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Evaluation of the Sydney "Quit. For Life" anti-smoking campaign: Part 1. Achievement of intermediate goals

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## ORIGINAL ARTICLES

## Evaluation of the Sydney "Quit. For Life" anti-smoking campaign\*

## Part 1. Achievement of intermediate goals

(for editorial comment, see page 337; see also page 344)

John P. Pierce, Terry Dwyer, Gerald Frape, Simon Chapman, Anne Chamberlain and Nick Burke

**ABSTRACT** The "Quit. For Life" campaign was a media-based programme that was aimed at reducing the prevalence of smoking in Sydney. The programme committee set four intermediate goals which it felt had to be met for such a change in prevalence to occur. From households selected at random in Sydney and Melbourne, 5713 people were interviewed to assess whether the campaign attained these goals. The television commercials that were designed for the campaign, their frequency and the timing of their screening produced a higher recall of the commercial's message and the use of campaign back-up services than were specified originally in the goals. During the campaign there was a progressive increase in the number of smokers in Sydney who reported that they were likely to quit; this was significantly different from Melbourne data by the end of the campaign and thus fulfilled another campaign goal. However, shortly after the campaign ended, the proportion of smokers who intended to quit smoking was the same in the two cities. A cohort study of 949 people from the baseline study showed that, during the 12-month period of follow-up, 66% of Sydney smokers tried to stop or to reduce their smoking. In the control city, Melbourne, 60% of smokers reported making such attempts. Of the original smokers, 23% in Sydney and 9% in Melbourne quit during the follow-up period — a statistically significant difference. As well, 10% of the original ex-smokers in Sydney and 11% in Melbourne relapsed, while 4% of non-

smokers in both cities began smoking by the end of the second survey.

(Med J Aust 1986; 144: 341-344)

After the reported success of the North Coast anti-smoking campaign in country towns,<sup>1</sup> the NSW Minister for Health funded an attempt to repeat this success in the State capital, Sydney. The Sydney campaign used television commercials to motivate smokers to quit smoking and linked these commercials to information and treatment services to help them to succeed. A large-scale evaluation was implemented to assess the effect of the campaign and to provide much needed information to improve future anti-smoking efforts.

As well as the goal of reducing the prevalence of smoking in Sydney, the campaign had a set of intermediate goals. The achievement of the intermediate goals was thought to be essential before a reduction in smoking could occur. These goals were: to make television commercials which would stand out from the rest of advertising, as well as be seen and have their messages remembered by over 50% of the population;<sup>2</sup> to increase the use of information and treatment services; to increase the intention of smokers to quit;<sup>3</sup> and to increase the number of people who were trying to reduce their smoking during the campaign.

This paper discusses whether these goals were achieved and a subsequent paper addresses whether the campaign was associated with any decline in smoking prevalence.<sup>4</sup>

### Methods

#### Media and back-up services

The budget for the Sydney "Quit. For Life" campaign was approximately \$620 000. Most of this (\$500 000), was used for media buying (the purchase of newspaper space and radio and television time). A further \$120 000 was spent on the establishment and advertising of the "Quit Centre" at Sydney Hospital.

The three campaign commercials were aired during prime time television in 1983. They were "Sponge", which depicted the human lung as a sponge that absorbed cancer-producing tar; "Salesman", which showed a health insurance salesman outlining the health and social disadvantages of smoking; and "I've had enough" which presented the social reasons to quit smoking as well as depicting smokers as unhappy with their habit and suggesting that they call the "Quit Line".

During 1983, 389 prime-time advertising spots were purchased, 53.2% of which were used to air "Sponge", 32.6% to air "I've had enough" and the remaining 14% were used for the "Salesman" commercial. The

advertising schedule varied the intensity of television exposure by alternating heavy coverage with no coverage on a fortnightly basis. This was maintained for an initial three-month period. Towards the end of the fifth month there was a follow-up advertising campaign of half the initial intensity. All the commercials contained a message that exhorted individuals to ring the "Quit Line".

The immediate impact of the campaign was measured by recording the number of calls to the "Quit Line" and the number of enrolments at the "Quit Centre". The "Quit Line" was a recorded message service that was capable of handling up to 40 calls concurrently. It provided callers with information about the "Quit Centre" and the "Quit Kits". The "Quit Centre" operated for the duration of the campaign and was located in Sydney Hospital, at the edge of the central business district. It offered smokers a choice of six standard anti-smoking treatments for a fee of \$5. The "Quit Kits" contained a booklet that outlined self-help strategies for the cessation of smoking and included an audiocassette tape of a structured relaxation programme.

#### Surveys

Approximately 750 people in Sydney and 200 in Melbourne from households selected at random were interviewed each month for the duration of the campaign. These interviews were conducted by the Roy Morgan Research Company and their protocol is detailed in the accompanying paper.<sup>4</sup> All participants were shown six photographic still pictures from each commercial and asked if they remembered the commercial and recalled its main message. Smokers were also asked for their response to the question, "How likely is it that you would give up smoking in the next three months?" Respondents could select the most appropriate reply from a list of seven, which ranged from "extremely unlikely" to "extremely likely" to quit. In an associated study, we have shown this to be the best predictor of who will quit over a 12-month period.<sup>4</sup>

A separate, intensive follow-up survey was conducted in May 1984 on a cohort of 949 people in Sydney and Melbourne, who had been interviewed initially in April-June 1983. Excluding the almost 16% of persons who changed address in each city, the response rate to this survey was 76% in Sydney and 73% in Melbourne. The smoking status of respondents was ascertained and smokers were asked to report on any attempts to change or reduce smoking during the past year.

The proportion of the population who changed their smoking status (for smokers this included both quitting and cutting down) was calculated by comparing data from the before and after questionnaires. A decrease of at least five cigarettes a day in the reported cigarette consumption was considered necessary as evidence that someone had reduced their smoking habit.

### Results

The composition of the survey population is

\*The project was managed by the following Steering Committee: A. Cripps (Chairperson), J. Carson, G. Frape, B. Higham, T. Carroll and S. Chapman (all of the NSW Department of Health); T. Dwyer and J. Pierce (School of Public Health and Tropical Medicine); D. Gadiel (Hospitals' Contribution Fund of Australia); E. Henry and G. Sarfaty (NSW State Cancer Council); B. Herriot (Australian Medical Association); J. Mullins (Pharmacy Guild of New South Wales); and J. Shaw and S. Walker (National Heart Foundation of Australia). S. Leeder (The University of Newcastle) acted as auditor to the project.

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TABLE 1: "Quit. For Life" anti-smoking campaign: composition of survey populations

	Cross-sectional		Cohort	
	Sydney (n = 4195)	Melbourne (n = 1518)	Sydney (n = 576)	Melbourne (n = 373)
Sex				
Male	49.3%	46.4%	47.6%	47.7%
Female	50.7%	53.6%	52.4%	52.3%
Age (years)				
14-19	11.3%	9.8%	17.5%	9.1%
20-39	46.2%	49.8%	39.8%	40.2%
40-59	31.7%	27.5%	32.1%	32.4%
60 and over	10.8%	12.8%	10.6%	18.2%

TABLE 2: Average recall of commercials for all survey months

	"Sponge"*	"Salesman"†	"I've had enough"†
Non-smokers	1458(82%)	1077(31%)	1106(69%)
Smokers	937(87%)	696(39%)	695(73%)
Ex-smokers	537(85%)	432(33%)	393(67%)

\* Recall data on "Sponge" were asked in each survey month in Sydney only; total sample, 2932.  
 † "Salesman" was not used after July 24, 1983 and questions were not asked about it in November, giving a sample size of 2205; "I've had enough" was not shown until July 24, 1983 and questions were not asked about it in the month of July.

shown in Table 1. The recall rates for "Sponge" and "I've had enough" (see Table 2) and their messages exceeded significantly the campaign goal of 50%. The highest recall rate was for the most frequently shown commercial, "Sponge", and recall rates for all commercials were highest among smokers, the targeted group of the campaign.

An important measure of the overall impact of a campaign is a measure of the information-seeking behaviour of the population.<sup>5</sup> The immediate reaction to the commercials can be seen clearly in Figure 1, in which calls to the "Quit Line" demonstrate a direct relationship to television advertising. The peak response was 11 000 calls in week 8 of the campaign which corresponded to the first week of the "I've had enough" commercial. Over 50 000 calls to the "Quit Line" were made in the first three months

of the campaign compared with an expected 8600 calls as calculated from previous call rates.

Better evidence of a commitment to change than calls to the "Quit Line" comes from enrolments in "Quit Centre" stop-smoking programmes. Of course, enrolment in a "Quit Centre" programme does not guarantee that an individual will quit smoking. There were almost 3000 enrolments in stop-smoking classes in the 1983 campaign compared with about 500 for the previous year. There were 352 enrolments in the week which had the highest number of calls to the "Quit Line" (Figure 2).

However, these extra persons who enrolled at the "Quit Centre", may not be similar to those smokers who seek help from such programmes in the absence of a major promotional programme. Table 3 shows that only a small proportion of those who paid actually completed

the programme; around 20% of those who enrolled did not return for a second session. Furthermore, the quit rates are very low in programmes that are known for their consistency in persuading between 50% and 80% of participants to quit smoking for at least 48 hours.<sup>6</sup>

During the campaign, 19 196 "Quit Kits" were sold from a variety of sources including hospitals, health centres and pharmacies. Although self-help materials were available in the year before the campaign there were no significant sales to the public in that year.

Estimates of the proportions of smokers who indicated that they were likely to quit in the months of the campaign are presented in Figure 3. On May 25, just before the Sydney campaign, a heavily advertised "smoke-free day" was held in the comparison city, Melbourne. It is thought that the initial difference between the cities could be related to this event. The period of the "Quit. For Life" campaign was associated with a greater proportion of smokers in Sydney than in Melbourne who indicated that they were likely to quit smoking. However, this difference had disappeared by the end of the campaign. The greatest difference, (18.6%) occurred in September and was statistically significant ( $P < 0.05$ ).

Information on changes in smoking behaviour over the campaign year was obtained from the cohort study (see Table 4). During the year, a

TABLE 3: "Quit Centre" evaluation, 1983 (End of treatment quit rates by programme type)

Treatment type	Enrolled participants	Completed treatment	Quit
Progressive relaxation	432	22.5%	11.3%
Rapid smoking	500	25.4%	19.2%
Meditation	192	25.1%	19.3%
Hypnosis assisted	876	25.4%	5.1%
14-day withdrawal	625	34.8%	19.2%
Self-control	100	35.0%	21.0%

TABLE 4: Change in smoking status 1983-1984 in cohort study\*

	Sydney	Melbourne
Initial smokers	31% (n = 176)	37% (n = 134)
Change after 12 months†		
% Quit	23%	9%
% Cut down	12%	9%
Total	35%‡	18%
Reported failed attempts		
% Quit	11%	19%
% Cut down	20%	23%
Total	31%	42%
Initial ex-smokers	18% (n = 105)	23% (n = 84)
% Relapsed	10%	11%
Initial non-smokers	51% (n = 289)	41% (n = 146)
% Started	4%	4%

\* The replies from 15 respondents were not included because of incomplete information.  
 † "% Quit" refers to the proportion of smokers who were not smoking at the time of the second survey. "% Cut down" refers to the proportion of smokers with a lower (>5) reported cigarette consumption at the second survey.  
 ‡  $P < 0.05$ .

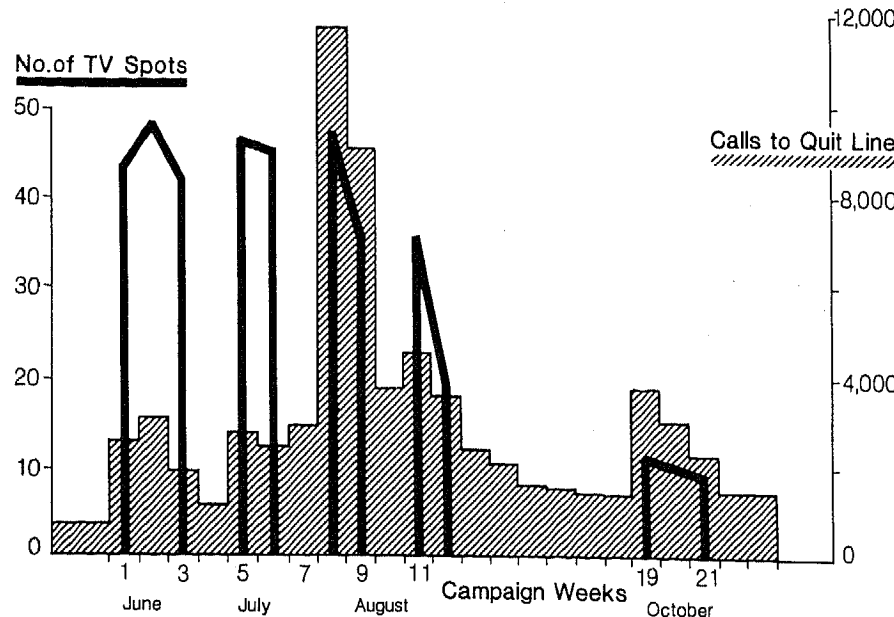


FIGURE 1: Timing of television commercials and calls to "Quit Line".

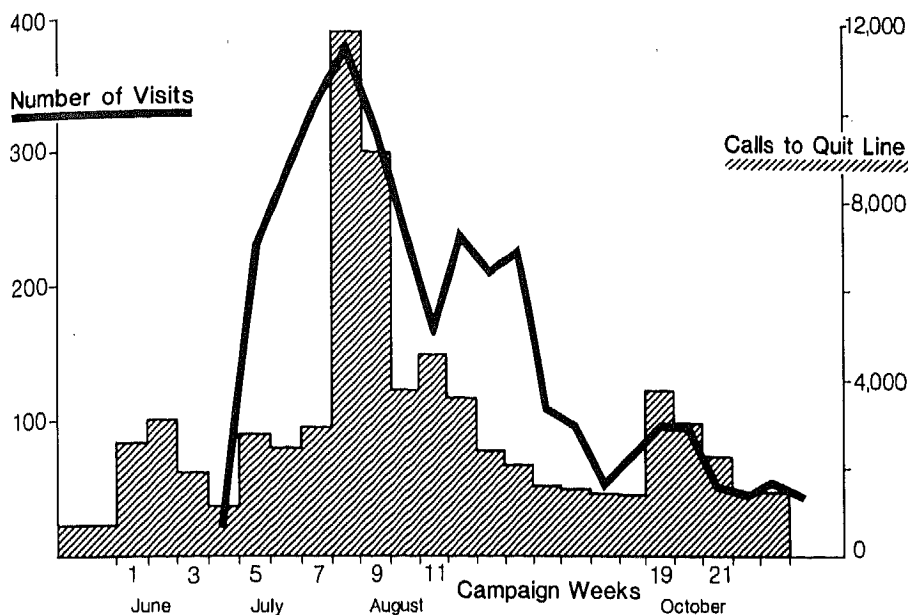


FIGURE 2: Visits to "Quit Centre" and calls to "Quit Line".

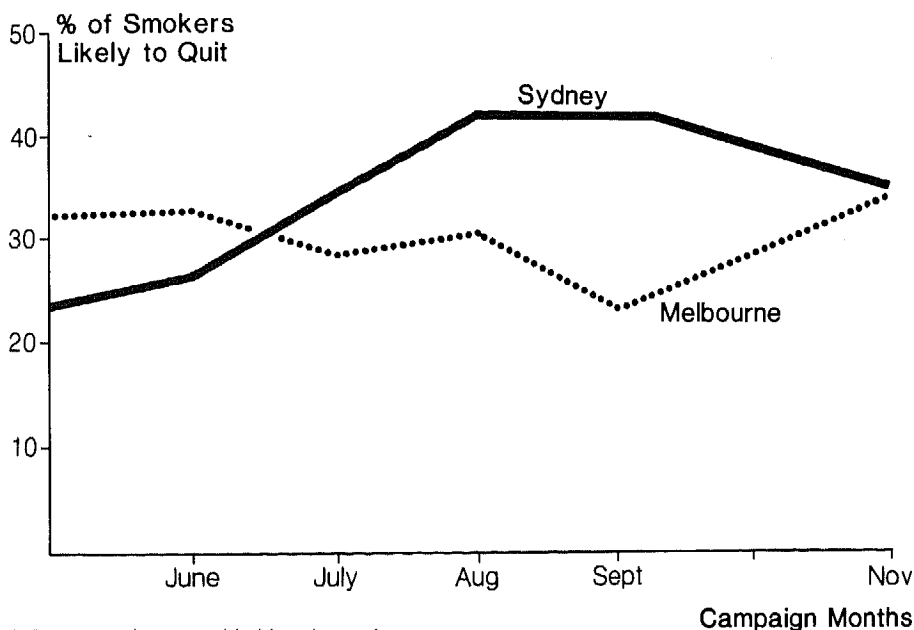


FIGURE 3: Change in likelihood to quit.

significantly larger proportion of Sydney smokers (35%) than Melbourne smokers (18%) quit smoking or cut down on cigarettes ( $P < 0.05$ ). Forty-two per cent of Melbourne smokers and 31% of Sydney smokers failed in their cessation or reduction attempts. In total, 66% of Sydney smokers and 60% of Melbourne smokers made some attempt to stop or reduce their smoking ( $P > 0.05$ ).

The relapse rate among ex-smokers was similar in both cities. Ten per cent of Sydney ex-smokers relapsed as opposed to 11% in Melbourne. In both Sydney and Melbourne, 4% of non-smokers began smoking during the 12 months of the study.

**Discussion**

The Sydney "Quit. For Life" campaign

treatment programmes at the campaign "Quit Centre". During the campaign there was also a considerable demand for self-help "Quit Kits" which had not occurred previously. Thus, the second goal of the campaign, to increase requests for information and services, was clearly met.

The behaviour of smokers who enrolled in programmes at the "Quit Centres" provides some insight into the expectations that were aroused by the campaign. A large proportion of people selected the hypnosis option which seemed to indicate that many people wanted a simple and relatively effortless solution to their smoking habit. This is supported by the high dropout rates and the low success rates for all programmes. It is possible that major campaigns may raise hopes of a "miracle" cure for smoking and that the resultant disillusionment explains the poor "Quit Centre" results.

One would expect that such an enormous increase in demand for information and services would be associated with a considerable change in reported likelihood to quit smoking.<sup>3</sup> This variable did change in the expected direction, and by the end of the campaign there was a significant difference between Sydney and Melbourne. However, it is important to note that this difference was short-lived, which replicates Leventhal and Niles' findings related to this variable.<sup>7</sup> The importance of this replication is that in reviews of the literature of the field<sup>8</sup> the transient nature of this change has been used as the basis for the criticism that media campaigns do not have any lasting effect. This criticism is based on the assumption that a transient change in likelihood to quit smoking will mean that there will be no behavioural change. Our study has shown this assumption to be incorrect.

The results from the cohort study show that almost two-thirds of smokers reported trying to modify their habit over the period of the campaign, with no significant differences between the two cities. The important point to emerge is that so many of the population reported making some attempt to change, regardless of the campaign. When these numbers are combined with the 12% of ex-smokers who recommenced smoking during the year, they suggest that the major message of future campaigns need not be for smokers to make another attempt to quit ("Quit. For Life"). Rather it suggests that there should be an emphasis on getting people to stay "quit" of smoking.

A significant difference between the cities was evident in the number of people who were successful in quitting smoking or cutting down cigarettes. This was not a campaign goal and the advertising campaign did not contain messages that were designed to build confidence in the ability to quit smoking, nor did it demonstrate strategies on how to quit. One explanation for this unexpected campaign effect is that the commercials may have significantly increased the social pressure on people not to smoke. This pressure may then strengthen the

developed a series of intermediate goals which, it was assumed, had to be met if there was to be a reduction in the prevalence of smoking. The first of these goals related to recall of the commercials. In the commercial field, recall rates of around 30% are considered good. The goal for the campaign was set at 50%. Both the "Sponge" and "I've had enough" commercials had higher recall rates than the campaign target. It was considered that the buying of further television time to run the commercials would probably not have increased recall appreciably, and it may be, that in future campaigns, a less expensive buying schedule would be sufficient to meet this campaign target.

The airing of the television commercials was related directly both to calls to the advertised telephone information line and to enrolments in

resolve of recent quitters and help them to stay "quit". This hypothesis merits further investigation.

#### Acknowledgements

The "Quit. For Life" campaign was conducted under the auspices of the Minister for Health, and the Secretary of the New South Wales Health Department, and was largely funded by the Department. Additional support was received from the Commonwealth Department of Health, the Hospitals' Contribution Fund of Australia and the NSW State Cancer Council.

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## Evaluation of the Sydney "Quit. For Life" anti-smoking campaign\*

### Part 2. Changes in smoking prevalence

(for editorial comment, see page 337; see also page 341)

Terry Dwyer, John P. Pierce, Cherie D. Hannam and Nick Burke

**ABSTRACT** Between June and November 1983, the "Quit. For Life" media campaign was conducted in Sydney to reduce the prevalence of smoking. Surveys on a cross-sectional sample of the Sydney population were conducted before and after the campaign, and similar measures were undertaken in the rest of Australia for comparison. The sample sizes for both the Sydney and control areas comprised more than 4000 subjects. In addition, a cohort of 949 residents of Sydney and Melbourne were followed for changes in the prevalence of smoking during the year of the campaign. The cross-sectional survey results for 1984 and 1983 demonstrated decreases in the prevalence of smoking of approximately 1% for both men and women in Sydney compared with the rest of Australia. In the cohort study there was a 3.4% decrease in smoking prevalence in Sydney compared with a 0.8% increase in Melbourne. The pooled estimate of the difference in smoking prevalence attributable to the campaign was 2.8% (95% confidence interval, 0.5%–5.1%). (Med J Aust 1986; 144: 344-347)

The "Quit. For Life" campaign was a media-based intervention that was aimed at reducing the prevalence of smoking in Sydney. The campaign was conducted between June and November in 1983, using prime-time

advertisements on television and radio and posters in public places. Counselling services for those who attempted to give up smoking were also provided.

Previous studies have reported conflicting results on the effectiveness of media-based programmes in changing community-wide levels of smoking. The Stanford "Three Communities Study",<sup>1,2</sup> which was active from 1972 to 1975, did not report a reduction in the prevalence of smoking as a result of a media intervention campaign, although a reduction in the number of cigarettes that were smoked per day took place. However, the study included a subgroup of heavy smokers at high risk of coronary heart disease who received intensive counselling over three years, in addition to the media campaign. This subgroup showed a substantial reduction in the prevalence of smoking.

The North Karelia Project in Finland, which ran from 1972 to 1977, involved a broad-based community intervention with a media component.<sup>3</sup> It achieved a 1% change in smoking prevalence compared with a control group. The only study to report a substantial effect was the North Coast "Healthy Lifestyle" project<sup>4</sup> that was conducted in Australia between 1978 and 1981. This campaign duplicated the Stanford study design; the town with the media campaign had a 5% greater reduction in the prevalence of smoking than did the control town.

The "Quit. For Life" campaign in Sydney was initiated because of the positive outcome of the North Coast project. However, the programmes discussed above had been conducted in rural or semi-rural settings, whereas the "Quit. For Life" campaign targeted the entire population of the greater Sydney metropolitan area (3.25 million people).

This paper reports the changes in smoking prevalence and cigarette consumption which could be attributed to the campaign.

#### Methods

The change in smoking prevalence was assessed primarily by comparing the results of a precampaign survey in May–June 1983, and a postcampaign survey in the same months in 1984. This is demonstrated graphically in Figure 1. For comparison, the same measurements were conducted on a sample drawn from the rest of Australia.

The 1983 precampaign survey was based on 9132 subjects aged 14 years and over: 3978 of these from Sydney and 5154 from the rest of Australia. In 1984, 8369 subjects were interviewed, 4051 of whom were in Sydney, and 4318 in the rest of Australia.

The primary comparison is with the "rest of Australia", as this is statistically the most powerful comparison. However, a separate comparison was made with Melbourne, because this city is more like Sydney in terms of its urban and demographic characteristics.

Subjects were selected and interviews were conducted by the Ray Morgan Research Company, a

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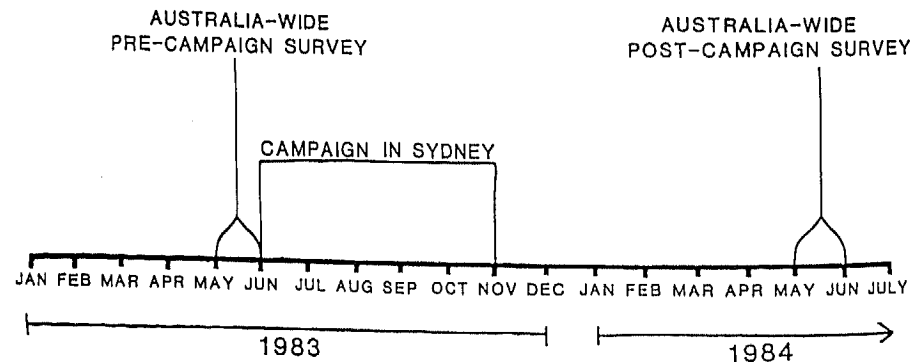


FIGURE 1: Timing of campaign evaluation.