,000	35 (44.3)	20 (51.28)	15 (37.50)
Cigarettes per day, median (IQR)	7 (4,10)	7 (5,10)	7 (4,10)
Quit attempt in the past year, n (%)	58 (72.50)	29 (72.50)	29 (72.50)
FTND score, median (IQR)	4 (2,5)	3 (2,5)	4 (3,5)

Table 3: Engagement outcomes for participants

	T&Q (n=40)	T4C (n=40)
Textlit		
Replied to at least 1 message, n (%)	29 (73)	28 (70)
Replied to the program to set Quit Date, n (%)	22 (55)	N/A
Replied 1 to connect with a counselor, n (%)	N/A	25 (63)
Opted out, n (%)	0	2 (5)
Self-Report		
Replied to at least 1 message, n (%)	25 (74)	21 (60)
Set Quit Date, n (%)	16 (49)	9 (27)
Spoke with counselors at the QL, n (%)	25 (74)	21 (60)
Received counseling from the QL, n (%)	N/A	11 (31)
Number of sessions received, median (IQR)	N/A	2 (1, 2)
Use of smoking cessation services in the past 3 weeks, n (%)		
Counseling from a health professional	3 (9)	2 (6)
Self-help materials	2 (6)	4 (11)
E-cigarettes	2 (6)	2 (6)
Website	1 (3)	2 (6)
Medication	9 (26)	12 (34)

Table 4: Self-reported smoking and psychosocial outcomes

	Total (n=69)	T&Q (n=34)	T4C (n=35)
7 day point prevalence abstinence, n(%)	11 (16)	8 (24)	3 (9)
Quit attempt, n(%)	43 (62)	23 (68)	20 (57)
Change in cigarettes per day, median (IQR)	-2.7 (6.6)	-1.9 (8.2)	-3.5 (4.6)
Longest continuous period without smoking, median (IQR)	3.2 (4.4)	3.4 (5.1)	2.9 (3.6)
Intention to quit smoking at follow-up*, median (IQR)	5.5 (4, 7)	5 (4, 7)	6 (4, 7)
Change in intention to quit, median (IQR)	1 (0, 2)	0 (0, 2)	1 (0, 2)

Table 5: Program satisfaction

	T&Q (n=34)	T4C (n=35)
Overall (rating of 4 or 5), n(%)	26 (65)	24 (60)
Helpful (rating of 4 or 5), n(%)	24 (60)	24 (60)
Recommend (rating of 4 or 5), n(%)	24 (60)	26 (65)

DISCUSSION & CONCLUSIONS

- We successfully recruited smokers from the emergency department and engaged them in two variants of an SMS-based smoking cessation program.
- Participants in both groups were highly responsive, with the majority replying to messages (71.3%), few unsubscribing from the service (2.5%), and the majority reporting high satisfaction with the services.
- More than half reported speaking to quitline counselors and over a quarter set Quit Dates, with a higher percentage among T&Q.
- Participants enrolled in T&Q reported a higher 7-day point prevalence abstinence than those enrolled in T4C.
- Given the higher cost of quitline services, quitline text messaging referral in T4C may be less cost effective than T&Q.
- Future studies should compare the efficacy and cost-effectiveness of these two population-level strategies in facilitating engagement with smoking cessation.

CONTACT INFO

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