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Proactive recruitment of health plan smokers into telephone counseling

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We tested whether a 3-month beneficial effect of telephone counseling as an adjunct to the use of medications for smoking cessation was maintained through 12 months. Health plan members filling a prescription for cessation medications were randomized either to a no-contact control group or to proactive recruitment into telephone counseling. An increased point-prevalence quit rate at 3 months (33.1% vs. 27.4%, $p<.05$) among smokers randomized to proactive recruitment for telephone counseling was not maintained. Although at 12 months smokers in the proactive recruitment arm were more likely to report a 24-hr quit attempt, compared with control group smokers (86.7% vs. 80.8%, $p=.027$), we found no differences between the groups in repeated (3-month and 12-month) 7-day point-prevalence quit rates. In an analysis of predictors of quitting, age, marital status, making a lifestyle change, and the presence of household smokers were associated with repeated 3-month and 12-month point-prevalence abstinence. Offering telephone counseling to insured smokers who have filled prescriptions for cessation medications did not increase long-term quit rates. Although other variations of this approach might be tested, we suspect that it might be more useful to test innovative ways to influence the factors we identified as being most strongly predictive of lack of successful quitting.

Introduction

Multiple trials and several meta-analyses have provided solid evidence to support the efficacy of telephone counseling as a method to assist smokers interested in quitting smoking (Fiore et al., 2000; Lichtenstein, Glasgow, Lando, Ossip-Klein, & Boles, 1996; Stead, Lancaster, & Perera, 2003). This efficacy has translated into the adoption of telephone quitlines for smoking cessation in multiple countries around the world (Ossip-Klein et al., 2000). Quitlines have been successfully applied using a proactive approach with a variety of specific populations, such as snuff users, pregnant women, and adults with low incomes (Boyle, Pronk, & Enstad, 2004; Solomon & Flynn, 2005; Solomon, Scharoun, Flynn, Secker-Walker, & Sepinwall, 2000). However, when telephone counseling has been tested as an adjunct to the use of nicotine replacement therapy (NRT), the results have been disappointing. For example, Stead and colleagues (2003) evaluated four trials of proactive counseling in a Cochrane review and found no additional effect of telephone support with smokers using NRT. Three additional published trials have examined the role of telephone counseling as an adjunct to pharmacotherapy. Solomon and colleagues (2005) randomly assigned low-income women to either free NRT or free NRT and up to 16 weeks of proactive telephone support. They found that a significant effect at 3 months had diminished by 6 months. However, in the only trial to date with a long-term benefit, Macleod, Charles, Arnaldi, and Adams (2003) reported significantly increased continuous abstinence rates through 6 months with subjects randomized to either NRT alone or NRT plus telephone counseling. In addition, we recently reported a short-term (3-month) increased point-prevalence quit rate (33.1% vs. 27.4%) among members of a health plan using pharmacotherapy to quit smoking and randomized to either

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recruitment for telephone counseling or no contact (Boyle et al., 2005). If proactive outreach to this population is effective, it could be a cost-effective strategy to leverage health care dollars already being spent on smoking cessation medication.

Here we report the 12-month follow-up results for our population-based effort to recruit smokers using medications into telephone counseling. To date, the research involving telephone support as an adjunct to medication use has involved smokers using NRT. By using a population-based approach and including smokers using bupropion for smoking cessation, we extend the current knowledge base about proactive telephone counseling. We tested the hypothesis that proactive recruitment into telephone counseling would increase both quit attempts and actual quitting among smokers filling a prescription for NRT or bupropion, compared with a control group receiving no such offer of support. In addition, we wanted to determine if successful quitting varied by demographic or smoking variables. In this secondary aim we sought to determine if any factors measured on follow-up surveys were associated with repeated point-prevalence cessation.

Method

This study was conducted at HealthPartners, a member-governed, not-for-profit, managed care organization located in Minneapolis, Minnesota. HealthPartners provides health insurance to approximately 700,000 members who live predominately in Minnesota, and two-thirds of whom receive care in contracted medical groups. The remaining one-third receive care at HealthPartners Medical Group clinics. Since 1998, HealthPartners has offered a smoking cessation pharmacy benefit. Members access the benefit through a prescription from a health care provider and currently have 6 months of smoking cessation medication available to them. The covered medications include bupropion and all NRT products. Members are required to obtain a prescription from their health care provider and to make a nominal copay to use the benefit, but they are not reimbursed for or required to receive cessation counseling.

This study was designed to evaluate an expansion of health promotion outreach conducted by the HealthPartners Center for Health Promotion (CHP). CHP provides health education services to health plan members by mail, the Internet, or telephone. Health education to quit smoking is provided as a structured course or as general counseling using developed protocols. Most health education counseling has been conducted with health plan members who called in spontaneously after reading about a program in health plan member materials. However, this approach involved few smokers each year. In addition, CHP had experience making proactive contact by telephone with health plan members who had completed health risk appraisals or who were referred by their health care provider. In an effort to increase utilization of smoking cessation counseling, CHP decided to recruit more health plan smokers into telephone-based cessation counseling by proactively calling and inviting them to join. To evaluate proactive calling as an adjunct to cessation medication, we randomly selected members filling prescriptions for a smoking cessation medication to be recruited into telephone counseling.

Sample

HealthPartners contracts with a national pharmacy benefit manager (PBM) to service pharmacy claims for members. At the time of the study initiation in 2002, the health plan was already contracting with the PBM to mail a follow-up resource letter to members filling a prescription for bupropion. As part of the new proactive outreach, the resource letter mailing was modified to include members filling a prescription for NRT. When a prescription was filled for a member, the PBM sent the member a one-page letter on HealthPartners letterhead. The purposes of the letter were (a) to congratulate the member on his or her efforts to quit smoking and (b) to describe additional health plan and community resources available to assist the member's smoking cessation efforts. The letter also offered a list of additional resources the member could access for help with quitting. In addition, to inform the member of the proactive call from CHP, the letter included a statement that someone might call to invite the member to participate in a telephone-based quit smoking program.

Once a week from April 2002 through April 2003, the PBM provided a list of health plan members who had filled a prescription for a smoking cessation medication in the previous week and had been mailed a resource letter. From this list, a stratified random sample was drawn of equal numbers of patients with and without claims-based ICD-9 codes for smoking-related chronic diseases (diabetes, hypertension, coronary heart disease, hyperlipidemia, chronic respiratory diseases, and other arterial or vascular diseases). We stratified the sample by the presence of a chronic disease because other studies have shown that these patients are significantly more likely to be counseled by physicians and because cessation is particularly important for them (Jaen, Crabtree, Zyzanski, Goodwin, & Stange, 1997; Jaen, Stange, Tumiel, & Nutting, 1997; Thorndike, Rigotti, Stafford, & Singer, 1998; Ossip-Klein et al., 2000).

From a total of 3,099 members identified as potential subjects, 1,360 were randomly assigned to either proactive recruitment (n=679) or the control group (n=681). Based on data from the 3-month survey, we identified 31 members of the original 1,360 who were ineligible for the study because they had died or were using other tobacco such as chewing tobacco and cigars. Therefore, the eligible sample comprised 1,329 members. A total of 958 (72%; 482 intervention plus 476 control) completed the 12-month follow-up survey, and we found no significant differences in response rates by study group. Finally, 872 (66%) completed surveys at both 3 and 12 months. The disposition of the study groups is presented in Figure 1.

Proactive recruitment

On average, 7 days (range=3–15 days) elapsed from the day of the prescription fill until CHP began calling to invite members to participate in telephone counseling. A masters degree–trained health educator attempted to contact members at their home telephone number. The purpose of this initial telephone call was to invite health plan members to participate in telephone counseling as an adjunct to their use of medication. We decided to keep our intervention as close to the real world as possible. This meant following the existing programs in CHP by offering members a choice of either general counseling (i.e., unstructured counseling focused on tobacco cessation–related issues of member interest) or a telephone-based course for smoking cessation (i.e., an existing structured course covering specific topics known to be effective for tobacco cessation). When individuals enrolled in the smoking cessation course, they received a course manual and could participate in up to nine telephone counseling sessions. In the present study, participants averaged five calls. During the course, participants identified personal smoking behaviors, completed activities to prepare for a quit date, selected a quit date, and practiced skills to manage high-risk situations after quitting. Members who chose the general counseling option worked through cognitive behavior change activities similar to those in the telephone-based course; however, they did so without the structure of the smoking cessation course. General counseling is often preferred by members because it is less structured and more informal but is still tailored to the individual. There was no charge for either option.

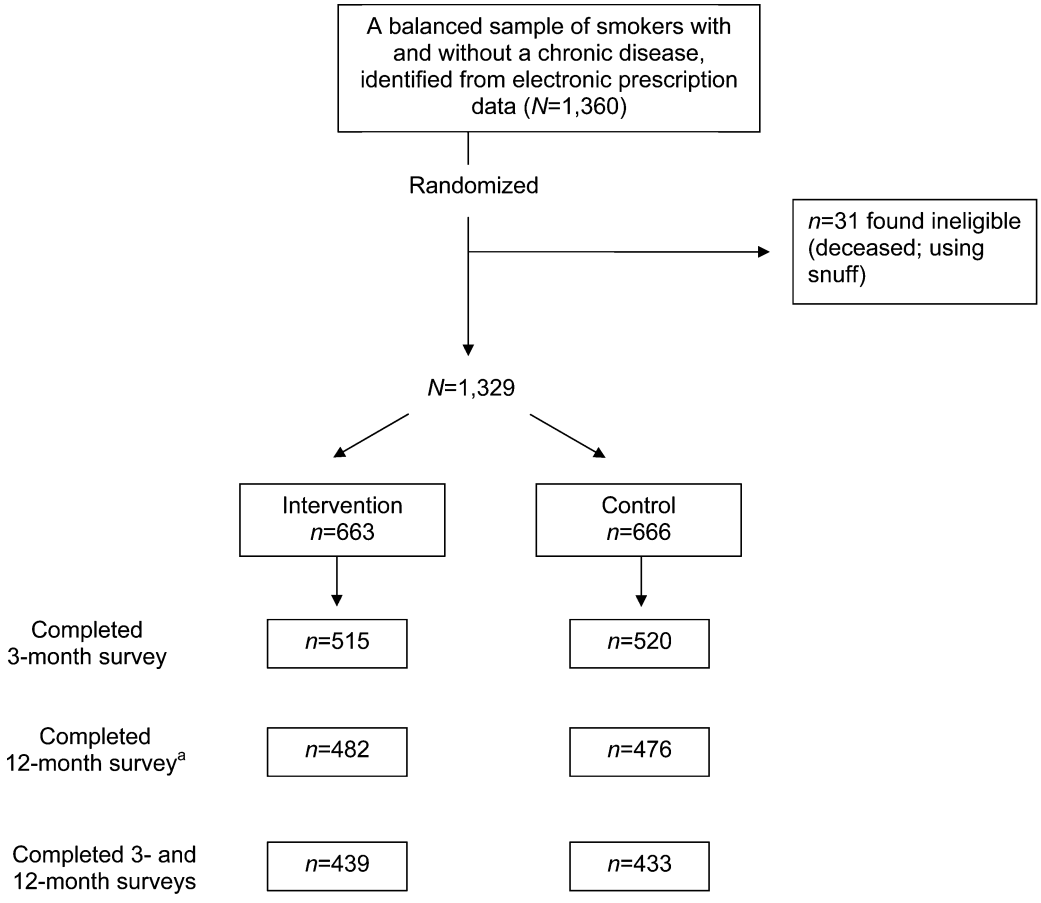

Figure 1. Study flowchart. [a]An additional 86 smokers completed the 12-month survey but not the 3-month survey.

For the present study, we used the same method to reach members as was used for other CHP proactive calls. Three attempts were made to reach a member on different days and times. All calls were followed through an existing referral and tracking system. CHP was able to contact 49% (323/663) of the members in the proactive contact group. Of these members, 118 (36%) declined any participation in telephone support. Of the 205 who were interested, 147 participated in general counseling and 58 joined the telephone-based cessation course. Therefore, 31% (205/663) accepted the offer of telephone-based cessation support.

Follow-up

The Data Collection Center within the HealthPartners Research Foundation conducted follow-up surveys to evaluate the outcome. Health plan members in the control and proactive recruitment groups were contacted by mail 3 months and 12 months after the fill date of their prescription and asked to complete a written survey. A consent letter was included in each follow-up mailing, but no written consent was required. The survey mailing was followed by a postcard reminder to all subjects after 1 week, and a second survey was sent to nonrespondents 3 weeks later. Up to 10 attempts were made to reach continued nonrespondents to complete the survey over the phone. This project was reviewed and approved by the HealthPartners Institutional Review Board.

Measures

The follow-up survey was four pages long and asked about tobacco use prior to and following the medication fill, the use of various quit aids, and assistance received from the prescribing physician; demographic items also were included. The 12-month survey repeated many of these items and included a question about other behavior changes used to assist in quitting (e.g., increased exercise, tried relaxation exercises, obtained social support, spent time on hobbies). We also collected information on the presence of household smokers and social support received for quitting. Age and gender were obtained from health plan records. Tobacco cessation was determined based on two questions asked in both follow-up surveys: ''Have you smoked a cigarette, even a puff in the last 7 days?'' and ''Have you used any other tobacco products in the last 7 days?'' The number of quit attempts lasting 24 hr or more also was assessed. No biochemical validation of self-reported abstinence was performed. The presence of any chronic disease was determined based on administrative data.

Statistical power

This evaluation was powered based on a within-strata comparison (in which one strata has a chronic disease and the other does not) to detect a 10% difference in self-reported quit rates (15% vs. 25%) between the telephone counseling group and the control group. To detect this difference with 80% power using a type 1 error rate of 0.05 and a two-sided test of proportions, we needed 250 people per group (proactive call vs. control). Assuming a loss to follow-up of 25%, the recruitment target was 667 people in each of the two chronic disease strata.

Data analyses

The main study outcome was abstinence from smoking and other tobacco products. We assessed this outcome for the two groups in the study as 7-day point-prevalence abstinence at 12 months and as repeated 7-day point-prevalence abstinence at both 3-month and 12-month follow-ups. Because the results did not differ, our data presentation focuses on the repeated point-prevalence outcome. In addition to abstinence, we included one or more quit attempts lasting 24 hr as an outcome. First we profiled the proactive recruitment and control groups in terms of their demographic characteristics, tobacco use, social and environmental variables, and use of medications. Next we reported associations of 7-day repeated point-prevalence abstinence with these same items. We used SPSS version 10 to develop contingency tables and chi-square tests to assess these associations. Multivariate logistic regression analysis was used to predict repeated point-prevalence abstinence from intervention group status, while controlling for a priori covariates of age, gender, and amount smoked prior to using the medication. Because we were interested in testing variables that had been found to predict quitting in other studies (e.g., smokers in the household), these items were included in the initial multivariate analysis if they were significant in bivariate associations with abstinence. To test whether the intervention had a differential effect in selected subgroups, six two-way interaction terms (intervention condition by age, gender, education, chronic disease status, amount smoked prior to medication use, medication type) were entered in a second block of the analysis in six separate analyses. The final main-effects multivariate equation included the a priori covariates and these other items if they were significant in the multivariate analysis.

For the bivariate and multivariate analysis, we restricted our sample to the 94.5% of smokers who reported using any medication in the previous 12 months (medication use was equally likely in both conditions). This approach permitted us to focus on

the potential contribution of telephone counseling offered to smokers choosing to use medications to quit smoking.

Results

We found no significant differences between the control and intervention groups on any demographic or tobacco use variables (Table 1). The average age of respondents was 47 years (range=19–82). Most respondents were female, married, and educated beyond high school. On average, they had been smoking for about 25 years, and about two-thirds smoked more than a pack per day. About half said they had made a behavioral change to help them quit smoking. More than one-third of the sample reported the presence of another smoker in their household, and 40% reported receiving a lot of social support for quitting.

Table 1 also includes reported use of cessation medication in the previous 12 months. Almost 95% of these health plan members who filled a prescription reported using at least one cessation medication, with more than 6 in 10 reporting use of bupropion. Few members reported using the nicotine lozenge or spray. About half of the individuals filling a medication used only bupropion (50.6%) over the course of 12 months, about one-fourth used only NRT (25.9%), and about one-fourth used both products either concurrently or consecutively (23.6%). The only significant difference we observed in medication use was in the current use of NRT. The intervention group was significantly more likely than the control group to report current use of NRT at 12 months ($p<.05$).

Quit rates

In our analysis of quit rates we first contrasted the control and intervention groups and found no differences in repeated (3-month and 12-month) 7-day point-prevalence quit rates (Table 2). This also was true when we considered only the 12-month point-prevalence quit rates. In a follow-up analysis, we considered the difficulty of reaching members and examined the quit rates at 12 months for those in the intervention arm based on their participation. We found no significant quit rate differences between those contacted ($n=323$) and those not reached ($n=319$; 21.2% vs. 18.5%). Also, we considered the quit rates of those who were contacted but declined to participate ($n=118$) with those who were contacted and participated ($n=205$), but we found no significant differences (16.9% vs. 23.5%).

Table 1. Demographics, medication use, and support variables by intervention group for subjects who completed 3-month and 12-month follow-up surveys ($n=872$).

Variable	Intervention group ($n=439$)	Control group ($n=433$)
Demographics		
Age 50 or older	45.2	46.7
Non-White	8.3	9.2
Female	58.5	57.7
Some college or more	68.0	67.4
Married	65.6	62.8
Tobacco use[a]		
Smoked more than 1 pack/day before medication use	65.3	67.7
Years smoked before medication use, mean (*SD*)	25.3 (12.7)	26.1 (12.7)
Social support and environment		
Changed anything in life in past 12 months to assist quit attempt	55.6	51.3
Other smokers in the household	36.2	35.7
Amount of social support received for quitting smoking (a lot)	38.7	41.4
Use of individual cessation medications, past 12 months		
Any use of any cessation medication	94.1	94.9
Any use of bupropion	62.9	61.9
Any use of NRT	41.9	41.3
Any use of nicotine patch	27.6	29.3
Any use of nicotine gum	9.1	9.5
Any use of nicotine inhaler	9.8	6.5
Any use of nicotine spray	0.2	0.2
Any use of nicotine lozenge	1.1	0.9
Type of medication used in past 12 months (among medication users)		
Only buproprion	50.5	50.6
Only NRT	25.8	26.0
Buproprion and NRT[b]	23.7	23.5
Current use of cessation medication at 12 months		
Any use of buproprion	6.6	6.1
Any use of NRT*	12.8	5.1

Note. All values are percentages unless indicated otherwise. NRT, nicotine replacement therapy; *SD*, standard deviation. [a]Assessed at the 3-month survey. [b]Use can be concurrent, consecutive, or both. *$p<.05$.

Table 2. Quit rates at 3 and 12 months.

Group	Quit rate at 3 months (n=1,032) [a]	Quit rate at 12 months (n=958) [a]	Repeated quit at 3 and 12 months n=870) [a]
Intervention (n=663)	33.1% (170/514)*	26.3% (127/482)	19.9% (87/438)
Control (n=666)	27.4% (142/518)*	25.0% (119/476)	19.0% (82/432)

Note. [a]The n-value is for completers of the given survey(s) who had nonmissing data on smoking status. *$p<.05$.

Table 3 reports the associations with repeated point-prevalence quitting at 3 months and 12 months among those who used cessation medication. Age, marital status, making a lifestyle change, perceived social support, and the presence of household smokers were associated with quitting. In contrast, we found no difference in quit rates by the type of medication used or by use of more than one type of medication. In addition, quit rates did not vary by the presence of a chronic disease.

Table 3 also provides the results of our final multivariate logistic regression model. Because treatment group was not significant in a model including age, gender, and amount smoked (OR=1.08, 95% CI=0.76–1.53), it was not included in our final model. All six of the two-way interactions tested were nonsignificant ($p>.17$), suggesting that the association of treatment group and quitting status did not vary by age, gender, amount smoked prior to using the medication, education, chronic disease status, or

Table 3. Bivariate and multivariate associations with repeated point-prevalence smoking cessation among those using any medication in the past 12 months (n=824).

	Repeated point-prevalence abstinence (%)	Multivariate odds ratio (95% confidence interval)
Treatment group		
Intervention	21.1	—
Control	19.8	
Age*		
<50 years	17.3	(Referent)
50+ years	24.2	1.48 (1.03–2.12)
Gender		
Female	21.3	1.17 (0.81–1.69)
Male	19.3	(Referent)
Amount smoked before medication use		
1 pack/day or more	18.5	(Referent)
Less than 1 pack/day	24.3	1.32 (0.90–1.92)
Years smoked		
<11	18.3	—
11–30	19.1	
31+	22.7	
Marital status*		
Married	22.3	1.67 (1.13–2.49)
Other	16.5	(Referent)
Education		
Less than college	20.7	—
Some college or more	20.2	
Other smokers in the household***		
Yes	13.8	0.46 (0.30–0.69)
No	24.3	(Referent)
Chronic disease		
Yes	21.3	
No	19.6	—
Changed anything in past 12 months to assist quit attempt**		
Yes	24.3	1.84 (1.27–2.68)
No	15.4	(Referent)
Cessation medications used past 12 months		
Bupropion	20.0	
NRT	16.9	
Bupropion and NRT[a]	25.4	—
Current use of any cessation medications		
Yes	20.8	
No	18.5	—
Amount of social support received for quitting smoking**		
A lot	26.0	
None/a little/some	17.4	—

Note. We included age, gender, and amount smoked as covariates in the final model. Odds ratios for these and other significant predictors are included in the table. [a]Use can be concurrent or consecutive or both. *$p<.05$; **$p<.01$; ***$p<.001$.

the specific medication used. We report the odds ratios for age, gender, and amount smoked prior to quitting as a priori covariates, but other covariates are reported only if they were significant in the final model. Older smokers were about 1.5 times more likely to report persistent quits than were younger smokers (<50 years of age). Making a lifestyle change also was an independent predictor of quitting, and using stratified tables we determined that increased exercise contributed more to the significant lifestyle variable than did relaxation exercises, social support, or hobbies. Being married predicted quitting, but also having another smoker in the home reduced the odds of quitting by half. Perceived social support for quitting was not significant.

Quit attempts

As would be expected from this sample of medication users, the vast majority (83.8%) reported making one or more quit attempts lasting at least 24 hr. Using the sample of completers of both 3-month and 12-month surveys (n=872), we found that smokers in the intervention arm were more likely to report any 24-hr quit attempt than were control group smokers (86.7% vs. 80.8%, p=.027). In a logistic regression analysis using the same a priori covariates and predictors in the quitting model, we found that being assigned to the intervention (OR=1.61, 95% CI=1.03–2.51) and reporting a behavior change (OR=2.51, 95% CI=1.59–3.97) predicted any 24-hr quit attempt.

Discussion

In this study of a real-life health plan using proactive telephone intervention to provide counseling for smokers filling prescriptions for cessation medications, we did not find any long-term difference in quitting between those offered the counseling and those in a control group. As in other studies, we found increased cessation among those randomized to proactive recruitment into telephone counseling only through 3 months of follow-up. The loss of a long-term effect was true regardless of whether we used the more strict definition of abstinence at both 3 and 12 months or only at 12 months. Those in the intervention group were more likely to report current NRT use at the 12-month follow-up and were more likely to report having a successful 24-hr quit attempt in the past year, but these factors did not translate into higher cessation rates in the intervention condition. Although one could argue that the lack of an intervention effect may be related in part to the relatively low proportion of intervention smokers reached and participating in counseling, we were trying to evaluate a program that a health plan might use if it were effective, not an ideal and more expensive program that would not be used.

The present study contained several unique aspects, including the number of health plan members involved, the mix of pharmacotherapy being used, and the population-based approach to deliver the intervention. In contrast to the earlier studies that had an average of 330 subjects, our project had considerably higher statistical power with follow-up data from 872 smokers at both 3 and 12 months. Although the previous studies included only NRT, we also had an opportunity to include smokers who were using different types of NRT or bupropion to quit smoking. In addition, we included an equal number of health plan members with a smoking-related chronic disease but found no difference in tobacco abstinence between members with or without a chronic disease.

The abstinence rates we observed at 12 months were lower than the previously reported 6-month quit rates in studies with telephone counseling as an adjunct to NRT. Although we failed to demonstrate a significant effect through 12 months of follow-up, our results are consistent with previous research that has found only a short-term effect (if any) from telephone support with smokers using pharmacotherapy. Solomon and colleagues (2005) reported a significant effect at 3 months that was not sustained through 6 months of follow-up with women recruited to NRT alone or NRT plus extended telephone support. This result replicated their earlier study with the same population group (Solomon et al., 2000). In addition, Solomon and colleagues (2005) updated the earlier meta-analysis (Stead et al., 2003) and found no statistically significant increased odds of being abstinent from tobacco at 6 months after receiving telephone support in addition to NRT compared with NRT alone.

The present study differs significantly from the earlier research by involving smokers who were actively planning to use (and in nearly all cases did use) medications to quit smoking. Our offer of telephone support received only a modest reception. It is difficult to discern if these smokers were not interested in support or if the timing of the offer was less than ideal. One could modify this approach by offering support at the time of the medication dispensing (Hudmon, Hemberger, Corelli, Kroon, & Prokhorov, 2003) or by extending the offer of support much later, when perception of need could be greater.

Overall, the experience from the present study suggests that smokers filling a prescription for medication have only modest interest in telephone counseling as a support for quitting, and even less interest in the repeated counseling calls that were available as a free course. A large proportion of

smokers trying to quit have never used counseling. Fiore et al. (1990) reported that only about 4% of those succeeding in quitting had used any form of counseling, whereas Zhu, Melcer, Sun, Rosbrook, and Pierce (2000) found that 5% of Californians trying to quit reported counseling help. Ockene and colleagues' (2000) systematic review of relapse and maintenance issues concluded that "most smokers are not interested in attending formal programs and would prefer to quit smoking on their own."

Based on the multivariate analysis, we found several predictors of successful abstinence that were consistent with the existing literature. Older age and marital status have been found to be related to quitting success (Franks, Pienta, & Wray, 2002; Hyland et al., 2004). Reporting a behavior or lifestyle change was a strong predictor of successful cessation, and social support for cessation was significantly associated with quitting in the bivariate analysis. In contrast, however, living with other smokers was associated with significantly reduced quit rates. These factors have been identified previously as being related to reduced success in cessation (Hymowitz, Sexton, Ockene, & Grandits, 1991).

Given that social support for quitting, living with nonsmokers, and making changes in behaviors seem strongly associated with success in bivariate or multivariate analysis, these areas deserve more attention by smokers and those trying to help them, as well as by researchers. Given that 84.6% of smokers who did not quit had problems in at least one of these areas, and that 11.4% of smokers with two or more such problems were able to quit, it might be important to recommend attention to these problems prior to making a quit attempt. Indeed, Siahpush, Borland, and Scollo (2003) have called for greater consideration of the social context of smokers who are embarking on a cessation attempt. Unfortunately, Park, Tudiver, Schultz, and Campbell's (2004) meta-analysis of interventions to enhance partner support found no effect, mainly because the interventions were not very successful in changing support. However, alternative approaches to these problems probably deserve study.

The largest limitation of the present study is that the findings apply only to a selective subset of smokers who received and filled insurance-reimbursed prescriptions for NRT or bupropion. We do not know what proportion of total medication users they represent, given that some undoubtedly chose to use over-the-counter medications or were unaware of the insurance coverage. Another limitation may be the time we chose to make the counseling offer call, given that either earlier or later might have made a difference in smoker interest in help. The low proportion of subjects reached and participating in counseling complicates our interpretation, although the lack of effects for those reached and for those who participated argue against this interpretation.

In conclusion, proactive telephone counseling offered to insured smokers who have filled prescriptions for cessation medications (thus verifying that they are interested in quitting) does not increase quit rates over the long term. Other variations on this approach might be tested, but we suspect that it might be more useful to test innovative ways to influence the factors we identified as being most strongly predictive of lack of successful quitting.

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