A Low-cost, Practical Method for Increasing Smokers' Interest in Smoking Cessation Programs

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ABSTRACT

Background: Low participation rates reduce the public health impact of smoking cessation programs. Two barriers for improving participation are the cost of media campaigns and the proportion of smokers motivated to quit smoking. The objective of this study was to examine the feasibility of using classified newspaper ads and messages aimed at each stage of change to enhance participation in smoking cessation programs.

Methods: Three classified ads were run concurrently in a local daily newspaper for five consecutive days. The ads were designed to engage smokers in each of Prochaska's five stages of change. Each ad invited smokers or former smokers to call the local health department to participate in a paid focus group to design a new health department program.

Results: Calls were received from 181 eligible smokers, including 124 who provided data for the study. Thirty-seven, 34, and 29 percent of smoking respondents were in precontemplation, contemplation and preparation respectively. Half of ex-smokers were in the action stage. Ads cost \$174 (Cdn), thus the cost per recruit was less than a dollar.

Conclusion: Classified ads can recruit smokers from all stages of change. Compared to traditional mass media, classified ads may also be a highly cost-efficient promotional strategy. Results provide justification for further research.

The population impact of smoking cessation interventions is a consequence of treatment effectiveness, compliance and utilization.^{1,2} While research has examined effectiveness and compliance, there is a dearth of evidence on how to encourage smokers to use treatments.^{3,4}

One barrier to improving utilization is the prohibitive cost of traditional promotion campaigns. The few studies available suggest it costs \$42 to \$235 Cdn per recruit.⁵⁻⁷ Even interpersonal referral and the use of public service announcements (PSAs) can be expensive in terms of staff time and other costs. An alternative to traditional mass media is classified advertising in newspapers. Classified ads can transmit consistent messages at low cost (e.g., there are no production costs). They are widely available in local newspapers and more than half of subscribers report reading classified ads each week.⁸

Another barrier to improving treatment utilization is that less than 10% of smokers are motivated to quit at any given time.^{9,10} While effective programs exist for helping smokers across the "stages of change", they will have little impact unless methods can be found to persuade "unmotivated smokers" to participate in these interventions.^{2,11} Crafting specific messages to engage smokers in each stage of change has the potential to increase the utilization of cessation programs.^{12,13}

The purposes of this study were (i) to explore the feasibility of using classified ads to recruit a general population of adult smokers and ex-smokers at risk of relapsing, and (ii) to determine if it is possible to recruit smokers and ex-smokers all across the stages of change by segmenting messages by intention to quit/remain smoke free.

METHODS

In October 1996, the local public health department in Windsor, Ontario, Canada (population 195,000) placed the following advertisements for five consecutive days (Monday to Friday) in the classified section of the local newspaper (daily circulation of 75,000):

- (1) ARE YOU A SMOKER who wants to keep smoking? We are designing a booklet for smokers who do not want to quit smoking. We will pay you to

La traduction du résumé se trouve à la fin de l'article.

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tell us what you think of the booklet. For more information, call the Windsor-Essex Health Unit, 258-xxxx.

- (2) ARE YOU A SMOKER? Are you thinking of quitting? We are designing self-help booklets to help people quit smoking. We will pay you...
- (3) DID YOU RECENTLY QUIT SMOKING? Have you been smoke free for 6 months? We are designing self-help booklets to help people to remain smoke free. We will pay you...

Message one was aimed at smokers in precontemplation. Ad two was designed to appeal to persons in contemplation and preparation. Ad three was intended for persons in action and maintenance who are at risk of relapse.

Messages appeared in the "Personals" section. It was selected because it routinely contained information on community programs and services. Ads were placed within the section at the discretion of the newspaper. This often (although not exclusively) resulted in ads appearing near one another.

The primary purpose of the advertisements was to recruit smokers and ex-smokers to help formatively test new smoking cessation booklets based on the stages of change model.^{11,14} Focus group participants were paid \$10. Only current or former smokers over the age of 18 were eligible for the study. Callers had to agree to read and use the self-help booklets being developed in order to be eligible for the study.

Persons who called were classified into stage of change using a standard algorithm.¹⁴ The following protocol identified which ad callers were responding to: "We are currently running several ads. To help us improve our services, we would like to know which ad was *most* responsible for your decision to call us today. Can you recall what the opening line of the ad was?" If respondents were unable to provide a clear, unambiguous answer, they were asked, "Can you tell me whether the ad was for smokers who want to keep smoking? For smokers who are thinking about quitting? Or for people who recently quit smoking?" The order of the choices was counterbalanced. Respondents were also asked to rank order which of the three major components of the ad (the opening line, the offer of payment, or the Health Department as the sponsor) had most

Figure 1. Volume of calls by day of campaign. Call volumes for days 6 and 7 represent the number of voice mails from respondents wishing a call back (the Health Department was closed on days 6 and 7 because it was a weekend).

influenced them to call. Finally, using separate five-point Likert scales, respondents rated how important each of the three components was in their decision to call.

RESULTS

Calls were received from 181 eligible people (see Figure 1 for distribution of call volumes by day). The volume of responses required investigators to rely on untrained staff members to collect some of the data. This resulted in data loss and recording errors for 57 callers. These individuals were removed from the analysis. However, there was no reason to believe callers with missing data were different from the remaining 124 callers.

Data from the 1997 Canadian Population Health Survey for the Windsor-Essex Health Region were used to examine the representativeness of respondents. Overall, the mean age of respondents was 44.1 (s.d.=12.8; range of 19 to 69), which did not differ from the estimated mean age of smokers and former smokers in the catchment area ($z=1.52$, $p=0.126$). Fifty-nine percent of respon-

dents were female, a proportion significantly higher than the estimated 46% of smokers and ex-smokers in the region ($z=2.80$, $p=0.003$).

Thirty-two respondents were in precontemplation (no intention to quit within 6 months); 29 in contemplation (intention to quit within 6 months but not within 30 days); 25 in preparation (intention to quit within 30 days); 19 in action (abstinent <6 months); and 19 in maintenance (abstinent >6 months). Table I shows the stage distribution of respondents compared to the estimated proportion in the target population. While the proportion of recruits in precontemplation was relatively high (37.2%) compared to other recruitment campaigns, it was significantly less than the estimated proportion of precontemplators in the target population.¹⁵

Precontemplators and contemplators all responded to ad one, while all those assessed in the preparation stage responded to ad two. All respondents in maintenance responded to ad three while persons in the action stage responded about equally to ads two and three.

TABLE I

Proportion of Smokers and Ex-smokers Recruited by Stage of Change, Compared to the Estimated Population Proportion*

	Percent of Recruits	Estimated Population Prevalence ¹⁵	z	p
Smokers				
Precontemplation	37.2	51.6	-2.57	0.005
Contemplation	33.7	39.4	-1.04	0.149
Preparation	29.1	9.0	5.83	0.001
Ex-smokers				
Action	50.0	11.8	6.43	0.000
Maintenance	50.0	88.2	-6.43	0.000

* The population prevalence was estimated by multiplying the number of persons aged 18 and over in the Windsor census metropolitan area (from the 1996 Canadian Census, Statistics Canada) times the estimated proportion of persons from Windsor-Essex, Sarnia-Lambton and Chatham-Kent in each stage of change for smoking cessation (from the 1997 Health Canada National Population Health Survey). Data from Windsor-Essex and the two most adjacent health districts (Chatham-Kent and Sarnia-Lambton) were combined in order to improve the stability of the estimates.

TABLE II

Percentage of Respondents in Each Stage of Change Who Rated Each Part of the Advertisement as "Most Important" in Their Decision to Call

Respondent's Stage of Change	n	Component		
		Opening Line (%)	Offer of Pay (%)	Health Unit as Sponsor (%)
Precontemplation	32	42.9	21.4	35.7
Contemplation	29	82.4	0.0	17.6
Preparation	25	58.8	35.3	5.9
Action	19	100.0	0.0	0.0
Maintenance	19	66.7	33.3	0.0

The importance of the ad components varied by respondents' stage of change (Table II). Overall, the opening line appeared to be the most influential component for smokers in each stage. In addition to the 42.9% of precontemplators who regarded the opening line as the most influential component, 43.8% selected it as the second most important element. Conversely, 35.7% listed the sponsor as the most important element while another 50% regarded it as the second most important element. This, along with anecdotal comments, suggested that the combination of the opening line and the Health Unit as sponsor was particularly important to respondents in precontemplation.

On a scale of 0 (no importance) to 4 (great importance), the opening line received a mean rating of 3.38 (s.d.=0.90); offer of payment received a mean rating of 1.96 (s.d.=1.45); and the Health Unit as sponsor was given a mean rating of 2.46 (s.d.=1.48). A series of post hoc t-tests, using a Bonferroni correction, indicated that all means were significantly different from each other.

The total cost of all the classified advertisements, including applicable taxes, was \$174 (Cdn) or \$0.96 per recruit.

DISCUSSION

At a cost of \$0.96 per recruit, classified ads appear to be an inexpensive way to reach potential program participants. Muddle and colleagues relied on free public service announcements, posters and pamphlets to recruit 417 smokers in a Dutch community of 100,000 residents and reported the cost per recruit was \$53.75 US.⁵ Shipley et al. reported that paid television, radio and print ads in 26 communities across Canada and the United States cost from \$27.68 US to \$154.21 US per recruit.⁷ A combination of paid mass media and direct mail in Minnesota was reported to cost more than \$61.70 US per recruit.⁶

Results also suggest that it is possible to recruit smokers across all stages of change. The ability to engage precontemplators is noteworthy given that they make up almost half of current smokers. However, the need to identify a credible sponsor for paradoxical messages such as "a smoking cessation program for smokers who don't want to quit" appears to be important. Also noteworthy was the proportion of ex-smokers who responded to the ads. Like those in the early stages of change, traditional recruitment messages tend to ignore

ex-smokers (despite the fact that preventing an ex-smoker from relapsing may be as beneficial as trying to help a current smoker to quit).

The 181 responses represented 0.3% of smokers and ex-smokers in the catchment area. If the analysis is limited to smokers, the recruitment rate jumps to 0.44%. As shown in Figure 1, responses remained high throughout the campaign. Extending the time would almost certainly have increased the number of recruits. The recruitment rate of 0.44% over five days compares favourably with other more extensive media-based campaigns aimed at current smokers. Of the 26 media-focused campaigns reported in a recent systematic review, the median recruitment rate was 1.2% with a median campaign length of 4.3 weeks.⁴ If we assume that 40% of people responded in the first week, then this produces a median one-week recruitment rate (for smokers) of 0.48%. However, while short-term campaigns with classified ads may produce similar responses to more elaborate media, it is still a passive way to engage participants. As noted by McDonald, more proactive strategies may be required to produce recruitment rates above 2% per month.⁴

A second limitation was the lack of a suitable control group using messages that weren't segmented by stage of change. While respondents indicated that they responded to specific stage-based opening lines, without a control condition it is difficult to know whether respondents would have responded similarly to a single generic message. Therefore, we cannot say with certainty that segmenting messages increases responses among smokers in certain stages.

Another limitation is the potential confound created by offering respondents a financial incentive. While some suggest incentives can improve recruitment, their effects should not be overstated.^{16,17} First, the relative recruitment advantage is correlated with the size of the incentive. In this study, respondents did not know the size of the compensation and when informed it was a modest \$10 (for which they would have to attend a two-hour focus group meeting), only 1 of the 124 respondents withdrew their interest in the program. Second, if respondents' statements are taken at face value, financial compensation

played a minor role in their decision to respond. Third, McDonald found stage-based messages for smoking cessation were superior to generic messages even when respondents had to pay a program fee.⁴ Finally, even if you consider the \$10 compensation as part of the recruitment cost, the cost per recruit is still less than traditional paid media.

Another limitation was that the study's purpose was to recruit people for focus groups on a new cessation booklet, rather than for a smoking cessation program *per se*. We can only speculate as to what effect this may have had. Prior to providing consent, respondents were told they had to read and use the new materials prior to attending the focus group (2 to 4 weeks after receiving booklets). Participants were told that booklets could be read in less than an hour, but the recommended activities may involve more time and effort. Precontemplators were told the booklets would ask them to briefly consider their reasons for quitting. Contemplators were asked to perform short-term activities to build self efficacy. Persons in preparation were asked to complete tasks to build commitment to quitting. Only booklets for persons in action and maintenance asked users for long-term commitments (i.e., abstinence). Approximately 28% of persons scheduled for a focus group did not show up, the vast majority of whom were in precontemplation and maintenance. Without a control group, it is impossible to determine whether the no-show rate was affected by the expectation that the program would have to be put into practice. However, it is conceivable that making program utilization an explicit component of the ads may have reduced response rates, especially among those with no intention to quit or low need for assistance.

This study provides evidence that classified newspaper ads with messages segmented by stage of change may be an easy and inexpensive way to recruit all types of

smokers and ex-smokers into tobacco cessation programs. Results provide justification for engaging in larger, more expensive randomized controlled trials that address the limitations of and questions raised by the present study.

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RÉSUMÉ

Contexte : De faibles taux de participation réduisent l'effet des programmes de renoncement au tabac sur la santé publique. Deux obstacles à l'amélioration de la participation sont le coût des campagnes de publicité dans les médias et la proportion des fumeurs motivés à cesser de fumer. Nous avons cherché à déterminer la possibilité de recourir aux annonces classées dans les journaux et à des messages axés sur chaque étape du changement pour rehausser la participation aux programmes de renoncement au tabac.

Méthode : Trois annonces classées ont paru simultanément dans un quotidien local pendant cinq jours d'affilée. Elles visaient à recruter des fumeurs aux cinq étapes du changement énoncées dans le modèle de Prochaska. Chaque annonce invitait des fumeurs ou d'anciens fumeurs à appeler leur service de santé local pour participer à un groupe de discussion rémunéré et aider à concevoir un nouveau programme pour le service de santé.

Résultats : On a reçu des appels de 181 fumeurs admissibles, dont 124 ont fourni des données pour l'étude. Respectivement 37 %, 34 % et 29 % des répondants fumeurs en étaient à l'étape de la pré-réflexion, de la réflexion et de la préparation. La moitié des anciens fumeurs en étaient à l'étape de l'action. Les annonces ont coûté 174 \$CAN, soit moins de 1 \$ par recrue.

Conclusion : Les annonces classées permettent de recruter des fumeurs à toutes les étapes du changement. Comparées aux médias de masse traditionnels, elles peuvent s'avérer une stratégie promotionnelle très rentable. Les résultats obtenus justifient que l'on pousse la recherche dans cette direction.