Media Campaign Effectiveness in Promoting a Smoking-Cessation Program

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Background: Little is known about the perceived barriers among smokers who do not utilize phone-based, population-level smoking-cessation services.

Purpose: The purpose of this study was to improve understanding of a media campaign's impact in promoting a phone-based, time-limited smoking-cessation program as measured by smoker awareness of the program, untapped interest in the program, perceived barriers to use of the program, and suggested methods for enhanced outreach.

Methods: A random telephone survey of New York City smokers ($n=1000$) was conducted in 2006 in order to assess awareness of, interest in, and barriers to using the 2006 Nicotine Patch Program. Analyses were conducted in 2006 and 2007.

Results: The level of program awareness was high (60% overall), although it varied by demographic subgroup. The level of program interest among smokers unaware of the program was also encouragingly high (54%). Analysis of barriers to program use indicates that enrollment may be increased by addressing hesitance about using patches, developing messages for smokers who do not self-identify as smokers, and clarifying application procedures. Specific outreach strategies suggested by smokers include promotion through direct mail and advertising on public transportation.

Conclusions: These data suggest that the use of mass media is an effective method for informing smokers about cessation services and that enrollment could be improved by modifying public messages to address barriers as well as expanding outreach to specific demographic groups. Improved outreach to smokers may be feasible using the strategies suggested by smokers in this survey. These findings can aid smoking-cessation services in expanding their reach and impact.

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Introduction

Population-level, phone-based smoking-cessation services are a common cessation strategy in the U.S. and globally.[1–4] In the U.S., all states offer phone-based cessation services; most provide assistance such as self-help materials or counseling, whereas less than a quarter provide nicotine replacement therapy (NRT).[5,6] The New York City Department of Health and Mental Hygiene (NYC DOHMH) has had documented success in reaching smokers and helping them quit through phone-based cessation programs. Since 2003, the NYC DOHMH has offered NRT to NYC smokers through an annual (excluding 2004) time-limited, citywide giveaway. These giveaways have enrolled 150,000 smokers, comprising nearly 4% of NYC smokers each year.[7–10] Assuming a program-attributable quit rate of 18%, these giveaways have prevented about 9000 smoking-related premature deaths.[11]

Following recommendations from the CDC,[12] several studies of phone-based cessation services have examined demographic characteristics of callers, relative to those characteristics of smokers in the catchment area, as one means of examining barriers to accessing those services.[13–16] Other studies have focused on the reach of the service[5,17,18]; few have reported on the characteristics of those who do not call. No published studies are known to have reported on perceived barriers among those who do

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not utilize phone-based, population-level services or described how these barriers can be addressed through targeted media campaigns.

This paper focuses on NYC's 2006 NRT giveaway, the Nicotine Patch Program (NPP). The aims of this study are to improve understanding of: (1) awareness of the 2006 NPP among NYC smokers; (2) differences in sociodemographic characteristics among those who reported a desire to participate compared to those who did not; (3) perceived barriers and reasons for not wanting to participate; and (4) suggested outreach methods for future giveaways and media campaigns. This paper provides specific information and suggestions for tobacco control programs interested in planning a media campaign and creating demand for a population-based NRT giveaway.

Methods

Sample

Trained interviewers employed by a NYC DOHMH vendor conducted an anonymous, random-digit-dial telephone survey of 1000 NYC residents, fielded during July and August of 2006. Household rostering was used to select an adult household member aged >18 years. Potential participants were screened for smoking status; current smokers and those who had quit smoking since the beginning of the NPP (3 months preceding the survey fielding) were invited to complete the survey. Although those who smoked less than ten cigarettes per day (cpd) were not eligible for the NPP, the survey included these smokers to assess feasibility of reaching this population in future giveaways. The screening response rate, which includes all individuals whom interviewers attempted to contact, was 14%. Of the eligible participants asked to complete the full survey, 56% cooperated. The screening and cooperation rates were calculated according to American Association for Public Opinion Research (AAPOR) standard definitions. The survey asked about NPP awareness, participation, and interest, as well as smoking and sociodemographic characteristics. The survey was conducted in English or Spanish only. No incentive was offered for participation. The study was exempt from full review by the NYC DOHMH IRB.

Program

The survey measured public awareness of the 2006 NPP, which took place between May 3 and June 6 (34 days). About 35,000 smokers enrolled in the 2006 NPP. To enroll in the NPP, smokers were directed to call 311, NYC's toll-free nonemergency government information line. NPP applicants completed a brief intake survey that assessed eligibility. Eligible callers received 4 weeks of 21-mg patches, whereas ineligible callers received a letter with a referral to other cessation resources.

Program Marketing

The NPP was conducted during an extensive multimedia campaign implemented from January through October 2006.[19] The campaign featured TV, radio, and print advertisements in English and Spanish. The TV campaign, which featured testimonials from dying and sick smokers and graphic images of the physical effects of smoking, aired 100 to 600 gross ratings points (GRPs) per week. A GRP is a standardized measure of broadcast frequency and audience reach; one GRP is estimated to reach 1% of the target audience. In NYC it is estimated that 35,000 adults view an advertisement for every one GRP aired.[19] Advertisements were aired at various times in order to reach audiences at various TV viewing times.

Although all full-length TV advertisements provided the same prompt to call 311 ("Quit Smoking Today. For Help Call 311"), during the NPP, the NYC DOHMH also aired "bumpers," 10-second advertisements specific to the giveaway, as well as an NPP-specific radio campaign. The New York City DOHMH also secured live NPP announcements during the broadcast of local sports games. These announcements were specifically targeted to men, who historically have underenrolled in previous giveaways.[8,9] The 10-second TV "bumpers," as well as the radio and sports game announcements, used the tag line "You May Be Eligible for New York City's Nicotine Patch Program. Limited Supply, Call 311 Now."

The NPP was also promoted by a press conference and four press releases. In addition to the press release issued at the conference, three press releases were issued during the NPP.[20–23] The mid-program press releases highlighted findings from real-time enrollment data, such as low call volumes among specific geographic areas and demographic subgroups, thereby encouraging smokers in underenrolled areas and groups to call. All press releases generated local media coverage on TV news and radio stations and in newspapers.

Survey Measures

Survey measures captured information on four domains: program awareness, untapped interest in participation, perceived barriers to participation, and methods for future outreach. These questions are shown in Table 1. Open-ended questions were recoded into categoric responses.

Analyses

Data reported here describe program awareness and untapped interest in the program, overall and by smoker and demographic characteristics, as well as barriers to participation and suggestions for future outreach. Survey measures were sourced from the NYC Community Health Survey (CHS) and the New York State Adult Tobacco Survey (NYS ATS). The CHS is an annual population-based telephone survey of NYC adults that measures health-risk behaviors.[24] The ATS is an annual population-based telephone survey of NYS adults that helps evaluate the reach and impact of NYS tobacco control efforts.[25] Both the CHS and the ATS are

Table 1. Measures of survey domains

Domain	Participants surveyed	Measure (answer format)
Program awareness	All survey participants	*Between May 3 and June 5, 2006, did you hear or see any advertisement or news story about how to obtain free nicotine patches from the New York City Health Department? (yes/no/don't know)*
Untapped interest in program	Participants who answered *no* or *don't know* to program awareness question	*Between May 3 and June 5, 2006, the New York City Health Department ran a campaign to give nicotine patches to eligible New York City smokers through 311. If you had heard about the program, would you have called 311 to request free patches? (yes/no/don't know)*
Perceived barriers to participation	Participants aware of the program who did not call	*Why didn't you call 311 to request free nicotine patches?* (open-ended)
	Participants unaware of the program reporting that they would not call if they had heard of it	*Why not?* (following an answer of *no* to *If you had heard about the program, would you have called 311 to request free patches?*; open-ended)
Future outreach methods	Participants who answered *no* or *don't know* to program awareness question	*We advertised this campaign on TV, radio, and in several local newspapers. We'd like to improve our ability to let New York City smokers know about the program. Can you tell me where you think we should have advertised this program, so that you would have heard about it?* (open-ended)

modeled on the CDC's Behavioral Risk Factor Surveillance System (BRFSS.) The smoking-related measures in the BRFSS are valid and reliable.[26]

To account for nonresponse, responses were weighted to the CHS population estimates of current smokers and recent quitters by gender, race/ethnicity, age, borough, and educational status. These variables were chosen based on specific demographics shown to be significantly related to smoking behaviors in NYC.[24] Both prevalence and population estimates are reported in this paper. Differences between groups were assessed using *t*-tests. All analyses were performed in 2006 and 2007 using SAS, version 9.1.3 and SUDAAN, version 9.0.1.

Results

Program Awareness and Untapped Interest in Program Participation

About 60% of respondents reported awareness of the 2006 NPP, representing about 680,000 New Yorkers. Nondaily smokers (49%) reported lower levels of awareness than daily smokers (61%, $p<0.01$), whereas light smokers (those who smoke one to nine cpd, 50%) reported lower levels of awareness than those who smoke more than a pack a day (over 20 cpd, 65%, $p=0.04$). Men's (53%) awareness level of the program was lower than women's (65%, $p<0.001$). Compared to English speakers (61%) and U.S.-born respondents (62%), Spanish speakers (47%, $p=0.04$) and the foreign-born (52%, $p=0.02$) reported lower levels of program awareness. Table 2 shows the differences in program awareness by other demographic subgroups examined.

Overall, the level of untapped interest in program participation was high. As seen in Table 3, over half (53%) of those not aware of the NPP reported that they would have called if they had heard about the program. This represents almost 260,000 New Yorkers. Daily smokers expressed more interest in the program compared to nondaily smokers (60% vs 40%, $p<0.01$). Compared to those aged ≥65 years (36%), 57% of those aged 25–44 years would have called if they had heard about the program ($p=0.04$). Compared to whites (40%), the Hispanic (67%, $p< 0.001$) and black (64%, $p<0.01$) populations were significantly more likely to report interest in the program. Populations with lower levels of income and education expressed more interest in the program compared to groups with higher levels of income and education. Compared to 37% of respondents with an annual income of $75,000 or more, 56% of respondents each earning less than $25,000 ($p=0.04$) and $25,000 to less than $50,000 ($p=0.03$) reported program interest. Sixty-three percent of those with less than a high school education ($p=0.04$) and 67% of high school graduates ($p<0.001$) reported program interest, compared to 43% of college graduates.

Media Awareness and Outreach Strategies

Respondents who were aware of the NPP were asked how they heard about the program. As shown in Table 4, the majority of survey respondents (62%) heard about the program from a TV advertisement, followed by word-of-mouth (19%) and radio advertisements (14%). Populat-

Table 2. Program awareness: respondents aware of 2006 Nicotine Patch Program (n=602)[a]

	Population estimate	% who reported awareness (95% CI)	*p*-value
Total	681,000	58.0 (54.4, 61.7)	—
Current smoker	640,000	57.7 (53.9, 61.4)	—
Daily smoker (ref)	479,000	61.4 (57.0, 65.7)	—
Nondaily smoker	160,000	48.9 (42.0, 55.8)	0.0028*
Cigarettes smoked/day (among current smokers)			
<10	234,000	50.0 (44.2, 55.8)	0.0429*
10–20	340,000	64.5 (59.2, 69.5)	0.9649
≥21 (ref)	61,000	64.8 (50.9, 76.6)	—
Gender			
Male	345,000	52.8 (47.3, 58.2)	0.0005*
Female (ref)	336,000	65.2 (60.6, 69.6)	—
Age (years)			
18–24	72,000	48.5 (36.8, 60.3)	0.0304*
25–44	332,000	56.0 (50.5, 61.4)	0.0945
45–64	221,000	65.0 (59.3, 70.3)	0.8644
≥65 (ref)	56,000	66.1 (55.0, 75.6)	—
Race/ethnicity			
Hispanic	186,000	59.3 (51.6, 66.6)	0.3073
Non-Hispanic white	246,000	57.2 (51.9, 62.3)	0.0926
Non-Hispanic black (ref)	182,000	64.7 (57.4, 71.5)	—
Non-Hispanic Asian	48,000	53.2 (36.2, 69.5)	0.2263
Income ($)			
<25,000	104,000	58.7 (49.2, 67.6)	0.138
25,000–<50,000 (ref)	180,000	67.5 (60.1, 74.1)	—
50,000–<75,000	84,000	59.9 (49.5, 69.5)	0.2287
≥75,000	121,000	51.2 (43.4, 59.0)	0.0025*
Education			
Less than high school grad	105,000	57.3 (47.2, 66.8)	0.2789
High school grad	204,000	61.5 (54.5, 68.0)	0.612
Some college (ref)	189,000	64.0 (56.7, 70.7)	—
College grad	178,000	51.6 (45.0, 58.1)	0.0120*
Language			
English (ref)	564,000	60.5 (56.5, 64.3)	—
Spanish	66,000	47.1 (35.6, 59.0)	0.0364*
Nativity			
U.S.-born (ref)	506,000	61.5 (57.4, 65.5)	—
Foreign-born	174,000	51.5 (44.0, 58.9)	0.0217*

[a]Responses are weighted to 2005 New York City Community Health Survey population estimates of current smokers and recent quitters by race/ethnicity, gender, age, borough, and education level.

*Significant *t*-test, α=<0.05. Daily smokers are current smokers who reported smoking cigarettes on every day. Non daily smokers are current smokers who reported smoking cigarettes on some days.

Table 3. Untapped interest: respondents who would have participated in 2006 Nicotine Patch Program (n=199)[a]

	Population estimate	% who would have called (95% CI)	*p*-value
Total	259,000	52.7 (46.8, 58.4)	—
Current smoker	247,000	52.7 (46.7, 58.5)	—
Daily	181,000	60.0 (52.6, 67.0)	0.0010*
Nondaily (ref)	66,000	39.5 (30.2, 49.6)	—
Cigarettes smoked/day (among current smokers)			
<10 (ref)	109,000	46.5 (38.2, 55.1)	—
10–20	114,000	61.0 (51.9, 69.4)	0.0207*
≥21	17,000	50.3 (27.9, 72.5)	0.7733
Gender			
Male (ref)	156,000	50.4 (42.4, 58.4)	—
Female	104,000	57.9 (49.8, 65.5)	0.1940
Age (years)			
18–24	38,000	49.5 (32.9, 66.2)	0.2928
25–44	149,000	56.9 (48.5, 65.0)	0.0377*
45–64	61,000	51.4 (41.7, 60.9)	0.1403
≥65 (ref)	10,000	36.2 (20.8, 55.0)	—
Race/ethnicity			
Hispanic	86,000	67.3 (54.5, 78.0)	0.0002*
Non-Hispanic white (ref)	74,000	40.1 (32.3, 48.3)	—
Non-Hispanic black	63,000	63.5 (50.9, 74.4)	0.0015*
Non-Hispanic Asian	24,000	57.2 (31.7, 79.3)	0.2156
Income ($)			
<25,000	41,000	56.1 (41.2, 70.0)	0.0400*
25,000–<50,000	48,000	55.5 (42.5, 67.7)	0.0310*
50,000–<75,000	28,000	50.1 (34.4, 65.9)	0.1792
≥75,000 (ref)	42,000	36.5 (25.9, 48.6)	—
Education			
Less than high school grad	49,000	62.7 (45.3, 77.3)	0.0413*
High school grad	86,000	67.3 (56.2, 76.8)	0.0007*
Some college	50,000	47.4 (35.4, 59.8)	0.5635
College grad (ref)	71,000	42.8 (33.6, 52.6)	—
Language			
English (ref)	190,000	51.7 (45.3, 58.0)	—
Spanish	47,000	62.9 (44.5, 78.2)	0.2369
Nativity			
U.S.-born (ref)	159,000	50.3 (43.5, 57.1)	—
Foreign-born	99,000	60.3 (48.9, 70.6)	0.1305

[a]Responses are weighted to 2005 New York City Community Health Survey population estimates of current smokers and recent quitters by race/ethnicity, gender, age, borough, and education level.

*Significant *t*-test, α=<0.05. Daily smokers are current smokers who reported smoking cigarettes on every day. Non daily smokers are current smokers who reported smoking cigarettes on some days.

ion estimates show the substantial differences in program awareness by paid versus earned media. A high number of respondents, representing almost 575,000 New Yorkers, heard about the NPP through paid media (TV, radio, and newspaper advertisements), whereas a much smaller number, representing about 80,000 New Yorkers, heard about the program through earned media (TV, radio, and newspaper stories). This analysis of program awareness further demonstrates that word-of-mouth was a substantial avenue in disseminating program information, as almost 130,000 New Yorkers heard about the NPP from another person.

Participants who were unaware of the program were asked for suggestions for future outreach methods. These open-ended responses were recoded into the response categories shown in Table 4. Advertising on TV (30%) and in newspapers or magazines (15%) was commonly recommended, although these suggestions were already included in the campaign. Suggestions not utilized by the program included advertising on billboards (17%); public transportation (10%); direct mail to homes (5%); and, in schools, healthcare centers, and cigarette retailers (1% each).

Table 4. Media awareness and suggested outreach strategies[a]

	n	Population estimate	% reported
Method of hearing about NPP 2006 (among those aware of NPP; respondents could choose more than one response)			
TV advertisement	379	423,000	62.1
Word-of-mouth	103	127,000	18.7
Radio advertisement	79	95,000	14.0
TV story	41	46,000	6.7
Newspaper advertisement	41	56,000	8.2
Newspaper story	18	22,000	3.2
Radio story	11	10,000	1.5[b]
Website	9	11,000	1.6[b]
Suggestions for future outreach strategies (among those not aware of NPP; open-ended responses coded into categories below)			
Cable TV/major TV stations	126	149,000	30.3
Billboards (subway/highway/corner/poster)	64	85,000	17.3
Newspapers/magazines	63	75,000	15.2[b]
Radio	31	38,000	7.8
Bus/train/taxi	30	47,000	9.6
Internet	29	34,000	7.0
Direct mail to home/flyer	19	23,000	4.7
Movie theater/restaurant/department store/store	8	9,000	1.9[b]
Anyplace where cigarettes are sold	6	7,000	1.4[b]
Schools (gymnasium/cafeteria/library)	4	4,000	0.9[b]
Hospital/clinic/community center	4	5,000	1.1
Before TV newscasts	3	1,000	0.3[b]

[a]Responses are weighted to 2005 New York City Community Health Survey population estimates of current smokers and recent quitters by race/ethnicity, gender, age, borough, and education level.
[b]Estimate should be interpreted with caution. Estimate's relative SE (a measure of estimate precision) is >30%, or the sample size is too small, making the estimate potentially unreliable.
NPP, Nicotine Patch Program

Barriers to Program Participation

Survey respondents not interested in the NPP were asked an open-ended question about reasons for their lack of interest. These open-ended responses were recoded into the categories listed in Table 5. Among respondents who were aware of, but not interested in, the program, the most common reason for not calling was not being ready to quit smoking (25%). Hesitation about using patches made up a large proportion of the responses, including not wanting or needing the patch (15%); believing that the patch doesn't work or help (7%); and having an allergy or other health-related reason (5%). Barriers were similar among those unaware of but not interested in the program. One third of these respondents reported that they were not ready to quit or enjoyed

Table 5. Barriers to NPP 2006 participation[a]

	n	Population estimate	% reported
Reasons for lack of interest in NPP (among those who were aware of program who did not call; open-ended responses coded into categories below; respondents could name more than one reason)			
Enjoy smoking/not ready to quit	122	138,000	25.0
Didn't want or need/not interested	68	82,000	14.9
Didn't think to/didn't know how to/eligibility	54	70,000	12.7
Patch doesn't work or help	39	40,000	7.2
Not heavy/regular smoker	32	38,000	6.9
Already have patch/access to patch	31	33,000	5.9
Health reasons/allergic	30	25,000	4.6
Can quit on own	26	35,000	6.4
Reasons for lack of interest in NPP (among those unaware of program who would not have called; open-ended responses coded into categories below; respondents could name more than one reason)			
Enjoy smoking/not ready to quit	55	61,000	32.7
Not addicted/not heavy or regular smoker	44	50,000	27.2
Didn't want or need/not interested	14	15,000	7.9
Patch doesn't work or help	13	13,000	6.9[b]
Can quit on own/cold turkey	11	12,000	6.6[b]
Health reasons/allergic	6	8,000	4.4[b]
Skeptical/government services/handout	6	8,000	4.3[b]

[a]Responses are weighted to 2005 New York City Community Health Survey population estimates of current smokers and recent quitters by race/ethnicity, gender, age, borough, and education level.
[b]Estimate should be interpreted with caution. Estimate's relative SE (a measure of estimate precision) is >30% or the sample size is too small, making the estimate potentially unreliable.
NPP, Nicotine Patch Program

smoking, whereas over one quarter reported that they were not addicted and were not regular smokers.

Discussion

To the authors' knowledge, this is the first study to assess media effectiveness in promoting a time-limited, phone-based cessation program such as an NPP, using a population-based sample of adult smokers. Because such giveaways are a feasible and effective approach to providing large-scale cessation services, understanding more about how to successfully market these programs is essential. Overall, the results were encouraging, with about 60% of NYC smokers, representing almost 700,000 New Yorkers, reporting program awareness. Moreover, such awareness was fairly evenly distributed across demographic and smoking-characteristic subgroups, with more than half of nearly every subgroup examined having heard about the giveaway.

Encouragingly, the level of untapped interest was highest among some populations reporting the lowest reach (Spanish speakers, the foreign-born). The interest level in the NPP among men was also encouraging (50%), despite being lower than that among women. These findings indicate that overall, the 2006 media campaign was successful in reaching the majority of NYC smokers, although distinct differences in untapped participation identify specific populations that should be targeted for increased outreach: Hispanics, Spanish speakers, blacks, men, young adults, and the foreign-born. Further, program promotion should be further expanded in Spanish and other foreign languages. Although research[27,28] has shown TV to be the most effective (but most expensive) outreach method, future media campaigns should continue to invest in a mix of TV, radio, and print media, including billboards and other outdoor advertising. These modifications could further increase the media campaign's effectiveness in promoting the program, thus increasing participation.

To improve future NPP participation, perceived barriers among participants not interested in the program were categorized into two groups: (1) barriers that could be resolved through changes in program components and media messages; and (2) barriers that might prove more difficult to address.

Among all respondents who indicated why they did not or would not have called, more than a quarter, repre-

senting 200,000 New Yorkers, attributed their lack of interest in the NPP to reasons such as not being ready to quit or not being interested in quitting, an enjoyment of smoking, not wanting follow-up calls, or a mistrust of government services. These types of beliefs may prove difficult to address through mass media.

However, other responses indicate a possibility to increase enrollment through revised messaging and expanded outreach. A large proportion of respondents (51%) attributed their lack of interest to reasons such as hesitance to use the patch, not understanding eligibility or program information, and the belief that they were not addicted or could quit on their own. For this group, representing almost a half million NYC smokers, revised and expanded messaging in three key areas, as described below, may increase their interest in the program.

First, one quarter of respondents not interested in the NPP reported their lack of interest was linked to hesitance to use the patch. To address this finding, media campaigns about cessation services may benefit from providing messages that emphasize the safety and ease of using patches, and the well-documented increase in quit success associated with patch use.[1] Additionally, programs that offer NRT other than nicotine patches may benefit from clarifying the availability of other NRT in outreach messages.

Second, 12% of respondents not interested felt that they were not addicted or regular or heavy smokers and therefore did not need assistance in quitting. These smokers can be hard to reach through traditional cessation messaging.[29] However, campaigns that challenge smokers' denial and self-exempting beliefs may encourage this group to participate in the program. This finding also has larger implications for tobacco control programs, which may need to tailor outreach to reach this population that does not self-identify as smokers in need of cessation services.

Third, 10% of respondents not interested indicated that they did not know how to apply or did not think they would be eligible for the program. Future media should clarify application procedures, such as what to ask for when calling 311 and that they can expect a brief screening. Additionally, program promotion should clarify eligibility criteria, explaining that factors such as income and race/ethnicity are not used to determine eligibility. These modifications may help to decrease perceived access barriers and increase participation.

This analysis of key barriers to program use, along with the suggestions for outreach, provided valuable information for planning future giveaways and media campaigns. Based on suggestions provided by survey respondents, the NYC DOHMH incorporated specific outreach and program components in the 2007 annual giveaway.[30] First, nicotine replacement gum was added; it was hoped this addition would improve interest in the program among lighter smokers as well as those with concerns about using the patch. Although resource availability allowed only gum for light smokers (1–9 cpd), 11% of enrollees did receive the gum. Second, a direct mailing was sent to 2006 NPP participants encouraging relapsers to apply for the 2007 program. This outreach method was quite successful: when asked during the intake survey how they had heard about the 2007 program, almost 2000 enrollees (5.8%) cited the recruitment letter. Although the timing between the survey reported here and the 2007 program implementation did not allow for incorporation of all key outreach ideas, future giveaways may include additional suggestions.

Finally, the 2006 NPP media campaign was designed to reach smokers who were ready to quit smoking. Research in health behavior change has shown that only 10% to 15% of smokers at any time are prepared to take action (i.e., make a quit attempt).[31] Future giveaways and media campaigns should address the non-action stages of change (such as contemplation, preparation, and maintenance) in order to reach and motivate these smokers to move toward quitting.

This study has several limitations. First, both the response and cooperation rates are low, as increasingly seen in home telephone-based surveys.[32,33] Although the survey data are weighted to account for nonresponse, the low number of responses, especially for the suggested outreach strategies, may be a barrier to interpretation. Second, it is likely that respondents over-reported likelihood of a hypothetic action (such as calling for NRT); it has been documented that respondents may not be accurate predictors of what they would have done, had they been given the opportunity.[34,35] Given that the proportion of those reporting that they would call is equivalent to over 250,000 New Yorkers, if even one quarter actually did call, enrollment would more than double. Of course, any enrollment increases must be met by additional programmatic resources, such as increased NRT availability. Third, although these findings are applicable to other diversely populated areas, the suggestions provided by respondents should be interpreted with caution by those outside large, dense urban areas. Fourth, program awareness estimates may also be overestimates, as the NPP was tied to a larger social marketing campaign around quitting smoking. Additionally, because of social desirability bias, some respondents may have reported that they had heard of the NPP when in reality they were not aware of the program. Finally, this survey did not allow for a validity check of program awareness. In the future, similar surveys will incorporate a dummy question about aware-

ness of a fake campaign in order to validate the actual awareness question.

The findings from this study provide specific examples for improving a media campaign in order to increase NPP awareness and enrollment. To the authors' knowledge, this study is the first to use a population-based sample of adult smokers in order to assess media effectiveness in promoting a time-limited, phone-based cessation program such as the NPP. These data outline specific barriers to program use and provide suggestions for outreach, thus providing valuable information for future population-based cessation programs and media campaigns.

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