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## Do Anti-Smoking Media Campaigns Help Smokers Quit?

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### Synopsis .....

*As part of an evaluation of the 1990-91 anti-tobacco media campaign carried out by the California Department of Health Services, a study was conducted among 417 regular smokers who had quit during the period of the media campaign. In*

*brief telephone interviews, all respondents identified up to three events or experiences that had influenced them to quit.*

*In response to uncued questions, 6.7 percent of those interviewed indicated that they had been influenced to quit by an advertisement they had seen or heard on radio, television, or billboards. In response to direct questions about the media campaign, 34.3 percent of the respondents indicated that the media campaign's advertisement had played a part in their decision to quit.*

*Applying the 6.7 percentage to the number of Californians who quit smoking in 1990-91, it can be estimated that for 33,000 former smokers, the anti-tobacco media advertisements were an important stimulus in their quit decision. Multiplying the 34.3 percent by the number of former California smokers who quit in 1990-91, the estimate of former smokers for whom the media campaign's advertisements played at least some part in their decision to quit rises to 173,000 persons.*

*While causal attributions from such investigations should be made with caution, the evidence suggests that the 1990-91 campaign did influence substantial numbers of smokers in California to quit.*

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**S**TATEWIDE ANTI-SMOKING media campaigns have recently been carried out in several States, most notably Minnesota, Michigan, and California. Because such media-based interventions are invariably expensive and require expertise not readily available in public health, policymakers in other States may wonder whether anti-tobacco media campaigns yield effects consonant with their costs. Although one aim of anti-smoking media campaigns is to get smokers to quit, little evidence exists regarding the role of these campaigns in helping people to stop smoking. This report describes an investigation designed to address that issue.

Although previous evaluations of media-based

health education programs did not engender optimism regarding the effectiveness of such campaigns (1), more recent studies of media campaigns against smoking prompted Flay to be encouraged regarding their potential impact on adult smoking cessation (2,3). Illustrative of these investigations are several Australian studies of anti-smoking media campaigns recently reported by Pierce and colleagues (4,5). Optimism about anti-smoking media campaigns may be particularly warranted in an era when societal disapproval of smoking has been increasing (6). Anti-smoking media-based programs initiated prior to the 1980s may have been "swimming against the secular stream of increasing

pressures and examples to smoke" (7). Latter-day anti-smoking media campaigns, however, may profit from the growing social disdain for smoking.

## Background

From April 1990 until June 1991, a major anti-tobacco media campaign was carried out in California under the auspices of the California Department of Health Services (DHS). Financed by a 25-cent-per-pack State surcharge on cigarettes, the campaign employed television, radio, billboards, and print media. The campaign was conducted for DHS by Livingston + Keye (formerly keye/donna/pearlstein), a Los Angeles advertising agency. The media campaign, approximately 60 percent of which was directed toward youth, cost approximately \$28.6 million. That price tag makes it, by far, the most expensive statewide anti-tobacco media campaign ever carried out.

A variety of anti-smoking messages were employed in the campaign—the dangers of second-hand smoke and the impact of smoking on one's social desirability, for example. In addition, certain campaign advertisements attempted to stimulate public debate regarding the role of the tobacco industry in encouraging people to smoke. Studies indicated that approximately 50 percent of California students and 40 percent of California adult smokers could recall, without prompting, one or more of the media campaign's television or radio advertisements (8).

IOX Assessment Associates of Los Angeles was engaged to conduct an independent evaluation of the media campaign's overall effectiveness. Results of that evaluation are available from the authors. Because of findings of more positive attitudes by adult smokers exposed to the campaign compared with those not exposed and a decrease in intentions of nonsmoking students to start smoking, guardedly optimistic conclusions were reached regarding the campaign's overall success. Our current study, however, focuses only on the role of the media campaign in helping regular adult smokers quit. The study was carried out in March 1991, a year after the campaign had been initiated and at a time when almost all campaign-related advertising had been concluded.

## Methods

One of the central data-gathering procedures in the overall evaluation of the media campaign consisted of telephone interviews with adult Cali-

fornia smokers. For each of four separate data-gathering waves (one prior to the campaign and three after its start), brief telephone interviews were conducted with approximately 1,600 adult smokers. Potential interviewees were identified by means of a random-digit dialing procedure using samples supplied by a national organization specializing in the determination of representative State samples for such telephone interviews. Interviews were conducted using a computer-assisted telephone interviewing system.

In the evaluation study's first three data-gathering waves, once a telephone interviewer made contact with a household member, that person was asked if anyone in the household was at least age 18 and a smoker. If an adult smoker was not present, the call was terminated. If such a person was available and willing to participate, the interviewer then carried out the telephone interview. If an adult smoker resided in the household but was not present, up to two call-backs were made in an attempt to reach the smoker.

In the fourth data-gathering wave, however, a procedural variation was introduced. Rather than terminating telephone calls if no adult smoker resided in the household, an attempt was made to identify adults who had quit smoking during the media campaign. This procedure was employed to locate a meaningful number of adults who had quit smoking during the past year. These quitters were then asked both an unprompted and a prompted question to discern if the anti-smoking media campaign had played a part in their decision to quit.

**Identifying former smokers.** If no adult smoker was present in a household, rather than terminating the call, the interviewer asked, "Is there anyone in your household who used to smoke but has quit in the last year?" If a former smoker was present, the interviewer asked to speak to that person, then said, "Good evening, I am conducting a research study of former smokers. Are you a former regular smoker who has quit smoking in the past year?"

**The uncued question.** Upon receiving a positive response, the interviewer then asked, "What specific event prompted you to attempt to quit smoking? In other words, was there something you experienced that influenced you to quit?" The interviewer recorded the interviewee's response, then asked, "Anything else?" twice. If, in response to this followup query, any additional specific events were identified by the interviewee, these were also recorded.

**The cued question.** Following the interviewee's responses to the uncued queries, the interviewer then said, "Since April of last year, the California Department of Health Services has been sponsoring an anti-smoking advertising campaign on television, radio, and billboards. Do you recall seeing or hearing any of those advertisements?" If the response was negative, the telephone interview was concluded. If the response was positive, the interviewer then said, "Would you say that those advertisements played a part in your decision to quit smoking?" The interviewee's response to this question was coded as positive or negative, and the interview was concluded.

**Interviewee sample.** From a total sample of 47,717 eligible telephone numbers, contacts were made with 29,101 households to determine the quit status of people in 11,981 households. (The reductions in numbers of telephone contacts were due to a variety of sources, such as disconnected numbers, refusals, and answering machines.) From the nearly 12,000 identified households, interviews were conducted with 417 regular smokers who had quit during the past year (essentially the same period as the media campaign's existence). It was these 417 people who supplied the data for this study.

**Analysis.** To analyze the uncued question, a respondent's stated reason(s) for quitting were compiled and categorized by independent coders who had not been informed of the nature of the study's focus. Percentages were then determined of interviewees who identified each category of specific events that prompted them to quit smoking. Responses to the cued question were classified as positive or negative, then transformed into Yes-No percentages.

## Results

**Responses to the uncued question.** As might be anticipated, the most frequent responses to the uncued question, "What specific event prompted you to quit smoking?" concerned health. In all, 38.2 percent of the respondents indicated that health-related events had prompted them to quit smoking. Nearly a fifth of the respondents (17.7 percent) asserted that they "just decided to quit." An additional 10.8 percent cited requests by family members or friends as the reason they ceased smoking. The 10 most frequently cited reasons given by interviewees for quitting are listed in the table.

Most of the interest in this study, of course, was

the proportion of interviewees whose response to the uncued question indicated it was an advertisement on television, radio, or outdoor billboards that had prompted them to quit smoking. The percentage of interviewees who supplied such a response to the uncued question was 6.7. It should be noted that this percentage was based on interviewees' first, second, or third response to the question about what prompted them to quit smoking.

**Responses to the cued question.** Of the 417 interviewees, 69.1 percent responded that they had seen or heard the anti-smoking media campaign's advertisements. When these 288 people were asked if those advertisements had played a part in their decision to quit smoking, 143 responded positively. In other words, when asked directly, more than a third of the 417 interviewed (34.3 percent) indicated that the DHS anti-smoking advertisements had played a role in their quit decision.

## Discussion

It was a fortuitous set of circumstances that led to this investigation of an anti-smoking media campaign's role in assisting adult smokers to quit. Clearly, given the substantial costs of conducting telephone interviews such as those employed in this investigation, many investigators are prohibited from carrying out such studies. The routine gathering of telephone-interview data near the conclusion of the media campaign, however, allowed for a relatively inexpensive study of adults who had ceased to smoke during the campaign. Nonetheless, even though the number of telephone calls placed was substantial, the 417 former adult smokers who were actually interviewed was a modest number.

The unprompted responses of 6.7 percent of the 417 interviewees that it was anti-tobacco advertisements that had influenced them to quit is an encouraging finding. Without addressing this finding in the light of quitters' recidivism rates or the relative import of the media campaign's advertisements in contrast to other interpersonal or intrapersonal factors on decisions to quit, it seems that a meaningful proportion of adult smokers in California were at least partially influenced to quit by the media campaign's anti-smoking messages.

It should be emphasized that prior to the uncued question there were no references made by the telephone interviewers to the DHS media campaign or, indeed, to any anti-smoking media campaign. In every sense of the term, interviewees' responses to the uncued question were truly uncued.

The 6.7 percent figure can be applied to data from a 1990 University of California at San Diego (9) study that generated estimates of the numbers of Californians who have quit smoking in recent years. Applying the 6.7 percentage to the number of Californians who quit smoking during 1990-91, it is possible to estimate that for 33,000 former smokers, anti-tobacco media advertisements played at least some part in their decision to quit.

Similarly, using the 34.3 percent of interviewees who indicated, in response to the cued question, that the DHS media campaign's advertisements played a part in their quit decision, the estimated number of former smokers who were influenced to quit by the 1990-91 DHS media campaign rises to 173,000 Californians.

Responses to cued questions, of course, often provide an inflated estimate of the extent to which people engage in certain behaviors. For example, during the initial wave of data-gathering for the evaluation of the media campaign, 5 percent of the adult smokers who were interviewed reported that they had seen a nonexistent anti-smoking advertisement described by a telephone interviewer. Even if the 34.3 percent figure is halved to allow for those interviewees who might have given their responses to please the interviewer, the estimated percent of influenced smokers remains very substantial.

The evaluation of a health-related media campaign's effects is particularly difficult because the intervention's reliance on media makes that intervention accessible to almost everyone. Thus, it is impossible to employ true experimental data-gathering designs, replete with random assignment of subjects and the use of control groups, in order to assess the campaign's impact. Absent such procedures, investigators are properly reluctant to make causal attributions regarding the extent to which an anti-smoking media campaign truly caused smokers to quit.

In recognition of the methodological limitations of investigations such as our study, therefore, it would be inappropriate to conclude that the California 1990-91 Tobacco Education Media Campaign caused large numbers of adult California smokers to quit. It would be appropriate to conclude, however, that the campaign was an important stimulus to consider quitting by 6.7 percent of former smokers and a contributing factor for up to 34.3 percent of former smokers.

Additional studies of adult quitters are needed to determine whether our results are confirmed in other settings where anti-tobacco media campaigns take place. Our data, nevertheless, create optimism

Ten most frequent reasons for quitting given by 417 former smokers, anti-tobacco media campaign survey, California, 1990-91

<i>Reason for quitting</i>	<i>Percent of interviewees</i>
1. Health.....	25.7
2. Just decided to quit .....	17.7
3. Not good for you .....	12.5
4. Family or friend requests.....	10.8
5. Reduced enjoyment .....	7.4
6. Anti-smoking advertisements .....	6.7
7. Doctor's orders .....	5.8
8. Concerns about children's health .....	5.5
9. Developed a cough.....	5.0
10. Not good for others.....	3.8

regarding the ability of anti-smoking media programs to help smokers quit.

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